Communicable diseases surveillance

Highlights for 4th quarter, 2002

Communicable disease surveillance highlights report on data from various sources, including the National Notifiable Diseases Surveillance System (NNDSS) and several disease specific surveillance systems that provide regular reports to Communicable Diseases Intelligence. *These national data collections are complemented by intelligence provided by State and Territory communicable disease epidemiologists and/or data managers. This additional information has enabled the reporting of more informative highlights each quarter.*

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia. NNDSS collates data on notifiable communicable diseases from State or Territory health departments. The Virology and Serology Laboratory Reporting Scheme (LabVISE) is a sentinel surveillance scheme which collates information on laboratory diagnosis of communicable diseases. In this report, data from the NNDSS are referred to as 'notifications' or 'cases', and those from ASPREN are referred to as 'consultations' or 'encounters' while data from the LabVISE scheme are referred to as 'laboratory reports'.

Figure 1 shows the changes in disease notifications with an onset in the fourth quarter of 2002, compared with the 5-year fourth quarter mean. Disease notifications above or below the 5-year mean, plus- or minus- two standard deviations are marked with an asterisk. There were no diseases where the number of cases reported was two standard deviations above the mean of the same reporting period in the last 5 years in the current quarter. The reports of hepatitis C (unspecified), leptospirosis and tuberculosis were two standard deviations below the 5-year mean in this quarter. These and other disease trends are discussed below with additional commentary provided by State and Territory health authorities.

Due to difficulties in data transmission this quarter, Victorian data for sexually transmissible infections were not updated (Table 2).

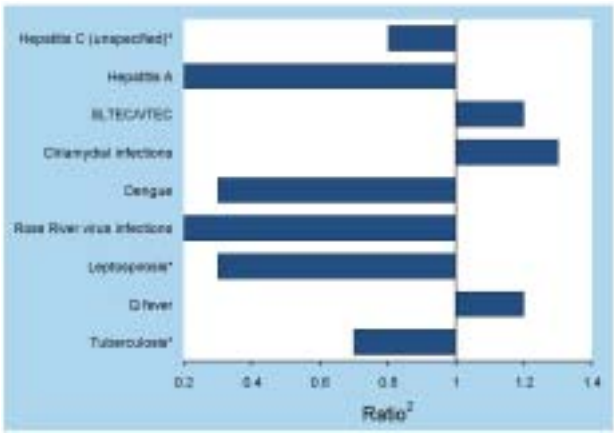
Gastrointestinal disease

Salmonellosis

There were 3 per cent more cases of salmonellosis in the fourth quarter 2002 than there were in the fourth quarter of 2001 (Table 2). Notifications from October to December 2002 were the second highest fourth quarter on record since 1998. Salmonellosis notifications are generally lowest in the winter months and show a peak in March (Figure 2). There have been several major *Salmonella* cluster investigations around Australia this quarter. The Hunter Public Health Unit investigated an outbreak of S. Montevideo in Newcastle that was traced back to Egyptian tahini imported by a company based in Sydney. Tahini is a paste made from sesame seeds and used as an ingredient for humus. To date there have been 43 notified cases, 32 of these cases had eaten kebabs. The investigation lead to a consumer-level recall of products containing the tahini.

The New South Wales Department of Health identified an increase in the number of *S.* Potsdam cases notified in early December. Other jurisdictions reported similar increases and an investigation was undertaken by OzFoodNet to determine the source of the outbreak. The cases were spread from the mid-north coast of New South Wales to Tasmania in the south and South Australia in the west. There are approximately 60 cases to date. All jurisdictions have conducted hypothesis-generating questionnaires. The source of the outbreak remains unclear.

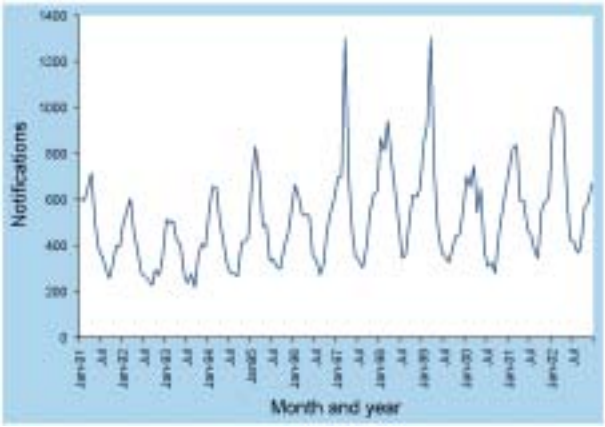
Figure 1. Selected[1] diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 October to 31 December 2002, with historical data[2]



1. Selected diseases are chosen each quarter according to current activity.
2. Ratio of current quarter total to mean of corresponding quarter for the previous five years.

* Notifications above or below the 5-year mean for the same period plus- or minus- two standard deviations.

Figure 2. Trends in notifications of salmonellosis, Australia, 1991 to 2002, by month of onset



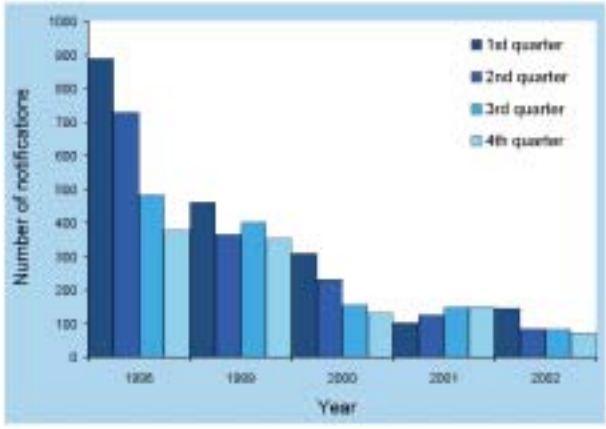
In October 2002, the South Australian Communicable Disease Control Branch investigated an outbreak of *Salmonella* Typhimurium phage type 99 associated with the consumption of cream filled cakes from a metropolitan bakery. In total, 111 environmental swabs and food samples were collected from the bakery. Of these, a composite sample of six piping bags yielded *Salmonella* Typhimurium phage type 99. An environmental investigation revealed that reusable piping bags were being used to pipe raw meat and cream products.

In October, four laboratory-confirmed cases (three males and one female aged between one and five years) of *Salmonella* Typhimurium PT170 infection were reported among attendees of a child care centre located on the Sunshine Coast, Queensland. The centre conducted a chicken hatching program over a two week period in September. Children were allowed to handle the chickens. The supplier of the chicken hatching equipment obtained their eggs from a local hatchery. *Salmonella* Typhimurium PT170 was detected in two poultry breeder sheds operated by the hatchery.

Hepatitis A

Hepatitis A notifications have been decreasing over the past five years. Notifications are typically highest in the first quarter and lowest in the final quarter (Figure 3). The lowest number of notifications for any quarter over the past five years were reported in the final quarter of 2002. Even though notifications have been low, the Northern Sydney Public Health Unit investigated a cluster of 8 cases of hepatitis A linked to a yum cha restaurant. The cases had all eaten in the restaurant in late September. An inspection of the premises did not identify any high-risk food preparation practices. The staff of the restaurant were interviewed and agreed to blood tests for hepatitis A serology. No evidence of recent acute infection was found in any of the food handlers. Detailed interviews were conducted with the cases and other patrons, but no obvious source of infection was identified. A similar outbreak occurred at a restaurant in south-eastern Sydney in 1997. In that outbreak, a case control study found that the likely source was undercooked prawns imported from Burma. While the exact cause of the current hepatitis A outbreak in northern Sydney remains unclear it is likely that the cause was from the ingestion of food contaminated with hepatitis A, although the route of contamination is undefined. Given the negative serology from food handlers, it would seem most likely that a food product was contaminated through exposure to human effluent.

Figure 3. Notifications of hepatitis A infection, Australia, 1998 to 2002, by quarter of notification



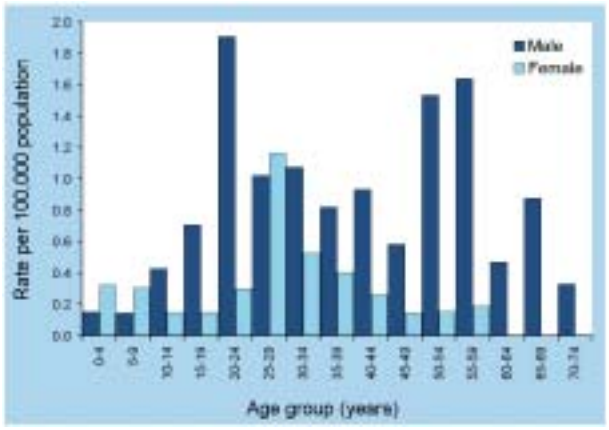
Vectorborne diseases

Malaria

Of the 108 cases of malaria reported to NNDSS this quarter, 10 were part of an outbreak in Far North Queensland. The outbreak occurred during the first two weeks of October among tourists who camped at Noah Beach in the Daintree National Park.[1] The individual believed to be the source of the outbreak stayed at the campsite for 4 days in late September and was diagnosed with *Plasmodium vivax* malaria the day after he left Noah Beach. He had a history of travel to Africa in 2002 and Indonesia in 2001. The Tropical Public Health Unit conducted mosquito trapping in the area and found a large number of *Anopheles farauti*, which can transmit malaria in northern Queensland. Fogging was undertaken at Kuranda as three of the cases lived there and *Anopheles* mosquitoes were found there.

