NSW Public Health Bulletin

Volume 12, Number 9
September 2001

NSW HEALTH
Better Health *Good Health Care*

ISSN 1034 7674
State Health Publication PH 010161

RELEASE OF AN HTML VERSION OF THE BULLETIN AND CHANGES TO THE BULLETIN HOME PAGE

In September 2001, the *NSW Public Health Bulletin* launched a new home page within the NSW Department of Health's intranet and internet sites. The home page has been redesigned to resemble other departmental home pages within these sites; and an HTML version of each issue of the Bulletin since January 2001 has been added.

Until now the Bulletin has been available in PDF format, which allows readers to access a facsimile of the printed version. Disadvantages of the PDF version include:

- readers need an Acrobat Reader before they can download the Bulletin;
- readers must download a whole issue rather than single articles of interest;
- internet search engines cannot index the subject, author, and contents of each issue.

The PDF version will continue to be available.

The HTML version of the Bulletin will allow:

- readers to download the Bulletin without an Acrobat Reader;
- readers to download individual articles rather than a whole issue;
- search engines to index the subject, author, and contents of each issue.

The HTML version of the Bulletin contains a separate link to each article within an issue. Each link contains the text of the article, hyperlinks to tables and figures within the article, and 'return to where you were' and 'return to top' buttons for navigation between tables, figures, and text.

The home page contains brief information about the history and purpose of the Bulletin, as well as the following links:

continued on page 246

CONTENTS

- *Current issue*—in both HTML and PDF formats;
- *Back issues*—all back issues in PDF format between May 1990 and December 2000, and in PDF and HTML formats since January 2001;
- *Index*—separate subject and author indexes in a searchable HTML format, which are updated annually in early January;
- *Mailing List*—details of how to subscribe to NSW-ANNOUNCE, a list that announces when each new issue is available on Health Net and Health Web;
- *Information for Authors*—which explains the Bulletin house style, referencing convention, and details of how to prepare and submit manuscripts for review;
- *Contact us*—details of how to contact the editor and managing editor;
- *Online subscription*—how to subscribe to a printed version of the Bulletin.

The home page is accessible through Health Web at **www.health.nsw.gov.au** by following the links:

→ publications,
→ electronic journals and bulletins,
→ NSW Public Health Bulletin.

The Web address for the Bulletin home page is **www.health.nsw.gov.au/public-health/phb/phb.html**.

THIRD AUSTRALIAN COMPUTER ASSISTED TELEPHONE INTERVIEWING (CATI) FORUM : CATI HEALTH SURVEYS IN AUSTRALIA—THE CHALLENGES AHEAD

Date: Tuesday 27 and Wednesday 28 November 2001

Venue: Powerhouse Museum, Sydney

Conference themes

- current progress on CATI health surveillance in Australia;
- measurement and monitoring of inequalities in health;
- how health surveillance can influence policy development;
- challenges of maximising survey participation and data quality;
- strategies to meet the challenges ahead.

The Forum will provide a timely meeting for exchanging knowledge and examining the future directions of CATI Health Surveys in Australia. It is intended to bring together researchers representing a diverse set of approaches and perspectives—including survey practitioners, statisticians, social scientists, epidemiologists, and others concerned with health policy and survey development.

Key speakers

Dr Kathy Douglas from the Health Promotion–NCD Prevention and Surveillance Department with the World Health Organization and formerly with the US Behavioural Risk Factor Surveillance System, Centres for Disease Control and Prevention.

Dr. Bernard Choi is Chief Epidemiologist of Surveillance and Risk Assessment at Health Canada. He is also Associate Professor of Public Health Sciences at the University of Toronto, and Adjunct Professor of Epidemiology and Community Medicine at the University of Ottawa. Dr Choi currently conducts research in the field of national and global health surveillance, including a number of projects in Canada, China, Southeast Asia, and Central and South Americas.

Dr Norman Swan (guest dinner speaker) is a multi-award winning producer and broadcaster. His career has been dedicated to keeping the Australian public informed of health developments as they happen. Dr Swan is the Presenter of *Health Minutes* and the *Health Report* on Radio National; edits his own newsletter, *The Health Reader*, which is published in the United Kingdom and Australia; has been a guest reporter on ABC Television's science programs and the current affairs program *Four Corners*. He has also created, written, and narrated a four-part series on disease and civilisation, *Invisible Enemies*, which has been broadcasted on SBS Television in Australia and on Channel 4 in the United Kingdom.

For conference registrations please contact: Conference Secretariat, 21 Kent St Deakin ACT 2600; by telephone: (02) 6281 6624; by fax: (02) 6285 1336; or by email: **conference@conlog.com.au**.

For further information please contact: NSW Health Survey Program, NSW Department of Health, 73 Miller Street North Sydney, by telephone: (02) 9424 5707; by fax: (02) 9424 5755; or by email: **catimail@doh.health.nsw.gov.au**.

This conference is hosted by the National Public Health Partnership Computer Assisted Telephone Interview–Technical Reference Group (CATI–TRG); and is sponsored by the Commonwealth Department of Health and Aged Care and the NSW Department of Health.

YEAR IN REVIEW: COMMUNICABLE DISEASE SURVEILLANCE, 2000

In this issue, we review the trends in reports of notifiable diseases received by the NSW Department of Health for 2000. Readers interested in the details of specific diseases should review Tables 1 to 4 for notifications of disease reports by year, month, area of residence, and age group and sex.

