NFECTIOUS DISEASE

FIGURE 1



SOURCE: PHUS

FIGURE 2

HEPATITIS A NOTIFICATION RATE BY AGE AND SEX, NSW 199 RATE PER 100,000 POPULATION



SOURCE: PHUs (1,106 cases - 31/12/91)

FIGURE 3





HEPATITIS A SURVEY RESULTS

n July 1991, as part of the public health response to the current hepatitis A outbreak, the NSW Public Health Network conducted a three-month survey of people recently infected with hepatitis A. The aim of the survey was to collect baseline information on epidemic variables (person, place, time) and potential risk factors for hepatitis A. The outcome of this exercise was the identification of the main risk group for the epidemic in NSW: young males aged 20-24 years, mainly homosexual and living in the inner suburbs of Sydney. Outbreaks in male homosexuals have been reported recently from London¹, New York, Dallas, Denver, San Francisco, Toronto and Montreal².

THE SURVEY

Hepatitis A cases were identified from routine laboratory and doctor notifications. The Public Health Units approached the attending medical practitioners and asked if they would distribute a questionnaire to any patient with recent hepatitis A. A total of 279 self-administered questionnaires were distributed.

The questionnaires were returned to the Eastern Sydney Public Health Unit and the data were analysed using Epi Info Version 5.0.

RESULTS AND DISCUSSION

1. Response rate

One hundred and twenty-seven questionnaires were returned from 12 Public Health Units. The overall response rate was 45.5 per cent. The low response rate signals the potential for selection bias: there may be significant differences between the characteristics of respondents and non-respondents. Another source of bias is the incomplete case notification which results from a combination of subclinical cases and under-reporting. Nevertheless, the age, sex and geographic distribution of survey respondents is similar to the total number of cases in NSW so the survey respondents appear to be representative.

2. Demographic characteristics

The age-sex distribution of respondents is shown in Figure 1. Most of the respondents (68.5 per cent) were males aged 20-40 years. This corresponds to the NSW total data set for 1991 (see Figure 2). The male:female ratio of respondents was 10:1.

The majority of respondents (61.4 per cent) were homosexual men (see Figure 3) and the geographic distribution of respondents (see Figure 4) indicates that most lived in the inner and eastern suburbs of Sydney. This pattern is consistent with the overall picture in NSW.

The occupational group of respondents is shown in Figure 5. More than half the respondents work in occupations associated with higher socio-economic status. This finding is unusual for hepatitis A infection, which usually occurs in depressed socio-economic conditions where overcrowding and poor hygiene promote the spread of the disease^{3,4,5,6}.

Continued on page 8►

Hepatitis A survey results

Continued from page 7

FIGURE 4

HEPATITIS A SURVEY GEOGRAPHICAL DISTRIBUTION OF RESPONDENTS (AREA/REGION)

NO. RESPONDENTS

SOURCE: PHUS

FIGURE 5

I IGONE 3

HEPATITIS A SURVEY OCCUPATIONAL GROUP* OF RESPONDENTS (n = 127)



SOURCE: PHUs *Australian Bureau of Statistics

3. Clinical symptoms

The most commonly reported symptoms are set out in Table 1.

TABLE 1		
FREQUENCY OF SYMPTOMS REPORTED BY RESPONDENTS		
Symptom	Number	Per cent
Dark urine	117	92.1
Lethargy	113	89.0
Jaundice	109	85.8
Loss of appetite	103	81.1
Malaise	89	70.1
Nausea	84	66.1
Fever	83	65.4
Abdominal discomfort	75	59.1
Pale stools	66	52.0
Vomiting	62	48.8
Diarrhoea	38	29.9
Upper respiratory	29	22.8

4. Risk factors (Tables 2 and 3)

The majority of respondents (61.4 per cent) were male homosexuals. However, only 9.5 per cent of respondents said they had travelled to a high risk area before their illness and only 18.8 per cent had direct contact with another person with hepatitis A infection (see Table 2). For the majority of respondents, there was no identifiable source of infection. This finding is not unusual in hepatitis A infection^{7,8}.

