Communicable diseases surveillance

Highlights for 3rd quarter, 2007

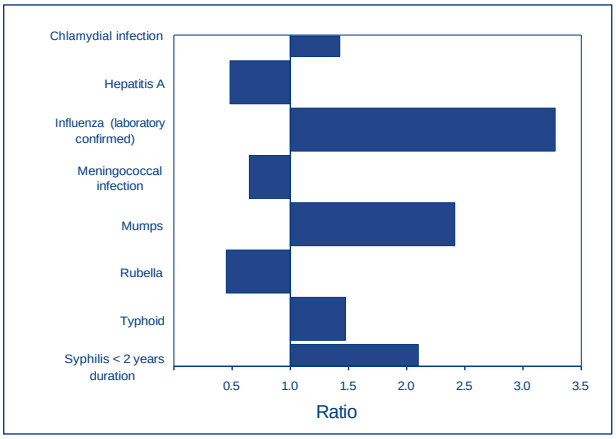
Communicable diseases surveillance highlights report on data from various sources, including the National Notifiable Diseases Surveillance System (NNDSS) and several disease specific surveillance systems that provide regular reports to Communicable Diseases Intelligence. These national data collections 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 and 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' while data from the LabVISE scheme are referred to as 'laboratory reports'.

Figure 1 shows the changes in selected disease notifications with an onset in the third quarter of 2007 (July to September), compared with the 5-year mean for the same period.

Notifications were above the 5-year mean for chlamydia, influenza (laboratory confirmed), mumps, typhoid and syphilis of less than 2 years duration. Notifications were below the 5-year mean for hepatitis A, meningococcal infection and rubella.

Figure 1. Selected* diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 July to 30 September 2007 with historical data*



* Selected diseases are chosen each quarter according to current activity. Five year averages and the ratios of notifications in the reporting period in the five year mean should be interpreted with caution. Changes in surveillance practice, diagnostic techniques and reporting, may contribute to increases or decreases in the total notifications received over a five year period. Ratios are to be taken as a crude measure of current disease activity and may reflect changes in reporting rather than changes in disease activity.

† Ratio of current quarter total to mean of corresponding quarter for the previous five years.

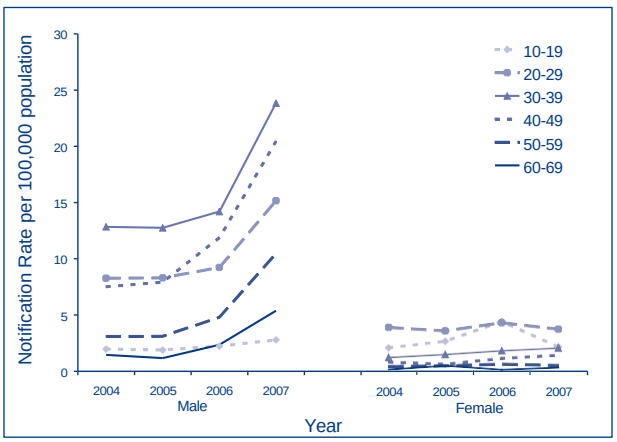
Sexually transmissible infections

Syphilis infections

There were 288 cases of syphilis (less than 2 years duration) reported to NNDSS in the third quarter of 2007, giving a national notification rate of five cases per 100,000 population (Figure 2). Males in the 35–39 year age group (29 cases per 100,000 population) and females in the 20–24 year age group (4 cases per 100,000 population) had the highest rates of notification. The Northern Territory recorded the highest notification rate with 29 cases per 100,000 population, however this was 18% less notifications compared with the same period in 2006.

Compared to the same period in 2006, the number of syphilis (less than 2 years duration notifications) have increased nationally by 38%. The major increases have been in Victoria (57%) and New South Wales (30%).

Figure 2. Notification rates of syphilis (less than 2 years duration) in persons aged 10–69 years, Australia, 2004 to 2006, by age group and sex



Vaccine preventable diseases

Influenza

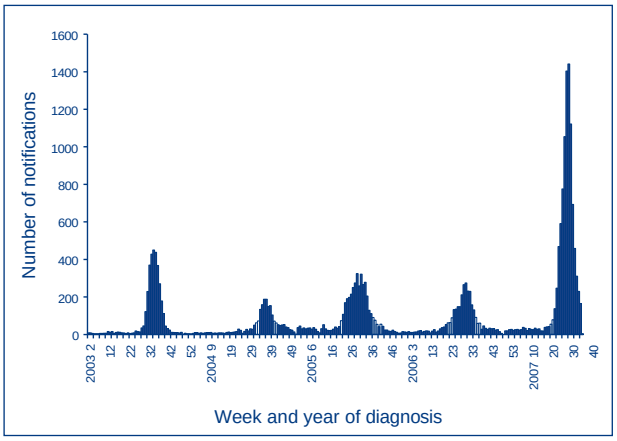
Laboratory-confirmed influenza is a nationally notifiable disease in all states and territories except South Australia, however data are reported from all state or territory health departments to the NNDSS.

The 2007 influenza season began in late May with a very gradual increase in notifications. From 15 July there was a steep rise in influenza notifications in several jurisdictions, particularly Queensland and Western Australia. Nationally, notifications peaked in mid August.

The total number of laboratory-confirmed influenza notifications to NNDSS for the third quarter was 8,958 cases (91% of year-to-date notifications); this was 3.3 times the 5-year mean for the same period. The number of notifications was more than three times the number reported for the same period in the previous four seasons (Figure 3). The majority of notifications were from Queensland with 3,861 cases (43%).

During the third quarter of 2007, the highest rate of notifications occurred in the Australian Capital Territory with 427 cases per 100,000 population, followed by Queensland (374 cases per 100,000), the Northern Territory (316 cases per 100,000), Tasmania (302 cases per 100,000), South Australia (163 cases per 100,000), Western Australia (153 cases per 100,000), Victoria (107 cases per 100,000) and New South Wales (78 cases per 100,000). The rate of notification of influenza infection for Australia was 170 cases per 100,000 population.

Figure 3. Number of influenza notifications, Australia, 1 January 2003 to 30 September 2007, by date of diagnosis



Measles

Four notifications of measles were reported in the third quarter of 2007. There were two males and two females reported aged between 1 and 22 years. One case was a student from Japan, two cases had returned from overseas (from Indonesia and the Middle East), and one case had no history of travel. One case was unvaccinated and three cases had an unknown vaccination history.

Acknowledgments

Thanks go to staff of the Surveillance Policy and Systems Section of the Australian Government Department of Health and Ageing and all our state and territory data managers.

Tables

National Notifiable Diseases Surveillance System

A summary of diseases currently being reported by each jurisdiction is provided in Table 1. There were 41,649 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 July and 30 September 2007 (Table 2). The notification rate of diseases per 100,000 population for each state or territory is presented in Table 3.

