- Mild 'flu-like' symptoms such as fever, fatigue, and muscle soreness may occur but are not common.
- Other side effects are rare; ask your doctor for further information.

IS IT POSSIBLE TO CATCH THE FLU AFTER I HAVE BEEN VACCINATED?

- It will take about two weeks for your body to develop immunity against the influenza virus after your vaccination.
- The influenza virus changes from time to time and the vaccine is designed to match the current circulating virus. The vaccine will provide about 70 per cent protection against infection for about one year. However, even if you do catch the flu, the likelihood of developing complications from the infection will be reduced.

DO I NEED TO RECEIVE A FLU VACCINE EVERY YEAR?

Yes. Annual vaccination is necessary to provide continuing protection against the most recent influenza virus.

For further information contact your doctor, community health care centre or your nearest Public Health Unit.

COMMUNICABLE DISEASES, NSW: DECEMBER 2000

MEASLES RE-EMERGES

By early November, 17 cases of **measles** had been reported in NSW since July 2000. Of these cases, 14 resided in NSW and three were visitors, just over half were 18–30 year olds and most (70 per cent) were females. Two separate clusters of cases have been identified.

The first cluster of 10 cases, mainly young adults, has been linked to Northern Sydney. Six of the cases reside in Northern Sydney, and three others may have been infected while visiting Northern Sydney. The remaining case may have been exposed to one of these cases in an adjacent area. The cluster began with a person who returned from Malaysia with the infection in late August 2000. To date, four subsequent generations of transmission have been identified within the cluster.

The second cluster of five cases has been identified recently in children who have not been immunised in Western, South Western and Central Sydney areas. Links between four of these cases have been confirmed.

RUBELLA RE-EMERGES

By early November, 100 cases of **rubella** had been notified in NSW since July. Most (73 per cent) of these occurred in 18–30 year olds and in males (80 per cent). By place of residence of the patients, 40 per cent lived in the Hunter Area and 29 per cent in South Eastern Sydney.

The importance of immunisation

A single dose of MMR vaccine will provide immunity against measles, mumps and rubella to 95 per cent of those vaccinated. The NSW Department of Health is currently promoting the immunisation of young adults to reduce the ongoing transmission of these diseases including congenital rubella syndrome. In August 2000, the Federal Government announced funding over the next 12 months to provide free MMR vaccine to persons aged between 18–30 years.

Check rubella immunity before pregnancy

Because of the potential consequences for the foetus, women should have their immunity checked prior to pregnancy, and if inadequate, be vaccinated with MMR. MMR vaccine should not be given to a woman known to be pregnant and pregnancy should be avoided for two months after vaccination.

END OF THE INFLUENZA SEASON

Reports of **influenza** declined sharply in October after peaking in September. Seasonal influenza surveillance (involving sentinel laboratories and general practitioners) ceased in early November.

SYPHILIS SURVEILLANCE IN CENTRAL SYDNEY

Belinda O'Sullivan and Patrick Maywood

Syphilis is an acute and chronic sexually transmitted disease (STD) caused by infection with *Treponema Pallidum*. It is characterised by skin and mucous membrane lesions in the acute infectious phase (early syphilis) and lesions of the bone, viscera, cardiovascular and neurological systems in the chronic non-infectious phase (late syphilis). Pregnant women with syphilis who have not received adequate penicillin therapy may transmit the infection to their foetus at any clinical stage of their disease causing congenital syphilis in infants. Therefore, it is NSW Health policy to screen all mothers for syphilis.

Recent syphilis outbreaks have been reported in large cities among disadvantaged groups and men who have sex with men, and has been linked to enhanced transmission of HIV.[1,2] While syphilis can be controlled in the community through safe sex practices and through

appropriate contact tracing and treatment, the successful implementation of these strategies relies on adequate access to well-coordinated health services.

It is currently difficult to ascertain statewide trends in syphilis incidence, since about 50 per cent of reported cases in 1999 in NSW were not classified by disease stage. It is common practice for public health units to follow up all recent syphilis cases to offer doctors information and support with contact tracing. However, the Communicable Diseases Surveillance and Control Unit of the NSW Department of Health recently recommended that public health units start to discern the case classification by disease stage for all single syphilis notifications. This article presents the results of upgraded syphilis surveillance undertaken by the infectious diseases team at the Central Sydney Public Health Unit for the 12-month period 1 April 1999 to 31 March 2000.