In the UK, data from a nine-year review of hepatitis A notifications to the Communicable Diseases Surveillance Centre indicate that 14.5 per cent of patients had travelled abroad in the two months before the onset of illness and 15.3 per cent had been in contact with hepatitis A (family/intimate contact accounting for most of the exposures)⁷. The apparently low rate of travel-acquired infection in NSW is consistent with a large, communitybased outbreak in which, predictably, most cases arise within the community.

Sexual contact (see Table 3) was the most commonly reported type of contact, especially in male homosexuals: 16.7 per cent of all cases in male homosexuals (n=78) reported a sexual contact with someone with hepatitis A; there were no reports of sexual contact in the non-homosexual group.

Very few respondents (3.1 per cent) had contact with children in day-care. This is unlike the pattern in the United States where, in 1982, 18 per cent of reported cases of hepatitis A occurred in day-care children, employees, or household contacts⁸.

TABLE 2	
PREVALENCE OF RISK FACTORS FO AMONG QUESTIONNAIRE RESPO	DR HEPATITIS A NDENTS (n = 127)
Risk factor	Number (per cent)
Recent travel to a high risk area	12 (9.5)
Contact with children in day-care	4 (3.1)
Contact with a person with hepatit	is A 24 (18.8)
Male homocovual	79 (61 /1)

TABLE 3

TYPE OF CONTACT REPORTED BY RESPONDENTS WITH A HISTORY OF EXPOSURE TO SOMEONE WITH HEPATITIS (n = 24)

	Sexual p	Total	
Type of contact	Homosexual	Heterosexual	(Per cent)
Household	3	1	4 (16.7)
Sexual	8	-	8 (33.3)
Household and sexual	4	-	4 (16.7)
Shared food/food utensil:	s 1	3	4 (16.7)
Social	-	1	1 (4.2)
Workplace	3	-	3 (12.5)
TOTAL	19	5	24 (100)

5. Use of medical services and immunoglobulin

Most respondents were seen by a general practitioner (89.8 per cent) and the remainder were seen by a hospital or clinic doctor. Fourteen respondents (11.0 per cent) stated that they were admitted to hospital for treatment. Eleven (8.7 per cent) reported that they had received an immunoglobulin injection in the two months before their illness.

Continued on page 12 >

INFECTIOUS DISEASE

TABLE 4

INFECTIOUS DISEASE NOTIFICATIONS, NSW Notifications to the end of December, 1991

	Number of Cases Notified											
CONDITION	Per	lative										
CONDITION	December 1990	December 1991	December 1990	December 1991								
Adverse Reaction	N/A	1	N/A	1								
AIDS	*25	*8	*360	*262								
Arboviral Infection	37	1	292	561								
Brucellosis	-	-	5	2								
Cholera	-	<u> </u>	-	-								
Diphtheria	-	-	-	- 1								
Foodborne illness (NOS)	230	32	3040	2849								
Gastroenteritis (instit.)	N/A	54	N/A	137								
Gonorrhoea	20	9	407	393								
H influenzae epiglottitis	1	2	6	22								
H influenzae B — meningitis	2	2	27	59								
H influenzae B — septicaemia	a 1	-	4	9								
H influenzae infection (NOS)	2	5	38	128								
Hepatitis A	5	13	32	1121								
Hepatitis B — acute	2	-	13	20								
Hepatitis B — carrier	-	1	-	24								
Hepatitis B — unspecified	17	11	414	1116								
Hepatitis C	6	13	45	553								
Hepatitis, acute viral (NOS)	-	1	-	268								
HIV infection	59	14	785	771								
Hydatid disease	-	-	2	7								
Legionnaires' disease	2	1	31	26								
Leprosy	-	-	7	-								
Leptospirosis	3	1	48	34								
Listeriosis	N/A	—	N/A	8								
Malaria	11	-	194	135								
Measles	36	8	375	380								
Meningococcal meningitis	4	1	48	46								
Meningococcal septicaemia	-	1	12	15								
Meningococcal infection												
(NOS)	1	1	28	47								
Mumps	N/A	L.	N/A	4								
Mycobacterial tuberculosis	-	1	-	323								
Mycobacterial — atypical	-	4	24	204								
Mycobacterial infection												
(NOS)	2	4	438	36								
Pertussis	10	2	152	48								
Plague	-	-	-	-								
Poliomyelitis		-		-								
Q Fever	13	4	159	204								
Rubella	N/A	1	N/A	54								
Salmonella infection (NOS)	125	13	1390	1151								
Syphilis	11	12	329	582								
Tetanus	1	1	2	3								
Typhoid & paratyphoid	7	1	40	55								
Typhus	-	-	-	-								
Viral haemorrhagic fevers	-	-	-	-								
Yellow fever		-	-	-								