Table 1. Reporting of notifiable diseases by jurisdiction

Disease	Data received from:
Bloodborne diseases	
Hepatitis B (incident)	All jurisdictions
Hepatitis B (unspecified)	All jurisdictions
Hepatitis C (incident)	All jurisdictions except Qld
Hepatitis C (unspecified)	All jurisdictions
Hepatitis D	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
Smallpox	All jurisdictions
Tularemia	All jurisdictions
Viral haemorrhagic fever	All jurisdictions
Yellow fever	All jurisdictions
Sexually transmissible infections	
Chlamydial infection	All jurisdictions
Donovanosis	All jurisdictions
Gonococcal infection	All jurisdictions
Syphilis (all)	All jurisdictions
Syphilis <2 years duration	All jurisdictions
Syphilis >2 years or unspecified duration	All jurisdictions
Syphilis - congenital	All jurisdictions

Disease	Data received from:
Vaccine preventable diseases	
Diphtheria	All jurisdictions
Haemophilus influenzae type b	All jurisdictions
Influenza (laboratory confirmed)*	All jurisdictions
Measles	All jurisdictions
Mumps	All jurisdictions
Pertussis	All jurisdictions
Pneumococcal disease (invasive)	All jurisdictions
Poliomyelitis	All jurisdictions
Rubella	All jurisdictions
Rubella - congenital	All jurisdictions
Tetanus	All jurisdictions
Varicella infections (chickenpox)	All jurisdictions except NSW
Varicella infections (unspecified)	All jurisdictions except NSW
Varicella zoster infections	All jurisdictions except NSW
Vectorborne diseases	
Barmah Forest virus infection	All jurisdictions
Flavivirus infection (NEC)†	All jurisdictions
Dengue	All jurisdictions
Japanese encephalitis virus	All jurisdictions
Kunjin virus	All jurisdictions
Malaria	All jurisdictions
Murray Valley encephalitis virus	All jurisdictions
Ross River virus infection	All jurisdictions
Zoonoses	
Anthrax	All jurisdictions
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
Meningococcal infection	All jurisdictions
Tuberculosis	All jurisdictions

* Laboratory confirmed influenza is not notifiable in South Australia but reports are forwarded to NNDSS.

† Flavivirus (NEC) replaced Arbovirus (NEC) from 1 January 2004.

Table 2. Notifications of diseases received by state and territory health authorities in the period 1 July to 30 September 2007, by date of onset*

Disease	State or territory								Total 3rd quarter 2007†	Total 2nd quarter 2007	Total 3rd quarter 2006	Last 5 years mean 3rd quarter	Year to date 2007	Last 5 years YTD mean	Ratio‡
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Bloodborne diseases															
Hepatitis B (incident)	3	7	1	16	5	0	12	9	53	76	67	83.8	208	245.6	0.6
Hepatitis B (unspecified)	30	1,148	36	216	115	7	478	157	2,187	1,970	1,682	1,518.4	6,153	4,657.2	1.3
Hepatitis C (incident)	2	7	1	NN	8	8	29	20	75	74	94	110.0	242	341.6	0.7
Hepatitis C (unspecified)	57	1,707	59	653	131	63	657	323	3,650	3,471	3,127	3,210.2	10,888	10,010.0	1.1
Hepatitis D	0	3	0	1	0	0	2	4	10	7	10	6.4	26	23.0	1.1
Gastrointestinal diseases															
Botulism	0	0	0	0	0	0	0	0	0	0	0	0.1	1	1.0	1.0
Campylobacteriosis§	69	NN	77	911	825	157	1,262	505	3,806	4,430	3,903	3,325.6	13,168	11,055.4	1.2
Cryptosporidiosis	0	50	14	23	28	12	78	62	267	672	313	625.4	2,098	2,078.0	1.0
Haemolytic uraemic syndrome	0	2	0	0	0	0	0	0	2	3	0	2.4	13	9.4	1.4
Hepatitis A	1	17	1	7	2	0	13	3	44	41	55	86.0	132	273.6	0.5
Hepatitis E	0	2	0	0	0	0	0	0	2	7	6	4.6	15	17.8	0.8
Listeriosis	0	5	0	2	2	0	1	0	10	8	15	16.2	34	46.8	0.7
Salmonellosis (NEC)	21	336	89	303	185	17	312	279	1,542	2,521	1,244	1,879.4	7,585	5,885.8	1.3
Shigellosis	1	21	34	34	25	0	27	27	169	148	103	138.8	460	424.4	1.1
SLTEC, VTEC‖	0	0	0	4	3	0	3	2	12	18	16	16.8	72	46.8	1.5
Typhoid	0	7	2	1	1	2	6	0	19	18	15	12.0	74	50.2	1.5
Quarantinable diseases															
Cholera	0	0	0	0	0	0	0	0	0	1	0	0.8	2	2.6	0.8
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
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0.0
Tularemia	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

Table 2. Notifications of diseases received by state and territory health authorities in the period 1 July to 30 September 2007, by date of onset,* *continued*

Disease	State or territory								Total 3rd quarter 2007†	Total 2nd quarter 2007	Total 3rd quarter 2006	Last 5 years mean 3rd quarter	Year to date 2007	Last 5 years YTD mean	Ratio‡
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Sexually transmissible infections															
Chlamydial infection¶	263	2,872	467	3,106	787	271	2,750	1,729	12,245	12,951	11,628	9,069.4	38,496	27,024.8	1.4
Donovanosis	0	0	0	1	0	0	0	0	1	0	0	2.8	3	9.0	0.3
Gonococcal infection	5	253	353	317	56	13	235	443	1,675	2,108	1,925	1,957.0	5,791	5,645.8	1.0
Syphilis (all)	12	315	50	85	13	10	267	47	799	793	658	571.2	2,313	1,713.2	1.4
Syphilis < 2 years duration	1	66	15	48	2	4	127	25	288	365	180	166.0	946	482.3	2.1
Syphilis >2 years or unspecified duration	11	249	35	37	11	6	140	22	511	428	478	414.0	1,367	1,207.3	1.1
Syphilis - congenital	0	2	0	0	0	0	0	0	2	3	2	5.8	7	12.0	0.6
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	3	0	1	1	0	0	0	5	4	11	5.2	11	16.8	0.7
Influenza (laboratory confirmed)	356	1,359	164	3,861	650	378	1,389	801	8,958	576	2,256	444.6	9,878	3,014.2	3.3
Measles	0	2	0	3	0	0	0	1	6	3	2	27.8	13	51.2	0.3
Mumps	1	80	16	17	14	2	3	14	147	99	93	44.0	291	120.6	2.4
Pertussis	35	548	5	482	170	6	292	21	1,559	1,360	4,559	1,704.2	3,981	6,181.4	0.6
Pneumococcal disease (invasive)	11	204	24	157	43	15	97	46	597	405	534	538.2	1,194	1,616.8	0.7
Poliomyelitis	0	0	0	0	0	0	1	0	1	0	0	0.0	1	0.0	0.0
Rubella	0	0	0	4	1	0	1	0	6	15	25	20.4	30	66.6	0.5
Rubella - congenital	0	0	0	0	0	0	0	0	0	1	0	0.4	1	1.2	0.8
Tetanus	0	1	0	0	0	1	0	0	2	0	0	0.6	2	2.6	0.8
Varicella infections (chickenpox)	NDP	NN	88	105	295	5	NN	82	575	432	466	NA	1,366	NA	NA
Varicella infections (unspecified)	NDP	NN	23	68	179	11	NN	76	357	493	322	NA	1,312	NA	NA
Varicella zoster infections	NDP	NN	1	843	168	6	NN	154	1,172	998	931	NA	3,249	NA	NA
Vectorborne diseases															
Barmah Forest virus infection	1	87	14	167	25	0	3	16	313	578	356	507.2	1,331	1,116.0	1.2
Dengue	2	17	4	19	13	1	3	13	72	89	39	95.0	254	287.8	0.9
Flavivirus infection (NEC)	0	0	0	2	0	0	1	0	3	6	4	12.2	19	42.6	0.4
Japanese encephalitis virus	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.4	0.0
Kunjin virus	0	0	0	0	0	0	0	0	0	0	0	1.4	0	6.2	0.0
Malaria	4	26	2	39	8	2	21	12	114	168	202	157.6	435	504.2	0.9
Murray Valley encephalitis virus	0	0	0	0	0	0	0	0	0	0	0	0.2	0	1.2	0.0
Ross River virus infection	2	149	44	306	56	0	6	59	622	1,325	391	1,196.8	3,051	3,036.6	1.0