TRENDS

Among the 30,020 people with medical conditions notified by doctors, hospital staff, and laboratories for 2000:

Conditions most frequently reported

- hepatitis C (7,513 cases [116/100,000 population], with the highest crude rates among residents who live within the Western Sydney, Mid Western NSW, and Central Sydney area health services);
- hepatitis B (4,008 cases [62/100,000], with the highest crude rates among residents who live within the South West Sydney, Central Sydney and the Far Western area health services);
- pertussis (3,682 cases [57/100,000], with the highest crude rates among residents who live within the Hunter, Mid Western and Macquarie area health services);
- chlamydia (3,464 cases [54/100,000], with the highest crude rates among residents who live within the Far Western, South Eastern Sydney and Central Sydney area health services);

Conditions with the most important declines in notifications over previous years

- AIDS (102 cases, down from a peak of 533 cases in 1994) and HIV infection (367 cases, steadily declining since the mid-1980s): both declines are most likely due to effective new therapies for HIV infection;
- hepatitis A (195 cases, the lowest number since laboratory reporting for hepatitis A began in 1991): possibly due to relatively high levels of immunity within the community through past infection or immunisation, or possibly due to improved hygiene;
- Q fever (down to 128 cases from a peak of 404 cases in 1993): possibly due to higher immunisation rates among abattoir workers;
- salmonellosis (1,387 cases, down from a peak of 1,811 cases in 1998);

Conditions with the most important increases over previous years

- pertussis (3,682 cases, up from 1,414 cases in 1999): due to an epidemic mainly in older children and adults;
- chlamydia (3,464 cases, up from 2,438 cases in 1999): perhaps related to improved reporting by laboratories, and ongoing risk activities among sexually active men and women;
- rubella (190 laboratory confirmed cases, up from 46 cases in 1999): largely related to an outbreak among non-immunised adult males;

Conditions least frequently reported

There were no reported cases of botulism, chancroid, cholera, diphtheria, lymphogranuloma venereum (LGV), donovanosis, plague, polio, rabies, typhus, viral haemorrhagic fevers, or yellow fever.

OUTBREAKS

Several important disease outbreaks were reported in 2000 in NSW. These include:

- an outbreak of shigellosis among gay men in inner Sydney;[1]
- a large outbreak of pertussis affecting mainly older children and adults statewide;[2]
- an outbreak of influenza among persons aboard a South Pacific cruise ship;[3]
- two clusters of acute post streptococcal glomerular nephritis among children in rural and urban NSW.[4]

POLICY DEVELOPMENT

In 2000, the NSW Department of Health's Communicable Diseases Surveillance and Control Unit (CDSCU) led the development of several important strategies for the control and prevention of communicable diseases in NSW, including:

- surveillance and control for communicable diseases that occurred during the period of the Olympic Games and the Paralympic Games;[5]
- a revised Notifiable Diseases Manual to assist public health investigations;
- new surveillance systems for anthrax, influenza, invasive pneumococcal diseases, lyssavirus infection, psittocosis and shigellosis, which became notifiable conditions in NSW
- development of communicable disease control priorities for NSW;[6]
- development of policy on health care worker protection;
- development of policy of the prevention of tuberculosis in health care workers;[7]
- development of a new intranet page on Communicable Disease Control for staff of NSW Health at **internal.health.nsw.gov.au/public-health/cdscu**;
- development and installation of a new version of Notifiable Diseases Database in public health units;
- release of the Chest Clinic Surveillance System database Version 2.

TRAINING AND INFORMATION

In 2000, the CDSCU facilitated training for public health professionals in communicable disease control and developed new information resources, including:

- the NSW Communicable Disease Control Workshop for public health units, laboratories and trainees;
- the NSW Tuberculosis Conference;
- Bug Breakfast seminars for public health professionals in NSW;
- supervision of two trainees in the NSW Public Health Officer Training Program;
- teaching students of public health and medicine at the Universities of Sydney and New South Wales;
- new fact sheets on headlice, chickenpox, hepatitis C, parvovirus B19 and fifth disease, meningococcal disease, Ross River virus infection, tuberculosis, hepatitis A, whooping cough and influenza (**www.health.nsw.gov.au**);
- epidemiological reviews on meningococcal disease, tuberculosis, arboviruses, and HIV and AIDS (**www.health.gov.au/public-health/phb/phb.html**).

PROGRESS ON PRIORITY AREAS

In 2000, the CDSCU identified seven priority areas for development in NSW.[6] Here we report on progress on these across the state:

- *eliminate the transmission of measles*: 20 laboratory-confirmed and 12 other cases in 2000. Seven measles cases were thought to have been acquired overseas, including three in overseas visitors to Australia;
- *eliminate congenital rubella*: no cases in 2000;
- *eliminate congenital syphilis*: one case in 2000;
- *monitor risk factors for new hepatitis C infections*: 138 acute cases reported. Risk factor data on acute cases have been investigated by many public health units and will be reported in a future issue of the *NSW Public Health Bulletin*;
- *better understand risk factors for invasive pneumococcal disease (IPD)*: IPD became a notifiable disease at the end of 2000;
- *minimise the incidence and management of multi-drug resistant tuberculosis (MDR-TB)*: six cases were identified in 2000. The management of all cases were reviewed by an expert panel;
- *minimise the risk of communicable disease infections related to the Olympic and Paralympic Games in Sydney*: a comprehensive surveillance system was developed.[7] No communicable disease outbreaks were identified related to the Olympic or Paralympic Games.

INITIATIVES FOR 2001

To strengthen communicable disease control activities in 2001, the following initiatives were planned:

- development of protocols for the response of public health units to reports of anthrax, psittacosis, invasive pneumococcal disease, influenza and shigellosis;
- a training workshop for public health workers in outbreak investigation and management;
- streamlining of HIV data collection, analysis and reporting;
- analysis of risk factors among new cases of hepatitis C;
- release of the Web page for communicable disease control.

A BIG THANK YOU

Disease control and prevention depends on effective surveillance of communicable diseases in the community. The CDSCU would like to thank all those general and specialist medical practices, laboratories, hospitals, schools, childcare centres, and others, who have notified diseases of public health significance to their local public health units for investigation and control.