* Data January-November only (NOS) Not otherwise specified

NOTIFICATIONS

MENINGOCOCCAL DISEASE

The number of reported cases of meningococcal disease for the period 1982 to 1990 ranged from 12 (1982) to 86 cases. Notifications for meningococcal disease have increased by a factor of 3.2 between 1988 and 1989, and by 4.8 between 1988 and 1990. This increase is due partly to improved surveillance and partly to an increased incidence of meningococcal disease. The latter has been reported internationally and in other Australian states. Refer to Public Health Bulletin 1990; 2:8-10.

The reporting rate for 1990 was 1.5/100,000 total population. By month of onset, the number of notifications ranged from 17 in August to three in February and November.

All Areas/Regions reported cases of meningococcal disease except Illawarra Area, South Eastern Region and South West Region. The number of cases ranged from 5.2/100,000 for the New England Region to 0.3/100,000 for the Eastern Sydney Area.

Meningococcal disease was reported for all age groups. The highest number of notifications was 25 males (13.0/100,000) and 16 females (7.7/100,000) in the 0 to 4 age group and 11 males (4.5/100,000) in the 15 to 19 age group.

Under the 1991 Public Health Act, meningococcal disease is reportable by doctors and hospital chief executive officers as meningococcal meningitis and meningococcal septicaema, and by laboratories as meningococcal infection if identified in blood or cerebrospinal fluid.

ARBOVIRAL DISEASE

The number of reported cases of arboviral disease for the period 1982 to 1990 ranged from 805 cases in 1984 to 22 in 1982 and 1983. A severe epidemic of Ross River virus occurred in 1984.

The reporting rate for 1990 was 5.0/100,000 total population. By month of onset, the number of notifications ranged from 66 cases in April and May to fewer than 10 for September, October and November.

All Areas/Regions reported cases of arboviral disease except Western Sydney Area and South Eastern Region. The number of cases ranged from 28.7/100,000 for the North Coast Region to fewer than 5/100,000 for metropolitan Sydney, Central Coast and Illawarra Area.

Arboviral disease was reported for all age groups. In the 30 to 39 age group 44 females (12.6/100,000) and 34 males (7.5/100,000) were notified, followed by 34 females (9.7/100,000) and 27 males (7.3/100,000) in the 40 to 49 year group.

Under the 1991 Public Health Act, laboratories are to report causes of arboviral infection.

TETANUS

The third tetanus case for 1991 was notified from the South-Eastern Region on December 11. The patient is a 48-yearold male who was injured on his left hand while gardening on December 6. The infected wound was treated by a local medical officer and tetanus toxoid was administered immediately after the injury. After nine days the patient presented to Queanbeyan Hospital with an infected wound and mild trismus. He remains intubated after three weeks in intensive care.

