

Communicable diseases surveillance

Tables

National Notifiable Diseases Surveillance System

A summary of diseases currently being reported by each jurisdiction is provided in Table 1. There were 57,857 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification received date between 1 January and 31 March 2012 (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 (NEC)	All jurisdictions
Hepatitis B (newly acquired)	All jurisdictions
Hepatitis B (unspecified)	All jurisdictions
Hepatitis C (newly acquired)	All jurisdictions except Queensland
Hepatitis C (unspecified)	All jurisdictions
Hepatitis D	All jurisdictions
Gastrointestinal diseases	
Botulism	All jurisdictions
Campylobacteriosis	All jurisdictions except New South Wales
Cryptosporidiosis	All jurisdictions
Haemolytic uraemic syndrome	All jurisdictions
Hepatitis A	All jurisdictions
Hepatitis E	All jurisdictions
Listeriosis	All jurisdictions
STEC, VTEC*	All jurisdictions
Salmonellosis	All jurisdictions
Shigellosis	All jurisdictions
Typhoid	All jurisdictions
Quarantinable diseases	
Cholera	All jurisdictions
Highly pathogenic avian influenza in humans	All jurisdictions
Plague	All jurisdictions
Rabies	All jurisdictions
Severe acute respiratory syndrome	All jurisdictions
Smallpox	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 - congenital	All jurisdictions
Syphilis <2 years duration	All jurisdictions
Syphilis >2 years or unspecified duration	All jurisdictions except South Australia

Table 1: Reporting of notifiable diseases by jurisdiction, *continued*

Disease	Data received from:
Vaccine preventable diseases	
Diphtheria	All jurisdictions
<i>Haemophilus influenzae</i> 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 zoster (chickenpox)	All jurisdictions except New South Wales
Varicella zoster (shingles)	All jurisdictions except New South Wales
Varicella zoster (unspecified)	All jurisdictions except New South Wales
Vectorborne diseases	
Arbovirus infection (NEC)	All jurisdictions
Barmah Forest virus infection	All jurisdictions
Dengue virus infection	All jurisdictions
Japanese encephalitis virus infection	All jurisdictions
Kunjin virus infection	All jurisdictions
Malaria	All jurisdictions
Murray Valley encephalitis virus infection	All jurisdictions
Ross River virus infection	All jurisdictions
Zoonoses	
Anthrax	All jurisdictions
Australian bat lyssavirus	All jurisdictions
Brucellosis	All jurisdictions
Leptospirosis	All jurisdictions
Lyssavirus (NEC)	All jurisdictions
Ornithosis	All jurisdictions
Q fever	All jurisdictions
Tularaemia	All jurisdictions
Other bacterial infections	
Legionellosis	All jurisdictions
Leprosy	All jurisdictions
Meningococcal infection	All jurisdictions
Tuberculosis	All jurisdictions

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

NEC Not elsewhere classified.

Table 2: Notifications of diseases received by state and territory health authorities, 1 January to 31 March 2012, by date of diagnosis

Disease	State or territory							Total 1st quarter 2012	Total 4th quarter 2011	Total 1st quarter 2011	Last 5 years mean 1st quarter	Ratio	Year to date 2012	Last 5 years YTD mean
	ACT	NSW	NT	Qld	SA	Tas	Vic							
Bloodborne diseases														
Hepatitis (NEC)	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	
Hepatitis B (newly acquired)*	0	8	1	15	5	3	16	5	53	49	62.8	53	62.8	
Hepatitis B (unspecified)†	23	624	50	219	85	13	446	195	1,655	1,696	1,734.2	1,655	1,734.2	
Hepatitis C (newly acquired)*,‡	6	13	0	NN	10	6	0	24	59	108	94.6	59	94.6	
Hepatitis C (unspecified)†	31	924	59	597	110	63	598	233	2,615	2,541	2,803.8	2,615	2,803.8	
Hepatitis D	0	2	0	2	0	0	2	0	6	11	9.4	6	9.4	
Gastrointestinal diseases														
Botulism	0	0	0	0	0	0	0	0	0	0	0.4	0	0.4	
Campylobacteriosis§	158	NN	57	1,372	669	234	1,707	600	4,797	4,884	4,541.4	4,797	4,541.4	
Cryptosporidiosis	9	211	131	848	86	2	97	59	1,443	637	1,180.2	1,443	1,180.2	
Haemolytic uraemic syndrome	0	2	0	2	0	0	1	0	5	4	5.2	5	5.2	
Hepatitis A	0	12	0	9	4	0	14	4	43	44	69.2	43	69.2	
Hepatitis E	0	1	0	3	0	0	9	0	13	16	12.6	13	12.6	
Listeriosis	0	10	0	1	2	0	10	3	26	19	25.2	26	25.2	
STEC, VTEC	0	4	0	13	14	5	3	0	39	19	34.0	39	34.0	
Salmonellosis	87	1,013	149	1,062	288	112	808	428	3,947	4,753	3,709.2	3,947	3,709.2	
Shigellosis	2	42	61	18	19	0	33	15	190	161	184.4	190	184.4	
Typhoid	1	16	2	8	1	0	18	10	56	57	39.4	56	39.4	
Quantifiable diseases														
Cholera	0	0	0	0	0	0	0	0	0	1	1.0	0	1.0	
Highly pathogenic avian influenza in humans	0	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	
Rabies	0	0	0	0	0	0	0	0	0	0	0.0	0	0.0	
Severe acute respiratory syndrome	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	
Viral haemorrhagic fever	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	

Table 2 continued: Notifications of diseases received by state and territory health authorities, 1 January to 31 March 2012, by date of diagnosis