REFERENCES

1 NSW Department of Health. Shigellosis outbreak among inner-Sydney men. *NSW Public Health Bulletin* 2000; 11: 158.

2 NSW Department of Health. Pertussis on the rise. *NSW Public Health Bulletin* 2000; 11: 174.

3 NSW Department of Health. Outbreak of influenza-like illness on board a cruise ship. *NSW Public Health Bulletin* 2000; 11: 194–195.

4 Muscatello DJ, O'Grady KA, Neville K, McAnulty J. Acute poststreptococcal glomerulonephritis: Public health implications of recent clusters in NSW and epidemiology of hospital admissions. *Epidemiol Infect* 2001; 126: 365–372.

5 Thackway SV, Delpech VC, Jorm LR, McAnulty JM, Visotina M. Monitoring acute diseases during the Sydney 2000 Olympic and Paralympic Games. *Med J Aust* 2000; 173: 318–321.

6 NSW Department of Health. Draft priorities for communicable disease control in NSW, 2000. *NSW Public Health Bulletin* 2000; 11: 84–86.

7 NSW Department of Health. *Health care worker tuberculosis screening and protection policy*. Circular 2001/71; 1 August 2001.

TABLE 1

DISEASE NOTIFICATIONS BY YEAR OF ONSET, NSW, 1991 TO 2000

Conditions	Year of Onset 1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
AIDS	438	427	469	533	463	356	200	166	106	102
Adverse event after immunisation	10	31	23	40	28	56	70	93	13	40
Total Arboviral*	410	341	656	382	534	1226	1805	780	1217	964
Barmah Forest virus infections*	6	6	25	40	271	172	187	134	249	189
Ross River virus infections*	298	324	599	332	236	1032	1597	583	952	745
NOS*	106	11	32	10	27	22	21	63	16	30
Blood lead level >=15ug/dl*	not notifiable until December 1996						713	880	709	990
Botulism	0	0	0	0	0	0	0	0	1	0
Brucellosis*	2	2	4	4	2	1	3	3	2	1
Chancroid	not notifiable until December 1998						0	0	1	0
Chlamydia trachomatis infections*	not notifiable until August 1998						23	562	2438	3464
Cholera*	1	0	1	0	1	3	1	1	2	0
Cryptosporidiosis*	not notifiable until December 1996						157	1130	121	132
Food-borne illness(NOS)	2744	253	106	213	270	211	255	201	151	125
Gastroenteritis (institutional)	153	405	426	296	1359	554	939	737	635	640
Giardiasis*	not notifiable until August 1998					2	1	403	1091	968
Gonorrhoea*	386	494	382	357	427	522	636	1048	1279	1048
Total H.influenzae	211	219	124	61	29	13	17	11	13	8
H.influenzae type b epiglottitis*	15	57	32	21	6	2	5	1	2	2
H.influenzae type b meningitis*	47	104	53	17	11	4	3	3	3	1
H.influenzae type b septicaemia*	11	26	24	12	8	3	1	4	6	4
H.influenzae type b infection (NOS)*	138	32	15	11	4	4	8	3	2	1
HIV infection*	811	711	602	510	540	462	435	413	389	367
Haemolytic uraemic syndrome	not notifiable until December 1996						3	6	11	9
Hepatitis A*	1120	903	579	586	615	958	1427	926	406	195
Hepatitis B: acute viral*	412	115	96	75	63	43	52	53	63	94
Hepatitis B: other*	1089	3131	3599	4033	4060	3549	3196	2988	3491	3914
Hepatitis C: acute viral*	22	28	23	22	33	19	19	102	82	138
Hepatitis C: other*	828	3963	6006	7997	6983	7109	7043	7262	7630	7375
Hepatitis D*	0	8	12	19	19	9	11	3	13	10
Hepatitis E*	0	0	1	2	0	3	6	4	7	9
Total Legionnaires' disease	37	104	66	60	75	74	33	46	41	41
L. longbeachae*	0	14	13	8	16	30	9	19	12	12
L. pneumophila*	16	80	34	30	35	34	18	22	22	26
NOS	21	10	19	22	24	10	6	5	7	3
Leprosy	1	7	5	3	3	2	0	0	1	2
Leptospirosis*	28	21	16	14	6	33	33	50	55	53
Listeriosis*	11	13	12	10	14	22	23	28	22	18
Malaria*	201	164	164	184	96	203	173	161	198	226
Total Measles	493	808	2348	1484	596	191	273	119	32	32
Laboratory confirmed cases*	20	76	460	302	138	35	98	19	13	20
other	473	732	1888	1182	458	156	175	100	19	12
Total Meningococcal	129	122	153	142	113	161	219	184	215	248
Meningitis	54	94	98	80	72	99	109	56	109	105
Septicaemia	16	19	44	41	27	41	67	77	71	78
NOS	59	9	11	21	14	21	43	51	35	65
Mumps*	8	23	13	11	14	27	29	39	32	92
Mycobacterial infection: other than TB*	302	399	451	520	470	411	359	311	363	312
Paratyphoid*	20	8	9	11	12	15	5	9	4	13
Pertussis	50	217	1533	1408	1370	1157	4250	2311	1414	3682
Q Fever*	166	213	404	267	202	287	258	236	164	128
Total Rubella*	61	326	1186	233	2376	636	153	78	46	190
Rubella*	60	326	1184	229	2375	631	153	78	45	190
Rubella (Congenital)*	1	0	2	4	1	5	0	0	1	0
Total Salmonella*	1172	805	980	1101	1366	1224	1698	1811	1423	1387
Salmonella bovis morbificans infections*	19	21	32	24	15	13	25	40	22	39
Salmonella typhimurium infections*	196	232	291	457	547	581	934	856	661	688
Salmonella infections (NOS)*	957	552	657	620	804	630	739	915	740	660
Total Syphilis	581	877	739	976	833	663	513	598	522	535
Syphilis - >1 year duration*	1	2	6	29	135	71	57	44	90	76
Syphilis - <1 year duration*	1	5	7	22	31	38	26	22	100	154
Syphilis congenital	1	1	0	2	7	3	4	1	3	1
Syphilis (NOS)*	578	869	726	923	660	551	426	531	329	304
Tetanus	5	2	5	4	0	1	3	3	1	2
Tuberculosis	430	394	389	394	443	410	422	384	478	439
Typhoid*	38	20	28	24	27	30	28	18	32	26
Verotoxin - producing *E. coli* infections*	not notifiable until December 1996						0	2	0	1

* Laboratory-confirmed cases only NOS = Not Otherwise Specified

Following diseases have not been notified since 1991: Diphtheria*, Granuloma inguinale*, Lymphogranuloma venereum*, Plague*, Poliomyelitis*, Rabies, Typhus*, Viral haemorrhagic fever, Yellow fever.

