

Communicable diseases surveillance

Highlights for 1st 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'.

Gastrointestinal diseases

Botulism

One case of botulism in a 25-year-old male was reported this quarter from Victoria. *Clostridium botulinum* toxin type A was isolated from the discarded residue of a pre-packaged nachos meal that the case had eaten, which was therefore suspected as the source of the case's illness. The Department of Human Services in Victoria triggered the National Food Incident Protocol as a precautionary measure and there was a voluntary recall of the food product (James Fielding, personal communication).

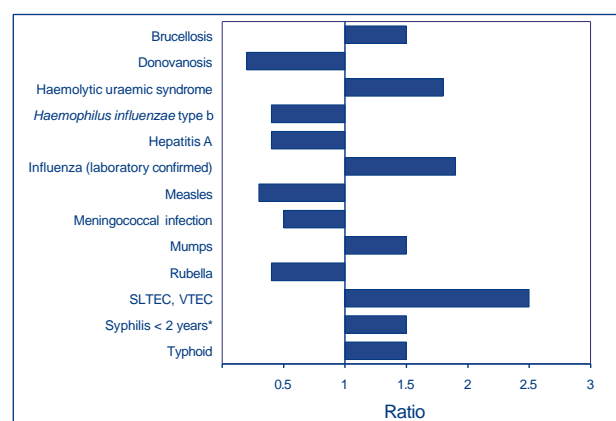
Botulism notifications in Australia are rare. Since 1998 there have been 13 cases of botulism notified nationally; 11 cases were intestinal (infant) botulism and 2 cases were adult botulism. The last adult case was notified in 1999.

Foodborne botulism has an incubation period of 12 to 36 hours and symptoms include blurry vision, lethargy and dizziness, followed by respiratory distress and paralysis. It cannot be transmitted from person to person.¹

Typhoid

During the quarter there were 37 notifications of typhoid which was 1.5 times the 5-year mean for the same period. Notifications were from New South Wales (12), Victoria (10) and Western Australia (7) and 4 from South Australia, 3 from Queensland and 1 from Tasmania. There were 21 male and 16 female cases with an age range from 4 to 87 years. Notifications showed 32 cases acquired the infection overseas. One case was acquired locally by person-to-person transmission from recent refugee arrivals. The source of infection in the other 4 cases was unknown.

Figure 1. Selected* diseases from the National Notifiable Diseases Surveillance System, comparison of provisional totals for the period 1 January to 31 March 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.

‡ Some Victorian data for this period may be incomplete.

Listeriosis

Fifteen notifications of listeriosis were received during the quarter, which was 80% of the 5-year mean for the same period. Those at highest risk of listeriosis are neonates, the elderly, immunocompromised individuals, pregnant women and alcoholic, cirrhotic or diabetic adults.¹

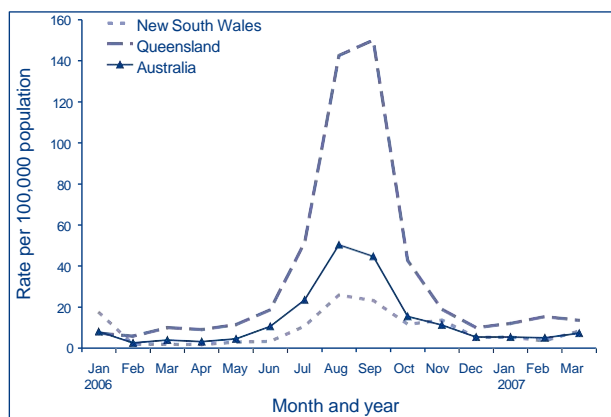
The majority of cases for this quarter were from New South Wales (5 cases), Victoria (4 cases), Queensland (3 cases) and 1 case each from South Australia, Tasmania and Western Australia. There were 5 male and 10 female cases. There was 1 neonate and the adults' ages ranged between 23 to 90 years. The highest rate of notifications was in the 80–84 year age group.

Vaccine preventable diseases

Influenza

There were 334 cases of laboratory-confirmed influenza in the first quarter of 2007. This was 1.9 times the 5-year mean for the same period. The majority of notifications were from New South Wales (32%) and Queensland (41%) (Figure 2). Seventy-eight per cent of the national laboratory-confirmed influenza notifications were type A, 15% type B and 7% unknown.

Figure 2. Notification rates of laboratory confirmed influenza, Queensland, New South Wales and Australia, 2006 to 2007



Measles

There were 4 cases of measles reported in the quarter. Cases were reported from New South Wales (2 cases), Queensland (1 case) and Victoria (1 case). Of the 4 cases, 3 were male and 1 was female. Two of the cases were aged 1 year or less and were unvaccinated, 1 child had travelled overseas and the other child was indigenous and had an unknown source. Two cases were aged between 30–34 years. Of the 2 adult cases 1 was unvaccinated and the vaccination history of the other was unknown. Both had recent overseas travel.

Meningococcal

There were 47 notifications of meningococcal infection during the quarter; half the 5-year mean for the same period. There were serogroup data available on 36 of the notified cases in the quarter. Thirty-one (66%) were serogroup B, 4 (9%) were serogroup C, 1 (2%) was W135 and in 11 (23%) the serogroup was unknown. Two meningococcal deaths were reported, 1 due to serogroup B and 1 to serogroup C. The 4 cases of serogroup C were aged between 24–57 years and had not been vaccinated.