Surveillance method

For all new syphilis notifications in the Central Sydney Area Health Service, doctors were sent a 'syphilis package' including a fact sheet, questionnaire (covering demographic details, case classification, signs and symptoms, screening and contact tracing) and criteria for accurate case classification based on serological and clinical indicators. If questionnaires were not returned within a month, they were re-mailed. Returned questionnaires were analysed using Epi Info.

Results

Of the 135 notifications for syphilis, 117 (87 per cent) questionnaires were returned (Table 8).

Demographics

Of 117 cases, most (61 per cent) were male, the mean age was 45 years and only 31 per cent of cases were born in Australia or New Zealand. Of those born outside of Australia, country of birth was reported as Asia (18 per cent), mainly Vietnam (eight per cent), and Europe (nine per cent) , UK and Ireland (three per cent), Africa (two per cent) and other unknown (38 per cent). Syphilis was commonly reported to have been acquired in Australia (37 per cent), or overseas (41 per cent) with the most frequent regions being Asia (14 per cent) and Fiji and Cook Islands (seven per cent). In 22 per cent the country where syphilis was acquired was not stated.

Aboriginal and Torres Strait Islander people represented 12 per cent of the cases received. Employment type was reported as unemployed (15 per cent), pensioners (11 per cent), retired (five per cent) home duties (five per cent) and unknown (26 per cent).

Testing

A high proportion (74 per cent) of syphilis cases were asymptomatic on presentation. Diagnosis of asymptomatic cases occurred in the context of routine sexual health screening and targeted screening of groups born in countries where syphilis is endemic. Syphilis cases were diagnosed at GP clinics (50 per cent), sexual health centres (20 per cent) and hospitals (20 per cent). In addition, 15 (13 per cent) of cases were identified through routine antenatal screening. Of the nine 'early' or infectious cases, eight (89 per cent) were female, and three were identified through antenatal screening.

Case Classification

In the year April 1 1998 to March 31 1999, prior to upgraded surveillance, 91 per cent of syphilis notifications in Central Sydney were classified as 'unspecified'.[3] By undertaking upgraded surveillance between 1 April 1999 and 31 March 2000, 95 per cent of all notifications were classified. Only eight per cent of cases were classified as early disease and the majority of cases (84 per cent) were classified as greater than one year duration (non-infectious). Only three per cent were neurosyphilis, and no cases of congenital syphilis were recorded.

Contact tracing

One element of the upgraded surveillance system was the provision of referral support and information for doctors undertaking contact tracing. Nine cases were classified as early disease and contact tracing occurred as appropriate in all of these cases; however, it is interesting to note that doctors reported undertaking contact tracing for 50 (43 per cent) cases overall. No linked cases were identified.

TABLE 8

SUMMARY OF RESULTS: UPGRADED SYPHILIS SURVEILLANCE IN CSAHS

(*n*=117 returned questionnaires)

Variable	%
Demographics	
Sex	61% male
Mean age	45 years
Aboriginal or Torres Strait Islander	12%
Country of birth	
Australia or New Zealand	31%
Unknown	38%
Overseas	31% (Asia 18%)
Country where syphilis acquired	
Australia	37%
Overseas	41% (Asia 14%)
Not stated	22%
Disease classification	
Notifications classified	95%
Disease stage	
Early disease (infectious)	8%
> one year duration (non-infectious)	84%
Neurosyphilis	3%
Congenital syphilis	0%
Contact tracing	
Cases traced	43%
Who undertook contact tracing	
Sexual Health Centre	21%
General Practitioner	17%
Hospital	3%

Sexual health centres, as a common referral source, undertook most (21 per cent) contact tracing with 17 per cent done through general practitioners and very little (three per cent) done through hospitals.

Conclusions

The upgraded surveillance system at CSPHU achieved a high questionnaire return rate which allowed the classification of 95 per cent of all syphilis compared with 53 per cent in the year prior to the upgraded surveillance. The recent NSW Department of Health policy encouraging public health units to undertake classification of all single notifications of syphilis will be likely to improve statewide information of syphilis incidence, the detection of outbreaks, enhanced contact tracing at the local level, and will help to identify regional patterns and groups at high risk of contracting syphilis.

Acknowledgement

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MANAGING DELIBERATE BIOLOGICAL INCIDENTS

Louise Coole

In recent years, following well-publicised events such as the United Nations response to the Iraqi weapons programs, and the terrorist activities of the Aum Sect in Japan, international attention has increasingly focused on the identification and disarmanent of biological weapons.[1] As a result, many public health agencies in industrialised nations have begun developing response plans. In this article we review the characteristics of deliberate biological releases, and approaches to planning and response.