Of all notifications of malaria, from October to December 2002, the majority of people with malaria were males (74%). The notification rates of malaria were highest in males aged 20–24 years, 50–54 and 55–59 years (Figure 4). The highest notification rate of malaria in females was in the 25-29 year age group.

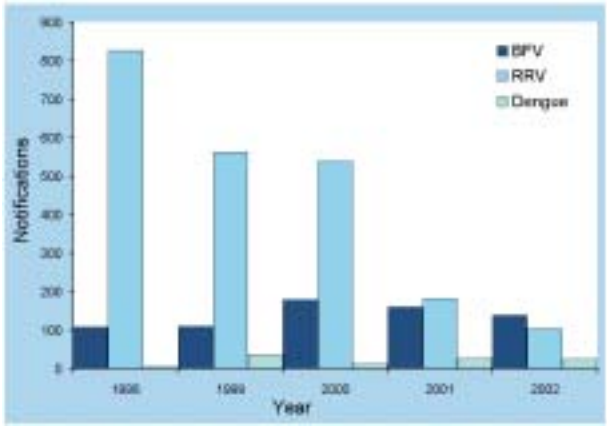
Figure 4. Notification rates of malaria, Australia, 1 October to 31 December 2002, by age group and sex



Other vectorborne diseases

Ross River virus infections have decreased steadily over the past five years, from 826 notifications in 1998 to 104 notifications in 2002 (Figure 5). Barmah Forest virus infections have remained fairly stable in the fourth quarter, while the number of notifications of dengue virus infections have fluctuated from four in 1998 to 36 in 1999. The fluctuations in dengue notifications are attributable to the outbreak in Cairns, Mossman and Port Douglas in 1997 to 1999.[2]

Figure 5. Notifications of Ross River virus infections, Barmah Forest virus infections and dengue virus infections, Australia, 1 October to 31 December, by year of notification



Other bacterial infections

Tuberculosis

Precautionary screening for tuberculosis was carried out across Australia from October 2002, after a worker from a resort in Queensland was diagnosed with tuberculosis. The Queensland Department of Health was given the responsibility of collating the national figures from the screening. Approximately 1,500 people have been offered screening, 26 in the Australian Capital Territory, 575 in New South Wales, 8 in the Northern Territory, 347 in Queensland, 21 in Tasmania, 102 in South Australia, 407 in Victoria, 33 in Western Australia and 42 people from overseas. Queensland Health are currently collating figures, but to date there is no evidence of local transmission of tuberculosis from the worker to people attending the resort.

Other non-notifiable diseases

Viral gastroenteritis

Viral gastroenteritis outbreaks were reported throughout Australia this quarter. Western Australia received several reports of probable or confirmed norovirus (Norwalk-like virus) gastroenteritis outbreaks in institutions in the fourth quarter of 2002, as well as evidence of a high incidence in the community.

In October 2002, a child-care centre reported 34 cases of a vomiting illness in children over the previous 12 days. Secondary spread in households and other features suggested a norovirus outbreak, and PCR tests on faecal specimens collected from some children confirmed human calicivirus infection.

Later in the month, an investigation was commenced when 10 people presented overnight at a public hospital emergency department with diarrhoea and vomiting. Another nine were treated at another public hospital within the same 24-hour period. Cases ranged in age from 12 to 94 years, with 13 females and 6 males. All cases reported profuse vomiting and diarrhoea, accompanied by abdominal pain, with median duration of illness being 3 days. Secondary cases occurred in staff members in both hospitals, and two cases had previous known contact with persons with a similar illness. No commonalities in food consumption, or places visited or eaten at, could be identified. Faecal specimens from two of the cases were positive for calicivirus by PCR testing. The investigation concluded that most, if not all, of the cases were community-acquired norovirus infection.

In November, an outbreak of gastroenteritis in a nursing home was confirmed to be due to norovirus infection. Twenty-one of 40 residents reported illness (attack rate: 52%). Six staff members also experienced gastroenteritis, and there was a secondary spread in the families of two staff members. Three of four specimens were positive for norovirus by PCR testing. No food sources were identified. Similar outbreaks in several other nursing homes were reported around the same time, as well as an outbreak in a group of teachers who had participated in a professional development day.

LabVISE

During the period October to December 2002, 17 participating laboratories (5 in New South Wales, 3 each in Western Australia and Victoria, 2 each in Queensland and Tasmania and one each in South Australia and the Australian Capital Territory), contributed 5,136 reports to LabVISE. Although there were no contributing laboratories in the Northern Territory, samples from this jurisdiction were included in reports from participating reference laboratories.

Of the 5,136 reports received, 3,289 (64%) were of viral infections and the remainder (1,847) were bacterial, spirochaete, fungal, protozoan or helminthic infections. Of the viral infections, reports of rotavirus (590 reports) represented 18 per cent of all viral identifications. The number of norovirus reports to LabVISE has doubled from 138 reports in 2001 to 268 reports in 2002. Among reports of non-viral pathogens, *Chlamydia trachomatis* (916 reports) represented 50 per cent of the total.

With thanks to:

Craig Davis and Robyn Pugh, Queensland Department of Health

Rod Givney, Department of Human Services, South Australia

Jeremy McAnulty, Julie Hunt, Jennie Musto and Amanda Christensen, New South Wales Health Department

Gary Dowse and Minda Sarna, Health Department of Western Australia

Graham Tallis and Lynne Brown, Department of Human Services, Victoria

Vicki Krause and Peter Markey, Centre for Disease Control, Department of Health and Community Services, Northern Territory

Louise Carter, ACT Department of Health and Community Services, Australian Capital Territory

Avner Misrachi, Department of Health and Human Services, Tasmania

References

1. Lawrence J. European travellers affected by the outbreak of *Plasmodium vivax* malaria in Northern Queensland, Australia. *Eurosurveillance* 2002 (www.eurosurveillance.org/ew/2002/021121.asp#2)

2. Blumer C, Roche P, Spencer J, Lin M, Milton A, Bunn C, *et al*. Australia's notifiable diseases status, 2001: annual report of the National Notifiable Diseases Surveillance System. *Commun Dis Intell* 2003;27:1–78.

Tables

A summary of diseases currently being reported by each jurisdiction is provided in Table 1. There were 21,494 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 October and 31 December 2002 (Table 2). The notification rate of diseases per 100,000 population for each State or Territory is presented in Table 3.

There were 5,136 reports received by the Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 October to 31 December 2002 (Tables 4 and 5).

Table 1. Reporting of notifiable diseases by jurisdiction (4th quarter 2002)

Disease	Data received from:*
Bloodborne diseases	
Hepatitis B (incident)	All jurisdictions
Hepatitis B (unspecified)	All jurisdictions except NT
Hepatitis C (incident)	All jurisdictions except Qld and NT
Hepatitis C (unspecified)	All jurisdictions
Hepatitis D	All jurisdictions
Hepatitis (NEC)	All jurisdictions
Gastrointestinal diseases	
Botulism	All jurisdictions
Campylobacteriosis	All jurisdictions except NSW
Cryptosporidiosis	All jurisdictions
Haemolytic uraemic syndrome	All jurisdictions
Hepatitis A	All jurisdictions
Hepatitis E	All jurisdictions
Listeriosis	All jurisdictions
Salmonellosis	All jurisdictions
Shigellosis	All jurisdictions
SLTEC, VTEC	All jurisdictions
Typhoid	All jurisdictions
Quarantinable diseases	
Cholera	All jurisdictions
Plague	All jurisdictions
Rabies	All jurisdictions
Viral haemorrhagic fever	All jurisdictions
Yellow fever	All jurisdictions
Sexually transmissible diseases	
Chlamydial infection	All jurisdictions
Donovanosis	All jurisdictions except SA
Gonococcal infection	All jurisdictions
Syphilis	All jurisdictions