Zoonoses

Anthrax

One case of cutaneous anthrax was notified this quarter in a 35-year-old male knacker worker from Victoria. The case noticed a pimple on his left forearm 2 weeks after he gutted the first cow from the affected farm. Four days later the case was admitted to hospital, febrile and with a large necrotic lesion and extensive cellulitis extending from hand to the axilla. Penicillin-sensitive *Bacillus anthracis* was cultured. The case had contact with 2 cattle that were subsequently confirmed to have died from anthrax and was part of an outbreak among cattle from 10 farms in northern Victoria. An outbreak of anthrax among cattle occurred in the same area in 1997 (James Fielding, personal communication).

Human cases of anthrax are rare in Australia; only 2 other cases of anthrax have been notified since 1998 (1 case in 1998 from Queensland and 1 case in 2006 from New South Wales).

References

1. Heymann, D 2004, *Control of Communicable Diseases Manual*, 18th edition, American Public Health Association, Washington.

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.

Special thanks go to James Fielding for his contribution.

Tables

National Notifiable Diseases Surveillance System

A summary of diseases currently being reported by each jurisdiction is provided in Table 1. There were 36,988 notifications to the National Notifiable Diseases Surveillance System (NNDSS) with a notification date between 1 January and 31 March 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:	Disease	Data received from:
Bloodborne diseases		Vaccine preventable diseases	
Hepatitis B (incident)	All jurisdictions	Diphtheria	All jurisdictions
Hepatitis B (unspecified)	All jurisdictions	<i>Haemophilus influenzae</i> type b	All jurisdictions
Hepatitis C (incident)	All jurisdictions except Qld	Influenza (laboratory confirmed)*	All jurisdictions
Hepatitis C (unspecified)	All jurisdictions	Measles	All jurisdictions
Hepatitis D	All jurisdictions	Mumps	All jurisdictions
Gastrointestinal diseases		Pertussis	All jurisdictions
Botulism	All jurisdictions	Pneumococcal disease (invasive)	All jurisdictions
Campylobacteriosis	All jurisdictions except NSW	Poliomyelitis	All jurisdictions
Cryptosporidiosis	All jurisdictions	Rubella	All jurisdictions
Haemolytic uraemic syndrome	All jurisdictions	Rubella - congenital	All jurisdictions
Hepatitis A	All jurisdictions	Tetanus	All jurisdictions
Hepatitis E	All jurisdictions	Varicella zoster (chickenpox)	All jurisdictions except NSW
Listeriosis	All jurisdictions	Varicella zoster (shingles)	All jurisdictions except NSW
Salmonellosis	All jurisdictions	Varicella zoster (unspecified)	All jurisdictions except NSW
Shigellosis	All jurisdictions	Vectorborne diseases	
SLTEC, VTEC	All jurisdictions	Barmah Forest virus infection	All jurisdictions
Typhoid	All jurisdictions	Flavivirus infection (NEC)†	All jurisdictions
Quarantinable diseases		Dengue	All jurisdictions
Cholera	All jurisdictions	Japanese encephalitis virus	All jurisdictions
Plague	All jurisdictions	Kunjin virus	All jurisdictions
Rabies	All jurisdictions	Malaria	All jurisdictions
Smallpox	All jurisdictions	Murray Valley encephalitis virus	All jurisdictions
Tularemia	All jurisdictions	Ross River virus infection	All jurisdictions
Viral haemorrhagic fever	All jurisdictions	Zoonoses	
Yellow fever	All jurisdictions	Anthrax	All jurisdictions
Sexually transmissible infections		Australian bat lyssavirus	All jurisdictions
Chlamydial infection	All jurisdictions	Brucellosis	All jurisdictions
Donovanosis	All jurisdictions	Leptospirosis	All jurisdictions
Gonococcal infection	All jurisdictions	Lyssaviruses unspecified	All jurisdictions
Syphilis (all)	All jurisdictions	Ornithosis	All jurisdictions
Syphilis <2 years duration	All jurisdictions	Q fever	All jurisdictions
Syphilis >2 years or unspecified duration	All jurisdictions	Other bacterial infections	
Syphilis - congenital	All jurisdictions	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 January to 31 March 2007, by date of onset*

Disease	State or territory								Total 1st quarter 2007 [†]	Total 4th quarter 2006	Total 1st quarter 2006	Last 5 years mean 1st 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	12	1	20	1	2	28	7	74	77	67	74	74	82.0	0.9
Hepatitis B (unspecified)	25	832	69	319	62	8	505	152	1,972	1,613	1,475	1,972	1,972	1,559.2	1.3
Hepatitis C (incident)	1	14	1	NN	7	5	21	19	68	88	129	68	68	116.0	0.6
Hepatitis C (unspecified)	64	1,558	65	807	77	63	735	298	3,667	3,035	3,183	3,667	3,667	3,512.0	1.0
Hepatitis D	0	3	0	3	0	0	2	0	8	5	10	8	8	6.0	1.3
Gastrointestinal diseases															
Botulism	0	0	0	0	0	0	1	0	1	1	0	1	1	0.4	2.5
Campylobacteriosis [§]	104	NN	70	1,075	946	223	1,861	545	4,824	4,390	3,733	4,824	4,824	4,119.6	1.2
Cryptosporidiosis	0	100	44	110	356	7	185	314	1,116	433	1,519	1,116	1,116	1,191.6	0.9
Haemolytic uraemic syndrome	1	4	0	1	1	0	0	0	7	8	5	7	7	4.0	1.8
Hepatitis A	2	23	2	6	2	0	9	2	46	54	106	46	46	112.0	0.4
Hepatitis E	0	4	0	0	0	0	2	0	6	6	8	6	6	8.0	0.8
Listeriosis	0	5	0	3	1	1	4	1	15	13	25	15	15	17.8	0.8
Salmonellosis (NEC)	38	1,028	181	894	386	116	546	267	3,456	2,099	3,066	3,456	3,456	2,833.8	1.2
Shigellosis	0	15	48	21	5	0	27	27	143	115	190	143	143	175.6	0.8
SLTEC, VTEC	1	3	2	4	24	0	6	0	40	21	16	40	40	16.2	2.5
Typhoid	0	12	0	3	4	1	10	7	37	21	20	37	37	25.0	1.5
Quarantinable diseases															
Cholera	0	0	0	0	0	0	0	0	0	3	0	0	0	0.8	0.0
Plague	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA
Rabies	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA
Smallpox	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA
Tularemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA
Viral haemorrhagic fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA
Yellow fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA

