COMMUNICABLE DISEASES REPORT, NSW: JUNE 2003

TRENDS

Summaries of case notifications through to April 2003 are shown in Figure 3 and Table 3.

BLOOD BORNE AND SEXUALLY TRANSMISSIBLE INFECTIONS

Reports of new **syphilis** infections continued to increase in recent months, mainly from South Eastern Sydney. Enhanced surveillance for syphilis began in 2000, and involved public health unit staff writing to doctors caring for the patients who were notified by laboratories as having serological markers of syphilis infection.

In 2000, doctors reported that 81 people in NSW had syphilis that was acquired within the previous year; 66 people were reported in 2001, and 126 people were reported in 2002. So far in 2003, 56 patients have been reported with onset of new syphilis to the end of April. Of these 33, (59 per cent) reside in the South Eastern Sydney Area. Anecdotal reports indicate that many of these infections are in men who have sex with men.

In response, South Eastern Sydney Area Health Service, with the Sexually Transmissible Infections in Gay Men Action Group, initiated an awareness-raising campaign among the community and doctors. This campaign began in 2002.

VECTOR-BORNE DISEASES

The number of reports of arbovirus infections rose substantially in April, with **Ross River virus** and **Barmah Forest virus** infections both increasing mainly in the Northern Rivers Area. These infections generally increase in Autumn and are expected to decline after May as the temperatures fall.

ZOONOSES

There have been 149 cases of **Q fever** reported through to the end of April. Cases increased in 2002, reaching a nine-year peak of 304. The reason for the increase is unclear, but may relate to increased awareness and screening associated with the Q fever vaccination program aimed at meat and agricultural workers.

RESPIRATORY AND OTHER DISEASES

Four cases of *Legionella pneumophila* infections were reported in April, in NSW, although no links were identified among cases. April traditionally marks a high point in the **legionnaires disease** season.

QUARTERLY REPORT: AUSTRALIAN CHILDHOOD IMMUNISATION REGISTER

Table 1 details the percentage of fully immunised children aged 12 months to less than 15 months in each area health service, reported by all service providers.

TABLE 1

PERCENTAGE OF FULLY IMMUNISED CHILDREN AGED 12 MONTHS TO LESS THAN 15 MONTHS BY AREA HEALTH SERVICE

Area Health Service	31 Mar 02	30 June 02	30 Sept 02	31 Dec 02	31 Mar 02
Central Coast	92	90	92	93	93
Central Sydney	88	89	90	90	91
Hunter	94	94	93	94	94
Illawarra	93	89	94	92	92
Northern Sydney	90	89	91	91	90
South Eastern Sydney	90	89	92	91	90
South Western Sydney	90	90	90	92	91
Wentworth	92	90	91	90	93
Western Sydney	90	90	91	92	92
Far West	92	90	90	89	93
Greater Murray	93	92	94	93	92
Macquarie	92	93	91	92	92
Mid North Coast	90	90	88	90	90
Mid Western	92	91	91	94	94
New England	94	92	91	93	92
Northern Rivers	80	84	84	85	85
Southern	93	90	91	91	89
NSW	**91**	**90**	**91**	**91**	**91**
Australia	**91**	**90**	**91**	**92**	**91**

TABLE 2

PERCENTAGE OF FULLY IMMUNISED CHILDREN IDENTIFIED AS ABORIGINAL AND TORRES STRAIT ISLANDER, AGED 12 MONTHS TO LESS THAN 15 MONTHS

	30 June 02	30 Sept 02	31 Dec 02	31 Mar 02
NSW	87	85	86	86
Australia	85	85	84	86

These data refer to five different cohorts of children whose age has been calculated 90 days before data extraction. The information contained in each of the reports has been extracted from the Australian Childhood Immunisation Register (ACIR) and may not reflect actual coverage due to under-reporting. Table 2 details the percentage of fully immunised children identified as Aboriginal or Torres Strait Islander in New South Wales for the same cohort, reported by all service providers.