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 July to 30 September 2007, by date of onset,* *continued*

Disease	State or territory								Total 3rd quarter 2007†	Total 2nd quarter 2007	Total 3rd quarter 2006	Last 5 years mean 3rd quarter	Year to date 2007	Last 5 years YTD mean	Ratio‡
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Zoonoses															
Anthrax	0	0	0	0	0	0	0	0	0	0	0	0.0	1	0.2	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	5	1	1	1	0	8	4	15	6.4	26	25.2	1.0
Leptospirosis	0	1	0	7	0	0	2	0	10	30	20	44.2	87	124.0	0.7
Lyssavirus unspecified	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	0.0
Ornithosis	0	1	0	1	0	0	7	1	10	26	46	52.2	64	154.2	0.4
Q fever	2	43	0	43	7	0	8	1	104	124	119	130.6	344	389.8	0.9
Other bacterial infections															
Legionellosis	0	13	0	9	1	0	9	10	42	90	82	85.2	207	240.6	0.9
Leprosy	0	0	0	0	0	0	0	0	0	4	2	1.6	9	6.2	1.5
Meningococcal infection**	1	43	1	32	12	3	26	8	126	62	111	107.0	234	361.0	0.6
Tuberculosis	7	90	4	36	11	0	109	14	271	232	326	257.4	774	801.2	1.0
Total	886	9,421	1,574	11,886	3,841	991	8,111	4,939	41,649	36,444	35,775	28,316.5	115,929	88,540.4	1.4

* Date of onset = the true onset. If this is not available, the 'date of onset' is equivalent to the earliest of two dates: (i) specimen date of collection, or (ii) the date of notification to the public health unit. Hepatitis B and C unspecified were analysed by the date of notification.

† 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.

‡ Ratio = ratio of current quarter total to the mean of last 5 years for the same quarter. Note: Ratios for syphilis <2 years; syphilis >2 years or unspecified duration based on 2 years data

§ Not reported for New South Wales where it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.

|| Infections with Shiga-like toxin (verotoxin) producing *Escherichia coli* (SLTEC/VTEC).

¶ Includes *Chlamydia trachomatis* identified from cervical, rectal, urine, urethral, throat and eye samples, except for South Australia which reports only genital tract specimens, Northern Territory which excludes ocular specimens, and Western Australia which excludes ocular and perinatal infections.

** Only invasive meningococcal disease is nationally notifiable. However, New South Wales, the Australian Capital Territory and South Australia also report conjunctival cases.

NN Not notifiable.

NEC Not elsewhere classified.

Table 3. Notification rates of diseases, 1 July to 30 September 2007, by state or territory. (Annualised rate per 100,000 population)

Disease*	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Bloodborne diseases									
Hepatitis B (incident)	3.6	1.1	9.6	1.5	0.0	1.6	1.5	2.5	1.4
Hepatitis B (unspecified)	25.2	49.3	111.8	26.7	38.7	3.2	33.5	31.3	37.5
Hepatitis C (incident)	1.2	0.5	0.0	NN	3.8	1.6	2.3	3.3	1.8
Hepatitis C (unspecified)	45.6	92.1	111.8	65.7	29.9	45.6	50.3	50.3	66.1
Hepatitis D	0.0	0.2	0.0	0.1	0.0	0.0	0.2	0.0	0.1
Gastrointestinal diseases									
Botulism	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Campylobacteriosis[†]	125.9	NN	188.8	96.8	301.3	137.7	108.2	86.5	126.2
Cryptosporidiosis	2.4	4.9	69.4	8.3	34.7	5.6	11.5	32.4	12.8
Haemolytic uraemic syndrome	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Hepatitis A	0.0	0.7	3.9	0.9	0.3	0.8	0.4	1.9	0.8
Hepatitis E	1.2	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.1
Listeriosis	0.0	0.3	0.0	0.0	0.0	0.8	0.2	0.0	0.2
Salmonellosis (NEC)	38.4	35.7	233.2	64.2	86.6	37.6	36.4	41.8	48.0
Shigellosis	0.0	1.1	75.2	1.0	6.0	1.6	2.1	5.2	2.8
SLTEC, VTEC[‡]	0.0	0.1	0.0	0.4	2.5	0.0	0.2	0.0	0.3
Typhoid	0.0	0.7	0.0	0.1	0.0	0.0	0.4	0.0	0.3
Quarantinable diseases									
Cholera	0.0	0.1	0.0	0.0	0.0	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
Smallpox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tularemia	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 infections									
Chlamydial infection[§]	268.6	169.9	1,360.5	305.2	237.3	229.7	220.5	348.0	246.5
Donovanosis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gonococcal infection	10.8	20.8	1,040.6	33.6	46.2	7.2	18.1	80.9	40.1
Syphilis (all)	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.4
Syphilis <2 years duration	0.0	6.2	125.3	6.2	0.3	3.2	7.1	5.9	6.9
Syphilis >2 years or unspecified duration	7.2	10.0	67.4	4.8	0.0	4.8	8.3	5.6	7.8
Syphilis - congenital	0.0	0.1	3.9	0.0	0.0	0.0	0.0	0.0	0.1
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	0.1	0.0	0.1	0.0	0.0	0.0	0.4	0.1
Influenza (laboratory confirmed)	8.4	9.6	13.5	20.6	5.0	16.8	2.9	19.9	11.0
Measles	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1
Mumps	0.0	3.3	23.1	1.0	2.5	0.0	0.6	0.2	1.9
Pertussis	33.6	25.8	13.5	33.4	48.5	6.4	22.9	6.3	25.9
Pneumococcal disease (invasive)	10.8	7.4	32.8	7.1	16.1	2.4	5.7	6.9	7.7
Poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3. Notification rates of diseases, 1 July to 30 September 2007, by state or territory. (Annualised rate per 100,000 population), continued