Table 2. Notifications of diseases received by state and territory health authorities in the period 1 January to 31 March 2007, by date of onset,*
continued

Disease	State or territory								Total 1st quarter 2007 [†]	Total 4th quarter 2006	Total 1st quarter 2006	Last 5 years mean 1st quarter	Year to date 2007	Last 5 years YTD mean	Ratio [‡]
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA							
Sexually transmissible infections															
Chlamydial infection [¶]	216	3,403	539	3,396	806	272	2,690	1,697	13,019	11,548	12,267	13,019	13,019	9,044.0	1.4
Donovanosis	0	0	0	1	0	0	0	0	1	1	0	1	1	4.2	0.2
Gonococcal infection	14	387	386	359	94	8	292	433	1,973	1,867	2,406	1,973	1,973	1,937.0	1.0
Syphilis (all)	12	356	42	89	8	9	203	29	748	719	626	748	748	560.6	1.3
Syphilis < two years duration	0	74	16	45	0	0	103	13	251	237	167	251	251	164.0	1.5
Syphilis >two years or unspecified duration	12	282	26	44	8	9	100	16	497	482	459	497	497	465.8	1.1
Syphilis - congenital	0	2	0	0	0	0	0	0	2	1	4	2	2	3.4	0.6
Vaccine preventable diseases															
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA
<i>Haemophilus influenzae</i> type b	0	0	0	1	0	0	1	0	2	7	2	2	2	5.4	0.4
Influenza (laboratory confirmed)	8	107	5	137	6	3	31	37	334	415	180	334	334	179.6	1.9
Measles	0	2	0	1	0	0	1	0	4	10	17	4	4	12.2	0.3
Mumps	0	23	2	12	2	0	1	5	45	42	43	45	45	31.0	1.5
Pertussis	18	343	4	327	80	5	196	21	994	1,279	2,428	994	994	1,708.2	0.6
Pneumococcal disease (invasive)	7	69	12	41	5	3	35	19	191	293	206	191	191	288.2	0.7
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA
Rubella	1	2	0	2	0	0	2	1	8	12	6	8	8	21.8	0.4
Rubella - congenital	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0.0
Tetanus	0	0	0	0	0	0	0	0	0	2	1	0	0	1.8	0.0
Varicella zoster (chickenpox)	NDP	NN	21	94	177	7	NDP	53	352	705	176	352	352	NA	NA
Varicella zoster (shingles)	NDP	NN	28	91	183	24	NDP	116	442	406	175	442	442	NA	NA
Varicella zoster (unspecified)	NDP	NN	0	776	92	6	NDP	194	1,068	920	862	1,068	1,068	NA	NA
Vectorborne diseases															
Barmah Forest virus infection	0	153	33	201	17	0	3	25	432	365	741	432	432	398.6	1.1
Dengue	0	31	5	36	4	0	4	11	91	36	57	91	91	159.6	0.6
Flavivirus infection (NEC)	0	0	0	9	0	0	1	0	10	4	15	10	10	20.8	0.5
Japanese encephalitis virus	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.0
Kunjin virus	0	0	0	0	0	0	0	0	0	0	1	0	0	4.6	0.0
Malaria	4	29	5	61	3	6	32	19	159	152	212	159	159	204.4	0.8
Murray Valley encephalitis virus	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0	0.0
Ross River virus infection	2	174	126	600	48	2	20	101	1,073	530	3,433	1,073	1,073	1,610.8	0.7

Table 2. Notifications of diseases received by State and Territory health authorities in the period 1 January to 31 March 2007, by date of onset,*
continued

Disease	State or territory								Total 1st quarter 2007 [†]	Total 4th quarter 2006	Total 1st quarter 2006	Last 5 years mean 1st 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	1	0	1	0	1	1	1	0.2	5.0
Australian bat lyssavirus	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA
Brucellosis	0	4	0	11	0	0	0	0	15	13	15	15	15	9.8	1.5
Leptospirosis	0	4	1	37	0	0	4	0	46	20	50	46	46	55.6	0.8
Lyssavirus unspecified	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	NA
Ornithosis	0	9	0	0	1	0	12	0	22	39	43	22	22	40.4	0.5
Q fever	0	52	1	49	3	0	4	1	110	101	98	110	110	140.6	0.8
Other bacterial infections															
Legionellosis	1	31	0	13	4	1	5	11	66	94	101	66	66	83.6	0.8
Leprosy	0	1	0	0	0	1	0	0	2	0	1	2	2	2.8	0.7
Meningococcal infection**	1	18	3	14	1	0	7	3	47	68	75	47	47	90.0	0.5
Tuberculosis	1	96	11	34	9	1	89	19	260	338	289	260	260	260.6	1.0
Total	524	8,909	1,707	9,659	3,415	774	7,576	4,434	36,998	31,969	38,084	36,998	36,998	30,904.0	1.2

* 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.