Disease	Data received from:*
Vaccine preventable diseases	
Diphtheria	All jurisdictions
Haemophilus influenzae type b	All jurisdictions
Laboratory-confirmed influenza	All jurisdictions
Measles	All jurisdictions
Mumps	All jurisdictions
Pertussis	All jurisdictions
Pneumococcal disease - invasive	All jurisdictions
Poliomyelitis	All jurisdictions
Rubella	All jurisdictions
Tetanus	All jurisdictions
Vectorborne diseases	
Arbovirus infection NEC	All jurisdictions
Barmah Forest virus infection	All jurisdictions
Dengue	All jurisdictions
Japanese encephalitis	All jurisdictions
Kunjin	All jurisdictions except ACT†
Malaria	All jurisdictions
Murray Valley encephalitis	All jurisdictions except ACT†
Ross River virus infection	All jurisdictions
Zoonoses	
Anthrax	All jurisdictions except SA
Australian Bat lyssavirus	All jurisdictions
Brucellosis	All jurisdictions
Leptospirosis	All jurisdictions
Lyssaviruses (unspecified)	All jurisdictions
Ornithosis	All jurisdictions
Q fever	All jurisdictions
Other bacterial infections	
Legionellosis	All jurisdictions
Leprosy	All jurisdictions
Invasive meningococcal infection	All jurisdictions
Tuberculosis	All jurisdictions

* Jurisdictions not yet reporting on diseases either because legislation has not yet made some diseases notifiable in that jurisdiction or data are not yet being reported to the Commonwealth

† In the Australian Capital Territory, infections with Murray Valley encephalitis virus and Kunjin are combined under Murray Valley encephalitis

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 October to31 December 2002, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 4th quarter 2002[1]	Total 3rd quarter 2002[1]	Total 4th quarter 2001[1]	Last 5 years mean 4th quarter	Year to date 2002	Last 5 years YTD mean	Ratio[†]
Bloodborne diseases															
Hepatitis B (incident)	0	13	8	9	1	6	24	8	69	60	88	77	230	331	0.9
Hepatitis B (unspecified)	18	782	NN	202	48	12	404	102	1,568	1,903	1,902	1,766	7,288	7,283	0.9
Hepatitis C (incident)	1	14	NN	NN	8	2	23	33	81	71	144	106	328	388	0.8
Hepatitis C (unspecified)	53	1,493	62	658	107	88	896	315	3,672	4,297	4,344	4,456	16,737	18,533	0.8
Hepatitis D	0	0	0	0	0	0	2	0	2	7	4	7	18	19	0.3
Hepatitis (NEC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Gastrointestinal diseases															
Botulism	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Campylobacterosis[2]	98	NN	44	1,155	748	200	1,488	650	4,383	3,386	4,745	3,971	14,089	13,514	1.1
Cryptosporidiosis	4	43	52	56	10	16	57	55	293	241	442	N/A	3,235	N/A	N/A
Haemolytic uraemic syndrome	0	1	1	0	0	0	0	0	2	2	1	5	10	12	0.4
Hepatitis A	0	32	9	11	4	2	8	7	73	82	151	330	375	1,688	0.2
Hepatitis E	0	0	0	0	0	1	0	0	1	4	1	1	12	8	1.0
Listeriosis	0	5	0	4	1	1	1	4	16	11	16	15	57	64	1.1
Salmonellosis	27	529	67	597	121	49	256	176	1,822	1,171	1,761	1,706	7,744	7,006	1.1
Shigellosis	0	17	28	27	0	1	7	29	109	108	113	140	490	599	0.8
SLTEC, VTEC[3]	0	0	0	2	8	0	2	0	12	14	13	10	51	36	1.2
Typhoid	0	8	0	1	2	0	1	1	13	15	17	16	70	69	0.8
Quarantinable diseases															
Cholera	0	0	0	1	1	0	0	0	2	3	0	0	6	3	0.0
Plague	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rabies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Viral haemorrhagic fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Yellow fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Sexually transmissible diseases															
Chlamydial infection	93	1,274	436	1,618	389	121	§	771	4,702	5,094	4,895	3,666	21,469	14,374	1.3
Donovanosis	0	0	1	2	NN	0	§	0	3	4	10	8	20	34	0.4
Gonococcal infection[4]	7	300	346	238	39	6	§	330	1,266	1,402	1,421	1,305	5,879	5,539	1.0
Syphilis[5]	0	195	102	22	1	10	§	18	348	459	344	394	1,624	1,623	0.9

Table 2 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 October to 31 December 2002, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 4th quarter 2002[1]	Total 3rd quarter 2002[1]	Total 4th quarter 2001[1]	Last 5 years mean 4th quarter	Year to date 2002	Last 5 years YTD mean	Ratio[†]
Vaccine preventable diseases															
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Haemophilus influenzae type b	0	2	1	0	0	0	0	2	5	3	3	8	30	36	0.6
Laboratory- confirmed influenza	0	79	10	58	13	0	11	29	200	2,681	191	N/A	3,774	N/A	N/A
Measles	0	0	0	0	1	0	0	0	1	13	36	99	17	322	0.0
Mumps	0	6	0	2	1	0	1	2	12	20	14	33	66	177	0.4
Pertussis	13	401	1	520	51	14	218	37	1,255	1,155	3,320	2,515	5,358	7,258	0.5
Pneumococcal disease - invasive	11	187	15	94	44	11	104	44	510	890	419	N/A	2,257	N/A	N/A
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Rubella[6]	0	12	0	49	3	0	0	1	65	80	77	154	236	620	0.4
Tetanus	0	0	0	0	0	0	0	0	0	0	2	2	2	5	0.0
Vectorborne diseases															
Arbovirus infection NEC	0	4	0	1	0	0	7	0	12	3	2	9	21	51	1.3
Barmah Forest virus infection	0	45	1	85	0	0	0	7	138	106	160	136	901	728	1.0
Dengue	0	10	2	10	0	0	0	2	24	38	27	70	215	256	0.3
Japanese encephalitis	0	0	0	0	0	0	0	0	0	0	0	N/A	0	1	N/A
Kunjin virus infection	-	0	0	0	0	0	0	0	0	0	0	N/A	0	3	N/A
Malaria	4	12	6	59	1	4	18	4	108	83	139	147	463	762	0.7
Murray Valley encephalitis	0	0	0	0	0	0	0	0	0	0	0	N/A	2	4	N/A
Ross River virus infection	0	16	9	54	0	0	0	25	104	98	181	492	1,438	4,319	0.2
Zoonoses															
Anthrax	0	0	0	0	NN	0	0	0	0	0	0	N/A	0	N/A	N/A
Australian bat lyssavirus	0	0	0	0	0	0	0	0	0	0	0	N/A	0	N/A	N/A
Brucellosis	0	0	0	11	0	0	0	0	11	8	4	12	40	36	0.9
Leptospirosis	0	10	1	2	0	1	3	1	18	16	44	55	146	226	0.3
Lyssavirus (unspecified)	0	0	0	0	0	0	0	0	0	0	0	N/A	0	N/A	N/A
Ornithosis	0	10	0	0	0	0	5	2	17	89	41	29	193	85	0.6
Q fever	0	92	0	63	6	0	2	4	167	179	165	145	738	578	1.2

Table 2 (continued). Notifications of diseases received by State and Territory health authorities in the period 1 October to 31 December 2002, by date of notification*

Disease	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 4th quarter 2002[1]	Total 3rd quarter 2002[1]	Total 4th quarter 2001[1]	Last 5 years mean 4th quarter	Year to date 2002	Last 5 years YTD mean	Ratio†
Other bacterial infections															
Legionellosis	1	5	0	0	16	0	23	20	65	69	85	73	268	290	0.9
Leprosy	0	0	0	0	0	0	0	0	0	0	3	2	3	6	0.0
Invasive meningococcal infection	1	45	2	22	3	5	61	15	154	238	151	141	666	573	1.1
Tuberculosis	3	73	10	17	8	3	63	14	191	235	249	267	961	1,031	0.7
Total	334	5,715	1,214	5,650	1,635	553	3,685	2,708	21,494	24,338	25,725	22,369	97,527	88,493	1.0

1. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.
2. Not reported for New South Wales because it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.
3. Infections with Shiga-like toxin (verotoxin) producing *E. coli* (SLTEC/VTEC).
4. Northern Territory, Queensland, South Australia, Victoria and Western Australia: includes gonococcal neonatal ophthalmia.
5. Includes congenital syphilis.
6. Includes congenital rubella.

* Date of notification = a composite of three dates: (i) the true onset date from a clinician, if available, (ii) the date the laboratory test was ordered, or (iii) the date reported to the public health authority.

† The number of notifications received from Victoria this quarter were fewer than expected due to technical difficulties in data transmission.

‡ Ratio = ratio of current quarter total to mean of the same reporting period over the last 5 years calculated as described above.

§ The number of notifications received from Victoria were not reported due to difficulties in data transmission.

NA Not calculated as only notifiable for under 5 years.