TABLE 2

DISEASE NOTIFICATIONS BY PUBLIC HEALTH UNIT AREA, NSW, 2000

	Health Area of residence											
	CSA		NSA		WSA		WEN		SWS		CCA	
Conditions	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**
AIDS	22	4.5	13	1.7	8	1.2	2	0.6	7	0.9	2	0.7
Adverse event after immunisation	5	1.0	4	0.5	4	0.6	2	0.6	0	0.0	3	1.0
Total Arboviral*	6	1.2	17	2.2	11	1.6	5	1.6	11	1.4	20	6.8
Barmah Forest virus infections*	1	0.2	0	0.0	1	0.1	0	0.0	0	0.0	3	1.0
Ross River virus infections*	2	0.4	10	1.3	9	1.3	5	1.6	3	0.4	17	5.8
NOS*	3	0.6	7	0.9	1	0.1	0	0.0	8	1.0	0	0.0
Blood lead level >= 15ug/dl*	32	6.5	23	3.0	100	14.6	30	9.5	143	18.2	5	1.7
Brucellosis*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chlamydia trachomatis infections*	424	86.1	294	37.9	324	47.3	110	34.8	199	25.3	64	21.9
Cryptosporidiosis*	5	1.0	3	0.4	2	0.3	6	1.9	2	0.3	0	0.0
Food-borne illness (NOS)	34	6.9	4	0.5	3	0.4	0	0.0	5	0.6	1	0.3
Gastroenteritis (institutional)	107	21.7	0	0.0	70	10.2	84	26.6	0	0.0	0	0.0
Giardiasis*	55	11.2	121	15.6	99	14.4	45	14.2	74	9.4	40	13.7
Gonorrhoea*	209	42.4	80	10.3	66	9.6	19	6.0	77	9.8	15	5.1
Total H.influenzae type b	0	0.0	1	0.1	0	0.0	0	0.0	2	0.3	0	0.0
H.influenzae type b epiglottitis*	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
H.influenzae type b meningitis*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
H.influenzae type b septicaemia*	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3	0	0.0
H.influenzae type b infection (NOS)*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
HIV infection*	84	17.1	18	2.3	27	3.9	8	2.5	25	3.2	6	2.1
Haemolytic uraemic syndrome	1	0.2	0	0.0	0	0.0	0	0.0	1	0.1	1	0.3
Hepatitis A*	35	7.1	23	3.0	26	3.8	20	6.3	20	2.5	5	1.7
Hepatitis B: acute viral*	6	1.2	8	1.0	5	0.7	7	2.2	11	1.4	0	0.0
Hepatitis B: other*	569	115.5	372	47.9	625	91.2	76	24.0	1362	173.5	35	12.0
Hepatitis C: acute viral*	12	2.4	32	4.1	0	0.0	17	5.4	1	0.1	1	0.3
Hepatitis C: other*	772	156.7	338	43.6	1193	174.1	355	112.3	1012	128.9	326	111.5
Hepatitis D*	0	0.0	0	0.0	1	0.1	0	0.0	4	0.5	0	0.0
Hepatitis E*	1	0.2	1	0.1	2	0.3	1	0.3	1	0.1	0	0.0
Total Legionnaires'	4	0.8	3	0.4	9	1.3	1	0.3	2	0.3	1	0.3
L.longbeachae*	0	0.0	0	0.0	2	0.3	1	0.3	2	0.3	0	0.0
L.pneumophila*	4	0.8	3	0.4	7	1.0	0	0.0	0	0.0	1	0.3
other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Leprosy	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3	0	0.0
Leptospirosis*	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0	1	0.3
Listeriosis*	2	0.4	1	0.1	1	0.1	1	0.3	3	0.4	1	0.3
Malaria*	20	4.1	36	4.6	12	1.8	11	3.5	55	7.0	2	0.7
Total Measles	4	0.8	6	0.8	2	0.3	2	0.6	5	0.6	1	0.3
Laboratory confirmed cases*	2	0.4	6	0.8	1	0.1	1	0.3	3	0.4	1	0.3
other	2	0.4	0	0.0	1	0.1	1	0.3	2	0.3	0	0.0
Total Meningococcal	16	3.2	21	2.7	26	3.8	15	4.7	31	3.9	18	6.2
Meningitis	10	2.0	8	1.0	13	1.9	7	2.2	12	1.5	4	1.4
Septicaemia	5	1.0	10	1.3	13	1.9	8	2.5	11	1.4	1	0.3
NOS	1	0.2	3	0.4	0	0.0	0	0.0	8	1.0	13	4.4
Mumps*	12	2.4	11	1.4	23	3.4	3	0.9	17	2.2	2	0.7
Mycobacterial infection: other than TB*	36	7.3	71	9.2	3	0.4	9	2.8	41	5.2	12	4.1
Paratyphoid*	0	0.0	3	0.4	5	0.7	0	0.0	1	0.1	0	0.0
Pertussis	109	22.1	298	38.4	337	49.2	175	55.4	262	33.4	120	41.1
Q Fever*	1	0.2	1	0.1	1	0.1	1	0.3	2	0.3	1	0.3
Rubella*	6	1.2	12	1.5	9	1.3	2	0.6	8	1.0	2	0.7
Total Salmonella*	106	21.5	145	18.7	154	22.5	47	14.9	172	21.9	57	19.5
Salmonella bovis morbificans infections*	5	1.0	3	0.4	3	0.4	3	0.9	7	0.9	3	1.0
Salmonella typhimurium infections*	51	10.4	69	8.9	87	12.7	19	6.0	102	13.0	18	6.2
Salmonella infections (NOS)*	50	10.2	73	9.4	64	9.3	25	7.9	63	8.0	36	12.3
Total Syphilis	80	16.2	27	3.5	59	8.6	8	2.5	101	12.9	9	3.1
Syphilis - <1 year duration*	9	1.8	6	0.8	4	0.6	1	0.3	3	0.4	3	1.0
Syphilis - >1 year duration*	42	8.5	11	1.4	14	2.0	3	0.9	10	1.3	4	1.4
Syphilis congenital	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Syphilis (NOS)*	29	5.9	10	1.3	41	6.0	4	1.3	88	11.2	2	0.7
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tuberculosis	72	14.6	55	7.1	80	11.7	14	4.4	85	10.8	2	0.7
Typhoid*	1	0.2	7	0.9	8	1.2	0	0.0	7	0.9	0	0.0
Verotoxin - producing *E. coli* infections*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