VACCINE-PREVENTABLE DISEASES

One case of **measles** was reported in South Eastern Sydney in April, breaking an eight-month hiatus in measles in NSW. The case was a teenager who presented with a history of a week-long blotchy rash on her face, which began three days after onset of fever and cough. A serological sample taken one week after onset of the rash tested positive for measles IgM and IgG. Parvovirus serology was negative. The case reported measles vaccination four years before, and no contact with other possible cases or travel outside NSW. Other public health units were notified, but no further spread has been identified.

ENTERIC DISEASES

In NSW, in April, a baby with listeriosis was born prematurely. Listeriosis is a relatively rare disease caused by eating foods contaminated with the bacteria *Listeria monocytogenes*. Most people who eat contaminated food do not get sick. However, it can cause serious disease in pregnant women, newborns, and people who are immunocompromised. Such people should avoid foods that are known to be prone to contamination by *Listeria monocytogenes*. These foods include soft cheeses, small goods (such as sausages), and pre-packaged foods. Ensuring foods are well cooked and simple hygiene measures, like hand washing, are also good ways to prevent listeriosis. A fact sheet on listeriosis is available at **www.health.nsw.gov.au** under Common Health Topics.

AN OUTBREAK OF *SALMONELLA ENTERICA* SEROVAR TYPHIMURIUM (*S. TYPHIMURIUM*) PHAGE TYPE 135A IN THE GREATER MURRAY

Tracey Oakman, Tony Kolbe, Ian Hamilton
Centre for Public Health, Albury

On 18 October 2002, the Centre for Public Health, Albury, was notified by a local pathology laboratory of three cases of *Salmonella* infection among residents of a town. Two of these cases were from the same household. On 21 and 22 October the laboratory notified the Centre of two further cases. All these cases were children under seven years of age. Discussions with the microbiologist revealed that the laboratory was processing several more faecal cultures from young children. This report presents the result of the public health investigation into the outbreak.

Methods

Under the *NSW Public Health Act 1991*, pathology laboratories are required to notify the public health unit of cases of *Salmonella* infection. In this investigation, cases were initially followed up using the response protocol described in the NSW Health Notifiable Diseases Manual. Further interviews with cases used a detailed risk factor questionnaire.