Background

Biological weapons can be described as weapons that attempt to cause disease by the dissemination of micro-organisms or their toxins. Biological weapons have low visibility, high potency, are accessible, and can be delivered with relative ease. Many of the potential agents have the ability to reach extremely large numbers of people and have a high fatality rate. A millionth of a gram of anthrax inhaled may be lethal. A kilogram (depending on meteorological conditions) could kill hundreds of thousands of people in a metropolitan area.[2] Many of the agents occur naturally in the environment. Access to materials is not difficult, and the production cost is low. Much of the technology required to produce weapons is available to both military personnel and civilians. As only small quantities are required, the concealment, transport, and dissemination of weapons is easy. Complicated and expensive delivery systems, for example missiles, are not required.

These features mean that biological weapons are accessible to small groups of people with modest finances and can be used as weapons for threatening civilian populations. Not only would the health of individuals be affected, but also the whole health care system would be flooded with enquires and demands for treatment and protection. Such an event could also affect many aspects of the infrastructure necessary to support large populations such as sanitation, environmental health, communications and transport.

The Biological and Toxin Weapons Convention of 1972 secured agreement to stop the development of biological weapons and to destroy existing supplies. Prior to this agreement many of the superpowers had developed and tested biological weapons. The agents considered most likely to be used are those responsible for smallpox, anthrax, plague, tularaemia, botulism, and viral haemorrhagic fevers.

Risk management

In developing a strategy for risk management it is important to acknowledge that the likelihood of a serious biological release is low, however the consequences could be devastating. With some forward planning it may be possible to reduce the effects of such an incident.[3]

The two threads of a risk-management approach are recognition and response. Since the latter depends on the former, recognition is key. The difficulty in detecting biological weapons at the point of release has been mentioned and is outside of the public health function; however, it is possible to enhance event recognition and this would most likely involve health care workers through:

- clinical case recognition
- laboratory diagnostic ability
- epidemiological recognition of an unusual event (that is, surveillance).

To minimise the effect of a biological event health care professionals and public health authorities must be aware of the threat, have some understanding of the classes of agents that can be involved and their effects after inhalation.

Surveillance of background disease activity in a population with follow-up of unusual events is a key component, and through close attention to patterns of disease it may be possible to recognise a situation in time to act to protect communities. An event of

deliberate biological exposure could be associated with:

- a compressed epidemic curve
- large epidemics
- localised epidemics in multiple locations
- high symptomatic rate among those exposed
- an increase in respiratory infections
- cases of an unusual disease
- vector-borne disease in a vector free area
- more than one epidemic occurring at one time
- higher morbidity and mortality than expected for the disease
- lower attack rates in people protected from aerosol exposure (that is, inside buildings)
- cases in animals.

Characteristics of biological agents suitable for weapon use.

- easy to produce in quantity
- easy to store while maintaining virulence and stability
- minimal population immunity
- high virulence with low infective dose
- relatively short incubation period
- suitable for aerosol delivery
- potential for genetic manipulation of features such as virulence or antibiotic resistance.

There is also sometimes prior intelligence (that is, warnings from terrorist groups) and identification of a delivery vehicle. The timing of an exposure may also provide an indication of an unusual occurrence.

Incident management

Management of an incident includes:

- clinical management and therapy for cases
- chemoprophylaxis of exposed persons where appropriate
- vaccination of exposed persons where appropriate
- dissemination of information
- mechanism for mobilisation of appropriate response.

There are resource issues with respect to laboratory diagnosis, clinical management and infection-control requirements and medicines. It is necessary to determine the need for the acquisition of special stocks of pharmaceuticals–vaccines–antitoxins etc, the estimated available sources in an emergency, and to explore the mechanisms for attaining extra supplies at short notice.

Preparing for such events has cost implications. Assets invested should be appropriate to the magnitude of the threat and must be balanced against other competing health priorities. An economic analysis of preparedness measures in the United States indicates a clear cost-benefit in the potential for harm minimisation in the event of an incident taking place.[4]

Specific issues for forward planning include:

- defining 'exposed' populations
- delivery of prophylaxis–vaccination
- methods for case finding
- protocols for treatment, quarantine and isolation procedures
- dissemination of information to health care workers and the community
- criteria for local evacuations
- readiness to institute epidemiological and other investigations.