* Laboratory-confirmed cases only NOS = Not Otherwise Specified

Area health service population estimates 2000: CSA = Central Sydney Area (492 554); NSA = North Sydney Area (775 844); WSA = Western Sydney Area (685 350); WEN = Wentworth Area (316 064); SWS = South Western Sydney (785 124); CCA = Central Coast Area (292 303)

TABLE 2

DISEASE NOTIFICATIONS BY PUBLIC HEALTH UNIT AREA, NSW, 2000 *continued*

	Health Area of residence											
	HUN		ILL		SES		NRA		MNC		NEA	
Conditions	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**
AIDS	5	0.9	3	0.9	31	4.0	6	2.3	0	0.0	0	0.0
Adverse event after immunisation	3	0.6	2	0.6	5	0.6	2	0.8	0	0.0	2	1.1
Total Arboviral*	132	24.5	28	8.1	14	1.8	82	31.2	228	87.3	83	47.5
Barmah Forest virus infections*	12	2.2	15	4.3	3	0.4	40	15.2	88	33.7	4	2.3
Ross River virus infections*	119	22.1	13	3.7	9	1.2	39	14.8	140	53.6	79	45.2
NOS*	1	0.2	0	0.0	2	0.3	3	1.1	0	0.0	0	0.0
Blood lead level >= 15ug/dl*	441	81.9	18	5.2	36	4.7	11	4.2	7	2.7	4	2.3
Brucellosis*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chlamydia trachomatis infections*	311	57.7	155	44.6	783	101.7	158	60.1	144	55.1	137	78.4
Cryptosporidiosis*	8	1.5	4	1.2	12	1.6	26	9.9	11	4.2	23	13.2
Food-borne illness (NOS)	2	0.4	0	0.0	55	7.1	0	0.0	2	0.8	0	0.0
Gastroenteritis (institutional)	227	42.1	8	2.3	59	7.7	0	0.0	0	0.0	23	13.2
Giardiasis*	62	11.5	26	7.5	140	18.2	136	51.8	32	12.2	40	22.9
Gonorrhoea*	17	3.2	13	3.7	463	60.1	24	9.1	10	3.8	23	13.2
Total H.influenzae type b	1	0.2	0	0.0	1	0.1	0	0.0	1	0.4	1	0.6
H.influenzae type b epiglottitis*	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0
H.influenzae type b meningitis*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
H.influenzae type b septicaemia*	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	1	0.6
H.influenzae type b infection (NOS)*	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
HIV infection*	8	1.5	12	3.5	147	19.1	9	3.4	1	0.4	2	1.1
Haemolytic uraemic syndrome	2	0.4	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A*	7	1.3	3	0.9	29	3.8	1	0.4	4	1.5	3	1.7
Hepatitis B: acute viral*	9	1.7	4	1.2	23	3.0	8	3.0	2	0.8	4	2.3
Hepatitis B: other*	63	11.7	71	20.4	516	67.0	21	8.0	16	6.1	39	22.3
Hepatitis C: acute viral*	36	6.7	8	2.3	4	0.5	6	2.3	4	1.5	4	2.3
Hepatitis C: other*	524	97.3	262	75.4	986	128.0	383	145.8	291	111.4	128	73.3
Hepatitis D*	0	0.0	0	0.0	3	0.4	0	0.0	0	0.0	1	0.6
Hepatitis E*	0	0.0	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0
Total Legionnaires'	2	0.4	6	1.7	4	0.5	0	0.0	1	0.4	0	0.0
L.longbeachae*	0	0.0	1	0.3	1	0.1	0	0.0	0	0.0	0	0.0
L.pneumophila*	0	0.0	4	1.2	3	0.4	0	0.0	1	0.4	0	0.0
other	2	0.4	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Leprosy	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Leptospirosis*	9	1.7	0	0.0	0	0.0	13	4.9	5	1.9	16	9.2
Listeriosis*	2	0.4	0	0.0	5	0.6	1	0.4	0	0.0	0	0.0
Malaria*	12	2.2	7	2.0	33	4.3	7	2.7	9	3.4	8	4.6
Total Measles	0	0.0	0	0.0	6	0.8	1	0.4	1	0.4	1	0.6
Measles : Laboratory confirmed cases*	0	0.0	0	0.0	6	0.8	0	0.0	0	0.0	0	0.0
Measles : other	0	0.0	0	0.0	0	0.0	1	0.4	1	0.4	1	0.6
Total Meningococcal	13	2.4	26	7.5	37	4.8	6	2.3	5	1.9	4	2.3
Meningitis	9	1.7	12	3.5	13	1.7	2	0.8	4	1.5	2	1.1
Septicaemia	4	0.7	6	1.7	2	0.3	3	1.1	0	0.0	2	1.1
NOS	0	0.0	8	2.3	22	2.9	1	0.4	1	0.4	0	0.0
Mumps*	0	0.0	2	0.6	16	2.1	0	0.0	2	0.8	0	0.0
Mycobacterial infection: other than TB*	26	4.8	12	3.5	31	4.0	10	3.8	25	9.6	5	2.9
Paratyphoid*	0	0.0	0	0.0	3	0.4	1	0.4	0	0.0	0	0.0
Pertussis	1043	193.6	100	28.8	264	34.3	82	31.2	100	38.3	138	79.0
Q Fever*	6	1.1	3	0.9	0	0.0	37	14.1	20	7.7	9	5.2
Rubella*	84	15.6	10	2.9	38	4.9	3	1.1	7	2.7	3	1.7
Total Salmonella*	85	15.8	55	15.8	157	20.4	148	56.3	61	23.3	47	26.9
Salmonella bovis morbificans infections*	3	0.6	2	0.6	3	0.4	0	0.0	1	0.4	0	0.0
Salmonella typhimurium infections*	38	7.1	35	10.1	80	10.4	50	19.0	36	13.8	21	12.0
Salmonella infections (NOS)*	44	8.2	18	5.2	74	9.6	98	37.3	24	9.2	26	14.9
Total Syphilis	8	1.5	1	0.3	145	18.8	26	9.9	14	5.4	13	7.4
Syphilis - <1 year duration*	2	0.4	0	0.0	12	1.6	5	1.9	5	1.9	10	5.7
Syphilis - >1 year duration*	6	1.1	0	0.0	28	3.6	8	3.0	9	3.4	2	1.1
Syphilis congenital	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
Syphilis (NOS)*	0	0.0	1	0.3	104	13.5	13	4.9	0	0.0	1	0.6
Tetanus	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0
Tuberculosis	11	2.0	8	2.3	86	11.2	3	1.1	12	4.6	4	2.3
Typhoid*	0	0.0	0	0.0	2	0.3	0	0.0	0	0.0	1	0.6
Verotoxin - producing *E. coli* infections*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