FIGURE 1

AGE DISTRIBUTION OF ALL CASES OF *SALMONELLA*, OCTOBER–NOVEMBER 2002

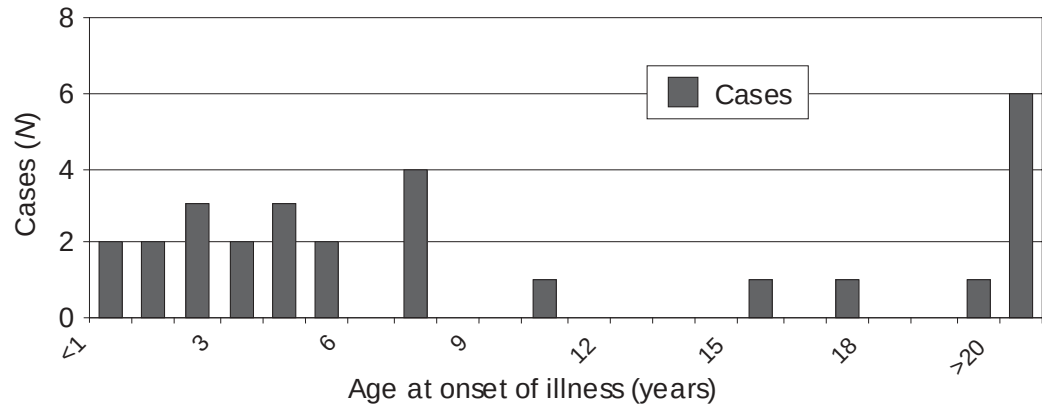
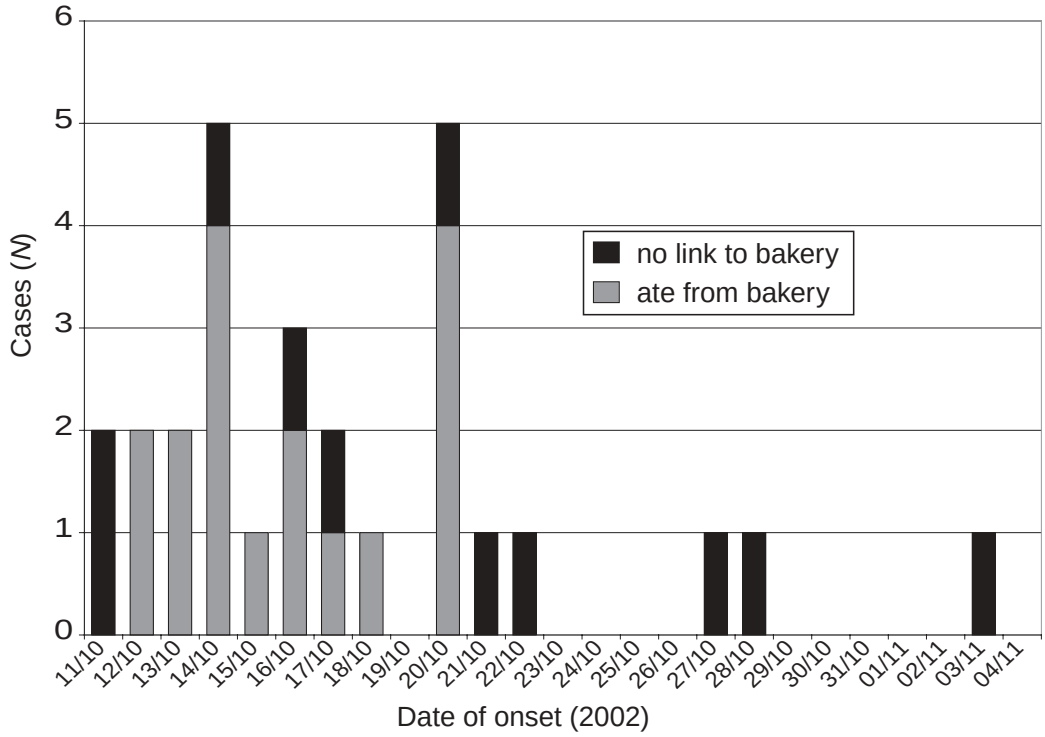


FIGURE 2

DATE OF ONSET OF ILLNESS AND LINKS OF THE CASES OF *SALMONELLA* INFECTION TO A SUSPECTED BAKERY SOURCE, OCTOBER–NOVEMBER 2002



Salmonella isolates from cases were sent for phage typing. The food inspector assessed several food premises, restaurants, produce suppliers and a children's play facility for infection hazards. Food and environmental samples were sent for microbiological analysis.

Teleconferences were held on several occasions with the NSW Communicable Disease Branch, the Food Branch and Oz Food Net staff at the NSW Department of Health to help direct the investigation.

Results

Between 18 October and 12 November, the laboratory reported 27 cases of *Salmonella* infection in residents of the town. Two further presumptive cases were identified in people who reported symptoms consistent with salmonellosis and who were household contacts of a confirmed case (samples were not collected for these people). Laboratory phage typing identified that isolates from 26 cases were all the same: *S. Typhimurium* phage type 135a. One case was identified as STM 197 and was not included in the outbreak investigation.

All 26 cases identified as phage type 135a and the two presumptive cases were included in the study. Of these 28 cases, 18 were aged seven years or less; the remaining were aged 10 to 45 years of age (Figure 1). Sixty-one per cent of the cases were women. The illness was characterised by abdominal pain, vomiting and diarrhoea, with diarrhoea lasting approximately seven days or longer. Four children were admitted to the local hospital. Several patients were seen in the Emergency Department; the remainder of the patients were seen by their local general practitioner. Onset of illness ranged from 11 October to 3 November (Figure 2), with peak onset occurring in the week 13–20 October.

Fourteen of the cases reported eating a cream cake or a portion of a large cream-filled cake, which was made and sold from one bakery. The cream cakes from the bakery had been purchased between about 8 and 17 October. No raw egg was used in the preparation of the cream and custard products at the bakery. The three samples and three swabs collected from the bakery tested negative for *Salmonella*. None of the bakery staff reported illness.

Investigations revealed that the cases that occurred after the 27 October had not eaten products from the bakery. In total, seven cases could not be linked directly to the bakery although there was strong evidence that three of these seven cases were infected by an earlier case linked to the bakery.