Disease*	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Aust
Vaccine preventable diseases, continued									
Rubella	1.2	0.2	0.0	0.4	0.5	0.0	0.2	0.2	0.3
Rubella - congenital	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetanus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Varicella infections (chickenpox)	NDP	NN	40.5	4.5	78.6	0.8	NN	9.8	NA
Varicella infections (unspecified)	NDP	NN	30.8	8.0	75.3	16.8	NN	14.2	NA
Varicella zoster infections	NDP	NN	3.9	67.5	34.1	4.0	NN	30.5	NA
Vectorborne diseases									
Barmah Forest virus infection	3.6	13.5	61.7	24.0	8.3	0.0	0.7	3.5	11.0
Dengue	2.4	0.9	5.8	4.5	2.0	0.0	0.2	2.3	1.7
Flavivirus infection (NEC)	0.0	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.1
Japanese encephalitis virus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kunjin virus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malaria	1.2	1.1	17.3	4.9	4.5	1.6	3.0	5.6	3.2
Murray Valley encephalitis virus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ross River virus infection	4.8	16.3	129.1	70.2	25.1	1.6	1.8	23.2	25.2
Zoonoses									
Anthrax	0.0	0.0	0.0	0.0	0.0	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	0.2	0.1
Leptospirosis	0.0	0.1	0.0	2.3	0.3	0.0	0.2	0.4	0.6
Lyssavirus unspecified	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ornithosis	0.0	0.6	0.0	0.0	0.0	0.0	1.2	0.0	0.5
Q fever	0.0	2.9	1.9	3.5	5.8	0.0	0.9	0.4	2.4
Other bacterial infections									
Legionellosis	2.4	1.7	3.9	1.4	3.5	0.8	1.2	2.3	1.7
Leprosy	0.0	0.0	0.0	0.1	0.5	0.0	0.0	0.2	0.1
Meningococcal infection‖	0.0	1.3	3.9	0.7	1.3	0.8	1.8	0.4	1.2
Tuberculosis	4.8	5.2	13.5	3.1	4.3	1.6	5.2	2.5	4.4

* Rates are subject to retrospective revision.

† Not reported for New South Wales where it is only notifiable as 'foodborne disease' or 'gastroenteritis in an institution'.

‡ Infections with Shiga-like toxin (verotoxin) producing *Escherichia coli* (SLTEC/VTEC).

§ Includes *Chlamydia trachomatis* identified from cervical, rectal, urine, urethral, throat and eye samples, except for South Australia which reports only genital tract specimens, Northern Territory which excludes ocular specimens, and Western Australia which excludes ocular and perinatal infections.

‖ Only invasive meningococcal disease is nationally notifiable. However, New South Wales, the Australian Capital Territory and South Australia also report conjunctival cases.

NN Not notifiable.

NEC Not elsewhere classified.

Laboratory Virology and Serology Reporting Scheme

There were 10,198 reports received by the Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 July to 30 September 2007 (Tables 4 and 5).

Table 4. Virology and serology laboratory reports by state or territory* for the reporting period 1 July to 30 September 2007, and total reports for the year†

	State or territory								This period 2007	This period 2006	Year to date 2007	Year to date 2006
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Measles, mumps, rubella												
Measles virus	–	1	–	4	1	–	–	–	6	2	18	54
Mumps virus	–	–	–	2	14	–	3	–	19	2	41	25
Rubella virus	–	–	–	1	–	–	–	–	1	5	15	13
Hepatitis viruses									0			
Hepatitis A virus	–	1	–	5	1	–	1	–	8	8	31	24
Hepatitis D virus	–	–	–	–	4	–	–	–	4	1	20	5
Arboviruses												
Ross River virus	–	4	1	120	38	–	2	–	165	44	888	1,021
Barmah Forest virus	–	2	1	93	16	–	–	–	112	36	409	265
Flavivirus (unspecified)	–	–	–	25	–	–	–	–	25	4	81	43
Adenoviruses												
Adenovirus not typed/ pending	1	90	1	139	150	–	8	–	389	229	772	489
Herpes viruses												
Herpes virus type 6	–	–	–	–	–	–	1	–	1		2	2
Cytomegalovirus	1	52	–	115	116	3	8	–	295	217	888	735
Varicella-zoster virus	5	98	1	518	145	2	5	–	774	287	2,088	897
Epstein-Barr virus	–	16	–	360	197	2	10	–	585	365	1,962	1,184
Other DNA viruses												
Parvovirus	–	1	–	103	5	1	12	–	122	61	287	149
Picornavirus family									0			
Rhinovirus (all types)	1	44	–	–	8	–	–	–	53	100	214	142
Enterovirus type 69	–	–	–	–	–	–	1	–	1		1	
Enterovirus not typed/ pending	–	13	–	6	8	3	–	–	30	18	107	94
Picornavirus not typed	–	–	–	–	–	3	–	–	3	1	4	2
Ortho/paramyxoviruses												
Influenza A virus	1	299	15	1,106	440	24	82	7	1,974	229	2,098	301
Influenza B virus	–	10	–	11	54	–	19	–	94	126	109	170
Influenza virus - typing pending	–	1	–	–	–	–	–	–	1		1	
Parainfluenza virus type 1	–	7	–	3	7	–	–	–	17	16	28	74
Parainfluenza virus type 2	–	8	–	1	7	–	–	–	16	5	57	12
Parainfluenza virus type 3	–	78	2	78	56	1	6	–	221	89	318	114
Respiratory syncytial virus	2	324	–	262	360	42	41	–	1,031	1,187	1,833	1,748
Other RNA viruses												
HTLV-1	–	–	–	–	3	–	–	–	3		12	4
Rotavirus	–	70	–	–	135	–	3	–	208	738	315	870
Norwalk agent	–	11	–	–	–	–	381	–	392	429	614	1,110

Table 4. Virology and serology laboratory reports by state or territory* for the reporting period 1 July to 30 September 2007, and total reports for the year,† continued

	State or territory								This period 2007	This period 2006	Year to date 2007	Year to date 2006
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
Other pathogens												
Chlamydia trachomatis not typed	4	226	–	1,301	513	10	10	1	2,065	932	6,274	3,404
Chlamydia pneumoniae	–	–	–	–	–	–	1	–	1	1	1	1
Chlamydia psittaci	–	–	–	–	–	–	3	–	3	17	39	43
Chlamydia species	–	–	–	–	–	–	1	–	1	1	2	2
Mycoplasma pneumoniae	–	9	3	221	67	8	58	–	366	294	988	901
Mycoplasma hominis	–	1	–	–	–	–	–	–	1	10	5	20
Coxiella burnetii (Q fever)	1	1	–	26	16	–	7	–	51	23	143	94
Orientia tsutsugamushi	–	–	–	–	1	–	–	–	1	2	7	23
Rickettsia - spotted fever group	–	–	–	–	5	–	–	–	5	19	66	85
Streptococcus group A	–	6	53	230	–	–	39	–	328	65	823	329
Yersinia enterocolitica	–	2	–	2	–	–	–	–	4	1	7	5
Brucella abortus	–	–	–	–	–	–	1	–	1	–	2	–
Brucella species	–	–	–	4	–	–	–	–	4	2	7	5
Bordetella pertussis	–	5	–	145	98	1	13	1	263	552	659	1,223
Legionella pneumophila	–	2	–	–	–	–	5	–	7	6	28	25
Legionella species	–	–	–	–	–	–	1	–	1	–	3	–
Cryptococcus species	–	–	–	7	14	–	–	–	21	3	41	17
Leptospira species	–	1	–	11	2	–	–	–	14	5	52	16
Treponema pallidum	–	29	8	270	183	–	11	–	501	191	1,767	686
Entamoeba histolytica	–	–	–	1	–	–	–	–	1	1	6	1
Toxoplasma gondii	–	1	–	–	3	1	1	–	6	3	21	36
Echinococcus granulosus	–	–	–	–	2	–	–	–	2	–	16	3
Total	16	1,413	85	5,170	2,669	101	734	9	10,198	6,327	24,170	16,466

* State or territory of postcode, if reported, otherwise state or territory of reporting laboratory.