* lab-confirmed cases only NOS = Not Otherwise Specified

Area health service population estimates 2000: HUN = Hunter Area (538 678); ILL = Illawarra Area (347 404); SES= South Eastern Sydney (770 097); NRA = Northern Rivers Area (262 774); MNC = Mid North Coast Area (261 316); NEA = New England Area (174 650)

TABLE 2

DISEASE NOTIFICATIONS BY PUBLIC HEALTH UNIT AREA, NSW, 2000 *continued*

	Health Area of residence												
	MAC		MWA		FWA		GMA		SA		NOS	TOTAL	
Conditions	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**Rate**	**No.**	**No.**	**Rate**
AIDS	0	0.0	0	0.0	0	0.0	1	0.4	2	1.1	0	102	1.6
Adverse event after immunisation	1	1.0	0	0.0	2	4.1	4	1.6	1	0.5	0	40	0.6
Total Arboviral*	69	66.7	42	25.1	69	142.3	121	46.9	26	14.1	0	964	14.9
Barmah Forest virus infections*	3	2.9	2	1.2	3	6.2	4	1.6	10	5.4	0	189	2.9
Ross River virus infections*	66	63.8	40	23.9	64	132.0	114	44.2	16	8.7	0	745	11.5
NOS*	0	0.0	0	0.0	2	4.1	3	1.2	0	0.0	0	30	0.5
Blood lead level >= 15ug/dl*	12	11.6	1	0.6	112	231.0	6	2.3	5	2.7	4	990	15.3
Brucellosis*	1	1.0	0	0.0	0	0.0	0	0.0	0	0.0	0	1	0.0
Chlamydia trachomatis infections*	48	46.4	74	44.2	66	136.1	103	39.9	63	34.2	7	3464	53.6
Cryptosporidiosis*	7	6.8	1	0.6	1	2.1	12	4.7	9	4.9	0	132	2.0
Food-borne illness (NOS)	19	18.4	0	0.0	0	0.0	0	0.0	0	0.0	0	125	1.9
Gastroenteritis (institutional)	0	0.0	62	37.1	0	0.0	0	0.0	0	0.0	0	640	9.9
Giardiasis*	35	33.8	21	12.6	5	10.3	24	9.3	12	6.5	1	968	15.0
Gonorrhoea*	4	3.9	11	6.6	9	18.6	1	0.4	4	2.2	3	1048	16.2
Total H.influenzae type b	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	0	8	0.1
H.influenzae type b epiglottitis*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2	0.0
H.influenzae type b meningitis*	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	0	1	0.0
H.influenzae type b septicaemia*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4	0.1
H.influenzae type b infection (NOS)*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	1	0.0
HIV infection*	1	1.0	5	3.0	0	0.0	2	0.8	1	0.5	11	367	5.7
Haemolytic uraemic syndrome	0	0.0	2	1.2	1	2.1	0	0.0	0	0.0	0	9	0.1
Hepatitis A*	2	1.9	13	7.8	1	2.1	1	0.4	2	1.1	0	195	3.0
Hepatitis B: acute viral*	1	1.0	1	0.6	0	0.0	4	1.6	1	0.5	0	94	1.5
Hepatitis B: other*	9	8.7	16	9.6	48	99.0	30	11.6	32	17.4	14	3914	60.6
Hepatitis C: acute viral*	1	1.0	9	5.4	0	0.0	3	1.2	0	0.0	0	138	2.1
Hepatitis C: other*	68	65.7	278	166.2	45	92.8	195	75.6	191	103.8	28	7375	114.1
Hepatitis D*	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	10	0.2
Hepatitis E*	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	0	9	0.1
Total Legionnaires'	1	1.0	4	2.4	0	0.0	1	0.4	2	1.1	0	41	0.6
L.longbeachae*	0	0.0	3	1.8	0	0.0	1	0.4	1	0.5	0	12	0.2
L.pneumophila*	1	1.0	1	0.6	0	0.0	0	0.0	1	0.5	0	26	0.4
other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	3	0.0
Leprosy	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2	0.0
Leptospirosis*	1	1.0	3	1.8	0	0.0	2	0.8	1	0.5	0	53	0.8
Listeriosis*	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	18	0.3
Malaria*	0	0.0	4	2.4	1	2.1	4	1.6	5	2.7	0	226	3.5
Total Measles	2	1.9	0	0.0	1	2.1	0	0.0	0	0.0	0	32	0.5
Laboratory confirmed cases*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	20	0.3
other	2	1.9	0	0.0	1	2.1	0	0.0	0	0.0	0	12	0.2
Total Meningococcal	7	6.8	6	3.6	2	4.1	9	3.5	5	2.7	1	248	3.8
Meningitis	2	1.9	2	1.2	1	2.1	3	1.2	0	0.0	1	105	1.6
Septicaemia	1	1.0	3	1.8	1	2.1	5	1.9	3	1.6	0	78	1.2
NOS	4	3.9	1	0.6	0	0.0	1	0.4	2	1.1	0	65	1.0
Mumps*	1	1.0	0	0.0	1	2.1	1	0.4	0	0.0	1	92	1.4
Mycobacterial infection: other than TB*	1	1.0	10	6.0	0	0.0	16	6.2	4	2.2	0	312	4.8
Paratyphoid*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	13	0.2
Pertussis	108	104.3	234	139.9	2	4.1	199	77.1	111	60.3	0	3682	57.0
Q Fever*	21	20.3	12	7.2	8	16.5	1	0.4	4	2.2	0	128	2.0
Rubella*	0	0.0	1	0.6	0	0.0	2	0.8	3	1.6	0	190	2.9
Total Salmonella*	22	21.3	29	17.3	6	12.4	64	24.8	29	15.8	3	1387	21.5
Salmonella bovis morbificans infections*	0	0.0	2	1.2	0	0.0	2	0.8	1	0.5	1	39	0.6
Salmonella typhimurium infections*	13	12.6	9	5.4	0	0.0	41	15.9	19	10.3	0	688	10.6
Salmonella infections (NOS)*	9	8.7	18	10.8	6	12.4	21	8.1	9	4.9	2	660	10.2
Total Syphilis	9	8.7	15	9.0	14	28.9	3	1.2	1	0.5	2	535	8.3
Syphilis - <1 year duration*	4	3.9	1	0.6	11	22.7	0	0.0	0	0.0	0	76	1.2
Syphilis - >1 year duration*	1	1.0	9	5.4	3	6.2	3	1.2	1	0.5	0	154	2.4
Syphilis congenital	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	1	0.0
Syphilis (NOS)*	4	3.9	5	3.0	0	0.0	0	0.0	0	0.0	2	304	4.7
Tetanus	0	0.0	0	0.0	1	2.1	0	0.0	0	0.0	0	2	0.0
Tuberculosis	2	1.9	3	1.8	2	4.1	0	0.0	0	0.0	0	439	6.8
Typhoid*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	26	0.4
Verotoxin - producing *E. coli* infections*	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	0	1	0.0

* lab-confirmed cases only NOS = Not Otherwise Specified

Area health service population estimates 2000: MAC = Macquarie Area (103 506); MWA = Mid Western Area (167 262) FWA = Far West Area (48 478); GMA = Greater Murray Area (257 940); SA = Southern Area (184 082); TOTAL = Total population in NSW (6 463 426)