NN Not notifiable

NEC Not elsewhere classified.

\- Elsewhere classified.

Table 3. Notification rates of diseases by State or Territory, 1 October to 31 December 2002. (Rate per 100,000 population)

Disease[1]	State or Territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Aust
Bloodborne diseases									
Hepatitis B (incident)	0.0	0.2	4.0	0.2	0.1	1.3	0.5	0.4	0.4
Hepatitis B (unspecified)	5.6	11.7	NN	5.4	3.2	2.5	8.3	5.3	8.0
Hepatitis C (incident)	0.3	0.2	NN	NN	0.5	0.4	0.5	1.7	0.4
Hepatitis C (unspecified)	16.4	22.4	31.0	17.7	7.0	18.6	18.3	16.3	18.6
Hepatitis D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hepatitis (NEC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gastrointestinal diseases									
Botulism	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Campylobacterosis[2]	30.3	NN	22.0	31.1	49.1	42.2	30.5	33.7	22.2
Cryptosporidiosis	1.2	0.6	26.0	1.5	0.7	3.4	1.2	2.9	1.5
Haemolytic uraemic syndrome	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Hepatitis A	0.0	0.5	4.5	0.3	0.3	0.4	0.2	0.4	0.4
Hepatitis E	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Listeriosis	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.2	0.1
Salmonellosis	8.3	7.9	33.5	16.1	7.9	10.3	5.2	9.1	9.2
Shigellosis	0.0	0.3	14.0	0.7	0.0	0.2	0.1	1.5	0.6
SLTEC,VTEC[3]	0.0	0.0	0.0	0.1	0.5	0.0	0.0	0.0	0.1
Typhoid	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1
Quarantinable diseases									
Cholera	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Plague	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rabies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Viral haemorrhagic fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sexually transmissible diseases									
Chlamydial infection	28.7	19.1	217.9	43.6	25.6	25.5	§	40.0	23.9
Donovanosis	0.0	0.0	0.5	0.1	NN	0.0	§	0.0	0.0
Gonococcal infection[4]	2.2	4.5	172.9	6.4	2.6	1.3	§	17.1	6.4
Syphilis[5]	0.0	2.9	51.0	0.6	0.1	2.1	§	0.9	1.8
Vaccine preventable diseases									
Diphtheria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haemophilus influenzae type b	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.1	0.0
Laboratory-confirmed influenza	0.0	1.2	5.0	1.6	0.9	0.0	0.2	1.5	1.0
Measles	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Mumps	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1
Pertussis	4.0	6.0	0.5	14.0	3.4	3.0	4.5	1.9	6.4
Pneumococcal disease - invasive	3.4	2.8	7.5	2.5	2.9	2.3	2.1	2.3	2.6
Poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rubella[6]	0.0	0.2	0.0	1.3	0.2	0.0	0.0	0.1	0.3
Tetanus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vectorborne diseases									
Arbovirus infection NEC	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Barmah Forest virus infection	0.0	0.7	0.5	2.3	0.0	0.0	0.0	0.4	0.7
Dengue	0.0	0.2	1.0	0.3	0.0	0.0	0.0	0.1	0.1
Japanese encephalitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kunjin virus infection	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malaria	1.2	0.2	3.0	1.6	0.1	0.8	0.4	0.2	0.5
Murray Valley encephalitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ross River virus infection	0.0	0.2	4.5	1.5	0.0	0.0	0.0	1.3	0.5

Table 3 (continued). Notification rates of diseases by State or Territory, 1 October to 31 December 2002. (Rate per 100,000 population)

Disease[1]	State or Territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Aust
Zoonoses									
Anthrax	0.0	0.0	0.0	0.0	NN	0.0	0.0	0.0	0.0
Australian bat lyssavirus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brucellosis	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.1
Leptospirosis	0.0	0.2	0.5	0.1	0.0	0.2	0.1	0.1	0.1
Lyssavirus (unspecified)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ornithosis	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Q fever	0.0	1.4	0.0	1.7	0.4	0.0	0.0	0.2	0.8
Other bacterial infections									
Legionellosis	0.3	0.1	0.0	0.0	1.1	0.0	0.5	1.0	0.3
Leprosy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Invasive meningococcal infection	0.3	0.7	1.0	0.6	0.2	1.1	1.2	0.8	0.8
Tuberculosis	0.9	1.1	5.0	0.5	0.5	0.6	1.3	0.7	1.0

1. Rates are subject to retrospective revision.
2. Not reported for New South Wales because it is only notifiable as ‘foodborne disease’ or ‘gastroenteritis in an institution’.
3. Infections with Shiga-like toxin (verotoxin) producing *E. coli* (SLTEC/VTEC).
4. Northern Territory, Queensland, South Australia , Victoria and Western Australia: includes gonococcal neonatal ophthalmia.
5. Includes congenital syphilis.
6. Includes congenital rubella.

§ The notifications rates for Victoria this quarter were not reported due to technical difficulties in data transmission.

NN Not notifiable

NEC Not elsewhere classified.

– Elsewhere classified.

Table 4. Virology and serology laboratory reports by State or Territory[1] for the reporting period 1 October to 31 December 2002, and total reports for the year[2]

	State or Territory[1]								This period 2002	This period 2001	Year to date 2002[3]	Year to date 2001
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Measles, mumps, rubella												
Measles virus	0	0	0	0	0	0	1	0	1	20	16	124
Mumps virus	0	0	0	0	0	0	2	1	3	1	16	32
Rubella virus	0	0	0	8	2	0	1	1	12	33	92	84
Hepatitis viruses												
Hepatitis A virus	0	2	2	1	7	0	0	5	17	17	71	81
Hepatitis D virus	0	0	0	0	0	0	1	0	1	1	7	11
Hepatitis E virus	0	0	0	0	0	2	2	0	4	1	9	5
Arboviruses												
Ross River virus	0	2	4	20	1	0	0	19	46	56	423	864
Barmah Forest virus	0	1	0	23	0	0	2	6	32	29	203	269
Dengue type 2	0	0	0	0	0	0	0	2	2	-	3	1
Dengue type 3	0	0	0	0	0	0	0	1	1	-	1	2
Dengue not typed	0	0	2	0	0	0	0	6	8	44	163	229
Murray Valley encephalitis virus	0	0	0	0	0	0	0	1	1	-	7	7
Flavivirus (unspecified)	0	0	0	3	0	0	3	0	6	5	43	26
Adenoviruses												
Adenovirus type 1	0	1	0	0	0	0	0	0	1	1	1	4
Adenovirus type 40	0	0	2	0	0	0	0	15	17	6	47	49
Adenovirus not typed/pending	0	33	5	11	103	0	7	146	305	331	995	1,097
Herpesviruses												
Herpesvirus type 6	0	2	0	0	0	0	0	0	2	-	2	2
Cytomegalovirus	7	52	2	20	164	1	8	7	261	374	1,110	1,277
Varicella-zoster virus	1	37	11	128	32	2	9	160	380	447	1,714	1,727
Epstein-Barr virus	10	18	24	101	184	1	16	120	474	546	1,789	1,857
Other DNA viruses												
Vaccinia virus	0	1	0	0	0	0	0	0	1	-	1	-
Molluscum contagiosum	0	0	0	0	0	0	0	8	8	7	26	17
Parvovirus	0	0	3	17	17	0	19	16	72	170	323	421
Picornavirus family												
Coxsackievirus A16	0	1	0	0	0	0	0	0	1	2	4	6
Echovirus type 6	0	1	0	0	0	0	0	0	1	18	61	20
Echovirus type 9	1	1	0	0	0	0	0	0	2	6	18	81
Echovirus type 11	0	1	0	0	0	0	0	0	1	2	6	8
Enterovirus - not typed	0	1	3	2	8	0	2	137	153	183	560	784
Poliovirus type 1 (uncharacterised)	0	12	0	0	0	0	0	0	12	3	34	20
Poliovirus type 2 (uncharacterised)	0	4	0	0	0	0	0	0	4	3	16	18
Poliovirus type 3 (uncharacterised)	0	2	0	0	0	0	0	0	2	-	6	7
Rhinovirus (all types)	1	103	0	0	6	0	2	55	167	143	516	462
Picornavirus not typed	0	0	0	0	0	2	0	0	2	7	14	16
Ortho/paramyxoviruses												
Influenza A virus	0	4	1	8	96	0	2	28	139	191	1,793	873
Influenza B virus	0	0	3	0	32	0	1	14	50	83	546	219
Parainfluenza virus type 1	0	0	0	0	25	0	0	6	31	25	290	58
Parainfluenza virus type 2	0	0	0	0	8	0	0	1	9	6	78	51
Parainfluenza virus type 3	0	54	0	7	93	0	2	79	235	248	590	776
Respiratory syncytial virus	0	16	2	3	70	4	9	73	177	172	2,945	2,645