NDP No data provided

Table 3. Notification rates of diseases, 1 January to 31 March 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	0.7	1.9	2.0	0.3	1.6	2.2	1.4	1.4
Hepatitis B (unspecified)	30.4	48.7	133.5	31.5	16.0	6.5	39.7	29.6	38.3
Hepatitis C (incident)	1.2	0.8	1.9	NN	1.8	4.1	1.6	3.7	1.6
Hepatitis C (unspecified)	77.9	91.3	125.8	79.6	19.8	51.5	57.7	58.1	71.2
Hepatitis D	0.0	0.2	0.0	0.3	0.0	0.0	0.2	0.0	0.2
Gastrointestinal diseases									
Botulism	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Campylobacteriosis [†]	126.5	NN	135.5	106.1	243.4	182.4	146.2	106.3	140.1
Cryptosporidiosis	0.0	5.9	85.2	10.9	91.6	5.7	14.5	61.2	21.7
Haemolytic uraemic syndrome	1.2	0.2	0.0	0.1	0.3	0.0	0.0	0.0	0.1
Hepatitis A	2.4	1.3	3.9	0.6	0.5	0.0	0.7	0.4	0.9
Hepatitis E	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Listeriosis	0.0	0.3	0.0	0.3	0.3	0.8	0.3	0.2	0.3
Salmonellosis (NEC)	46.2	60.2	350.3	88.2	99.3	94.9	42.9	52.1	67.1
Shigellosis	0.0	0.9	92.9	2.1	1.3	0.0	2.1	5.3	2.8
SLTEC, VTEC [‡]	1.2	0.2	3.9	0.4	6.2	0.0	0.5	0.0	0.8
Typhoid	0.0	0.7	0.0	0.3	1.0	0.8	0.8	1.4	0.7
Quarantinable diseases									
Cholera	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
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 [§]	262.8	199.4	1,043.1	335.1	207.4	222.5	211.3	331.0	252.7
Donovanosis	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Gonococcal infection	17.0	22.7	747.0	35.4	24.2	6.5	22.9	84.5	38.3
Syphilis (all)	14.6	20.9	81.3	8.8	2.1	7.4	15.9	5.7	14.5
Syphilis <2 years duration	0.0	4.3	31.0	4.4	0.0	0.0	8.1	2.5	4.9
Syphilis >2 years or unspecified duration	14.6	16.5	50.3	4.3	2.1	7.4	7.9	3.1	9.6
Syphilis - congenital	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	0.0	0.0	0.1	0.0	0.0
Influenza (laboratory confirmed)	9.7	6.3	9.7	13.5	1.5	2.5	2.4	7.2	6.5
Measles	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1
Mumps	0.0	1.3	3.9	1.2	0.5	0.0	0.1	1.0	0.9
Pertussis	21.9	20.1	7.7	32.3	20.6	4.1	15.4	4.1	19.3
Pneumococcal disease (invasive)	8.5	4.0	23.2	4.0	1.3	2.5	2.7	3.7	3.7
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 January to 31 March 2007, by state or territory. (Annualised rate per 100,000 population), continued

Disease*	State or territory								Aust
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Vaccine preventable diseases, continued									
Rubella	1.2	0.1	0.0	0.2	0.0	0.0	0.2	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	0.0	0.0	0.0	0.0	0.0
Varicella zoster (chickenpox)	NDP	NN	40.6	9.3	45.5	5.7	NDP	10.3	16.8
Varicella zoster (shingles)	NDP	NN	54.2	9.0	47.1	19.6	NDP	22.6	21.2
Varicella zoster (unspecified)	NDP	NN	0.0	76.6	23.7	4.9	NDP	37.8	51.1
Vectorborne diseases									
Barmah Forest virus infection	0.0	9.0	63.9	19.8	4.4	0.0	0.2	4.9	8.4
Dengue	0.0	1.8	9.7	3.6	1.0	0.0	0.3	2.1	1.8
Flavivirus infection (NEC)	0.0	0.0	0.0	0.9	0.0	0.0	0.1	0.0	0.2
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	4.9	1.7	9.7	6.0	0.8	4.9	2.5	3.7	3.1
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	2.4	10.2	243.8	59.2	12.3	1.6	1.6	19.7	20.8
Zoonoses									
Anthrax	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	0.2	0.0	1.1	0.0	0.0	0.0	0.0	0.3
Leptospirosis	0.0	0.2	1.9	3.7	0.0	0.0	0.3	0.0	0.9
Lyssavirus unspecified	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ornithosis	0.0	0.5	0.0	0.0	0.3	0.0	0.9	0.0	0.4
Q fever	0.0	3.0	1.9	4.8	0.8	0.0	0.3	0.2	2.1
Other bacterial infections									
Legionellosis	1.2	1.8	0.0	1.3	1.0	0.8	0.4	2.1	1.3
Leprosy	0.0	0.1	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Meningococcal infection	1.2	1.1	5.8	1.4	0.3	0.0	0.5	0.6	0.9
Tuberculosis	1.2	5.6	21.3	3.4	2.3	0.8	7.0	3.7	5.0

* 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.

