INFECTIOUS DISEASE

INFECTIOUS DISEASE REPORTING BY AREA HEALTH SERVICES

n this edition of the *Bulletin* we report for the first time on infectious diseases by the new Area Health Services in NSW. Regular readers will note that, until now, Table 6 has reported cumulative cases of notifiable diseases for the year by Public Health Unit service areas (either an urban Area or a group of rural Districts). In July 1996, the 23 former rural Health Districts were reorganised into eight Area Health Services. Starting with this issue of the *Bulletin*, we will present notifiable diseases reports among residents of each of the 17 NSW Health Areas received during the preceding month.

TRENDS

With winter well established, illnesses with the usual pathogens have been reported, prominent among them *Neisseria meningitidis* (Figure 1), respiratory syncytial virus (RSV) (Figure 2) and influenza A (Figures 3 and 4).

In July, 18 cases of **meningococcal disease** were reported, bringing the total so far for the year to 72. Household and other close contacts (such as other small children in child care) of **meningococcal** cases may be at increased risk of disease. Public Health Units (PHUs) can help identify contacts who will benefit from antibiotic prophylaxis. Hospitals and laboratories should telephone their Public Health Unit on provisional diagnosis of meningococcal disease to ensure contacts are correctly identified and treated. Health care workers (including emergency department staff and ambulance officers) are **rarely** at increased risk for disease and are therefore **not** candidates for prophylaxis unless they have **intimate** exposure to nasopharyngeal excretions and precautions have not been



taken (e.g. during mouth-to-mouth resuscitation, emergency intubation or suctioning).

The outbreaks of **hepatitis A** seen predominantly in eastern Sydney and the Shoalhaven earlier this year have continued, albeit at lower levels, and several other Areas (notably Central Sydney, Western Sydney, Mid Western NSW, Northern Rivers and Western NSW), have reported increased numbers of cases (Table 6). Doctors, hospitals and laboratories are reminded to telephone PHUs to report suspected cases of hepatitis A and ensure that contacts at risk are promptly identified and treated.

EASTERN SYDNEY LABORATORY SURVEILLANCE PROGRAM

Figure 2 shows reports of rotavirus, RSV and cryptosporidiosis received by the Eastern Sydney Laboratory Surveillance Program (ESLSP)¹ by four-week reporting period. In the ESLSP, nine laboratories voluntarily report diagnoses of selected infectious diseases to the South Eastern Sydney PHU. These data show that reports of **RSV** peaked in May-June, but that **rotavirus** infections have risen (in line with historical trends). Reports of **cryptosporidiosis** have remained relatively low.

AUSTRALIAN CHILDHOOD IMMUNISATION REGISTER (ACIR)

The ACIR began on January 1, 1996, managed by the Health Insurance Commission (HIC). The HIC reports that in NSW, 79 per cent of immunisation encounter forms were received from general practitioners, 10 per cent from local councils, 7 per cent from community health centres, 3.5 per cent from hospitals and 0.3 per cent from Aboriginal Health Services.

Preliminary NSW data indicate that at June 30, 1996:

- 633,139 children <7 years of age were registered
- on the ACIR through the Medicare database;
- 423,954 valid vaccinations were reported; and
- 327 parents opted off the recall/reminder system.

These data indicate that the ACIR is well under way. Further analysis is required to gain an accurate picture of childhood immunisation rates in the community.

The NSW Health Department has signed an agreement with the HIC for the release of identified data on children recorded as 90 days overdue for vaccination. The data will be distributed to immunisation providers via PHUs with strict confidentiality provisions that limit their use to immunisation. As soon as reliable data from the ACIR are available, regular reporting on coverage will be published in the *Bulletin*. A Departmental Circular providing guidelines for the follow-up of these children will be released shortly.

Q FEVER IN SOUTHERN NSW

Greg Sam, Louise Remington and Paul Van Buynder, South Eastern Public Health Unit

An abattoir in southern NSW recently experienced its second major outbreak of Q fever in 10 months. Q fever was confirmed serologically in 37 of the 150 employees (31 male and six female) from all work areas of the abattoir. Onset of illness occurred between June 13, 1996 and July 26, 1996. All cases exhibited flu-like symptoms, including sudden onset of fever, coughing and muscle pains. Almost all



required review by a general practitioner, and four were admitted to hospital because of hepatic and splenic involvement. The age range of cases was 18 to 57 years. None had been immunised.