Public Health Action

A media statement was released on 29 October alerting the public to the outbreak of salmonellosis in the area, advising people with symptoms to seek medical attention and providing advice on hygiene and food handling. A further media release reported the findings of the investigation. Recommendations were made to the bakery staff about improved cleaning and sanitising of the piping bags used for applying cream. Two teenagers who were diagnosed with salmonellosis and who worked as part-time food handlers (unrelated to the bakery) were restricted from work until both their symptoms resolved and each had two stool samples that tested negative for *Salmonella*.

Discussion

Our investigation identified an outbreak of salmonellosis of approximately three-weeks duration involving 26 confirmed cases of *S. Typhimurium* 135a infection. The investigation suggested that there was a common food source for the infection for the first 10 days of the outbreak. The descriptive epidemiological study provided circumstantial evidence that a bakery was the source of the infection. An outbreak of *S. Typhimurium* 135a involving the use of raw egg in a bakery has previously been reported.[1]

Not all cases in this outbreak were linked to the one source, the identified bakery. It is possible that these cases did not recall eating a product from the bakery or the infections came from other sources. The majority of cases, or parents of cases, initially did not identify that they had eaten a cream cake, and this evidence was only reported with further prompting during a second interview. Many cases ate cake at a function and did not purchase the product directly from the bakery, which contributed to the difficulty in identifying the possible source of the infection. An alternative hypothesis, that a source other than the bakery was responsible for the outbreak, remains a possibility.

The patient interviews revealed that, among family members consuming the cakes, there was variation in the attack rate. The high rate of infection among children is an interesting aspect of the outbreak. The predominance of cases in children led investigators to focus initially on food products consumed mainly by children and venues frequented by children. In investigating outbreaks of salmonellosis, high attack rates in children should be interpreted cautiously. Variable susceptibility in people consuming contaminated food and higher sensitivity to gastrointestinal infection in children should be considered.[2]

Samples collected from the bakery on 1 November were negative for *Salmonella*. This result is not surprising given that no cases apparently linked to the common source occurred after 25 October. It is likely that a source of contamination existed in the bakery for the period 8–17 October. The source may have been a contaminated product or an inadequately cleaned utensil such as a cream-piping bag.

The use of a case-control study to determine the cause of the outbreak was considered but rejected because:

- recall may have been difficult given that two to three weeks had passed since the likely time of exposure
- the outbreak was considered to be over
- of the apparent low attack rate in people consuming the product, particularly adults.[3]

Salmonellosis outbreaks can have a substantial impact on rural communities. This investigation demonstrated some of the difficulties in identifying the source of a community outbreak of salmonellosis and that prompt investigation is useful in identifying and controlling suspected sources.

References

1. Hall R. Outbreak of gastroenteritis due to Salmonella Typhimurium phage type 135a following consumption of raw egg. *CDI* 2002;26(2).
2. AIFST (NSW Branch) Food Microbiology Group. *Foodborne microorganisms of public health significance.* Tempe: Trenear Printing Service, 1997.
3. Gregg M.B. *Field Epidemiology*. Oxford: Oxford University Press, 1996.

FIGURE 3

REPORTS OF SELECTED COMMUNICABLE DISEASES, NSW, JANUARY 1998 TO APRIL 2003, BY MONTH OF ONSET

Preliminary data: case counts in recent months may increase because of reporting delays.
Laboratory-confirmed cases only, except for measles, meningococcal disease and pertussis
BFV = Barmah Forest virus infections, RRV = Ross River virus infections
Ll = Legionella longbeachae infections, Lp = L. pneumophila infections
Gp C and Gp B = disease due to serogroup C and serogroup B infection, other/unk = other or unknown serogroups