Disease	State or territory										Ratio	Year to date 2012	Last 5 years YTD mean		
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total 1st quarter 2012	Total 4th quarter 2011				Total 1st quarter 2011	Last 5 years mean 1st quarter
Sexually transmissible infections															
Chlamydia infection ^{†**}	351	5,869	743	5,001	1,371	483	5,506	3,103	22,427	19,484	20,750	16,672.6	1.3	22,427	16,672.6
Donovanosis	0	0	0	0	0	0	0	0	0	0	0	0.6	0.0	0	0.6
Gonococcal infection ^{**}	13	986	498	766	107	5	653	573	3,601	3,189	2,953	2,293.2	1.6	3,601	2,293.2
Syphilis – congenital ^{**}	0	0	0	0	0	0	0	0	0	1	4	1.6	0.0	0	1.6
Syphilis < 2 years duration ^{**}	5	93	4	82	15	0	109	25	333	287	370	341.6	1.0	333	341.6
Syphilis > 2 years or unspecified duration ^{**}	2	60	10	48	NN	0	146	28	294	311	324	332.2	0.9	294	332.2
Vaccine preventable diseases															
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0
<i>Haemophilus influenzae</i> type b	0	0	0	1	1	0	1	0	3	2	3	4.2	0.7	3	4.2
Influenza (laboratory confirmed)	11	229	21	390	138	9	187	264	1,249	2,836	2,648	873.8	1.4	1,249	873.8
Measles	0	0	0	1	2	0	6	0	9	50	79	41.6	0.2	9	41.6
Mumps	1	15	0	7	1	0	11	3	38	41	39	60.4	0.6	38	60.4
Pertussis	90	2,037	125	1,801	167	243	1,197	1,506	7,166	10,165	10,679	5,459.2	1.3	7,166	5,459.2
Pneumococcal disease (invasive)	10	53	21	40	19	6	55	28	232	375	225	208.2	1.1	232	208.2
Poliovirus	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0
Rubella	0	4	0	2	2	0	4	1	13	8	22	12.0	1.1	13	12.0
Rubella – congenital	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0
Tetanus	0	0	0	0	1	0	0	0	1	0	1	1.6	0.6	1	1.6
Varicella zoster (chickenpox) ^{††}	1	NN	26	49	115	4	141	60	396	646	377	334.4	1.2	396	334.4
Varicella zoster (shingles) ^{††}	7	NN	60	18	395	61	277	240	1,058	1,052	1,015	705.4	1.5	1,058	705.4
Varicella zoster (unspecified) ^{††}	22	NN	1	1,045	27	30	707	258	2,090	2,167	1,773	1,459.4	1.4	2,090	1,459.4
Vectorborne diseases															
Arbovirus infection (NEC)	0	0	0	4	0	0	0	0	4	8	4	4.6	0.9	4	4.6
Barmah Forest virus infection	1	104	15	242	13	1	12	64	452	345	837	624.0	0.7	452	624.0
Dengue virus infection	5	91	51	82	18	3	96	296	642	213	366	357.4	1.8	642	357.4
Japanese encephalitis virus infection	0	0	0	1	0	0	0	0	1	0	0	0.0	0.0	1	0.0
Kunjin virus infection ^{††}	0	0	0	0	0	0	0	0	0	1	0	0.6	0.0	0	0.6
Malaria	0	13	3	29	2	5	15	5	72	110	118	122.6	0.6	72	122.6
Murray Valley encephalitis virus infection ^{††}	0	0	0	1	0	0	0	0	1	1	8	2.2	0.5	1	2.2
Ross River virus infection	2	198	95	797	72	14	87	1,016	2,281	747	3,047	2,045.6	1.1	2,281	2,045.6

Table 2 continued: Notifications of diseases received by state and territory health authorities, 1 January to 31 March 2012, by date of diagnosis

Disease	State or territory							Total 1st quarter 2012	Total 4th quarter 2011	Total 1st quarter 2011	Last 5 years mean 1st quarter	Ratio	Year to date 2012	Last 5 years YTD mean
	ACT	NSW	NT	Qld	SA	Tas	Vic							
Zoonoses														
Anthrax	0	0	0	0	0	0	0	0	0	0	0.4	0.0	0	0.4
Australian bat lyssavirus	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0
Brucellosis	0	1	0	6	0	0	0	1	8	12	9.2	0.9	8	9.2
Leptospirosis	0	7	1	33	0	0	4	0	45	125	61.2	0.7	45	61.2
Lyssavirus (NEC)	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0	0.0
Ornithosis	0	3	0	0	0	0	4	2	9	23	19.8	0.5	9	19.8
Q fever	0	30	1	56	2	0	1	3	93	81	95.8	1.0	93	95.8
Tularaemia	0	0	0	0	0	0	0	0	0	1	1.0	0.0	0	1.0
Other bacterial infections														
Legionellosis	0	34	2	15	6	1	15	19	92	100	69.2	1.3	92	69.2
Leprosy	0	0	0	0	0	0	0	0	0	3	2.4	0.0	0	2.4
Meningococcal infection ^{§§}	1	6	1	13	1	0	7	3	32	48	47.4	0.7	32	47.4
Tuberculosis	3	60	6	50	25	1	85	38	268	343	289.2	0.9	268	289.2
Total	842	12,775	2,194	14,749	3,793	1,304	13,088	9,112	57,857	54,600	61,321		57,857	

* Newly acquired hepatitis includes cases where the infection was determined to be acquired within 24 months prior to diagnosis.

† Unspecified hepatitis and syphilis includes cases where the duration of infection could not be determined.

‡ In Queensland, includes incident hepatitis cases.

§ Not notifiable in New South Wales.

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

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

** In the national case definitions for chlamydial, gonococcal and syphilis infections the mode of transmission cannot be inferred from the site of infection. Transmission (especially in children) may be by a non-sexual mode (e.g. perinatal infections, epidemic gonococcal conjunctivitis).

†† Ratio of current quarter total to the mean of last 5 years for the same quarter. Ratios for varicella zoster (chickenpox), varicella zoster (shingles) and varicella zoster (unspecified) are based on 4 years of data.

‡‡ In the Australian Capital Territory, Murray Valley encephalitis virus infection and Kunjin virus infection are combined under Murray Valley encephalitis virus infection.

§§ 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.

NDP No data provided.