Conclusion

Many countries have begun the process of planning for deliberate biological events. In NSW, public health units provide a network of public health surveillance and response teams whose job it is to identify and control infectious disease outbreaks. In addition, in recent months, NSW Health has begun a program of training for public health and emergency health workers, under the auspices of the Disaster Planning Unit. An expert advisory committee, the Risk Management Group—Biological Weapons, including experts in microbiology, infectious diseases, pharmaceuticals and public health has been established to assist in the planning process. The planning process will be ongoing.

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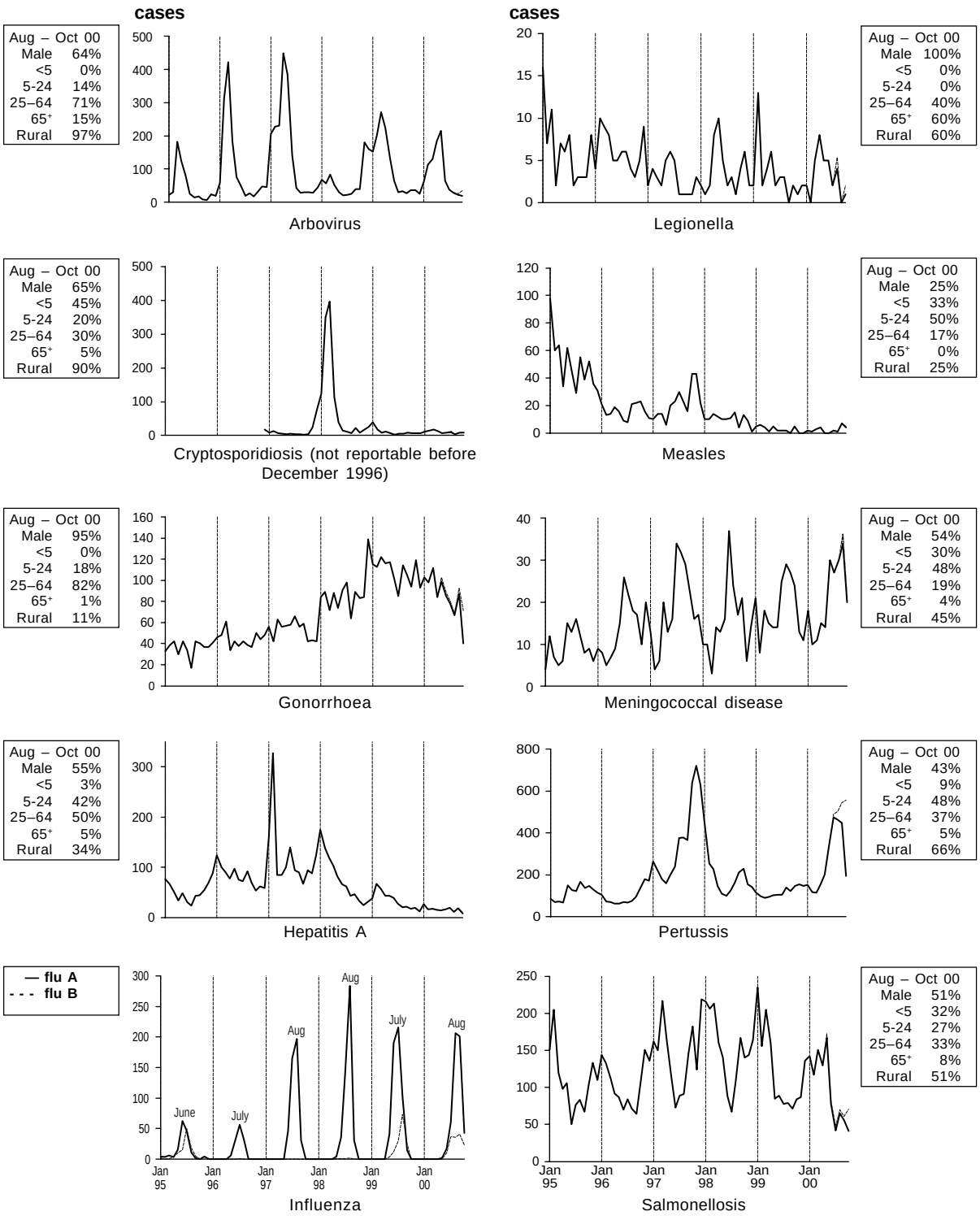
FIGURE 2

REPORTS OF SELECTED COMMUNICABLE DISEASES, NSW, JANUARY 1995 TO OCTOBER 2000, BY MONTH OF ONSET

These are preliminary data: case counts for recent months may increase because of reporting delays. Laboratory-confirmed cases, except for measles, meningococcal disease and pertussis — actual ___ predicted after adjusting for likely reporting delays