† Data presented are for reports with reports dates in the current period.

– No data received this period.

Table 5. Virology and serology reports by laboratories for the reporting period 1 July to 30 September 2007*

State or territory	Laboratory	July 2007	August 2007	September 2007	Total this period
Australian Capital Territory	The Canberra Hospital	–	–	–	–
New South Wales	Institute of Clinical Pathology and Medical Research, Westmead	115	137	57	309
	New Children's Hospital, Westmead	212	190	101	503
	Repatriation General Hospital, Concord	–	–	–	–
	Royal Prince Alfred Hospital, Camperdown	28	39	17	84
	South West Area Pathology Service, Liverpool	161	80	–	241
Queensland	Queensland Medical Laboratory, West End	1,604	2,373	1,615	5,592
	Townsville General Hospital	–	–	–	–
South Australia	Institute of Medical and Veterinary Science, Adelaide	841	1,112	709	2,662
Tasmania	Northern Tasmanian Pathology Service, Launceston	23	50	24	97
	Royal Hobart Hospital, Hobart	–	–	–	–
Victoria	Monash Medical Centre, Melbourne	40	39	13	92
	Royal Children's Hospital, Melbourne	21	31	18	70
	Victorian Infectious Diseases Reference Laboratory, Fairfield	85	264	199	548
Western Australia	PathWest Virology, Perth	–	–	–	–
	Princess Margaret Hospital, Perth	–	–	–	–
	Western Diagnostic Pathology	–	–	–	–
Total		3,130	4,315	2,753	10,198

* The complete list of laboratories reporting for the 12 months, January to December 2007, will appear in every report regardless of whether reports were received in this reporting period. Reports are not always received from all laboratories.

– No data received this period.

Additional reports

Australian Sentinel Practice Research Network

The Australian Sentinel Practices Research Network (ASPREN) is a national surveillance system that is owned and operated by the Royal Australian College of General Practitioners and directed through the Discipline of General Practice at the University of Adelaide.

The network consists of general practitioners who report presentations on a number of defined medical conditions each week. ASPREN was established in 1991 to provide a rapid monitoring scheme for infectious diseases that can alert public health officials of epidemics in their early stages as well as play a role in the evaluation of public health campaigns and research of conditions commonly seen in general practice. The aim of ASPREN is to also provide an indicator of the burden of disease in the primary health care setting and to detect trends in consultation rates.

The list of conditions is reviewed annually by the ASPREN management committee and an annual report is published. In 2007, four conditions are being monitored all of which are related to communicable diseases. They include influenza like illness (ILI), gastroenteritis and varicella infections (chickenpox and shingles). Definitions of these conditions are described in Surveillance systems reported in CDI, published in Commun Dis Intell 2007;31:158.

Reporting period 1 July to 30 September 2007

Sentinel practices contributing to ASPREN were located in all jurisdictions other than the Northern Territory and Tasmania. A total of 98 general practitioners contributed data to ASPREN in the third quarter of 2007. Each week an average of 74 general practitioners provided information to ASPREN at an average of 8,389 (range 7,354 to 9,356) consultations per week.

From July to the end of August 2007, influenza-like illness (ILI) rates were high (30 to 47 cases per 1,000 consultations) compared with the same reporting period in 2006 (16 to 32 cases per 1,000 consultations) (Figure 1). ILI rates peaked to 47 cases per 1,000 consultations at the end of July and began to decrease from mid-September (14 to 19 cases per 1,000 consultations) compared with 20 to 28 cases per 1,000 consultations for the same period in 2006.

Reports of gastroenteritis from 1 July to 30 September 2007 were lower compared to the same period in 2006 (Figure 2). During this reporting period, consultation rates for gastroenteritis remained constant (between 5 to 9 cases per 1,000 consultations).

Reports of varicella infections were reported at a lower rate for the third quarter of 2007 compared with the same period in 2006, but there was no recognisable seasonal pattern. From 1 July to 30 September 2007, rates for chickenpox fluctuated between 0.4 to 1 case per 1,000 consultations (Figure 3).

In the third quarter of 2007, rates for shingles fluctuated between less than 1 to 1.3 cases per 1,000 consultations (Figure 4).

Figure 1. Consultation rates for influenza like illness, ASPREN, 2006 to 30 September 2007, by week of report

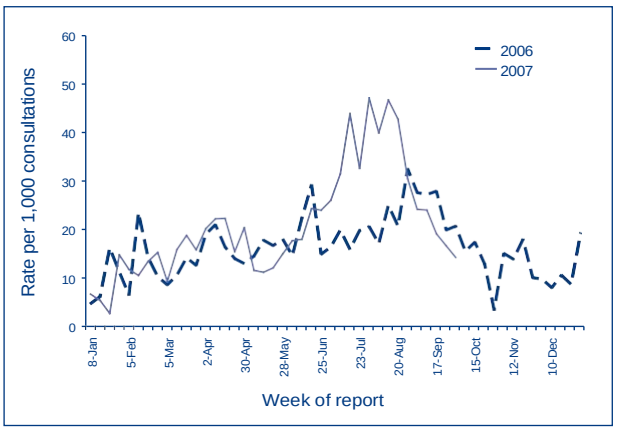


Figure 2. Consultation rates for gastroenteritis, ASPREN, 2006 to 30 September 2007, by week of report

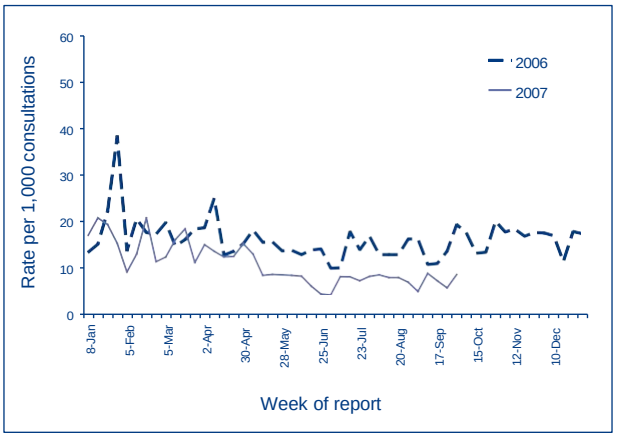


Figure 3. Consultation rates for chickenpox, ASPREN, 2006 to 30 September 2007, by week of report