Continued on page 12 >



SOURCE: NSW Infectious Disease Database

FIGURE 7

ARBOVIRAL DISEASE NOTIFICATION RATE BY AREA/REGION, NSW 1990 RATE (100,000 POPULATION)



SOURCE: NSW Infectious Disease Database

FIGURE 8

ARBOVIRAL DISEASE NOTIFICATIONS BY MONTH OF ONSET, NSW 1990



SOURCE: NSW Infectious Disease Database

FIGURE 9





JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV MONTH

SOURCE: NSW Infectious Disease Database

FIGURE 11

FIGURE 10

MENINGOCOCCAL INFECTION NOTIFICATIONS BY AGE AND SEX, NSW 1990 NUMBER



FIGURE 12

MENINGOCOCCAL DISEASE NOTIFICATIONS NSW 1982-1990 NUMBER



SOURCE: NSW Infectious Disease Database

FIGURE 13 MENINGOCOCCAL DISEASE NOTIFICATION RATE BY AREA/REGION, NSW 1990

RATE (100,000 POPULATION)



SOURCE: NSW Infectious Disease Database

TABLE 5

INFECTIOUS DISEASE NOTIFICATIONS BY HEALTH AREA AND REGION December, 1991

CONDITION	CSA	SSA	ESA	WSA	WEN	NSA	CCA	ILL	HUN	NCR	NER	OFR	SWR	SER	U/K	TOTAL
Adverse event after immunisation	-		-	-	-	-	- -	-	-	-	-	-	-	1	-	1
Arboviral infection	-	-	-	-	-	1	-	-	—	-	-	-	-	-	-	1
Foodborne illness (NOS)	2	-	10	5	5	_	-	_	7	3	-		-	-	-	32
Gastroenteritis (instit)		-		_	-	-	-	-	54	2	1.5	-	2	_	-	54
Gonorrhoea	-	-	4	2	-	-		-	-	-	-	3	-	-		9
H. influenzae epiglottitis	-	1	-	0-0	-	-	-	-	1	-		-	-	-		2
H. influenzae meningitis	-	2	_	-		1		_	1					_	1.000	2
H. influenzae infection (NOS)	-	-		1	-	-	-	- 1	-	-	1	2	-	1	-	5
Hepatitis A	-	2	7	1		2	-	-		1	-	-		-	-	13
Hepatitis B — Carrier	1	2	_	÷.	-	-	-	-	-	-	-		-	-	-	1
Hepatitis B — Unspecified	<u> </u>	-	-	4	-	1	-	-	-	1	1	1	-	3	-	11
Hepatitis C	_	_	_	_	1	3	1	_		5	3	_	_	-	-	13
Hepatitis, acute viral (NOS)	-		-	-	-	-	-	-	-		-	-	-	1	-	1
HIV infection	-	-	4		1	-	-	-	-	-	-	-	-	-	9	14
Legionnaires' disease	-				_	1	5 <u>-</u>		-		-	-	-	-	-	1
Leptospirosis	-		-	_		-	-	-	-	-	-	-	1	-	-	1
Measles	1	4		1	1	1	1	1	4	1		2	_	1		18
Meningococcal meningitis	_	-		1	-	-	-		-	-	-	-	-	-	-	1
Meningococcal septicaemia	-	-				-	_	1	-	-	-	-	-	-		1
Meningococcal infection (NOS)	_			-	1.00	1	-	1	-	-	1	-	-	-	-	1
Mycobacterial atypical	1	-		-	-	-	-	-	—			-		-		1
Mycobacterial tuberculosis	-	-	1	1	_	1					1	-	-	-		4
Mycobacterial infection (NOS)	-		_		-	-	-	-	1		-	÷.	-	-		1
Pertussis	-		<u> </u>	2	-	_	-	-	_	-	_	-		-	-	2
O fever	-	-		-		-	-		() - 1	4	-				-	4
Rubella	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Salmonella infection (NOS)	1	2	-	4	3	3	-		2	-	-	-	-	-	-	13
Syphilis	1	1	1	1	1	3	-		_	2	3	_		-	-	12
Tetanus	_	-	÷.	-	2	-		-	-		_	-	-	1	-	1
Typhoid & paratyphoid	-	-	-	-	-	1	-	-	-	-	_	-	-	-	-	1