NDP No data provided.

Laboratory Serology and Virology Reporting Scheme

There were 6,204 reports received by the Virology and Serology Laboratory Reporting Scheme (LabVISE) in the reporting period, 1 January to 31 March 2007 (Tables 4 and 5).

Table 4. Virology and serology laboratory reports by state or territory* for the reporting period 1 January to 31 March 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	–	2	2	–	1	–	6	11	6	11
Mumps virus	–	2	–	3	1	–	2	–	8	12	8	12
Rubella virus	–	–	1	5	1	–	–	–	7	2	7	2
Hepatitis viruses												
Hepatitis A virus	–	–	–	6	2	1	1	–	10	11	10	11
Hepatitis D virus	–	–	–	1	3	–	2	–	6	2	6	2
Arboviruses												
Ross River virus	–	1	26	226	43	–	–	3	299	788	299	788
Barmah Forest virus	–	8	3	113	15	–	1	–	140	144	140	144
Flavivirus (unspecified)	–	–	–	24	–	–	1	–	25	30	25	30
Adenoviruses												
Adenovirus not typed/pending	–	62	–	17	60	–	19	–	158	155	158	155
Cytomegalovirus	–	26	–	64	166	1	19	–	276	325	276	325
Herpesviruses												
Varicella-zoster virus	4	96	–	429	148	1	12	–	690	352	690	352
Epstein-Barr virus	–	9	21	371	169	3	12	82	667	544	667	544
Other DNA viruses												
Poxvirus group not typed	–	–	–	–	–	–	1	–	1	–	1	–
Parvovirus	–	1	1	52	35	–	3	–	92	51	92	51
Picornavirus family												
Echovirus type 30	–	1	–	–	–	–	–	–	1	11	1	11
Rhinovirus (all types)	–	56	–	–	1	–	1	–	58	17	58	17
Enterovirus not typed/pending	1	13	–	9	2	–	2	–	27	54	27	54
Ortho/paramyxoviruses												
Influenza A virus	–	5	2	35	3	–	2	–	47	30	47	30
Influenza B virus	–	–	–	1	4	–	–	–	5	6	5	6
Parainfluenza virus type 1	–	1	–	–	–	–	–	–	1	22	2	22
Parainfluenza virus type 2	–	2	–	3	–	–	–	–	5	1	5	1
Parainfluenza virus type 3	–	15	–	6	1	–	7	–	29	12	30	12
Respiratory syncytial virus	–	45	2	103	3	–	3	–	156	104	157	104
HTLV-1	–	–	–	–	2	–	–	–	2	4	2	4
Other RNA viruses												
Rotavirus	–	13	–	–	19	2	3	–	37	64	38	64
Norwalk agent	1	6	–	–	–	–	35	–	42	190	42	190

Table 4. Virology and serology laboratory reports by state or territory* for the reporting period 1 January to 31 March 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												
<i>Chlamydia trachomatis</i> not typed	1	138	–	1,373	595	7	4	–	2,118	1,475	2,127	1,475
<i>Chlamydia psittaci</i>	–	–	–	1	1	–	14	–	16	10	16	10
<i>Mycoplasma pneumoniae</i>	1	13	3	194	57	3	17	14	302	345	302	345
<i>Mycoplasma hominis</i>	–	3	–	–	–	–	–	–	3	10	3	10
<i>Coxiella burnetii</i> (Q fever)	–	1	–	18	5	–	–	–	24	47	24	47
<i>Orentia tsutsugamushi</i>	–	–	–	–	–	–	–	–	–	17	2	17
<i>Rickettsia</i> - spotted fever group	–	–	–	–	1	–	–	–	1	57	1	57
<i>Streptococcus</i> group A	–	10	3	198	–	1	20	–	232	137	232	137
<i>Yersinia enterocolitica</i>	–	1	–	–	–	–	–	–	1	3	1	3
<i>Brucella</i> species	–	–	–	1	–	–	–	–	1	2	1	2
<i>Bordetella pertussis</i>	1	6	–	93	62	–	13	–	175	429	175	429
<i>Legionella pneumophila</i>	–	1	–	–	–	–	1	–	2	8	2	8
<i>Cryptococcus</i> species	–	–	–	5	4	–	–	–	9	10	9	10
<i>Leptospira</i> species	–	–	–	23	–	–	–	–	23	7	23	7
<i>Treponema pallidum</i>	–	29	–	279	181	–	–	1	490	275	504	275
<i>Entamoeba histolytica</i>	–	–	1	1	–	–	–	–	2	–	2	–
<i>Toxoplasma gondii</i>	–	–	–	5	2	–	1	–	8	16	8	16
<i>Echinococcus granulosus</i>	–	–	–	–	2	–	–	–	2	3	2	3
Total	9	565	63	3,661	1,590	19	197	100	6,204	5,793	6,231	5,793

* 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 January to 31 March 2007*