Table 3: Notification rates of diseases, 1 January to 31 March 2012, 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 (NEC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hepatitis B (newly acquired)*	0.0	0.4	1.7	1.3	1.2	2.4	1.2	0.9	0.9
Hepatitis B (unspecified)†	25.6	34.5	87.1	19.4	20.7	10.2	32.2	34.0	29.6
Hepatitis C (newly acquired)*	6.7	0.7	0.0	NN	2.4	4.7	0.0	4.2	1.3
Hepatitis C (unspecified)†‡	34.6	51.1	102.8	52.9	26.8	49.6	43.1	40.6	46.8
Hepatitis D	0.0	0.1	0.0	0.2	0.0	0.0	0.1	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§	176.1	NN	99.3	121.5	162.7	184.4	123.1	104.5	127.0
Cryptosporidiosis	10.0	11.7	228.1	75.1	20.9	1.6	7.0	10.3	25.8
Haemolytic uraemic syndrome	0.0	0.1	0.0	0.2	0.0	0.0	0.1	0.0	0.1
Hepatitis A	0.0	0.7	0.0	0.8	1.0	0.0	1.0	0.7	0.8
Hepatitis E	0.0	0.1	0.0	0.3	0.0	0.0	0.6	0.0	0.2
Listeriosis	0.0	0.6	0.0	0.1	0.5	0.0	0.7	0.5	0.5
STEC, VTEC¶	0.0	0.2	0.0	1.2	3.4	3.9	0.2	0.0	0.7
Salmonellosis	97.0	56.0	259.5	94.1	70.0	88.3	58.3	74.6	70.7
Shigellosis	2.2	2.3	106.2	1.6	4.6	0.0	2.4	2.6	3.4
Typhoid fever	1.1	0.9	3.5	0.7	0.2	0.0	1.3	1.7	1.0
Quarantinable diseases									
Cholera	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Human pathogenic avian influenza in humans	0.0	0.0	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
Severe acute respiratory syndrome	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
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 transmitted infections									
Chlamydial infection¶.***	391.2	324.3	1,294.0	442.9	333.4	380.6	397.0	540.5	401.5
Donovanosis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gonococcal infection**	14.5	54.5	867.3	67.8	26.0	3.9	47.1	99.8	64.5
Syphilis – congenital**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Syphilis < 2 years duration**	5.6	5.1	7.0	7.3	3.6	0.0	7.9	4.4	6.0
Syphilis > 2 years or unspecified duration†.***	2.2	3.3	17.4	4.3	NN	0.0	10.5	4.9	5.7
Vaccine preventable diseases									
Diphtheria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Haemophilus influenzae</i> type b	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.0	0.1
Influenza (laboratory confirmed)	12.3	12.7	36.6	34.5	33.6	7.1	13.5	46.0	22.4
Measles	0.0	0.0	0.0	0.1	0.5	0.0	0.4	0.0	0.2
Mumps	1.1	0.8	0.0	0.6	0.2	0.0	0.8	0.5	0.7
Pertussis	100.3	112.6	217.7	159.5	40.6	191.5	86.3	262.3	128.3
Pneumococcal disease (invasive)	11.1	2.9	36.6	3.5	4.6	4.7	4.0	4.9	4.2
Poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rubella	0.0	0.2	0.0	0.2	0.5	0.0	0.3	0.2	0.2
Rubella – congenital	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetanus	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0

Table 3 continued: Notification rates of diseases, 1 January to 31 March 2012, by state or territory. (Annualised rate per 100,000 population)

Disease	State or territory								
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Aust
Vaccine preventable diseases, cont'd									
Varicella zoster (chickenpox)	1.1	NN	45.3	4.3	28.0	3.2	10.2	10.5	10.5
Varicella zoster (shingles)	7.8	NN	104.5	1.6	96.1	48.1	20.0	41.8	28.0
Varicella zoster (unspecified)	24.5	NN	1.7	92.6	6.6	23.6	51.0	44.9	55.4
Vectorborne diseases									
Arbovirus infection (NEC)	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.1
Barmah Forest virus infection	1.1	5.7	26.1	21.4	3.2	0.8	0.9	11.1	8.1
Dengue virus infection	5.6	5.0	88.8	7.3	4.4	2.4	6.9	51.6	11.5
Japanese encephalitis virus infection	0.0	0.0	0.0	0.1	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	0.0
Malaria	0.0	0.7	5.2	2.6	0.5	3.9	1.1	0.9	1.3
Murray Valley encephalitis virus infection††	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Ross River virus infection	2.2	10.9	165.5	70.6	17.5	11.0	6.3	177.0	40.8
Zoonoses									
Anthrax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Australia bat lyssavirus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brucellosis	0.0	0.1	0.0	0.5	0.0	0.0	0.0	0.2	0.1
Leptospirosis	0.0	0.4	1.7	2.9	0.0	0.0	0.3	0.0	0.8
Lyssavirus (NEC)	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	0.3	0.3	0.2
Q fever	0.0	1.7	1.7	5.0	0.5	0.0	0.1	0.5	1.7
Tularaemia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other bacterial diseases									
Legionellosis	0.0	1.9	3.5	1.3	1.5	0.8	1.1	3.3	1.6
Leprosy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meningococcal infection‡‡	1.1	0.3	1.7	1.2	0.2	0.0	0.5	0.5	0.6
Tuberculosis	3.3	3.3	10.4	4.4	6.1	0.8	6.1	6.6	4.8

* Newly acquired hepatitis includes cases where the infection was determined to be acquired within 24 months prior to diagnosis.

† Unspecified hepatitis and syphilis includes cases where the duration of infection could not be determined.

‡ In Queensland, includes incident hepatitis C cases.

§ Not notifiable in New South Wales.

|| Infection with Shiga toxin/verotoxin-producing *Escherichia coli* (STEC/VTEC).

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

** In the national case definitions for chlamydial, gonococcal and syphilis infections the mode of transmission cannot be inferred from the site of infection. Transmission (especially in children) may be by a non-sexual mode (e.g. perinatal infections, epidemic gonococcal conjunctivitis).

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

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

NEC Not elsewhere classified.

NN Not notifiable.

NDP No data provided.

Additional reports

Australian 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, 24 months and 60 months of age, for 3-month birth cohorts of children at the stated ages between October and December 2011. 'Fully immunised' refers to vaccines on the National Immunisation Program Schedule, but excludes rotavirus, pneumococcal conjugate, varicella, or meningococcal C conjugate vaccines, and is outlined in more detail below.