Table 4 (continued). Virology and serology laboratory reports by State or Territory[1] for the reporting period 1 October to 31 December 2002, and total reports for the year[1]

	State or Territory[1]								This period 2002	This period 2001	Year to date 2002[3]	Year to date 2001
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Other RNA viruses												
HTLV-1	0	0	2	0	1	0	0	1	4	1	7	18
Rotavirus	2	161	0	1	323	2	21	80	590	428	1,952	1,730
Calicivirus	0	0	0	0	0	0	0	14	14	4	22	5
Norovirus	0	0	0	0	0	0	40	0	40	8	268	138
Other												
Borrelia burgdorferi	0	0	0	0	1	0	0	0	1	-	2	0
Brucella species	0	0	0	1	0	0	0	0	1	2	5	5
Chlamydia trachomatis not typed	4	113	49	258	235	8	0	249	916	912	3,838	3,408
Chlamydia pneumoniae	6	0	0	0	0	0	0	11	17	-	32	7
Chlamydia psittaci	0	0	0	0	2	0	10	3	15	19	61	77
Mycoplasma pneumoniae	1	22	0	41	63	11	56	32	226	350	1,222	970
Coxiella burnetii (Q fever)	1	6	0	6	20	0	12	14	59	37	251	162
Rickettsia (spotted fever)	0	0	0	0	0	0	0	1	1	1	1	100
Streptococcus group A	0	8	6	64	0	0	8	0	86	137	508	400
Yersinia enterocolitica	0	0	1	0	0	0	0	0	1	1	9	5
Bordetella pertussis	1	5	0	80	32	1	23	7	149	741	936	1,666
Legionella pneumophila	0	1	1	0	1	0	34	3	40	19	118	67
Legionella longbeachae	0	1	0	0	9	0	8	12	30	18	78	37
Legionella species	0	0	0	0	0	0	2	0	2	3	15	15
Cryptococcus species	0	0	0	2	2	0	0	0	4	3	29	21
Treponema pallidum	0	39	61	92	88	0	0	5	285	235	1,382	1,121
Entamoeba histolytica	0	0	0	0	0	0	4	2	6	2	28	11
Toxoplasma gondii	0	1	0	0	1	0	1	0	3	8	26	35
Echinococcus granulosus	0	0	0	0	3	0	0	2	5	16	30	33
Total	35	706	184	897	1,629	34	308	1,343	5,136	6,126	25,359	24,261

1. State or Territory of postcode, if reported, otherwise State or Territory of reporting laboratory.
2. From January 2000 data presented are for reports with report dates in the current period. Previously reports included all data received in that period.
3. Totals comprise data from all laboratories. 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.

– No data received this period.

Table 5. Virology and serology laboratory reports by laboratories for the reporting period 1 October to 31 December 2002[1]

	Laboratory	October 2002	November 2002	December 2002	Total this period
Australian Capital Territory	The Canberra Hospital	10	3	7	20
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	103	101	34	238
	New Children's Hospital, Westmead	89	45	36	170
	Repatriation General Hospital, Concord	-	-	-	-
	Royal Prince Alfred Hospital, Camperdown	-	3	6	9
	South West Area Pathology Service, Liverpool	133	90	21	244
Queensland	Queensland Medical Laboratory, West End	280	416	392	1,088
	Townsville General Hospital	-	-	-	-
South Australia	Institute of Medical and Veterinary Science, Adelaide	655	555	416	1,626
Tasmania	Northern Tasmanian Pathology Service, Launceston	10	8	14	32
	Royal Hobart Hospital, Hobart	-	-	-	-
Victoria	Monash Medical Centre, Melbourne	20	-	-	20
	Royal Children's Hospital, Melbourne	44	-	21	65
	Victorian Infectious Diseases Reference Laboratory, Fairfield	100	61	59	220
Western Australia	PathCentre Virology, Perth	446	380	335	1,161
	Princess Margaret Hospital, Perth	146	-	-	146
	Western Diagnostic Pathology	43	25	29	97
Total		2,079	1,687	1,370	5,136

1. The complete list of laboratories reporting for the 12 months, January to December 2003, will appear in every report regardless of whether reports were received in this reporting period. Reports are not always received from all laboratories.

–- Nil reports

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia. The system provides the national surveillance of more than 50 communicable diseases or disease groups endorsed by the Communicable Diseases Network Australia and the National Public Health Partnership. Notifications of these diseases are made to State and Territory health authorities under the provisions of their respective public health legislation. De-identified core unit data are supplied fortnightly for collation, analysis and dissemination. For further information, see Commun Dis Intell 2002;26:57.

LabVISE is a sentinel reporting scheme. Currently 16 laboratories contribute data on the laboratory identification of viruses and other organisms. This number may change throughout the year. Data are collated and published in Communicable Diseases Intelligence *quarterly. 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* Commun Dis Intell *2002;26:57.*

Additional reports

Australian Sentinel Practice Research Network

The Research and Health Promotion Unit of the Royal Australian College of General Practitioners operates the Australian Sentinel Practice Research Network (ASPREN). ASPREN is a network of general practitioners who report presentations of defined medical conditions each week. The aim of ASPREN is to provide an indicator of the burden of disease in the primary health setting and to detect trends in consultation rates.

There are currently about 66 general practitioners participating in the network from all States and Territories. Seventy-five per cent of these are in metropolitan areas and the remainder are rural based. Between 4,000 and 6,000 consultations are recorded each week.

The list of conditions is reviewed annually by the ASPREN management committee and an annual report is published.

In 2002, 10 conditions are being monitored, six of which are related to communicable diseases. These include influenza, gastroenteritis and acute cough. Definitions of these conditions were published in Commun Dis Intell 2002;26:57.

Data from 1 January to 31 December 2002 are shown as the rate per 1,000 consultations by week in Figures 6, 7 and 8.

Figure 6. Consultation rates for influenza-like illness, ASPREN, 1 January to 31 December 2002, by week of report

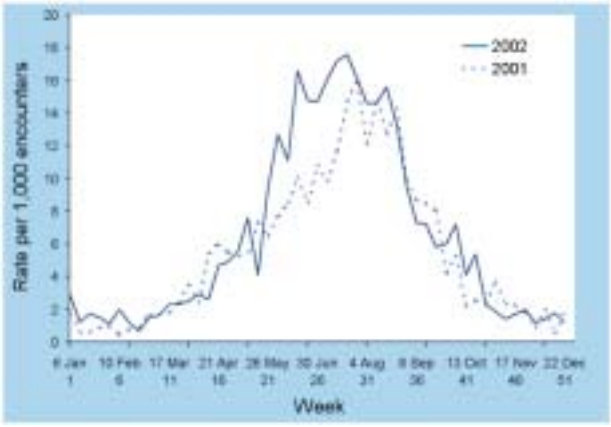


Figure 7. Consultation rates for gastroenteritis, ASPREN, 1 January to 31 December 2002, by week of report

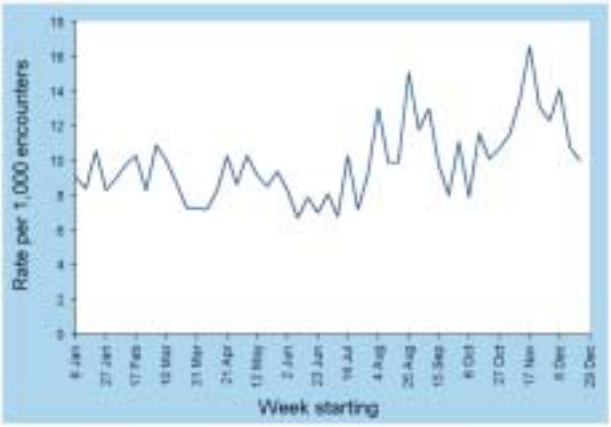
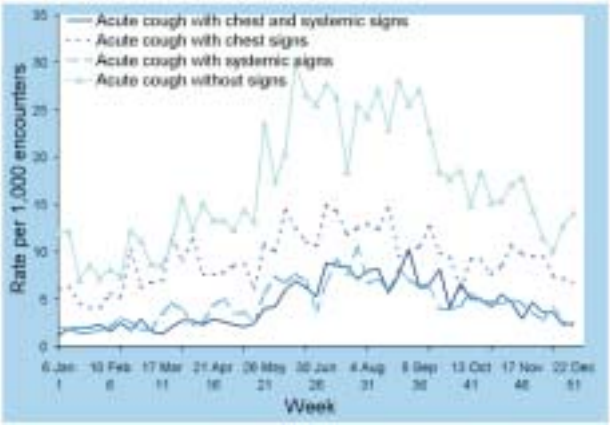


Figure 8. Consultation rates for acute cough, ASPREN, 1 January to 31 December 2002, by week of report



Gonococcal surveillance

John Tapsall, The Prince of Wales Hospital, Randwick, NSW, 2031 for the Australian Gonococcal Surveillance Programme.