State or territory	Laboratory	January 2007	February 2007	March 2007	Total this period
Australian Capital Territory	The Canberra Hospital	–	–	–	–
New South Wales	Institute of Clinical Pathology and Medical Research, Westmead	3	56	58	117
	New Children's Hospital, Westmead	63	45	59	167
	Repatriation General Hospital, Concord	–	–	–	–
	Royal Prince Alfred Hospital, Camperdown	18	19	16	53
	South West Area Pathology Service, Liverpool	24	7	–	31
Queensland	Queensland Medical Laboratory, West End	1,230	1,324	1,340	3,894
	Townsville General Hospital	–	–	–	–
South Australia	Institute of Medical and Veterinary Science, Adelaide	524	555	508	1,587
Tasmania	Northern Tasmanian Pathology Service, Launceston	9	6	1	16
	Royal Hobart Hospital, Hobart	–	–	–	–
Victoria	Monash Medical Centre, Melbourne	–	–	–	–
	Royal Children's Hospital, Melbourne	46	46	15	107
	Victorian Infectious Diseases Reference Laboratory, Fairfield	45	40	1	86
Western Australia	PathCentre Virology, Perth	–	–	–	–
	Princess Margaret Hospital, Perth	–	–	–	–
	Western Diagnostic Pathology	41	2	103	146
Total		2,003	2,100	2,101	6,204

* 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

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 October and 31 December 2005, at 24 months of age for the cohort born between 1 October and 31 December 2004, and at 6 years of age for the cohort born between 1 October and 31 December 2000 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: brynleyb@chw.edu.au.

Immunisation coverage for children ‘fully immunised’ at 12 months of age for Australia decreased marginally by 0.2 percentage points to 91.0% (Table 1), whilst there were no important changes in coverage for all individual vaccines due at 12 months of age. There were also no noteworthy movements in coverage for individual vaccines by jurisdiction.

Immunisation coverage for children ‘fully immunised’ at 24 months of age for Australia decreased marginally from the last quarter by 0.4 percentage points to 92.0% (Table 2). There were no significant changes in coverage in any jurisdiction for ‘fully immunised’ coverage or for coverage for individual vaccines. It is notable that the estimate for ‘fully immunised’ at 24 months of age has been higher than the 12 months coverage estimate since the 18 month DTPa booster was no longer required from September 2003.

It is also notable that, for the 2 vaccines where no further doses are due between 6 months and 24 months of age (DTP and polio), coverage at the national level was 94.8% and 94.8% respectively at 24 months versus 91.9% and 91.8% at 12 months. This suggests that delayed notification or delayed vaccination is making an important contribution to the coverage estimates at 12 months of age and that the ‘fully immunised’ estimate in particular is likely to be a minimum estimate.

Table 3 shows immunisation coverage estimates for children ‘fully immunised’ and for individual vaccines at 6 years of age for Australia and by state or territory. For the second consecutive quarter, ‘fully immunised’ coverage for Australia, at 88%, remained at the highest level ever recorded since it was first reported in early 2003. There were no important changes in coverage for all individual vaccines due at 12 months of age and no noteworthy movements in coverage for individual vaccines by jurisdiction.

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 2005; assessment date 31 March 2007

Vaccine	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,145	22,544	827	13,626	4,320	1,551	16,486	6,573	67,072
Diphtheria, tetanus, pertussis (%)	92.2	91.7	91.7	91.9	91.6	92.7	92.6	90.5	91.9
Poliomyelitis (%)	92.1	91.5	91.5	91.9	91.6	92.8	92.5	90.5	91.8
<i>Haemophilus influenzae</i> type b (%)	94.9	94.6	94.9	93.9	94.1	95.9	94.8	94.2	94.5
Hepatitis B (%)	95.0	94.6	95.5	93.7	93.9	95.9	94.6	94.0	94.4
Fully immunised (%)	91.9	91.2	90.8	90.8	90.4	92.5	91.3	89.9	91.0
Change in fully immunised since last quarter (%)	0.0	-0.3	-1.5	+0.7	-0.7	-1.5	-0.4	-0.3	-0.2

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 2004; assessment date 31 March 2007

Vaccine	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,038	21,285	756	12,536	4,312	1,417	15,691	6,172	63,207
Diphtheria, tetanus, pertussis (%)	95.9	94.6	96.4	94.1	95.0	96.3	95.5	94.4	94.8
Poliomyelitis (%)	95.8	94.5	96.2	94.1	95.0	96.3	95.4	94.3	94.8
<i>Haemophilus influenzae</i> type b (%)	94.2	93.4	93.9	93.1	93.9	94.8	94.5	92.7	93.6
Measles, mumps, rubella (%)	94.1	93.1	95.1	93.1	94.3	94.9	94.8	92.7	93.7
Hepatitis B(%)	96.1	95.4	97.9	95.1	95.6	96.8	96.2	95.2	95.6
Fully immunised (%)	93.0	91.5	93.3	91.3	92.8	93.9	93.4	90.6	92.0
Change in fully immunised since last quarter (%)	-0.5	-0.6	-1.2	-0.5	+4	-0.6	-0.3	-0.2	-0.4

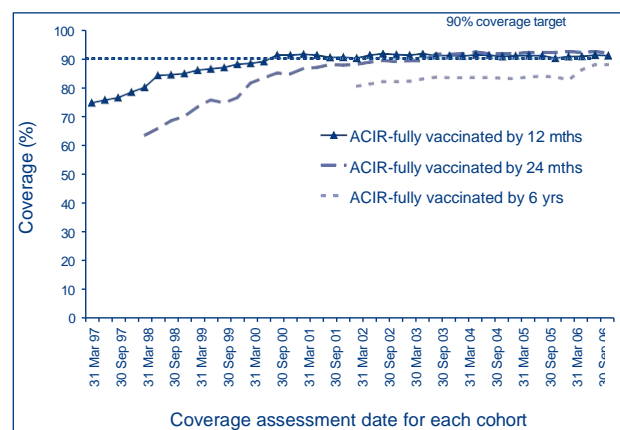
* The 12 months age data for this cohort was published in *Commun Dis Intell* 2006;31:266.