'Fully immunised' at 12 months of age is defined as a child having a record on the ACIR of 3 doses of a diphtheria (D), tetanus (T) and pertussis-containing (P) vaccine, 3 doses of polio vaccine, 2 or 3 doses of PRP-OMP containing *Haemophilus influenzae type b* (Hib) vaccine or 3 doses of any other Hib vaccine, and 2 or 3 doses of Comvax hepatitis B vaccine or 3 doses of all other hepatitis B vaccines. 'Fully immunised' at 24 months of age is defined as a child having a record on the ACIR of 3 or 4 doses of a DTP-containing vaccine, 3 doses of polio vaccine, 3 or 4 doses of PRP-OMP containing Hib vaccine or 4 doses of any other Hib vaccine, 3 or 4 doses of Comvax hepatitis B vaccine or 4 doses of all other hepatitis B vaccines, and 1 dose of a measles, mumps and rubella (MMR)-containing vaccine. 'Fully immunised' at 60 months of age is defined as a child having a record on the ACIR of 4 or 5 doses of a DTP-containing vaccine, 4 doses of polio vaccine, and 2 doses of an MMR-containing vaccine.

A full description of the basic methodology used can be found in *Commun Dis Intell* 1998;22(3):36–37.

The National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS) provides commentary on the trends in ACIR data. For further information please contact NCIRS at: telephone +61 2 9845 1435, Email: brynleyh@chw.edu.au

The percentage of children 'fully immunised' by 12 months of age for Australia decreased marginally from the previous quarter by 0.4 of a percentage point to 91.4% (Table 1). Important changes in coverage were seen only in the Northern Territory with coverage for 'fully immunised', DTP, polio, Hib and hepatitis B vaccines increasing by almost 5 percentage points. However, this apparent increase in coverage is a correction from the previous quarter where an administrative delay in data reported to the ACIR from the Northern Territory occurred.

The percentage of children 'fully immunised' by 24 months of age for Australia increased marginally from the previous quarter by 0.1 of a percentage point to 92.7% (Table 2). There were no important changes in coverage for any individual vaccines due at 24 months of age or by jurisdiction.

The percentage of children 'fully immunised' by 60 months of age for Australia increased from the previous quarter by 0.2 of a percentage point to 90.1% (Table 3). This is the first time coverage for this milestone has reached 90% since coverage was first calculated at the 72-month age milestone in March 2002. There were no important changes in coverage for any individual vaccines due at 60 months of age or by jurisdiction.

The Figure 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

Table 1. Percentage of children immunised at 1 year of age, preliminary results by disease and state or territory for the birth cohort 1 October to 31 December 2010; assessment date 31 March 2012

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,197	23,584	889	14,505	4,842	1,527	17,673	7,603	71,820
Diphtheria, tetanus, pertussis (%)	93.6	91.6	92.6	91.9	92.1	93.1	92.7	90.6	92.0
Poliomyelitis (%)	93.6	91.6	92.6	91.8	92.1	93.1	92.7	90.6	91.9
<i>Haemophilus influenzae</i> type b (%)	93.4	91.5	92.5	91.7	92.1	93.0	92.5	90.5	91.8
Hepatitis B (%)	92.7	91.3	92.4	91.6	92.0	92.9	92.3	90.1	91.6
Fully immunised (%)	92.7	91.1	92.4	91.4	91.9	92.9	92.1	90.0	91.4
Change in fully immunised since last quarter (%)	-0.6	-0.5	+4.9	-0.1	+0.2	+0.0	-0.9	-0.6	-0.4

Table 2. Percentage of children immunised at 2 years of age, preliminary results by disease and state or territory for the birth cohort 1 October to 31 December 2009; assessment date 31 March 2012*

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,343	24,754	923	15,165	4,913	1,621	18,525	8,007	75,251
Diphtheria, tetanus, pertussis (%)	96.0	94.8	95.7	95.0	94.8	95.3	95.5	93.2	94.9
Poliomyelitis (%)	96.1	94.7	95.7	95.0	94.8	95.3	95.5	93.1	94.8
<i>Haemophilus influenzae</i> type b (%)	95.8	95.0	96.0	95.0	94.8	95.6	95.4	93.5	94.9
Measles, mumps, rubella (%)	95.2	93.8	95.3	94.3	94.0	94.8	94.7	92.4	94.1
Hepatitis B (%)	94.9	94.3	95.5	94.5	94.5	95.2	95.0	92.7	94.4
Fully immunised (%)	93.5	92.4	94.4	93.1	92.5	93.7	93.4	90.7	92.7
Change in fully immunised since last quarter (%)	-0.1	-0.1	-0.2	+0.6	-0.1	+0.3	+0.3	-0.2	+0.1

* The 12 months age data for this cohort were published in *Commun Dis Intell* 2011;35(4):328.

Table 3. Percentage of children immunised at 5 years of age, preliminary results by disease and state or territory for the birth cohort 1 October to 31 December 2006; assessment date 31 March 2012

Vaccine	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,190	24,154	878	15,014	4,868	1,641	18,332	7,784	73,861
Diphtheria, tetanus, pertussis (%)	91.6	90.8	91.2	91.2	87.6	91.4	92.0	88.0	90.7
Poliomyelitis (%)	91.5	90.7	91.2	91.1	87.5	91.4	91.9	87.9	90.6
Measles, mumps, rubella (%)	91.5	90.7	91.1	91.0	87.3	91.5	91.8	87.7	90.5
Fully immunised (%)	91.2	90.3	90.8	90.7	86.9	91.0	91.4	87.2	90.1
Change in fully immunised since last quarter (%)	-1.3	+0.6	+3.2	+0.3	-1.2	-0.1	-0.2	+0.4	+0.2

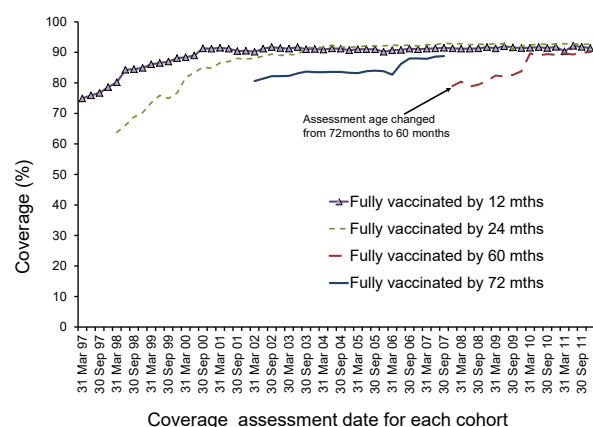
children aged 12 months, 24 months and 60 months (from December 2007). Coverage at 60 months of age is close to the coverage levels attained at 12 and 24 months.

provides commentary on the trends in ACIR data. For further information please contact NCIRS at: telephone +61 2 9845 1435, Email: brynleyh@chw.edu.au

The National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS)

Australian Sentinel Practices Research Network

Figure: Trends in vaccination coverage, Australia, 1997 to 31 December 2011, by age cohorts



The Australian Sentinel Practices Research Network (ASPREN) is a national surveillance system that is funded by the Commonwealth's Department of Health and Ageing, 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. Electronic, web-based data collection was established in 2006.