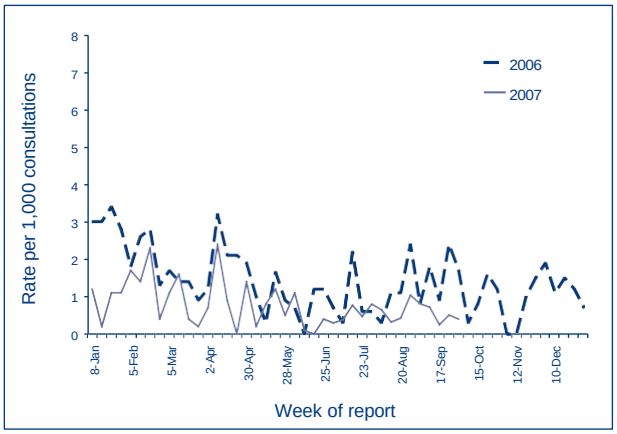
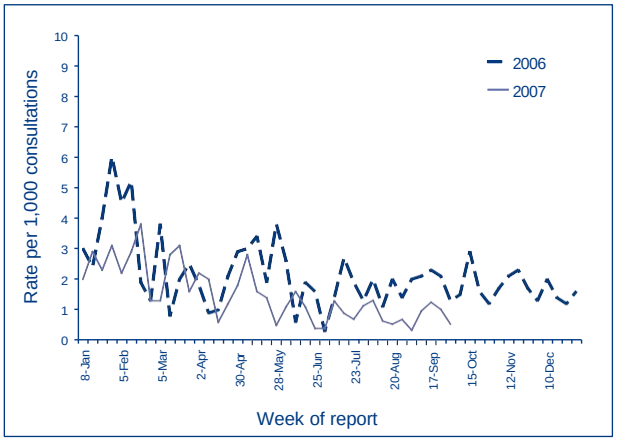


Figure 4. Consultation rates for shingles, ASPREN, 2006 to 30 September 2007, by week of report



Childhood immunisation coverage

Tables 1, 2 and 3 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 April and 30 June 2006, at 24 months of age for the cohort born between 1 April and 30 June 2005, and at 6 years of age for the cohort born between 1 April and 30 June 2001 according to the National Immunisation Program.

For information about the Australian Childhood Immunisation Register see Surveillance systems reported in CDI, *published in* Commun Dis Intell *2007;31:163–164 and for a full description of the methodology used by the Register see* 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 1435, Email: brynleyh@chw.edu.au

Immunisation coverage for children 'fully immunised' at 12 months of age for Australia increased marginally by 0.1 percentage points to 91.3% (Table 1). There were no important changes in coverage for any individual vaccines due at 12 months of age or by jurisdiction.

Immunisation coverage for children 'fully immunised' at 24 months of age for Australia remained at 92.5%, identical to the previous quarter (Table 2). There were no significant changes in any jurisdiction or in coverage for individual vaccines. However, it is important to note that, for the two vaccines where no further doses are due between 6 months and 24 months (diphtheria-tetanus-pertussis and polio), coverage at the national level was 95.0% and 94.9%, respectively at 24 months versus 91.9% at 12 months. This suggests that delayed notification or delayed vaccination is substantially decreasing coverage estimates at 12 months of age.

Immunisation coverage for children 'fully immunised' at 6 years of age for Australia increased from the last quarter by 0.7 percentage points to 88.6% to reach its highest recorded level (Table 3). Coverage for all three individual vaccines measured at 6 years of age increased by 0.5–0.6 percentage points and for each of them is now greater than 89% for the first time. Significant increases in coverage in the Northern Territory and South Australia appear to be the main driver of the increases nationally.

Figure 5 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, although the rate of increase has slowed over the past few years for all age groups. It should be noted that currently, coverage for the vaccines added to the National Immunisation Program since 2003 (varicella at 18 months, meningococcal C conjugate at 12 months and pneumococcal conjugate at 2, 4, and 6 months) are not included in the 12 or 24 months coverage data respectively.

Table 1. Percentage of children immunised at 1 year of age, preliminary results by disease and state or territory for the birth cohort 1 April to 30 June 2006; assessment date 30 September 2007

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,115	22,747	951	14,371	4,518	1,380	16,428	6,996	68,506
Diphtheria, tetanus, pertussis (%)	94.5	92.0	90.8	91.8	91.8	92.0	92.6	90.2	91.9
Poliomyelitis (%)	94.6	92.0	90.8	91.7	91.8	92.0	92.5	90.1	91.9
Haemophilus influenzae type b (%)	96.0	95.0	94.6	93.8	94.4	94.9	94.6	93.8	94.5
Hepatitis B (%)	95.9	94.9	95.3	93.6	94.3	94.6	94.6	93.7	94.4
Fully immunised (%)	94.4	91.7	90.6	90.9	91.2	91.7	91.5	89.6	91.3
Change in fully immunised since last quarter (%)	+0.1	+0.2	-0.5	-0.0	+0.7	+0.3	-0.3	+0.7	+0.1

Table 2. Percentage of children immunised at 2 years of age, preliminary results by disease and state or territory for the birth cohort 1 April to 30 June 2005; assessment date 30 September 2007*

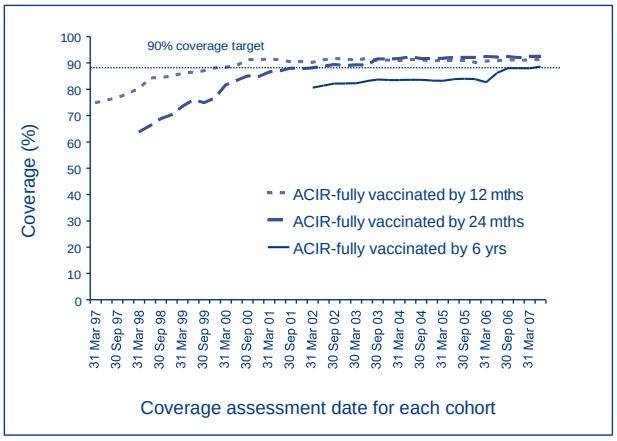
Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,034	22,762	934	14,745	4,498	1,501	16,369	6,893	68,736
Diphtheria, tetanus, pertussis (%)	95.8	95.1	96.0	94.5	94.9	96.5	95.7	93.7	95.0
Poliomyelitis (%)	95.7	95.0	96.2	94.4	94.9	96.4	95.6	93.7	94.9
Haemophilus influenzae type b (%)	95.8	94.9	95.0	93.6	93.7	96.2	94.5	93.2	94.3
Measles, mumps, rubella (%)	95.5	93.7	95.9	93.5	94.1	95.8	94.6	92.5	93.9
Hepatitis B (%)	96.1	95.8	97.1	95.6	95.7	97.0	96.2	94.6	95.8
Fully immunised (%)	93.9	92.3	93.8	91.9	92.6	94.9	93.5	90.5	92.5
Change in fully immunised since last quarter (%)	+2.0	+0.0	+1.3	-0.3	+1.1	-0.2	-0.3	-0.1	-0.1

* The 12 months age data for this cohort was published in *Commun Dis Intell* 2006;30:488.