NSW population	
Male	50%
<5	7%
5–24	28%
25–64	52%
65+	13%
Rural*	42%

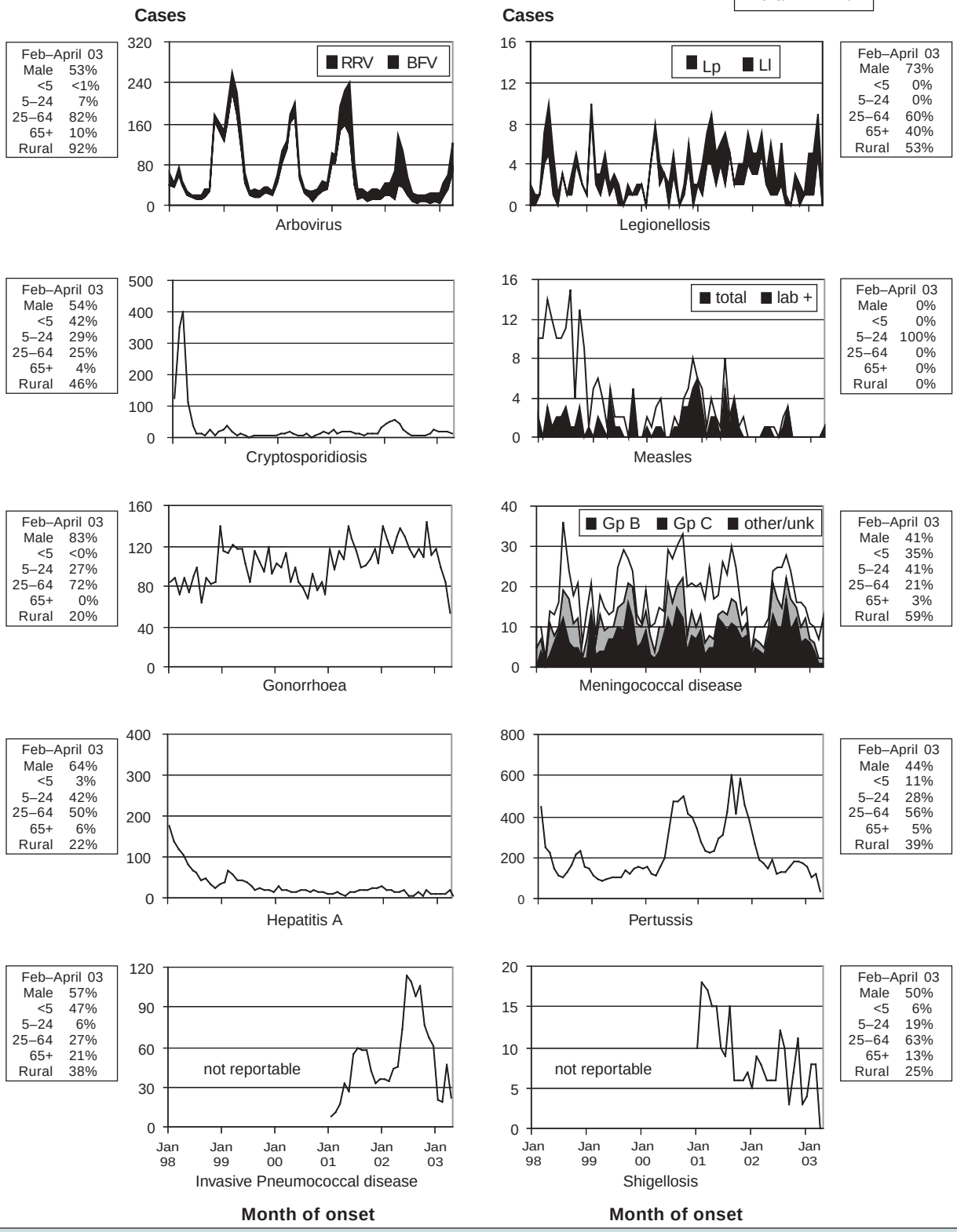


TABLE 3 REPORTS OF NOTIFIABLE CONDITIONS RECEIVED IN APRIL 2003 BY AREA HEALTH SERVICES

Condition	Area Health Service																		Total	
	CSA	NSA	WSA	WEN	SWS	CCA	HUN	ILL	SES	NRA	MNC	NEA	MAC	MWA	FWA	GMA	SA	CHS	for April†	To date†
Blood-borne and sexually transmitted																				
Chancroid*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlamydia (genital)*	43	51	42	6	14	22	55	19	84	20	12	15	13	10	18	18	9	1	459	2,214
Gonorrhoea*	15	7	9	2	1	-	5	-	28	-	3	2	5	-	2	1	-	-	81	434
Hepatitis B - acute viral*	1	1	-	1	-	-	-	2	1	-	-	-	-	-	-	-	-	-	6	26
Hepatitis B - other*	55	29	22	5	-	7	12	1	31	-	1	2	1	3	4	-	-	3	178	968
Hepatitis C - acute viral*	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	17
Hepatitis C - other*	62	23	31	16	1	27	44	29	69	28	24	15	8	17	4	5	9	27	443	2,155
Hepatitis D - unspecified*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Syphilis	14	-	6	1	1	1	2	4	25	2	-	3	2	-	2	-	1	-	64	291
Vector-borne																				
Barmah Forest virus*	-	-	-	-	-	1	5	-	-	36	12	-	-	-	-	-	2	-	56	127
Ross River virus*	-	1	-	1	-	1	7	-	-	41	8	4	1	2	1	3	-	-	70	113
Arboviral infection (Other)*	-	-	2	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	5	38
Malaria*	-	2	1	-	-	-	1	-	1	4	-	-	-	-	-	1	-	-	10	54
Zoonoses																				
Anthrax*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brucellosis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Leptospirosis*	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	4	25
Lyssavirus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Psittacosis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	10
Q fever*	-	-	-	-	-	1	4	1	-	3	8	4	7	4	5	-	1	-	38	149
Respiratory and other																				
Blood lead level*	1	2	-	1	5	-	4	3	-	1	-	-	2	-	1	1	-	-	21	182
Influenza*	5	2	-	-	-	1	2	4	4	2	1	1	-	-	-	-	-	-	23	81
Invasive pneumococcal infection*	3	6	5	1	1	4	3	1	7	-	1	-	-	2	-	-	2	-	36	134
Legionella longbeachae infection*	-	-	-	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	3	14
Legionella pneumophila infection*	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	4	8