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



* For definition, see *NSW Public Health Bulletin*, April 2000

TABLE 9

REPORTS OF NOTIFIABLE CONDITIONS RECEIVED IN OCTOBER 2000 BY AREA HEALTH SERVICES

Condition	Area Health Service (2000)																		Total	
	CSA	NSA	WSA	WEN	SWS	CCA	HUN	ILL	SES	NRA	MNC	NEA	MAC	MWA	FWA	GMA	SA	CHS	for Oct†	To date†
Blood-borne and sexually transmitted																				
AIDS	1	1	-	-	1	1	-	-	-	1	-	-	-	-	1	-	-	-	6	102
HIV infection*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	226
Hepatitis B - acute viral*	-	-	-	1	2	-	1	-	3	-	-	-	-	-	-	-	-	-	7	77
Hepatitis B - other*	42	37	52	8	35	4	9	7	62	2	2	2	3	2	-	-	4	1	276	3,478
Hepatitis C - acute viral*	-	1	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	4	104
Hepatitis C - other*	43	28	21	25	12	33	33	49	88	43	40	12	9	14	2	14	20	42	534	7,004
Hepatitis D - unspecified*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
Hepatitis, acute viral (not otherwise specified)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Chancroid*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlamydia (genital)*	38	26	29	12	8	8	26	16	68	7	8	10	4	2	3	8	7	2	287	2,670
Gonorrhoea*	26	6	4	-	-	-	1	1	38	2	1	2	-	1	-	-	-	-	84	914
Syphilis	5	-	3	-	3	-	-	-	15	3	1	1	2	2	-	1	-	3	40	437
Vector-borne																				
Arboviral infection (BFV)*	-	-	-	-	-	-	-	-	-	2	7	-	-	-	-	-	2	-	11	167
Arboviral infection (RRV)*	-	-	-	-	-	-	2	-	-	3	5	2	2	1	1	2	1	-	19	704
Arboviral infection (Other)*	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	27
Malaria*	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	199
Zoonoses																				
Brucellosis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Leptospirosis*	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-	-	-	-	3	40
Q fever*	-	-	-	-	-	-	-	2	-	5	3	1	2	1	1	-	1	-	16	103
Respiratory and other																				
Blood lead level*	-	2	-	5	1	-	2	1	2	-	-	1	2	1	40	-	1	-	58	872
Legionnaires' Longbeachae*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Legionnaires' Pneumophila*	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	23
Legionnaires' (Other)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Leprosy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Meningococcal infection (invasive)	1	2	2	1	3	3	3	2	4	2	-	1	1	-	-	-	-	-	26	210
Mycobacterial tuberculosis	3	4	2	1	5	-	1	-	5	-	1	-	-	-	-	1	-	-	23	339
Mycobacteria other than TB	4	3	-	1	1	1	2	2	1	-	-	1	-	-	-	1	-	-	17	299
Vaccine-preventable																				
Adverse event after immunisation	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	19
H.influenzae b infection (invasive)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
Measles	-	4	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	6	24
Mumps*	4	1	-	1	1	-	-	-	-	-	-	-	1	-	-	-	-	-	9	84
Pertussis	10	40	73	11	24	6	101	13	42	19	16	17	14	42	-	14	15	-	457	2,761
Rubella*	-	4	-	-	1	-	20	-	10	-	1	1	-	-	-	-	-	-	38	111
Tetanus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Faecal-oral																				
Botulism	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cholera*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cryptosporidiosis*	-	-	1	-	-	-	-	2	-	1	-	5	1	-	-	-	-	-	10	99
Giardiasis*	5	11	3	2	1	-	5	4	6	10	3	3	-	-	-	-	2	-	55	808
Food borne illness (not otherwise specified)	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3	148
Gastroenteritis (in an institution)	-	-	6	13	-	-	30	-	-	-	-	-	-	-	-	-	-	-	49	432
Haemolytic uraemic syndrome	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	5
Hepatitis A*	2	-	2	-	2	2	-	-	2	-	1	-	-	2	-	-	-	-	14	175
Hepatitis E*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
Listeriosis*	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2	10
Salmonellosis (not otherwise specified)*	6	9	-	2	1	2	5	4	7	11	3	3	2	2	-	4	1	-	62	1,053
Typhoid and paratyphoid*	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	3	42
Verotoxin producing Ecoli*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

* lab-confirmed cases only

† includes cases with unknown postcode

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