The Australian Gonococcal Surveillance Programme reference laboratories in the various states and territories report data on sensitivity to an agreed 'core' group of antimicrobial agents quarterly. The antibiotics currently routinely surveyed are penicillin, ceftriaxone, ciprofloxacin and spectinomycin, all of which are administered as single dose regimens and currently used in Australia to treat gonorrhoea. When in vitro resistance to a recommended agent is demonstrated in 5 per cent or more of isolates from a general population, it is usual to remove that agent from the list of recommended treatment.[1] Additional data are also provided on other antibiotics from time to time. At present all laboratories also test isolates for the presence of high level (plasmid-mediated) resistance to the tetracyclines, known as TRNG. Tetracyclines are however, not a recommended therapy for gonorrhoea in Australia. Comparability of data is achieved by means of a standardised system of testing and a program-specific quality assurance process. Because of the substantial geographic differences in susceptibility patterns in Australia, regional as well as aggregated data are presented. For more information see Commun Dis Intell *2002;26:57.*

Reporting period 1 July to 30 September 2002

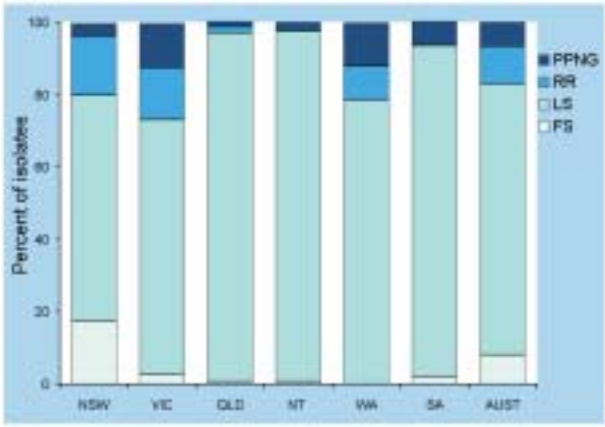
The Australian Gonococcal Surveillance Programme (AGSP) laboratories examined a total of 893 isolates in this quarter and another 20 strains were non-viable, little different from the 913 viable strains in 2001, but substantially more than the 794 examined in the same period in 2000. About 41 per cent of this total was from New South Wales, 17 per cent from Victoria, 13 per cent from Queensland, 15 per cent from the Northern Territory, 9 per cent from Western Australia and 5 per cent from South Australia. Isolates from other centres were few.

Penicillins

Figure 9 shows the proportions of gonococci fully sensitive (MIC ≤0.03 mg/L), less sensitive (MIC 0.06 – 0.5 mg/L), relatively resistant (MIC ≥1 mg/L) or else penicillinase producing (PPNG) aggregated for Australia and by state or territory. A high proportion of those strains classified as PPNG or else resistant by chromosomal mechanisms fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

In this quarter about 17 per cent of all isolates were penicillin resistant by one or more mechanisms — 7 per cent PPNG and 10 per cent by chromosomal mechanisms (CMRNG). The proportion of penicillin resistant strains ranged from 2.4 per cent in the Northern Territory to 26 per cent in Victoria.

Figure 9. Categorisation of gonococci isolated in Australia, 1 July to 30 September 2002, by penicillin susceptibility and region



FS Fully sensitive to penicillin, MIC ≤0.03 mg/L.
LS Less sensitive to penicillin, MIC 0.06 — 0.5 mg/L.
RR Relatively resistant to penicillin, MIC ≥1 mg/L.
PPNG Penicillinase producing *Neisseria gonorrhoeae.*

This proportion is a decrease from the 26 per cent penicillin resistance seen in gonococci in the third quarter of 2001. The number of PPNG isolated across Australia (n=59) continued to decline slowly. Sixty-six PPNG were detected in the equivalent quarter of 2001 and 70 in 2000. The highest proportion of PPNG was found in isolates from Victoria and Western Australia (12%). PPNG were present in all jurisdictions including 3 (2.4%) in the Northern Territory.

More isolates were resistant to the penicillins by separate chromosomal mechanisms (n=93). This is however, a substantial decrease in CMRNG compared to the same period in 2001 when 173 CMRNG were detected. CMRNG were concentrated in New South Wales (16%), Victoria (14%) and Western Australia (9%). CMRNG were not detected in the Northern Territory or South Australia.

Ceftriaxone

Low numbers of isolates with decreased susceptibility to ceftriaxone were present in Victoria, New South Wales and Queensland. The persistence of these isolates in Australia and their presence in nearby countries[2,3,4] suggests that continued monitoring is warranted. A Japanese report recorded treatment failure with cefixime (an oral third generation cephalosporin not available in Australia), but not ceftriaxone, with infections caused by gonococci with slightly raised ceftriaxone MICs.[5]

Spectinomycin

All isolates were susceptible to this injectable agent.

Quinolone antibiotics

Quinolone resistant *N. gonorrhoeae* (QRNG) are defined as those isolates with an MIC to ciprofloxacin equal to or greater than 0.06 mg/L. QRNG are further subdivided into less sensitive (ciprofloxacin MICs 0.06 — 0.5 mg/L) or resistant (MIC 1 mg/L) groups.

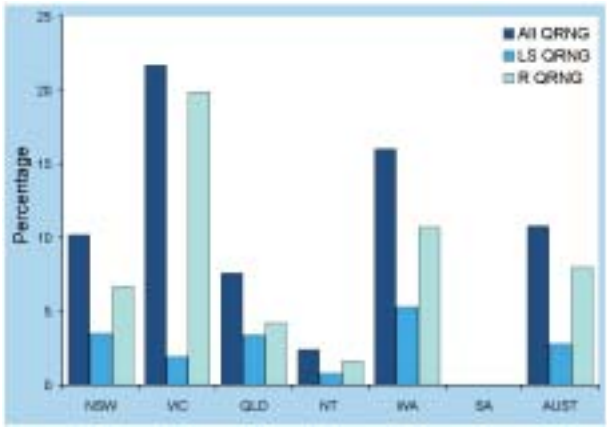
The total number (n=96) and proportion (11%) of QRNG were substantially less than those for the September quarter in 2001 (n=151, 17%). QRNG were again widely distributed, although none were detected in South Australia. High rates were maintained in Victoria (22%) and Western Australia (16%). Rates in New South Wales (10%) and Queensland (8%) declined. Three QRNG were detected in the Northern Territory.

In this quarter most of the QRNG (71 out of 96) exhibited higher levels of resistance as measured by MICs (Figure 10). This continues a trend of increasing MIC in QRNG.

High level tetracycline resistance

The number (n=95) and proportion (11%) of tetracycline resistance (TRNG) detected rose slightly in this quarter from the corresponding data in the September quarter of 2001. TRNG represented 20 per cent of isolates from Queensland, 14 per cent from Western Australia, 11 per cent from Victoria, 10 per cent from New South Wales, 4 per cent from South Australia and 2 per cent from the Northern Territory.

Figure 10. Distribution of *N. gonorrhoeae* displaying quinolone resistance, Australia, 1 July to 30 September 2002



LS QRNG Ciprofloxacin MICs 0.06 — 0.5 mg/L

R QRNG Ciprofloxacin MICs ≥1 mg/L

References

1. World Health Organization Guidelines for the management of sexually transmitted infections. World Health Organization; Document WHO/HIV_AIDS/(2001).01;WHO/RHR/o1.10 2001:1–5.

2. World Health Organization Western Pacific Region Gonococcal Antimicrobial Surveillance Programme. Surveillance of antibiotic susceptibility of *Neisseria gonorrhoeae* in the WHO Western Pacific Region, 2000. *Commun Dis Intell* 2001;25:274–276.

3. Muratani T, Akasaka S, Kobayashi T, Yamada Y, Inatomi H, Takahashi K, *et al*. Outbreak of cefozopran (penicillin, oral cephems and aztreonam) — resistant *Neisseria gonorrhoeae* in Japan. *Antimicrob Agents Chemother* 2001;45:3603–3606.

4. World Health Organization Western Pacific Region Gonococcal Antimicrobial Surveillance Programme. Surveillance of antibiotic susceptibility of *Neisseria gonorrhoeae* in the WHO Western Pacific Region, 2001. *Commun Dis Intell* 2002;26:541-545.

5. Akasaka S, Muratani T, Kobayashi T, Yamada Y, Inatomi H, Takahashi K, Matsumoto T. Gonococcal urethritis and cervicitis caused by CZRNG (cefozopran-resistant *Neisseria gonorrhoeae*) — clinical failure of cases treated with expanded spectrum cephems, fluoroquinolones and minocycline. Abstracts. Thirteenth International Pathogenic *Neisseria* Conference, Oslo September 2002:327. Available from: www.neisseria.org/IPNC.