Table 3. Percentage of children immunised at 6 years of age, preliminary results by disease and state or territory for the birth cohort 1 April to 30 June 2001; assessment date 30 September 2007

Vaccine	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	992	21,705	928	14,180	4,484	1,441	15,461	6,613	65,804
Diphtheria, tetanus, pertussis (%)	90.2	89.0	88.0	89.1	88.3	90.7	91.7	85.5	89.3
Poliomyelitis (%)	90.2	88.8	87.6	89.2	88.4	90.8	91.9	85.6	89.3
Measles, mumps, rubella (%)	90.0	88.9	87.9	89.2	88.1	90.8	91.7	85.6	89.3
Fully immunised (%)	89.1	88.2	87.3	88.5	87.7	90.3	91.1	84.7	88.6
Change in fully immunised since last quarter (%)	-0.3	+0.5	+2.5	+0.7	+2.0	+0.6	+0.5	+0.5	+0.7

Figure 5. Trends in vaccination coverage, Australia, 1997 to 30 June 2007, by age cohorts



Gonococcal surveillance

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

The Australian Gonococcal Surveillance Programme (AGSP) 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 *2007;31:162.*

Reporting period 1 April to 30 June 2007

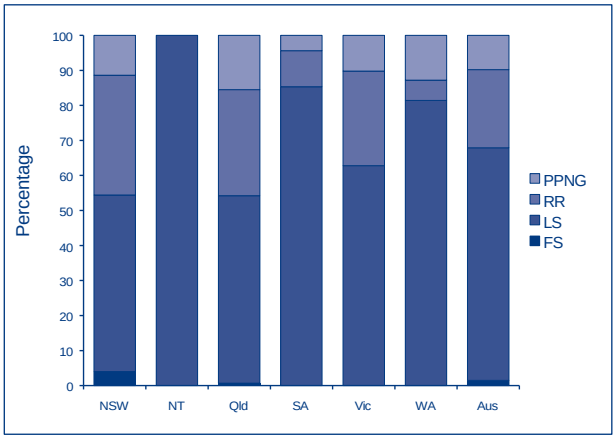
The AGSP laboratories received a total of 823 isolates in this quarter of which 806 underwent susceptibility testing. About 30% of this total was from New South Wales, 18% each from Victoria and Queensland, 14% from the Northern Territory, 11% from Western Australia and 8% from South Australia. Small numbers of isolates were also received from Tasmania and the Australian Capital Territory.

Penicillins

In this quarter, 259 (32.1%) of all isolates examined were penicillin resistant by one or more mechanisms. Seventy-nine (9.8%) were penicillinase-producing *Neisseria gonorrhoeae* (PPNG) and 180 (22.3%) resistant by chromosomal mechanisms, (CMRP). These proportions are little different from those recorded in this quarter in 2006. The proportion of all strains resistant to the penicillins by any mechanism ranged from nil in the Northern Territory to 45% in New South Wales and Queensland. High rates of penicillin resistance were also found in Victoria (37%), Western Australia (18.6%) and South Australia 14.7%).

Figure 6 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 PPNG aggregated for Australia and by state and territory. A high proportion of those strains classified as PPNG or CMRP fail to respond to treatment with penicillins (penicillin, amoxycillin, ampicillin) and early generation cephalosporins.

Figure 6. Categorisation of gonococci isolated in Australia, 1 April to 30 June 2007, 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.*

In New South Wales and Victoria most of the penicillin resistance was due to CMRP. In New South Wales 84 (34%) were CMRP with 28 PPNG (11.4%) and in Victoria 40 (27%) were CMRP and 15 (10%) PPNG. In Queensland 43 CMRP comprised 30.3% of isolates and 22 PPNG comprised 15.5% of isolates. In Western Australia PPNG were more prominent (12.8%, 11 isolates) with 5.8% CMRP. Of 10 resistant strains in South Australia, seven were CMRP and

three were PPNG. One CMRP was reported from Tasmania but there were no PPNG. There were no penicillin resistant gonococci in the Northern Territory or the Australian Capital Territory.

Ceftriaxone

Eleven isolates with decreased susceptibility to ceftriaxone (MIC range 0.06–0.12 mg/L) were detected: six in New South Wales, three in Victoria and one each in Queensland and South Australia.

Spectinomycin

All isolates were susceptible to this injectable agent.

Quinolone antibiotics

A total of 359 quinolone resistant *N. gonorrhoeae* (QRNG) was present in this quarter and represented 44.5% of all gonococci tested, compared with 33.7% in this quarter in 2006. In 2005, 30% of all gonococci were QRNG. The majority of QRNG in the current period (348, 97%) exhibited higher-level resistance (ciprofloxacin MICs 1 mg/L or more). 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.

QRNG were detected in all jurisdictions except Tasmania, the Northern Territory and the Australian Capital Territory (Figure 7). The highest number (152) and proportion (62%) of QRNG were found in New South Wales. QRNG were also prominent in Victoria where 80 QRNG represented 54% of isolates, Queensland 74 QRNG (52%), South Australia 30 QRNG (44%) and Western Australia 22 QRNG (25.6%).

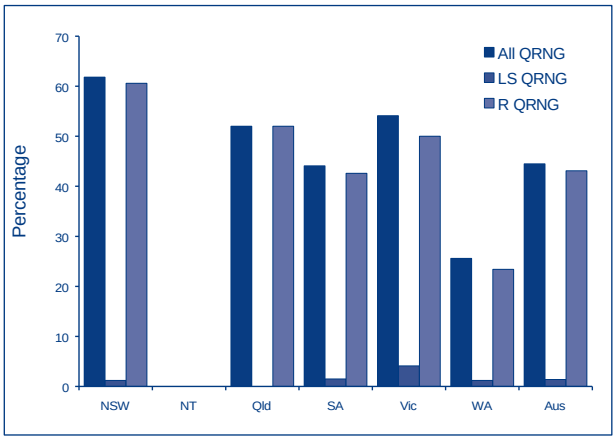
High level tetracycline resistance

The number (121) of high level tetracycline resistance (TRNG) detected approximated that found in this quarter in 2006 (117) and represented 15% of all isolates. The highest proportion of TRNG in any jurisdiction (38%) was in Western Australia and the highest number (42) was in New South Wales. TRNG were present in all states except Tasmania. No TRNG were found in the Northern Territory or the Australian Capital Territory.

Reference

1. Management of sexually transmitted diseases. World Health Organization 1997; Document WHO/GPA/TEM94.1 Rev.1 p 37.

Figure 7. The distribution of quinolone resistant isolates of *Neisseria gonorrhoeae*, Australia, 1 April to 30 June 2007, by state or territory



LS QRNG Ciprofloxacin MICs 0.06–0.5 mg/L.

R QRNG Ciprofloxacin MICs ≥1 mg/L.

Meningococcal surveillance

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

The reference laboratories of the Australian Meningococcal Surveillance Programme report data on the number of laboratory confirmed cases confirmed either by culture or by non-culture based techniques. Culture positive cases, where a Neisseria meningitidis is grown from a normally sterile site or skin, and non-culture based diagnoses, derived from results of nucleic acid amplification assays and serological techniques, are defined as invasive meningococcal disease (IMD) according to Public Health Laboratory Network definitions. Data contained in the quarterly reports are restricted to a description of the number of cases per jurisdiction, and serogroup, where known. A full analysis of laboratory confirmed cases of IMD is contained in the annual reports of the Programme, published in Communicable Diseases Intelligence. For more information see Commun Dis Intell *2007;31:162.*

Laboratory confirmed cases of invasive meningococcal disease for the period 1 July to 30 September 2007, are included in this issue of Communicable Diseases Intelligence *(Table 6).*

Table 6. Number of laboratory confirmed cases of invasive meningococcal disease, Australia, 1 July to 30 September 2007, by serogroup and state or territory