Since 2010, ASPREN GPs have been collecting nasal swab samples for laboratory testing, allowing for viral testing of 25% of ILI patients for a range of respiratory viruses including influenza A, influenza B and H1N1(2009).

The list of conditions reported is reviewed annually by the ASPREN management committee. In 2012, four conditions are being monitored. 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 2008; 32:135.

Reporting period 1 January to 31 March 2012

Sentinel practices contributing to ASPREN were located in all 8 jurisdictions in Australia. A total of 135 general practitioners contributed data to ASPREN in the 1st quarter of 2012. Each week an average of 113 general practitioners provided information to ASPREN at an average of 10,423 (range 4,814 to 12,335) consultations per week and an average of 106 (range 72–150) notifications per week.

ILI rates reported from 1 January to 31 March 2012 averaged 4 cases per 1,000 consultations (range

2–6 cases per 1,000 consultations). This was slightly lower compared with rates in the same reporting period in 2011, which averaged 5 cases per 1,000 consultations (range 2–6 cases per 1,000 consultations) (Figure 1).

ILI swab testing has continued during 2012. The most commonly reported virus during this reporting period was rhinovirus (11% of all swabs performed), with the second most common virus being influenza A (untyped) (10% of all swabs performed).

From the beginning of 2012 to the end of week 13, 21 cases of influenza had been detected, the major-

Figure 1: Consultation rates for influenza like illness, ASPREN, 1 January 2011 to 31 March 2012, by week of report

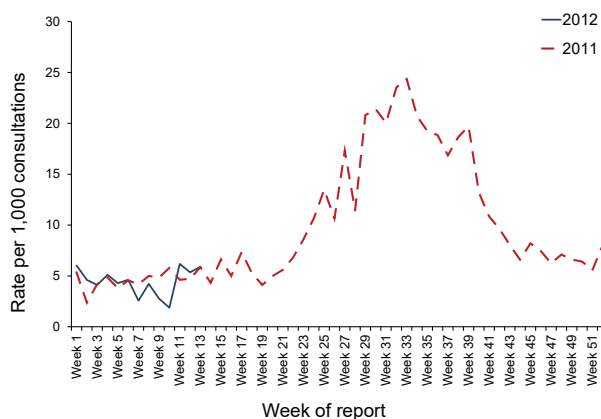
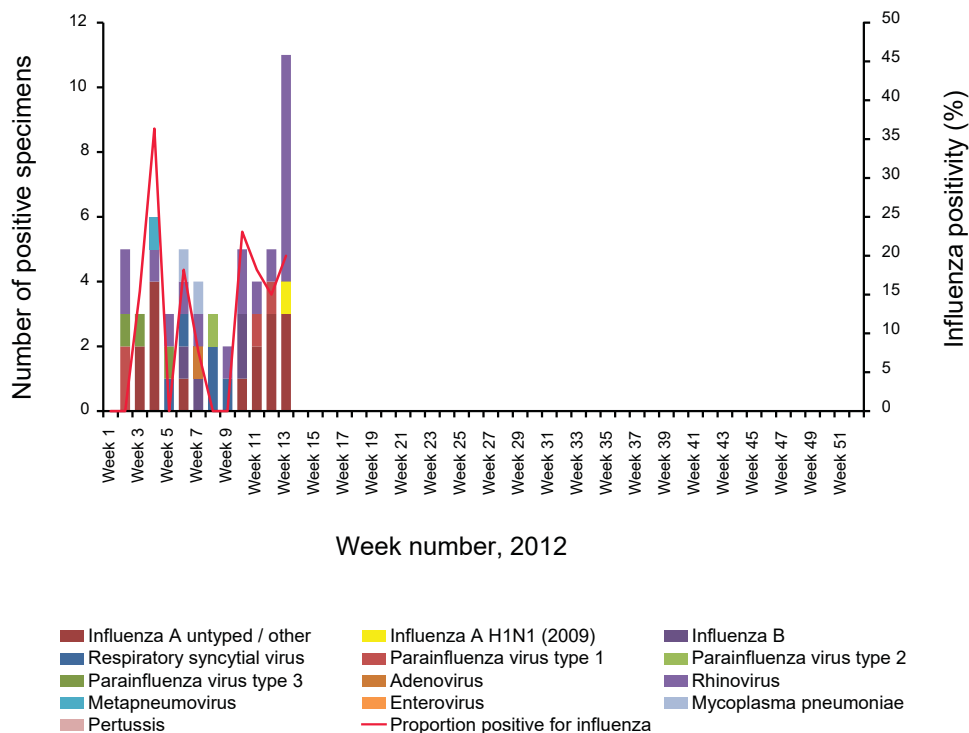


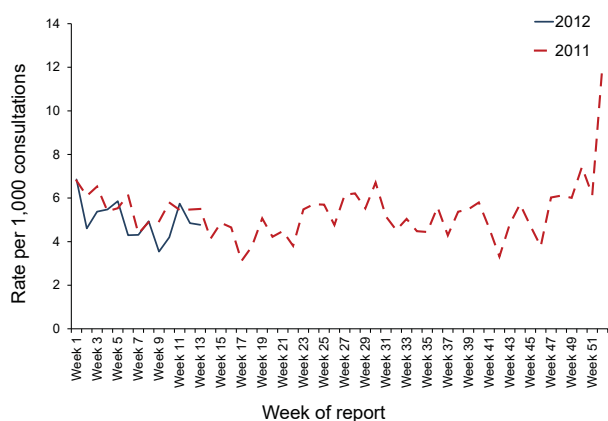
Figure 2: Influenza-like illness swab testing results, ASPREN, 1 January to 31 March 2012, by week of report



ity of these being influenza A (untyped) (10% of all swabs performed), influenza B (3% of all swabs performed) and the remainder H1N1(2009) (0.5% of all swabs performed) (Figure 2).