TABLE 6

INFECTIOUS DISEASE NOTIFICATIONS BY HEALTH AREA AND REGION

January 1 to December 31, 1991

CONDITION	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NCR	NER	OFR	CWR	SWR	SER	OTH	U/K	TOTAL
Adverse event after immunisation	-	-	-	-	-	_	-	1	-	-	-	-	-	-	-	1	-		1
AIDS*	47	16	118	9	19	15	25	8	4	12	12	-	1	1	-	-	-	8	262
Arboviral infection	5	_	8	2	1	-	5	- 2	1	8	33	214	233	5	36	5	7	20	561
Brucellosis	_	_	2	-	_	_	_	_	-	-	_		_	_		_	2		2
Foodborne illness (NOS)	229	389	640	168	284	169	1	39	19	103	328	151	164	25	121	2	17	<u> </u>	2849
Gastroenteritis (instit.)	-	_	_	5	12	6	4	2	2	81	1	10	9	5	_	-	-	-	137
Gonorrhoea	46	13	144	33	28	1	11	1	12	6	16	8	57	5	8	2	2		393
H. influenzae epiglottitis	1	3	_	3	3	1	5	- <u>2</u>	1	1	-	1	-	1	1	3	1	-	22
H. influenzae meningitis	2	4	-	11	2	1	12	-	2	11	_	2	2	5	2	3	_	-	59
H. influenzae septicaemia		2	-	1	-	1	3	-	_	2	_	-	-			-	-		9
H. influenzae infection (NOS)	13	20	17	5	15	11	1	5	11	3	1	2	9	2	10	3	-		128
Hepatitis A	154	53	538	37	40	8	174	18	5	20	22	18	13	2	3	15	1	-	1121
Hepatitis B — Acute	14	4	-	-		-			-		-	-		-	-	2			20
Hepatitis B — Carrier	10	12	1	_	1	_	_	_	-	_	_	_	-	_	-	-	_	-	24
Hepatitis B — Unspecified	145	87	84	212	178	23	118	1	6	46	51	43	71	7	3	37	4		1116
Hepatitis C	125	61	2	31	53	31	80	15	7	54	54	24	4	6	2	1	2	-	553
Hepatitis acute viral (NOS)	125	0.	-	5	191	11	1	4	8	2	1	27	25		10	8	-	-	268
HIV infection	63	15	184	19	28	16	30	6	3	17	16	1	23	5	1	2	6	344	771
Hydatid disease	3	1	1		20	10	-	-			10					2	-	344	7
Legionnaires' disease	-	- ÷		5	7	3	5	_	20	2	2		-	12	1	-	1	_	26
Lentospirosis	1	-		2	·	5	2			ā	6	5	Δ		5	1	2	_	34
Listeria	2	1	1				2		1	1	v	5	-		-		5		8
Malaria	7	7	11	1	14	2	52	2	5	11	3	3	1		5	1	1		135
Maaria	80	14	12	14	26	6	36	11	15	100	25	1	11		2	14			380
Meningococcal maningitis	1	5	15	11	20	U U	20	1	1	0	23	1	1	2	2	2	-		46
Meningococcal meningitis	1	1		11	1	_	2	1	1	1	4	2		2		1			15
Meningococcal infection (NOS)		1	6	3	1	1	1	1	8	1	7	7	2	1	2	1			47
Mumps			0	5	2		1	4	0		2	1	2		1			- 2	47
Mucobactorial atunical	24	27	20	0	12	1	27	2	4	25		5	4		2	1	2	-	204
Mycobacterial tuborculoris	41	25	20	72	15	2	27	0	16	10	6	2	2	4	4	2	1	-	204
Mycobacterial infaction (NOS)	41	33	50	12	40	0	14	0	2	10	2	2	4	4	4	2	4		323
Dertussis	_	2	6	4	12	1	14	_	5	2	2	2	10	1	2	1			10
O Fourt	-	2	0	4	12	1	1	-	-	2	21	EO	00	4	2	1	-	-	204
Qrever	1		12		11	1	10	-	1	0	21	30	99	4	2	2	-	-	204
Rubella Salmonalla infantion (NOS)	70	125	15	126	167	75	100	-	44	24	01	60	72	22	20	16	10	-	1151
Samonena miección (NOS)	19	130	00	130	102	10	25	2	44	17	OI	25	151	23	15	10	10	-	597
Totanus	48	23	45	62	40	10	35	1	/	17	65	25	121	0	15	2	2	_	202
Turbaid & paraturbaid	10	10	10	_	-	-		-	-	2	-	F		-	-	3	1	-	55
iyphold & paratyphold	10	10	18	_	4	_	3	-		3	-	S	-	-	-	-	1	-	22