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 (Australian Capital Territory, New South Wales, Tasmania, Victoria) or by a combination of laboratory and doctor sources (Northern Territory, Queensland, South Australia, Western Australia). Cases of AIDS are notified through the State and Territory health authorities to the National AIDS Registry. Diagnoses of both HIV infection and AIDS are notified with the person's date of birth and name code, to minimise duplicate notifications while maintaining confidentiality.

Tabulations of diagnoses of HIV infection and AIDS are based on data available three months after the end of the reporting interval indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infection and AIDS is published in the quarterly Australian HIV Surveillance Report, and annually in 'HIV/AIDS, viral hepatitis and sexually transmissible infections in Australia, annual surveillance report'. The reports are available from the National Centre in HIV Epidemiology and Clinical Research, 376 Victoria Street, Darlinghurst, NSW 2010. Internet: http://www.med.unsw.edu.au/nchecr. Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. For more information see Commun Dis Intell *2002;26:57.*

HIV and AIDS diagnoses and deaths following AIDS reported for 1 July to 30 September 2002, as reported to 31 December 2002, are included in this issue of Communicable Diseases Intelligence (Tables 7 and 8).

Table 7. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 July to 30 September 2002, by sex and state or territory of diagnosis

		State or territory								Totals for Australia			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2002	This period 2001	Year to date 2002	Year to date 2001
HIV diagnoses	Female	0	5	2	0	0	1	6	2	16	24	63	71
	Male	2	88	0	33	9	2	35	7	176	188	502	514
	Sex not reported	0	0	0	0	0	0	0	0	0	0	0	1
	Total[1]	2	93	2	33	9	3	43	9	194	212	570	587
AIDS diagnoses	Female	0	0	0	0	0	1	1	0	2	7	9	14
	Male	2	12	0	4	1	0	9	0	28	49	108	119
	Total[1]	2	12	0	4	1	1	10	0	30	56	118	134
AIDS deaths	Female	0	0	0	0	0	0	0	1	1	5	3	9
	Male	0	6	0	3	2	0	3	0	14	27	41	56
	Total[1]	0	6	0	3	2	0	3	1	15	32	44	65

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

Table 8. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 30 September 2002 and reported by 31 December 2002, by sex and state or territory

		State or territory								
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
HIV diagnoses	Female	28	688	14	185	77	7	270	144	1,413
	Male	235	11,823	115	2,227	749	86	4,336	1,006	20,577
	Sex not reported	0	235	0	0	0	0	24	0	259
	Total[1]	263	12,771	129	2,419	826	93	4,648	1,156	22,305
AIDS diagnoses	Female	9	208	0	53	29	4	82	31	416
	Male	90	4,872	38	909	373	46	1,761	387	8,476
	Total[1]	99	5,093	38	964	402	50	1,852	420	8,918
AIDS deaths	Female	4	122	0	36	18	2	57	20	259
	Male	71	3,363	25	600	246	30	1,322	267	5,924
	Total[1]	75	3,494	25	638	264	32	1,386	288	6,202

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

Childhood immunisation coverage

Tables 9, 10 and 11 provide the latest quarterly report on childhood immunisation coverage from the Australian Childhood Immunisation Register (ACIR).

The data show the percentage of children fully immunised at 12 months of age for the cohort born between 1 July and 30 September 2001, at 24 months of age for the cohort born between 1 July and 30 September 2000, and at 6 years of age for the cohort born between 1 July and 30 September 1996 according to the Australian Standard Vaccination Schedule.

A full description of the methodology used can be found in Commun Dis Intell 1998;22:36-37.

Commentary on the trends in ACIR data is provided by the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS). For further information please contact the NCIRS at telephone: +61 2 9845 1256, Email: brynleyh@chw.edu.au.

Immunisation coverage for children 'fully immunised' by 12 months of age for Australia has increased from the last quarter by 0.5 percentage points to 91.7 per cent (Table 9). The change in 'fully immunised' coverage varied by state and territory but all jurisdictions experienced an increase in coverage, except for Western Australia (-0.5%) and the Northern Territory (-0.9%). South Australia (+1.4%) and Victoria (+1.1%) experienced the greatest increases in coverage. The remaining states experienced smaller increases in coverage over the quarter. Coverage is hovering around the 91 to 93 per cent level in almost all jurisdictions with the highest level in South Australia (93.2%) and the lowest in Western Australia (89.9%). There were no significant changes in coverage across any jurisdiction for any individual vaccine.

The second consecutive quarterly increase in coverage at 12 months of age for almost all jurisdictions and for most vaccines is encouraging and further indicates that coverage has not reached a plateau as first thought. Every jurisdiction has coverage greater than 90 per cent for all individual vaccines and three jurisdictions have greater than 92 per cent for 'fully immunised' coverage. The highest coverage for an individual vaccine at 12 months of age is for hepatitis B vaccine. National coverage is greater than 95 per cent and six jurisdictions have reached over 95 per cent coverage — New South Wales (95.2%), the Northern Territory (95.9%), Queensland (95.3%), South Australia (96.2%), Victoria (95.2%) and Tasmania (95.3%).

Coverage measured by 'fully immunised' at 24 months for Australia increased from the last quarter by 1.6 percentage points to 89.4 per cent (Table 10). Coverage increased from the previous quarter in five jurisdictions but the increases were all quite small, except in Tasmania (+2.8%) and Western Australia (+2.4%). Despite the increases, only three jurisdictions achieved greater than 90 per cent coverage for 'fully immunised' at 24 months of age, (Tasmania, Queensland and Victoria). Coverage for individual vaccines by 24 months for Australia, however, is much greater. Coverage for OPV is 94.8 per cent and 94.0 per cent for Hib suggesting that at least part of the lower figure for fully immunised may relate to data issues. As with the last quarterly coverage report, the most important changes in coverage at 24 months occurred for Hib vaccine. There were decreases in Hib coverage at 24 months of age in all jurisdictions except for the Australian Capital Territory. The decreases were not dramatic but have occurred for a second consecutive quarter.

Table 9. Percentage of children immunised at 1 year of age, preliminary results by disease and State or Territory for the birth cohort 1 July to 30 September 2001; assessment date 31 December 2002

	State or territory								
Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,018	21,687	845	12,751	4,507	1,412	15,556	6,196	63,972
Diphtheria, tetanus, pertussis (%)	93.3	92.6	91.5	92.8	93.9	93.6	93.1	90.7	92.7
Poliomyelitis (%)	93.0	92.5	91.1	92.8	93.9	93.6	93.0	90.6	92.6
Haemophilus influenzae type b (%)	93.9	94.7	95.7	95.0	95.9	95.5	95.3	94.1	94.9
Hepatitis B	94.9	95.2	95.9	95.3	96.2	95.3	95.2	93.9	95.1
Fully immunised (%)	91.0	91.4	90.4	91.8	93.2	93.0	92.4	89.9	91.7
Change in fully immunised since last quarter (%)	+0.2	+0.4	-0.9	+0.4	+1.4	+0.1	+1.1	-0.5	+0.5

Table 11 shows immunisation coverage estimates for 'fully immunised' and for individual vaccines by 6 years of age for Australia and by state or territory. These are the third set of officially published ACIR figures of immunisation coverage estimates for this age group. 'Fully immunised' coverage at 6 years of age for Australia increased from the last quarter by 1.5 percentage points to 82.2 per cent. The greatest increase in coverage occurred in the Northern Territory (+10.8%) and New South Wales (+2.4%). All jurisdictions experienced increases in 'fully immunised' coverage for this age group. National coverage by individual vaccine also increased from the last quarter for all vaccines for this age group but there was some small variation in the changes in coverage by jurisdiction. The recent report published by NCIRS shows that true levels of coverage at 6 years of age are probably higher than reported here as late immunisation is still common.[1]

Figure 11 shows the trends in vaccination coverage from the first ACIR-derived published coverage estimates in 1997 to the current estimates. There is a clear trend of increasing vaccination coverage over time for children aged 12 months, 24 months and 6 years. The recent increase in coverage over the past three quarters for all age groups is encouraging and indicates that in part the various initiatives and efforts that are taking place at present are probably having some impact on parents' decisions to immunise and immunisation providers' decisions to notify to the ACIR. However, the increase may also be a consequence of children in these recent cohorts being on the new schedule where receipt of only 2 doses of Hib vaccine is considered full immunisation for Hib at 12 months, according to the ACIR coverage algorithm. The greatest increase in coverage for individual vaccines at 12 months was for the Hib vaccine, an overall increase of 1.2 per cent compared with 0.7 per cent for both diphtheria-tetanus-pertusis and oral polio vaccine.