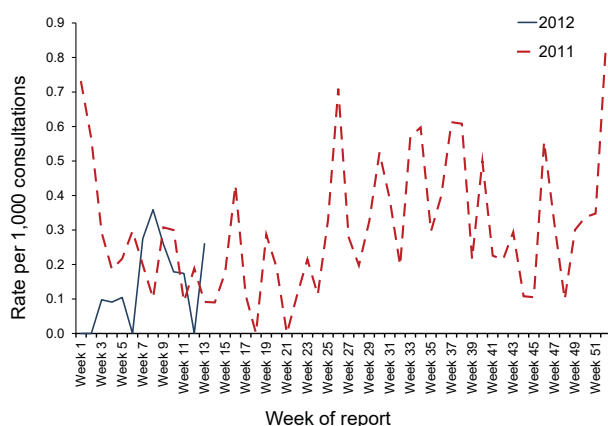
During this reporting period, consultation rates for gastroenteritis averaged 5 cases per 1,000 consultations (range 4–7 cases per 1,000, Figure 3). This was similar to rates in the same reporting period in 2011 where the average was 6 cases per 1,000 consultations (range 4–7 cases per 1,000).

Figure 3: Consultation rates for gastroenteritis, ASPREN, 1 January 2011 to 31 March 2012, by week of report



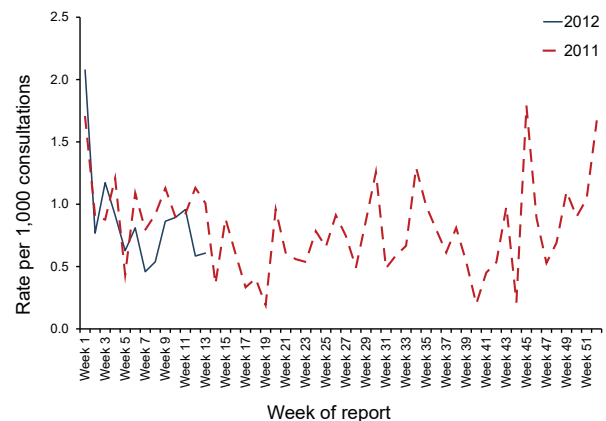
Varicella infections were reported at a lower rate for the 1st quarter of 2012 compared with the same period in 2011. From 1 January to 31 March 2012, recorded rates for chickenpox averaged 0.1 cases per 1,000 consultations (range 0–0.3 cases per 1,000 consultations, Figure 4).

Figure 4: Consultation rates for chickenpox, ASPREN, 1 January 2011 to 31 March 2012, by week of report



In the 1st quarter of 2012, reported rates for shingles averaged 0.9 cases per 1,000 consultations (range 0.5–2.1 cases per 1,000 consultations, Figure 5), slightly lower compared with the same reporting period in 2011 where the average shingles rate was 1.0 case per 1,000 consultations (range 0.4–1.7 cases per 1,000 consultations).

Figure 5: Consultation rates for shingles, ASPREN, 1 January 2011 to March 2012, by week of report



Gonococcal surveillance

Dr Monica M Lahra, 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 quarterly on sensitivity to an agreed 'core' group of antimicrobial agents. The antibiotics routinely surveyed are penicillin, ceftriaxone, ciprofloxacin and spectinomycin, which are current or potential agents used for the treatment of gonorrhoea. When clinical resistance to a recommended agent is demonstrated in 5% or more of isolates from a general population, it is usual to remove that agent from the list of recommended treatments.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 programme-specific quality assurance process. Because of the substantial geographic differences in susceptibility patterns in Australia, regional as well as aggregated data are presented.

Reporting period 1 January to 31 March 2012

The AGSP laboratories received a total of 1,262 isolates in the first quarter of 2012 of which 1,238 (98%) were viable and underwent susceptibility testing. This number is higher than the 1,059 isolates referred in this period in 2011. Approximately 36% of this total was from New South Wales; 25% from Victoria; 16% from Queensland; 11% from Western Australia; 8% from the Northern Territory; 3% from South Australia and 1% from the Australian Capital Territory. A small number of isolates were received from Tasmania.

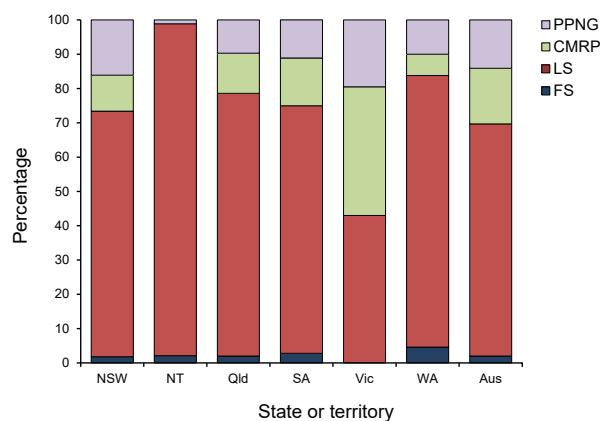
Penicillins

In this quarter, 375 (30%) of all isolates examined were penicillin resistant by one or more mechanisms. One hundred and seventy-four (14%) were penicillinase-producing *Neisseria gonorrhoeae* (PPNG); and 201 (16%) had chromosomally mediated resistance to penicillin (CMRP). This first quarter in 2012 saw an increase in penicillin resistance in gonococci by any mechanism since the decreasing trend from 2007 (2011: 22%; 2010: 32%; 2009: 39%; 2008: 45%; and 2007: 39%). Whilst the proportion nationally of PPNG has remained stable at 11%–13% over the period 2007–2011, the proportion of gonococci with CMRP has decreased in the same quarter from 26%–32% in 2007–2009, to 20% in 2010 then to 11% in 2011. However, in the first quarter of 2012 the proportion of CMRP has increased to 16%. Penicillin resistance will continue to be monitored over 2012.