Q fever is caused by *Coxiella burnettii*, a highly resistant rickettsial organism found in placental tissues, birth fluids and/or excreta from infected cattle and other livestock. Infection is most commonly acquired by inhaling infected aerosols. The acute manifestations of the disease are well documented. About 65 per cent of cases experience fatigue, arthralgia and myalgia for six months or more, and 20 per cent may experience a post-Q fever fatigue syndrome for a number of years¹.

The high attack rate in this outbreak, and the distribution of cases throughout the facility, demonstrate the efficiency of dissemination of contaminated aerosols and the risk to susceptible individuals in these environments.

Formalin-inactivated whole cell Q fever vaccine was first used on a trial basis in South Australian abattoirs in 1981 and licensed in 1989. Since its widespread availability in NSW in 1993, notifications for Q fever have declined. Between 1993 and 1995 the level of notifications for the disease declined from 6.6/100,000 to 2.2/100,000. Individuals involved in the meat industry or other vocations involving contact with livestock make up more than 90 per cent of cases².

Reluctance by some sections of the meat industry to provide vaccination programs has been largely due to perceived

Continued on page 92

Infectious diseases

Continued from page 91

inequities of the cost/benefit ratio for staff at greatest risk, i.e. those entering the workforce for the first time or staff employed on a casual basis. The cost of acute disease to the workplace has been estimated to be \$7,000 and chronic sequelae estimated to around \$50,000 per patient per year³. Common law action for damages is also possible for workplace injury. Clearly the benefit of an institutionalised vaccination program is justified.

The abattoir in which these outbreaks occurred has begun a Q fever vaccination program.

1. Marmion BP, Ormsbee RA, Kyrkou M et al. Vaccine prophylaxis of abattoir-associated Q fever: 8 years experience in South Australian abattoirs. *Epidemiology and Infection* 1990; 104:275-287. 2. Q fever: greater immunisation coverage needed. NSW Public Health Bulletin 1995; 6:71-73.

 Marmion BP. Vaccine prophylaxis of Q fever. 200 Year Celebration of Vaccine Development 1796-1996. SA Health Commission; May 1996: 12-13.

INFLUENZA SURVEILLANCE

Influenza activity continued at a moderate level during the first half of August, similar to the historical average for this time of year.

Reports of influenza-like illness (ILI) from the NSW Sentinel GP Surveillance Scheme are received through five PHUs from about 50 doctors carrying out around 7,000 consultations a week. Figure 3 shows the State average consultation rate for ILI in the last week of July was 3.5 per cent, slightly higher than the average for the previous few years. Southern and New England were the only Areas to report data for August so far and both reported consultation rates of around 3.5 per cent.

School absentee rates are being monitored from 12 schools with a total of about 11,000 students, through six PHUs. Figure 4 shows that the average absentee rate has continued at levels similar to the historical average for this time of year. The high absentee rates in early July were in the last week of term and not due to infectious diseases.

Reports from Westmead, Prince of Wales and Liverpool Hospital laboratories indicate that during the first two weeks of August, virology diagnoses of influenza (mainly in children) continued at levels similar to the previous month (23 influenza A diagnoses and no influenza B diagnoses). Serological diagnoses of influenza A (mainly in adults) increased during this period, however, with 20 reports, compared with eight reports in the previous fortnight.

JAPANESE ENCEPHALITIS

In March and April 1995, three cases of Japanese encephalitis (JE) were reported among residents of a single Torres Strait Island (population 780). Two died. Until then, Japanese encephalitis had never been reported in Australia or east of Bali¹.

Japanese encephalitis is caused by a virus (an arthropodborne flavivirus) carried by mosquitoes. Infection causes an acute brain syndrome including reduced consciousness, generalised spasticity, focal neurological signs and fits. No specific treatment is available for JE; of all patients,





one-quarter die and 30 per cent have long-term neuropsychiatric problems. In populations exposed from birth, however, for each clinical case, between 100 and 1,000 people are infected without symptoms. Adults who are not immune, such as travellers to infected areas, have higher rates of serious illness².

About 500,000 cases of JE are reported each year in Asia, mostly from rural areas of China, Taiwan, Hong Kong, Korea, South-east Asia, the Indian subcontinent, Sri Lanka, Guam, Indonesia, the Philippines and Russia. The virus reservoir is primarily in animals such as pigs, horses and wild birds. In subtropical areas, outbreaks occur at the end of the wet season. The risk to travellers appears low; the main risk is travelling to endemic rural areas for long periods, especially during epidemic seasons².

An effective vaccine is widely used in Asia, and is available in Australia for travellers >1 year of age spending ≥ 1 month in endemic rural areas, or ≥ 1 year in endemic urban areas².