Table 3. Percentage of children immunised at 6 years of age, preliminary results by disease and state or territory for the birth cohort 1 October to 31 December 2000; assessment date 31 March 2007

Vaccine	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total number of children	1,073	22,321	839	13,504	4,444	1,597	16,157	6,573	66,508
Diphtheria, tetanus, pertussis (%)	90.0	89.0	87.4	88.0	86.8	91.5	91.5	84.2	88.8
Poliomyelitis (%)	89.9	88.9	88.0	88.1	86.7	91.6	91.6	84.4	88.9
Measles, mumps, rubella (%)	89.8	89.0	88.1	88.2	86.8	91.6	91.7	84.3	88.9
Fully immunised (%) ¹	88.6	88.1	86.3	87.2	85.9	90.7	91.0	83.2	88.0
Change in fully immunised since last quarter (%)	-0.8	+0.3	-1.8	-0.4	-0.7	+1.4	+0.9	-1.5	+0.1

Figure 3 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 2 years for all age groups. The recent increase in coverage at 6 years of age, described in the previous paragraph, is apparent in the Figure. 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.

Figure 3. Trends in vaccination coverage, Australia, 1997 to 31 December 2006, by age cohorts



HIV and AIDS surveillance

National surveillance for HIV disease is coordinated by the National Centre in HIV Epidemiology and Clinical Research (NCHECR), in collaboration with State and Territory health authorities and the Commonwealth of Australia. Cases of HIV infection are notified to the National HIV Database on the first occasion of diagnosis in Australia, by either the diagnosing laboratory (Australian Capital Territory, New South Wales, Tasmania, Victoria) or by a combination of laboratory and doctor sources (Northern Territory, Queensland, South Australia, Western Australia). Cases of AIDS are notified through the State and Territory health authorities to the National AIDS Registry. Diagnoses of both HIV infection and AIDS are notified with the person's date of birth and name code, to minimise duplicate notifications while maintaining confidentiality.

Tabulations of diagnoses of HIV infection and AIDS are based on data available three months after the end of the reporting interval indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infection and AIDS is published in the quarterly Australian HIV Surveillance Report, and annually in 'HIV/AIDS, viral hepatitis and sexually transmissible infections in Australia, annual surveillance report'. The reports are available from the National Centre in HIV Epidemiology and Clinical Research, 376 Victoria Street, Darlinghurst NSW 2010. Internet: <http://www.med.unsw.edu.au/nbecr>. Telephone: +61 2 9332 4648. Facsimile: +61 2 9332 1837. For more information see Commun Dis Intell 2005;29:91–92.

HIV and AIDS diagnoses and deaths following AIDS reported for 1 October to 31 December 2006, as reported to 31 March 2007, are included in this issue of Communicable Diseases Intelligence (Tables 4 and 5).

Table 4. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 October to 31 December 2006, 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 2006	This period 2005	YTD 2006	YTD 2005
HIV diagnoses	Female	0	18	2	8	4	0	11	0	43	19	141	92
	Male	0	95	1	47	15	1	61	11	231	216	850	868
	Not reported	0	0	0	0	0	0	0	0	0	0	0	0
	Total*	0	114	3	55	19	1	72	11	275	235	994	961
AIDS diagnoses	Female	0	1	0	1	0	0	2	0	4	1	22	27
	Male	0	20	0	3	4	0	11	1	39	53	172	197
	Total*	0	21	0	4	4	0	13	1	43	54	196	224
AIDS deaths	Female	0	0	0	0	0	0	1	1	2	2	6	5
	Male	0	8	1	1	1	0	4	2	17	18	71	64
	Total*	0	8	1	1	1	0	5	3	19	20	79	69

* Totals include people whose sex was reported as transgender.

Table 5. Cumulative diagnoses of HIV infection, AIDS, and deaths following AIDS since the introduction of HIV antibody testing to 31 December 2006, and reported by 31 March 2007, by sex and state or territory

	Sex	State or territory								Australia
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
HIV diagnoses	Female	32	873	22	267	100	8	367	203	1,872
	Male	259	13,447	131	2,729	935	100	5,248	1,212	24,061
	Not reported	0	230	0	0	0	0	22	0	252
	Total*	291	14,579	153	3,005	1,036	108	5,659	1,422	26,253
AIDS diagnoses	Female	10	253	4	71	32	4	112	41	527
	Male	93	5,414	43	1,030	410	52	1,998	426	9,466
	Total*	103	5,684	47	1,103	443	56	2,122	469	10,027
AIDS deaths	Female	7	136	1	42	20	2	61	26	295
	Male	74	3,582	27	663	279	33	1,414	295	6,367
	Total*	81	3,729	28	707	299	35	1,484	322	6,685

* Totals include people whose sex was reported as transgender.