TABLE 3

DISEASE NOTIFICATIONS, BY AGE AND SEX, NSW, 2000

0-4 yrs	5-24 yrs		25-44 yrs		45-64 yrs		>=65 yrs		Total				
Conditions	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**U/T**
AIDS	0	0	0	1	59	11	25	2	4	0	88	14	0
Adverse event after immunisation	17	11	0	4	0	2	1	2	1	1	19	20	1
Total Arboviral*	1	1	71	56	236	188	183	140	52	35	543	420	1
Barmah Forest virus infections*	1	0	10	4	36	30	47	30	15	15	109	79	1
Ross River virus infections*	0	1	58	51	190	155	128	107	35	20	411	334	0
NOS*	0	0	3	1	10	3	8	3	2	0	23	7	0
Blood lead level >= 15ug/dl (a)*	37	20	124	8	511	14	238	12	24	0	934	54	2
Brucellosis*	0	0	0	0	0	0	1	0	0	0	1	0	0
Chlamydia trachomatis infections* (a)	13	12	480	1176	974	619	110	48	10	3	1590	1860	14
Cryptosporidiosis*	48	19	13	16	16	9	8	2	0	1	85	47	0
Food-borne illness (NOS)	5	0	15	16	31	25	15	12	2	4	68	57	0
Gastroenteritis (institutional)	67	56	9	27	14	65	10	63	67	260	167	473	0
Giardiasis*	168	116	109	87	173	142	78	59	14	22	542	426	0
Gonorrhoea*	1	1	161	42	691	37	101	5	8	1	962	86	0
Total H.influenzae type b	3	1	0	0	0	1	1	0	0	2	4	4	0
H.influenzae type b epiglottitis*	0	0	0	0	0	1	0	0	0	1	0	2	0
H.influenzae type b meningitis*	1	0	0	0	0	0	0	0	0	0	1	0	0
H.influenzae type b septicaemia*	1	1	0	0	0	0	1	0	0	1	2	2	0
H.influenzae type b infection (NOS)*	1	0	0	0	0	0	0	0	0	0	1	0	0
HIV infection*	1	1	23	6	223	20	64	2	5	0	325	30	12
Haemolytic uraemic syndrome	3	0	0	2	1	0	0	1	1	1	5	4	0
Hepatitis A*	6	0	39	29	67	18	16	10	5	5	133	62	0
Hepatitis B: acute viral*	0	0	20	25	26	10	9	1	3	0	58	36	0
Hepatitis B: other*	10	11	349	334	1211	997	520	294	86	81	2176	1717	21
Hepatitis C: acute viral*	0	0	27	33	46	24	5	3	0	0	78	60	0
Hepatitis C: other*	29	14	898	585	3059	1505	712	314	125	110	4824	2529	22
Hepatitis D*	0	0	1	1	5	2	1	0	0	0	7	3	0
Hepatitis E*	0	0	4	3	0	2	0	0	0	0	4	5	0
Total Legionnaires'	0	1	1	0	2	2	15	3	13	4	31	10	0
L.longbeachae*	0	0	0	0	0	0	6	2	4	0	10	2	0
L.pneumophila*	0	0	1	0	2	1	9	1	9	3	21	5	0
other	0	1	0	0	0	1	0	0	0	1	0	3	0
Leprosy	0	0	0	0	1	1	0	0	0	0	1	1	0
Leptospirosis*	0	0	6	3	19	4	16	2	3	0	44	9	0
Listeriosis*	0	1	0	0	0	0	4	1	6	6	10	8	0
Malaria*	1	4	54	11	96	27	21	6	5	1	177	49	0
Total Measles	8	6	5	10	2	1	0	0	0	0	15	17	0
Measles : Laboratory confirmed cases*	3	4	4	6	2	1	0	0	0	0	9	11	0
Measles : other	5	2	1	4	0	0	0	0	0	0	6	6	0
Total Meningococcal	39	35	72	46	20	13	7	12	0	4	138	110	0
Meningitis	13	13	34	25	3	4	3	8	0	2	53	52	0
Septicaemia	17	14	20	10	7	4	2	2	0	2	46	32	0
NOS	9	8	18	11	10	5	2	2	0	0	39	26	0
Mumps*	1	0	28	29	15	13	3	3	0	0	47	45	0