In April 1995, in response to identification of the Torres Strait cases, control activities were initiated including¹:

- education of the community about personal mosquito protection measures;
- identification and control of mosquito breeding sites;
- a serological study of 212 island residents. (This suggested previous flavivirus infection in 59 [28 per cent] and recent JE infection in 21 [10 per cent]);

- a serological survey of island horses and pigs (showing evidence of infection); and
- vaccination of 3,440 people mainly resident in the outer Torres Strait Islands³.

To Australians, JE historically has been a risk to some travellers to Asia. The recent Torres Strait cases were the first reported in Australia. While it seems possible the virus could be carried to NSW by birds and mosquitoes, this has never been recorded and it is impossible to predict if it will ever occur.

In NSW, structures in place to detect and control outbreaks of mosquito-borne diseases, including mandatory laboratory reporting of cases of arboviruses (including JE) and the Arbovirus Disease Surveillance and Control Plan, should allow early detection and control of locally acquired disease. Research under way in Queensland on risks to humans and animals will further guide policy.

INFECTIOUS DISEASES COMMITTEES

Infectious Diseases Advisory Committee (IDAC) IDAC met in July and considered future changes to the list of notifiable diseases in NSW. Proposals for changes to the list were sought from members of the Laboratory Surveillance Advisory Committee and Public Health Unit staff. IDAC also considered the national list of notifiable conditions.

The proposed changes to the schedule will not come into effect until a system is developed that would allow laboratory reports to be transmitted electronically to a single, secure database. This will probably not occur for at least several months.

IDAC supported the following changes to the list:

Conditions to be notified by doctors:

acute viral hepatitis to be notified by telephone.

Conditions to be notified by hospital chief executive officers:

hepatitis A, paratyphoid, typhoid and rabies to be notified by telephone.

Conditions to be notified by laboratories:

- campylobacteriosis, chancroid, *Chlamydia trachomatis* infections, donovanosis, shigellosis, yersinosis, equine morbillivirus infection, influenza, rotavirus infection and respiratory syncytial virus to be included on list; and
- flaviviruses, hepatitis A, rabies and equine morbillivirus infection to be notified by telephone.

NSW Immunisation Advisory Committee (IAC)

At its last meeting, IAC reviewed 78 cases of adverse events following immunisation (AEFIs) notified in 1994 and 1995. A full report of this review will be published in a future issue of the *Bulletin*. AEFIs are defined as at least one of the following conditions occurring \leq 30 days after administration of a vaccine:

 persistent screaming (>3 hours) anaphylaxis
 shock
 hypotonic/hypertonic episode
 encephalopathy
 convulsion
 aseptic meningitis
 thrombocytopaenia
 death

Health professionals are reminded that all AEFIs should be reported to the local Public Health Unit.

1. Contributing microbiology laboratories include: Prince of Wales Hospital, St Vincents Hospital, New Children's Hospital Virology Lab, Sugerman's Pathology, Frack & Mansfield Pathologists, Quinn Pathology Services, Douglas Laboratories, Macquarie Pathology Services and Hanly Moir Pathology.

Letters to the Editor

Continued from page 89

break out of the mould into which specialisation has placed them and begin to collaborate with a much broader range of disciplines'. It is clear that geography must be one of these disciplines. Glover J, Woollacott T. A Social Health Atlas of Australia, Volumes 1 and 2. Australian Bureau of Statistics Catalogue No 4385.0, September 1992.

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^{2.} NHMRO, The Australian Immunisation procedures handbook, 5th ed. Canberra: 1994.

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Stewart G, Chipps J, Sayer G. Suicide mortality in NSW: geographic variations. NSW Public Health Bulletin 1995; 6(6):49-52.
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TABLE 6