Figure 11. Trends in vaccination coverage, Australia, 1997 to 2002, by age cohorts

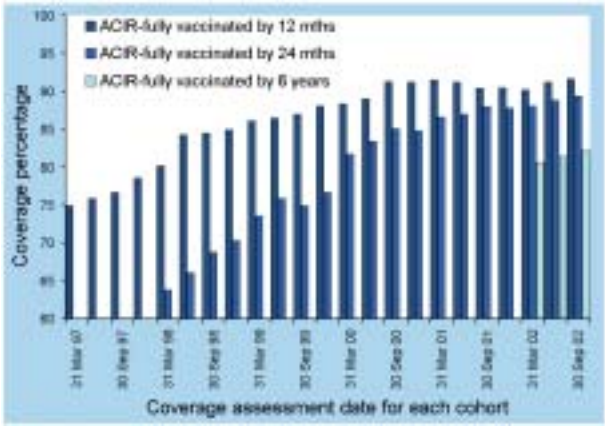


Table 10. Proportion of children immunised at 2 years of age, preliminary results by disease and State or Territory for the birth cohort 1 July to 30 September 2000; assessment date 31 December 2002[1]

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,043	21,942	788	12,593	4,437	1,494	15,376	6,293	63,966
Diphtheria, tetanus, pertussis (%)	89.3	90.8	86.4	92.0	91.4	93.4	92.0	91.2	91.4
Poliomyelitis (%)	94.4	94.4	96.1	94.6	95.6	96.3	95.5	94.1	94.8
Haemophilus influenzae type b (%)	94.3	93.6	93.0	94.0	94.1	95.2	94.6	93.2	94.0
Measles, mumps, rubella (%)	94.5	93.6	94.7	94.2	94.5	95.5	94.7	93.8	94.2
Hepatitis B (%)	-	-	-	-	-	-	-	-	-
Fully immunised (%)[2]	87.4	88.5	85.0	90.3	89.5	92.4	90.2	88.7	89.4
Change in fully immunised since last quarter (%)	-1.1	+1.6	-0.9	+1.5	+2.0	+2.8	+1.4	+2.4	+1.6

1. The 12 months age data for this cohort was published in *Commun Dis Intell* 2002;26:88.
2. These data relating to 2 year-old children should be considered as preliminary. The proportions shown as 'fully immunised' appear low when compared with the proportions for individual vaccines. This is at least partly due to poor identification of children on immunisation encounter forms.

Table 11. Proportion of children immunised at 6 years of age, preliminary results by disease and State or Territory for the birth cohort 1 July to 30 September 1996; assessment date 31 December 2002

Vaccine	State or Territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,126	22,832	16,214	13,382	4,842	6,770	1,702	789	67,657
Diphtheria, tetanus, pertussis (%)	84.6	84.2	86.0	84.7	84.0	81.5	84.0	84.5	84.5
Poliomyelitis (%)	84.7	84.2	86.3	85.0	84.1	81.9	84.5	85.7	84.7
Haemophilus influenzae type b (%)	-	-	-	-	-	-	-	-	-
Measles, mumps, rubella (%)	83.3	82.4	85.9	84.5	83.3	81.3	83.0	85.9	83.7
Hepatitis B (%)	-	-	-	-	-	-	-	-	-
Fully immunised (%)[1]	81.9	80.8	84.8	82.9	81.8	79.6	81.6	82.8	82.2
Change in fully immunised since last quarter (%)	+0.6	+2.4	+10.8	+0.3	-0.0	+1.8	+1.5	+1.3	+1.5

1. These data relating to 6 year-old children should be considered as preliminary. The proportions shown as 'fully immunised' appear low when compared with the proportions for individual vaccines. This is at least partly due to poor identification of children on immunisation encounter forms.

References

1. National Centre for Immunisation Research and Surveillance. Immunisation coverage: Australia 2001. Report. Canberra: Department of Health and Aged Care, 2001. Available from: http://www.health.gov.au/pubhlth/immunise/report.pdf

Acknowledgment: These figures were provided by the Health Insurance Commission, to specifications provided by the Commonwealth Department of Health and Ageing. For further information on these figures or data on the Australian Childhood Immunisation Register please contact the Immunisation Section of the Health Insurance Commission: Telephone: +61 2 6124 6607.

National Enteric Pathogens Surveillance System

The National Enteric Pathogens Surveillance System (NEPSS) collects, analyses and disseminates data on human enteric bacterial infections diagnosed in Australia. These pathogens include Salmonella, E. coli, Vibrio, Yersinia, Plesiomonas, Aeromonas and Campylobacter. Communicable Diseases Intelligence quarterly reports include only Salmonella.

Data are based on reports to NEPSS from Australian laboratories of laboratory-confirmed human infection with Salmonella. Salmonella are identified to the level of serovar and, if applicable, phage-type. Infections apparently acquired overseas are included. Multiple isolations of a single Salmonella serovar/phage-type from one or more body sites during the same episode of illness are counted once only. The date of the case is the date the primary diagnostic laboratory isolated a Salmonella from the clinical sample.

Note that the historical quarterly mean counts should be interpreted with caution, and are affected by surveillance artefacts such as newly recognised (such as S. Typhimurium 197 and S. Typhimurium U290) and incompletely typed Salmonella.

Reported by Joan Powling (NEPSS Co-ordinator) and Mark Veitch (Public Health Physician), Microbiological Diagnostic Unit — Public Health Laboratory, Department of Microbiology and Immunology, University of Melbourne. NEPSS can be contacted at the above address or by telephone: +61 3 8344 5701, facsimile: +61 3 9625 2689. For more information see Commun Dis Intell 2002;26:57.

Reports to the National Enteric Pathogens Surveillance System of Salmonella infection for the period 1 October to 31 December 2002 are included in Tables 12 and 13. Data include cases reported and entered by 30 January 2003. Counts are preliminary, and subject to adjustment after completion of typing and reporting of further cases to NEPSS.

Acknowledgement: Thanks to contributing laboratories and scientists.

Table 12. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 October to 31 December 2002, as reported to 30 January 2003

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Aust
Total all *Salmonella* for quarter	22	527	45	411	105	47	223	170	1,550
Total contributing *Salmonella* types	12	92	27	101	39	10	68	70	207

Table 13. Top 25 *Salmonella* types identified in Australian States and Territories, 1 October to 31 December 2002

National rank	*Salmonella* type	State or territory								Total 4th quarter 2002	Last 10 years mean 4th quarter	Year to date 2002	Year to date 2001
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	*S.* Typhimurium 135	3	68	1	15	0	1	18	14	120	119	646	636
2	*S.* Typhimurium 170	2	54	0	33	0	0	17	1	107	20	419	148
3	*S.* Typhimurium 9	2	28	0	4	6	8	31	2	81	119	585	399
4	*S.* Potsdam	4	25	0	10	4	13	17	1	74	13	130	60
5	*S.* Saintpaul	0	16	8	28	1	0	8	11	72	65	385	289
6	*S.* Typhimurium 197	4	42	0	7	0	1	6	0	60	<1	108	8
7	*S.* Birkenhead	0	17	0	32	2	0	1	0	52	55	246	253
8	*S.* Montevideo	0	40	0	1	0	0	2	3	46	5	105	27
9	*S.* Chester	0	6	0	17	5	1	0	14	43	33	174	166
10	*S.* Typhimurium 126	0	5	0	4	7	2	12	1	31	23	203	313
11	*S.* Infantis	0	11	1	1	2	0	13	2	30	27	115	123
12	*S.* Muenchen	0	6	2	10	3	1	0	8	30	27	131	125
13	*S.* Virchow 8	0	6	0	20	0	0	1	1	28	24	273	245
14	*S.* Waycross	0	9	0	15	0	0	0	0	24	14	106	54
15	*S.* Agona	0	8	1	8	0	0	3	3	23	14	88	56
16	*S.* Hvittingfoss	0	7	1	14	0	0	1	0	23	12	154	89
17	*S.* Typhimurium U290	0	10	0	0	0	0	7	5	22	2	99	26
18	*S.* Typhimurium 99	0	0	0	0	22	0	0	0	22	1	33	40
19	*S.* Mississippi	0	1	0	1	0	17	1	0	20	13	93	124
20	*S.* Kottbus	0	9	0	3	1	0	5	1	19	8	51	26
21	*S.* subsp I ser 16;l,v:-	0	6	1	8	2	0	0	1	18	6	48	17
22	*S.* Enteritidis 4b	0	6	0	0	0	0	3	9	18	1	67	13
23	*S.* Enteritidis 4	0	5	0	5	2	0	2	3	17	48	40	90
24	*S.* Anatum	0	1	1	8	1	0	3	3	17	16	84	58
25	*S.* Stanley	1	4	0	5	1	0	1	5	17	10	59	107