State or territory	Year	Serogroup													
		A		B		C		Y		W135		ND		All	
		Q3	YTD	Q3	YTD	Q3	YTD	Q3	YTD	Q3	YTD	Q3	YTD	Q3	YTD
Australian Capital Territory	07			1	3						1			1	4
	06			1	1	0	1	0		0		0		1	2
New South Wales	07			35	52	1	7	2	4	0	1	3	7	41	70
	06			24	46	9	13	0	1	1	3	2	5	36	68
Northern Territory	07			0	1	0	1							0	2
	06			1	3									1	3
Queensland	07			24	43	4	5	1	1	2	2		1	31	52
	06			20	45	0	4			1	1			21	52
South Australia	07			5	9	1	1					1	1	7	11
	06			3	9			0	1	1	1			4	11
Tasmania	07			2	2			1	1		1			3	5
	06			0	3	0	1							0	4
Victoria	07			14	35	0	2	1	4	1	2	3	4	19	47
	06			18	47	1	3	0	1	3	5	1	1	23	57
Western Australia	07			8	15									8	15
	06			6	15					1	1			7	16
Total	07			89	160	6	16	5	10	3	6	7	13	110	205
	06			73	169	10	22	0	3	7	10	3	6	93	210

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. Communicable Diseases Intelligence *NEPSS quarterly reports include only* Salmonella. *NEPSS receives reports of* Salmonella *isolates that have been serotyped and phage typed by the six* Salmonella *laboratories in Australia.* Salmonella *isolates are submitted to these laboratories for typing by primary diagnostic laboratories throughout Australia.*

A case is defined as the isolation of a Salmonella *from an Australian resident, either acquired locally or as a result of overseas travel, including isolates detected during immigrant and refugee screening. Second and subsequent identical isolates from an individual within 6 months are excluded, as are isolates from overseas visitors to Australia. The date of the case is the date the primary diagnostic laboratory isolated* Salmonella *from the clinical sample.*

Quarterly reports include historical quarterly mean counts. These should be interpreted cautiously as they may be affected by outbreaks and by surveillance artefacts such as newly recognised and incompletely typed Salmonella.

NEPSS may be contacted at the Microbiological Diagnostic Unit, Public Health Laboratory, Department of Microbiology and Immunology, The University of Melbourne; by telephone: +61 3 8344 5701, facsimile: +61 3 8344 7833 or email joanp@unimelb.edu.au

Scientists, diagnostic and reference laboratories contribute data to NEPSS, which is supported by state and territory health departments and the Australian Government Department of Health and Ageing.

Reports to the National Enteric Pathogens Surveillance System of Salmonella *infection for the period 1 July to 30 September 2007 are included in Tables 7 and 8. Data include cases reported and entered by 19 October 2007. Counts are preliminary, and subject to adjustment after completion of typing and reporting of further cases to NEPSS. For more information see* Commun Dis Intell *2007;31:163–164.*

Reporting period 1 July to 30 September 2007

There were 1,284 reports to NEPSS of human *Salmonella* infection in the third quarter of 2007. The annual cycle of *Salmonella* incidence typically reaches a nadir in the third quarter. Although this count represents a marked decline in the incidence of salmonellosis from the first and second quarters this year (when a total of 5,749 reports were received) it still represents the highest count in the

third quarter for more than 15 years, and is approximately 20% greater than the 10-year historical mean for this quarter.

During the third quarter of 2007, the 25 most common *Salmonella* types in Australia accounted for 721 cases, 56% of all reported human *Salmonella* infections. Fifteen of the 25 most common *Salmonella* infections in the third quarter of 2007 were also amongst those most commonly reported in the preceding quarter.

The most notable feature of the current data is a large outbreak of *S*. Typhimurium in Western Australia. Some isolates from this outbreak have been characterised as phage type 12, the remainder have not been phage typed.

Other increases above the historical average for the period include *S*. Infantis (South Australia and New South Wales), *S*. Typhimurium phage type U290 (New South Wales), *S*. Virchow phage type 45 (Western Australia) and *S*. Typhimurium phage type 44 (Victoria and Queensland). More modest increases include *S*. Typhimurium phage type 22 and *S*. Anatum (both mostly in Queensland), *S*. Typhimurium phage type 193 (South Australia, New South Wales and Victoria), and *S*. Newport and *S*. Typhimurium phage type U302 (both mostly in Victoria).

Acknowledgement: We thank scientists, contributing laboratories, state and territory health departments, and the Australian Government Department of Health and Ageing for their contributions to NEPSS.

Table 7. Reports to the National Enteric Pathogens Surveillance System of *Salmonella* isolated from humans during the period 1 July to 30 September 2007, as reported to 19 October 2007

	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total all *Salmonella* for quarter	20	289	63	254	117	20	288	233	1,284
Total contributing *Salmonella* types	16	105	39	97	57	13	103	39	218

Table 8. Top 25 *Salmonella* types identified in Australia, 1 July to 30 September 2007, by state or territory

National rank	*Salmonella* type	State or territory								Total 3rd quarter 2007	Last 10 years mean 3rd quarter	Year to date 2007	Year to date 2006
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	*S.* Typhimurium (not phage typed)	0	0	0	0	0	0	0	128	128	0.5	131	0
2	*S.* Typhimurium PT 135	1	21	1	19	2	3	29	0	76	95	520	546
3	*S.* Typhimurium PT 9	0	15	1	4	6	1	24	0	51	69	610	273
4	*S.* Infantis	1	15	4	4	12	0	5	3	44	24	141	146
5	*S.* Saintpaul	0	10	3	20	0	0	6	4	43	48	270	324
6	*S.* Typhimurium PT 44	0	6	0	9	1	0	17	2	35	9	326	125
7	*S.* Stanley	1	8	0	5	1	0	13	4	32	19	99	73
8	*S.* Typhimurium PT 170	0	10	0	4	0	2	10	0	26	26	222	274
9	*S.* Virchow PT 8	1	3	1	16	1	0	0	0	22	27	178	217
10	*S.* Typhimurium PT 197	0	6	0	9	1	1	5	0	22	17	159	84
11	*S.* Enteritidis (not phage typed)	0	0	0	0	0	0	2	20	22	0	23	0
12	*S.* Typhimurium PT 193	0	5	1	2	8	0	5	0	21	1.8	38	10
13	*S.* Typhimurium PT U290	1	15	0	1	0	0	3	0	20	9	46	25
14	*S.* Typhimurium RDNC	1	12	0	3	1	0	2	0	19	18	94	85
15	*S.* Birkenhead	0	10	0	5	0	0	3	0	18	23	162	219
16	*S.* Anatum	0	3	2	7	0	0	2	3	17	12	58	89
17	*S.* Muenchen	2	2	2	3	1	0	2	4	16	17	104	122
18	*S.* Chester	0	0	2	6	0	0	5	2	15	22	126	119
19	*S.* Enteritidis PT 6a	0	3	0	4	0	0	7	0	14	10	54	37
20	*S.* Singapore	0	9	0	1	0	0	3	1	14	8	54	38
21	*S.* Virchow PT 45	0	1	0	1	0	0	0	12	14	0.1	16	4
22	*S.* Aberdeen	0	1	0	12	0	0	0	0	13	11	104	124
23	*S.* Typhimurium untypable	2	6	0	1	1	0	3	0	13	10	70	55
24	*S.* Newport	0	0	0	1	2	2	8	0	13	9	48	39
25	*S.* Montevideo	0	7	1	3	0	0	1	1	13	3.7	96	30