The proportion of strains in each jurisdiction resistant to the penicillins by any mechanism ranged from 1.1% in the Northern Territory to 57% in Victoria. In Victoria, there were 312 strains tested and of these there were 117 CMRP (37%) and 61 PPNG (20%); in New South Wales of 447 strains tested there were 47 CMRP (10%) and 72 PPNG (16%); in Queensland of 205 strains tested there were 24 CMRP (12%) and 20 PPNG (10%), and in Western Australia of 130 strains tested there were 8 CMRP (6%) and 13 PPNG (10%). In South Australia in this quarter, there was an increase in the proportion of penicillin resistance from 11% reported in 2011, to 25% reported in 2012 where 36 isolates tested were penicillin resistant (14% CMRP; 11% PPNG). However in South Australia in the first quarter of 2010 46% of isolates had penicillin resistance by any mechanism. No CMRP, but 1 PPNG strain was found in the Northern Territory, and the geographic acquisition of this isolate was unknown. There were 3 PPNG in the Australian Capital Territory but no CMRP and no penicillin resistance reported for the one isolate from Tasmania.

The proportions of gonococci fully sensitive (MIC \leq 0.03 mg/L); less sensitive (MIC 0.06–0.5 mg/L); CMRP (MIC \geq 1 mg/L) and PPNG aggregated for Australia by state or territory are shown in Figure 1. 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 1: Categorisation of gonococci isolated in Australia, 1 January to 31 March, 2012, by penicillin susceptibility and state or territory



- FS Fully sensitive to penicillin, MIC \leq 0.03 mg/L.
 LS Less sensitive to penicillin, MIC 0.06–0.5 mg/L.
 CMRP Chromosomally mediated resistant to penicillin, MIC \geq 1 mg/L.
 PPNG Penicillinase producing *Neisseria gonorrhoeae*.

There was an increase in the proportion of isolates with penicillin resistance in Victoria, Queensland South Australia and the Australian Capital Territory, however in New South Wales and Western Australia the proportion was unchanged from the same quarter in 2011.

Quinolones

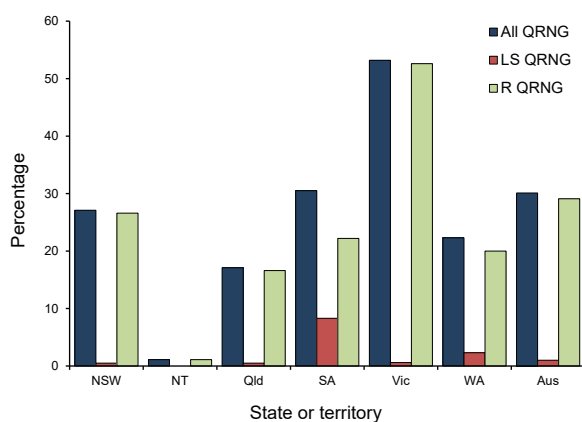
Quinolone resistant *N. gonorrhoeae* (QRNG) are defined as those isolates with a MIC to ciprofloxacin equal to or greater than 0.06 mg/L. QRNG are further subdivided into less sensitive (ciprofloxacin MICs 0.06–0.5 mg/L) or resistant (MIC \geq 1 mg/L) groups.

There were 372 (30%) QRNG detected in the first quarter of 2012. All but 12 of the 372 QRNG detected had ciprofloxacin MICs of 1 mg/L or more; and 324 (87% of QRNG) had ciprofloxacin MICs of 4 mg/L or more. The proportion of QRNG (30%) in this quarter nationally was similar to the equivalent

quarter in 2011 (27%); but lower than previous equivalent periods (2010: 38%; 2009: 46%; and 2008: 35%).

The distribution of quinolone resistant isolates of *N. gonorrhoeae* in Australia by jurisdiction is shown in Figure 2. The highest proportion of QRNG was found in Victoria with 53% of all isolates; in South Australia 31% of isolates were QRNG; in New South Wales 27% and in Western Australia 22% of isolates were QRNG.

Figure 2: The distribution of quinolone resistant isolates of *Neisseria gonorrhoeae* in Australia, 1 January to 31 March, 2012, by state or territory



LS QRNG Ciprofloxacin MICs 0.06–0.5 mg/L.

R QRNG Ciprofloxacin MICs \geq 1 mg/L.

The increase in QRNG in Victoria, Queensland and South Australia parallels the increase in penicillin resistance noted in these jurisdictions in this quarter, whereas in New South Wales the proportion of penicillin resistance remained similar and it was decreased in Western Australia.

There were 8 QRNG detected in the Australian Capital Territory; one in Tasmania; and there were none in the Northern Territory.

Ceftriaxone

Forty-four gonococcal isolates (3.5%) with decreased susceptibility to ceftriaxone (MIC range 0.06–0.12 mg/L) were detected nationally, which was slightly higher than the 2.7% detected in the same quarter in 2011 but markedly less than the proportion (6.1%) detected in the same quarter in 2010. There were 21 in Victoria; 17 in New South Wales; 3 in Queensland; 2 in Western Australia; and 1 in the Australian Capital Territory. There were no isolates with decreased susceptibility to ceftriaxone

detected in South Australia; the Northern Territory or Tasmania. The small increase in the proportion of isolates with decreased susceptibility to ceftriaxone (MIC \geq 0.06 mg/L) corresponds with the increase in CMRP resistant gonococci and QRNG also reported in this first quarter of 2011. It is possible that the small increase in numbers of isolates with decreased susceptibility to ceftriaxone together with an increase in CMRP and QRNG, reflects a clonal shift from that which was evident in 2010 and 2011.

Spectinomycin

All isolates were susceptible to this injectable agent. This antibiotic is not readily available in Australia.