Legionnaires disease (Other)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leprosy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcal infection (invasive)*	1	1	-	-	1	1	2	1	1	1	-	1	-	-	-	-	-	-	10	40
Tuberculosis	5	1	2	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	10	116
Vaccine-preventable																				
Adverse event after immunisation	-	-	2	-	-	-	8	-	1	-	-	-	-	3	-	-	4	-	18	49
H. Influenzae b infection (invasive)*	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Measles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mumps*	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	15
Pertussis	6	16	18	2	4	4	13	1	20	2	4	2	2	1	-	1	-	-	96	549
Rubella*	-	1	4	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	7	15
Tetanus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Enteric																				
Botulism	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cholera*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cryptosporidiosis*	2	-	2	2	-	-	2	-	2	2	1	1	1	-	1	1	-	-	17	75
Giardiasis*	5	12	19	3	2	2	9	-	12	1	3	2	-	1	-	8	1	-	80	341
Haemolytic uraemic syndrome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Hepatitis A*	1	1	3	1	4	-	-	-	2	-	-	-	-	1	-	-	-	-	13	47
Hepatitis E*	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2
Listeriosis*	1	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	4	10
Salmonellosis (not otherwise specified)*	17	15	8	7	6	7	10	8	30	8	2	9	1	2	1	6	5	-	144	923
Shigellosis*	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	1	-	-	4	23
Typhoid and paratyphoid*	1	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	3	14
Verotoxin producing *E. coli**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* lab-confirmed cases only + includes cases with unknown postcode* * HIV and AIDS data are reported separately in the *NSW Public Health Bulletin* each quarter

CSA = Central Sydney Area
NSA = Northern Sydney Area
WSA = Western Sydney Area
WEN = Wentworth Area
SWS = South Western Sydney Area
CCA = Central Coast Area
HUN = Hunter Area
ILL = Illawarra Area
SES = South Eastern Sydney Area
NRA = Northern Rivers Area
MNC = North Coast Area
NEA = New England Area
MAC = Macquarie Area
MWA = Mid Western Area
FWA = Far West Area
GMA = Greater Murray Area
SA = Southern Area
CHS = Corrections Health Service