INFECTIOUS DISEASE NOTIFICATIONS FOR NSW IN JULY 1996, RECEIVED BY AREA HEALTH SERVICE

Condition	Area Health Service														Period				
	CSA	NSA	WSA	WEN	SWS	CCA	HUN	ILL	SES	NRA	MNC	NEA	MAC	MWA	FWA	GMA	SA	Total for July	Year to date
transmitted																			
AIDS	-	4	-	-	1	-	1	-	-	1	-	-	-	-	-		-	7	166
HIV infection	4	-	1	-	4	-	-	-	11	1	-	- 1	-	-	1	-	-	37	276
Hepatitis B – acute viral	-	-	-	-	-	1	-	-	-	-	-		-	-	-	-	-	1	24
Hepatitis B – other	34	30	42	1	51	2	2	1	23	3	3	5	-	-	-	2	2	201	2,678*
Hepatitis C – acute viral	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	8
Hepatitis C – other	41	13	2	1	21	9	25	5	64	31	17	12	1	3	-	10	25	282	4,516*
Hepatitis D – unspecified	-	-	-	-	_	_	-	-	-	-	-	-	-	-	-	-	-		3
Hepatitis, acute viral (NOS)	-	-	1	-		-	-	-	-	-	-	-	-	-	-		-	1	4
Gonorrhoea	1	_	2	-	_	-	-	-	16	2	-	1	1	-	1	-	-	24	287
Syphilis	6	5	5	-	10	-	2	-	9		-	9	-	-	2	-	-	48	431
Vector-borne																			
Arboviral infection	-	_	-	-	-	_	3			8	3	1	1	-	-	-	-	16	1,083
Malaria	1	1	1	2	1	-	1.0	-	2	_	-	_	_	1	-	-	-	10	131
Zoonoses																		8. 9	
Brucellosis	-	_	_	_	_	_	_	-	_	-	-	-	_	-	-	-	_	-	1
Hydatid disease	_	_	_	-	-	_	_	-	-	_	_	_	-	-	_		-	-	7
Leptospirosis	_	2		_	_	_	_	_	_	_	1	-	-	1	-	_	_	2	21
O fever	_	_	_		_	_	_	-	-	_	1	2	1	1	1	1	7	14	161
Respiratory/other																			
Legionnaires' disease	_	_	_		_ i	_			_	1	_	_	_	_	-	-	-	1	40
Meningococcal (invasive) infection	2	3	_	_	5 de <u>1</u>	3	1	_	3	1	2	_	_	1	_	1	1	18	72
Leprosy	_	_	_	_	_	_	100 <u>-</u> 100		. I.	<u>i</u>	2	_	_	_	_	_	_	2	1
Mycobacterial tuberculosis	_	5	4	_	_	_		_	_	_	_	_	_	_	_	_	_	9	199
Mycobacteria other than TB	2	1		_	4	-	_	_	- 1 C	_	1	_	_	_	_	-	-	8	225
Vaccine-preventable																			
Adverse event after immunication	_	_	_		_	_		_	_	1	1	_	_	1	_	_	_	3	28
H influenzae (invasive) infection	_	_	_	_	_	_	_	_	1	<u>.</u>		_	_		_	_	_	1	10
Mooslos			1	1		_	1	_	2	1	_	_	_	_	_	1	_	7	99
Mumor			1					_	-			_	_	_	_	<u>_</u>	_	1	15
Portursis	1 E	6	1	2	1		3		3	4	_	_	-	_	_	6	3	79	454
Pubolla	1	Ŭ	-	-			1	_	1		_	_	_	_	_	_	_	4	140
Faccal-oral	1 ·						•												140
Cholora															_		_	1	2
England Harry Harry (NOS)	-	-		-								<u>.</u> .						1. State _ 1	41
Contracontenitia (instit)	14	-	_		- 1990 - Th	_		-					- E	1				20	164
Gascoententis (instit)	14	-	-	2	-	-		2	10		-	-		-			1	20	500
Hepaulis A	4	-	4	1	1	_	1	3	10	_	2	3		2			1	1	590
Listeriosis	-	_	1	-	-	-	_	-					-	-	_		-	40	677
Salmonellosis (NOS)	5	5	6	4	3	3	4	-	/	5	1	2	-	-	-	-	3	48	0//
lyphoid and paratyphoid	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-		-	2	22

* includes acute

Abbreviations used in this Bulletin: CSA Central Sydney Health Area, SES South Eastern Sydney Health Area, SWS South Western Sydney Health Area, WSA Western Sydney Health Area, WEN Wentworth Health Area, NSA Northern Sydney Health Area, CCA Central Coast Health Area, ILL Illawarra Health Area, HUN Hunter Health Area, NRA Northern Rivers Health Area, MNC Mid North Coast Health Area, NEA New England Health Area, MAC Macquarie Health Area, MWA Mid West Health Area, FWA Far West Health Area, GMA Greater Murray Health Area, SA Southern Health Area, OTH Interstate/Overseas, U/K Unknown, NOS Not Otherwise Stated.

Please note that the data contained in this Bulletin are provisional and subject to change because of late reports or changes in case classification. Data are tabulated where possible by area of residence and by the disease onset date and not simply the date of notification or receipt of such notification.