Tetracycline

The following data relate to a form of high-level plasmid mediated resistance to the tetracyclines, and gonococcal isolates possessing this plasmid are known as tetracycline resistant *N. gonorrhoeae* (TRNG). Nationally, the number (168) and the proportion (14%) of TRNG detected in the first quarter of 2012 was lower than that reported in the same quarter of 2010 (TRNG:20%) and 2011 (TRNG: 21%). TRNG were found in all states and territories except Tasmania; and proportions ranged from 8% in the Australian Capital Territory to 22% of isolates in Western Australia. In the Northern Territory, the proportion of TRNG was (10%) markedly lower than for the same quarter in 2011 (TRNG: 28%) and 2010 (TRNG: 18%).

Reference

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

HIV and AIDS surveillance

National surveillance for HIV disease is coordinated by the Kirby Institute, in collaboration with state and territory health authorities and the Australian Government Department of Health and Ageing. Cases of HIV infection are notified to the National HIV Registry 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 3 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, viral hepatitis and sexually transmissible infections in Australia, Annual Surveillance Report*. The reports are available from the Kirby Institute, CFI Building,

Cnr Boundary and West Streets, Darlinghurst NSW 2010. Internet: <http://www.kirby.unsw.edu.au/> Telephone: +61 2 9385 0900. Facsimile: +61 2 9385 0920. For more information see *Commun Dis Intell* 2012;36(1):123.

HIV and AIDS diagnoses and deaths following AIDS reported for 1 July to 30 September 2011, are included in this issue of *Communicable Diseases Intelligence* (Tables 1 and 2).

Table 1: Number of new diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 July to 30 September 2011, by sex and state or territory of diagnosis

	Sex	State or territory								Totals for Australia			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This period 2011	This period 2010	YTD 2011	YTD 2010
HIV diagnoses	Female	0	11	1	2	4	1	8	9	36	36	105	114
	Male	1	85	4	47	16	4	73	10	240	223	766	700
	Not reported	0	0	0	0	0	0	0	0	0	0	0	0
	Total*	1	96	5	49	20	5	81	19	276	260	871	819
AIDS diagnoses	Female	0	0	0	0	0	0	2	0	2	2	11	10
	Male	0	10	1	0	0	1	15	1	28	25	77	78
	Total*	0	10	1	0	0	1	17	1	30	27	88	88
AIDS deaths	Female	0	1	0	0	0	0	1	0	2	0	3	1
	Male	0	4	0	0	0	0	4	0	8	4	15	15
	Total*	0	5	0	0	0	0	5	0	10	4	18	16

* Totals include people whose sex was reported as transgender.

Table 2: Number of new diagnoses of HIV infection since the introduction of HIV antibody testing 1985, and number of new diagnoses of AIDS and deaths following AIDS since 1981, cumulative to 30 September 2011, by sex and state or territory

	Sex	State or territory								Aust
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
HIV diagnoses	Female	40	1,066	32	417	144	25	526	323	2,573
	Male	299	15,113	170	3,602	1,146	151	6,478	1,522	28,481
	Not reported	0	227	0	0	0	0	22	0	249
	Total*	339	16,441	202	4,028	1,291	176	7,050	1,852	31,379
AIDS diagnoses	Female	10	288	6	80	32	4	134	50	604
	Male	95	5,669	53	1,115	427	56	2,240	472	10,127
	Total*	105	5,976	59	1,197	460	60	2,387	524	10,768
AIDS deaths	Female	7	144	1	44	20	2	67	30	315
	Male	73	3,618	33	687	281	34	1,472	301	6,499
	Total*	80	3,773	34	733	301	36	1,548	332	6,837

* Totals include 76 HIV diagnoses, 37 AIDS diagnoses and 23 deaths in people whose sex was reported as transgender.

Meningococcal Surveillance Australia

Monica M Lahra, Rodney Enriquez for the Australian Meningococcal Surveillance Programme

The reference laboratories of the Australian Meningococcal Surveillance Programme report data on the number of cases confirmed by laboratory testing using culture and by non-culture based techniques. Culture positive cases, where *Neisseria meningitidis* is grown from a normally sterile site or skin lesions, and non-culture based diagnoses, derived from results of nucleic acid amplification assays (NAA) and serological techniques, are defined as invasive meningococcal disease (IMD) according to Public Health Laboratory

Network definitions. Data contained in quarterly reports are restricted to a description of the numbers of cases by jurisdiction and serogroup, where known. Some minor corrections to data in the Table may be made in subsequent reports if additional data are received. A full analysis of laboratory confirmed cases of IMD in each calendar year is contained in the annual reports of the Programme published in *Communicable Diseases Intelligence*. For more information see *Commun Dis Intell* 2012;36(1):121.

Laboratory confirmed cases of invasive meningococcal disease for the period 1 January to 31 March 2012 are included in this issue of *Communicable Diseases Intelligence* (Table).

Table: Number of laboratory confirmed cases of invasive meningococcal disease, Australia, 1 January to 31 March 2012, by serogroup and state or territory

State or territory	Year	Serogroup													
		A		B		C		Y		W135		ND		All	
		Q1	YTD	Q1	YTD	Q1	YTD	Q1	YTD	Q1	YTD	Q1	YTD	Q1	YTD
Australian Capital Territory	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11	0	0	2	2	0	0	0	0	0	0	0	0	2	2
New South Wales	12	0	0	6	6	0	0	0	0	0	0	3	3	9	9
	11	0	0	10	10	0	0	3	3	2	2	7	7	22	22
Northern Territory	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11	0	0	1	1	0	0	0	0	0	0	0	0	1	1
Queensland	12	0	0	10	10	1	1	0	0	0	0	0	0	11	11
	11	0	0	8	8	1	1	1	1	0	0	1	1	11	11
South Australia	12	0	0	0	0	1	1	0	0	0	0	0	0	1	1
	11	0	0	4	4	0	0	0	0	1	1	0	0	5	5
Tasmania	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11	0	0	0	0	1	1	0	0	1	1	0	0	2	2
Victoria	12	0	0	7	7	0	0	0	0	0	0	0	0	7	7
	11	0	0	10	10	0	0	0	0	0	0	0	0	10	10
Western Australia	12	0	0	1	1	1	1	1	1	0	0	1	0	4	4
	11	0	0	4	4	0	0	0	0	0	0	0	0	4	4
Total	12	0	0	24	24	3	3	1	1	0	0	4	4	32	32
	11	0	0	39	39	2	2	4	4	4	4	8	8	57	57