* Data from January to November only

Abbreviations used in this Bulletin: CSA Central Sydney Health Area, SSA Southern Sydney Health Area, ESA 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, NCR North Coast Health Region, NER New England Health Region, OFR Orana & Far West Health Region, CWR Central West Health Region, SWR South South

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.

Notifications

Continued from page 9

The man was uncertain if he received tetanus toxoid 10 years ago.

This year the NSW Health Department will join vaccine manufacturers and medical practitioners to promote adult immunisation.

HEPATITIS A

More than 1,100 notifications of hepatitis A were reported to PHUs for 1991. The number of reported cases for the period 1982 to 1990 ranged from 36 in 1990 to 280 in 1986. Notification rates range from 167/100,000 population in Eastern Sydney, 46/100,000 in Central Sydney, 24/100,000 in Northern Sydney to fewer than 10/100,000 in other Areas and Regions. Males comprised 80 per cent of the reported cases. Of the total number of males 76 per cent (676/889) were aged 20 to 39.

PERTUSSIS

In 1991 NSW did not experience an increase in pertussis notifications. Pertussis is usually a spring-summer epidemic disease. The last epidemic experienced in NSW was in 1989/901. An epidemic of pertussis, which tends to occur each two to five years, is occurring in New Zealand.

In 1992 the National Health and Medical Research Council will consider recommending the introduction of a pre-school pertussis booster. The current schedule recommends pertussis immunisation (triple antigen) at ages 2, 4, 6 and 18 months.

GASTROENTERITIS

The Hunter Area Public Health Unit reported 54 cases of gastroenteritis (in an institution). The notifications relate to children from Singleton who went on a school excursion to Hawkes Nest. Symptoms of nausea and vomiting developed within three days. Epidemiology and Health Services Evaluation Branch, in association with staff of the Hunter and Illawarra Public Health Units, investigated the outbreak. Preliminary results implicate a gastrointestinal illness of short incubation period which was contracted before leaving home, rather than food or water consumed on the excursion. The report of this investigation will be published in a future issue of the Public Health Bulletin.

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Hepatitis A survey results

Continued from page 8

CONCLUSIONS

The survey highlighted a number of important aspects of the current hepatitis A outbreak:

- homosexual males aged 20-40 years are affected much more than any other group. There appears to be a worldwide pattern of hepatitis A outbreaks mainly affecting homosexual men.
- sexual contact is the most commonly reported source of infection although most people have no identifiable source of infection.
- this outbreak has involved large numbers of people. The high infection rates probably result from the large pool of susceptible people in the community, the widespread distribution of cases and the predominance of person-to-person transmission.
- the hospital admission rate was estimated to be around 10 per cent.

Marie-Louise Stokes, Public Health Officer Eastern Sydney Public Health Unit

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Acknowledgements The NSW Public Health Network would like to acknowledge the considerable amount of time and effort given by the medical practitioners participating in the survey. Without their co-operation, this survey would not have been possible. The authors would like to thank the Public Health Unit staff who co-ordinated the distribution and collection of questionnaires in their Area or Region.

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