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 January to 31 March 2007, are included in this issue of *Communicable Diseases Intelligence* (Table 6).

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 six 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

Table 6. Number of laboratory confirmed cases of invasive meningococcal disease, Australia, 1 January to 31 March 2007, 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	07			1	1					1	1			2	2
	06													0	0
New South Wales	07			12	12	3	3					2	2	17	17
	06			9	9	1	1			1	1	4	4	14	14
Northern Territory	07			1	1									1	1
	06			1	1									1	1
Queensland	07			11	11									11	11
	06			15	15	1	1								16
South Australia	07			1	1									1	1
	06			3	3									3	3
Tasmania	07														0
	06			1	1	1	1							2	2
Victoria	07			6	6									6	6
	06			10	10	2	2	1	1	2	2			15	15
Western Australia	07			3	3									3	3
	06			5	5									5	5
Total	07			35	35	3	3			1	1	2	2	41	41
	06			44	44	5	5	1	1	3	3	4	4	57	57

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 January to 31 March 2007 are included in Tables 7 and 8. Data include cases reported and entered by 27 April 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.

1 January to 31 March 2007

There were 2,527 reports to NEPSS of human *Salmonella* infection in the first quarter of 2007, 35% more than in fourth quarter of 2006. Data to date for this quarter are somewhat incomplete. Completion of phage typing and data-entry for the many recent *S. Typhimurium* isolates will result in at least 10% more cases, and a final count for the quarter somewhat above the historical average for this annual peak in human salmonellosis in Australia.

During the first quarter of 2007, the 25 most common *Salmonella* types in Australia accounted for 1,657 cases, 66% of all reported human *Salmonella* infections. Nineteen of the 25 most common *Salmonella* infections in the first quarter of 2006 were also among those most commonly reported in the preceding quarter.

The most notable feature of the current data is the large outbreak of *S. Typhimurium* phage type 44 in the south-eastern states and *S. Typhimurium* phage type 9 in South Australia and New South Wales.. Other increases and outbreaks include *S. Mississippi* and *S. Typhimurium* phage type 135 (in Tasmania), *S. Typhimurium* phage type 29 (in South Australia), *S. Montevideo* and *S. Wangata* (in New South Wales), *S. Stanley*, *S. Newport*, *S. Cerro* and *S. London* (in Victoria), *S. Oslo* in the Northern Territory, *S. Typhimurium* phage type 197 (in Queensland), *S. Typhimurium* phage type U302 (in New South Wales and Queensland), and *S. Typhimurium* phage type U307 (in Western Australia and Queensland).

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 January to 31 March 2007, as reported to 27 April 2007

	State or territory								Australia
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	
Total all <i>Salmonella</i> for quarter	32	644	95	713	173	110	534	226	2,527
Total contributing <i>Salmonella</i> types	23	107	35	109	59	18	113	78	228

Table 8. Top 25 *Salmonella* types identified in Australia, 1 January to 31 March 2007, by state or territory

National rank	<i>Salmonella</i> type	State or territory								Total 1st quarter 2007	Last 10 years mean 1st quarter	Year to date 2007	Year to date 2006
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA				
1	S. Typhimurium PT 135	2	102	0	46	2	25	34	14	225	247	225	262
2	S. Typhimurium PT 44	5	25	0	12	18	1	103	2	166	25	166	77
3	S. Typhimurium PT 9	1	78	0	19	19	2	40	4	163	182	163	158
4	S. Saintpaul	1	12	5	64	1	1	8	19	111	134	111	167
5	S. Typhimurium PT 170	4	60	0	7	0	1	33	0	105	96	105	167
6	S. Typhimurium PT 197	1	12	1	63	4	1	7	0	89	60	89	41
7	S. Virchow PT 8	0	6	5	67	1	0	2	0	81	104	81	114
8	S. Birkenhead	0	37	0	36	0	0	5	0	78	101	78	112
9	S. Mississippi	0	2	0	3	0	64	4	0	73	41	73	55
10	S. Chester	0	10	4	18	2	2	3	12	51	68	51	65
11	S. Muenchen	1	7	3	20	4	0	2	12	49	59	49	55
12	S. Infantis	0	10	2	5	10	0	16	3	46	49	46	70
13	S. Aberdeen	0	3	0	42	0	0	0	0	45	46	45	67
14	S. Typhimurium PT 12	0	21	0	1	2	2	11	3	40	35	40	40
15	S. Typhimurium PT 29	0	3	3	1	26	0	5	0	38	7	38	9
16	S. Typhimurium (PT pending)	1	1	0	0	1	2	31	1	37	0	37	0
17	S. Hvittingfoss	0	2	1	30	0	0	2	1	36	40	36	65
18	S. Typhimurium RDNC	2	15	0	15	1	0	3	0	36	30	36	37
19	S. Stanley	0	11	1	4	3	0	11	3	33	14	33	25
20	S. Typhimurium untypable	0	4	0	4	0	1	6	15	30	20	30	29
21	S. Montevideo	1	20	0	5	1	0	3	0	30	12	30	14
22	S. Waycross	0	14	0	13	0	0	0	0	27	46	27	60
23	S. Typhimurium PT U302	0	9	0	14	0	0	2	1	26	4	26	12
24	S. Oslo	0	1	21	1	0	0	1	0	24	4	24	1
25	S. Typhimurium PT U307	0	3	0	8	0	0	3	4	18	6	18	22