Mycobacterial infection: other than TB*	7	6	5	4	42	19	49	34	71	75	174	138	0
Paratyphoid*	0	0	3	2	4	1	1	2	0	0	8	5	0
Pertussis	128	154	856	883	318	535	259	370	82	97	1643	2039	0
Q Fever*	2	0	21	4	36	16	31	11	5	2	95	33	0
Rubella*	2	2	112	20	34	12	3	3	2	0	153	37	0
Total Salmonella*	223	217	213	195	145	158	61	72	45	52	687	694	6
Bovis morbificans infections*	9	8	6	3	3	5	2	1	1	1	21	18	0
Typhimurium infections*	118	110	126	119	58	67	18	26	18	25	338	347	3
NOS*	96	99	81	73	84	86	41	45	26	26	328	329	3
Total Syphilis	1	1	19	42	113	120	124	23	55	35	313	221	1
Syphilis - <1 year duration*	0	0	5	15	24	18	10	2	1	1	40	36	0
Syphilis - >1 year duration*	1	0	9	9	30	43	27	8	17	10	84	70	0
Syphilis congenital	0	1	0	0	0	0	0	0	0	0	0	1	0
Syphilis (NOS)*	0	0	5	18	59	59	87	13	37	24	189	114	1
Tetanus	0	0	0	0	0	0	0	0	0	2	0	2	0
Tuberculosis	5	9	20	31	83	86	56	48	55	46	219	220	0
Typhoid*	1	1	9	6	4	3	1	1	0	0	15	11	0
Verotoxin - producing *E. coli* infections*	0	1	0	0	0	0	0	0	0	0	0	1	0

* Laboratory-confirmed cases only NOS = Not Otherwise Specified

(a) = (1+1) trans sexual case

TABLE 4

DISEASE NOTIFICATIONS BY MONTH OF ONSET, NSW, 2000

Conditions	Months of Onset JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
AIDS	15	9	9	9	10	8	6	6	5	6	8	11	102
Adverse event after immunisation	0	1	4	4	1	1	3	7	6	3	6	4	40
Total Arboviral*	64	113	132	185	204	67	32	26	26	30	45	40	964
Barmah Forest virus infections*	16	25	17	15	30	14	8	11	17	10	17	9	189
Ross River virus infections*	42	83	110	162	174	51	24	14	8	20	28	29	745
NOS*	6	5	5	8	0	2	0	1	1	0	0	2	30
Blood lead level >=15ug/dl*	77	79	174	79	92	109	60	49	54	84	79	54	990
Brucellosis*	0	0	1	0	0	0	0	0	0	0	0	0	1
Chlamydia trachomatis infections*	207	211	254	213	222	283	287	383	283	378	415	328	3464
Cryptosporidiosis*	12	14	17	13	7	7	10	3	8	14	18	9	132
Food-borne illness(NOS)	4	29	2	0	31	0	34	0	0	9	5	11	125
Gastroenteritis (institutional)	26	4	0	0	31	12	108	144	122	80	43	70	640
Giardiasis*	76	105	113	84	92	80	53	77	52	78	84	74	968
Gonorrhoea*	103	95	111	83	98	84	77	68	93	76	85	75	1048
Total H.influenzae*	1	0	0	0	0	1	1	2	1	0	1	1	8
H.influenzae type b epiglottitis*	0	0	0	0	0	1	0	1	0	0	0	0	2
H.influenzae type b meningitis*	1	0	0	0	0	0	0	0	0	0	0	0	1
H.influenzae type b septicaemia*	0	0	0	0	0	0	1	1	1	0	0	1	4
H.influenzae type b infection (NOS)*	0	0	0	0	0	0	0	0	0	0	1	0	1
HIV infection*	40	22	36	21	33	36	29	39	31	22	32	26	367
Haemolytic uraemic syndrome	1	1	1	1	0	0	0	0	1	0	2	2	9
Hepatitis A*	29	16	19	16	13	18	20	11	17	13	15	8	195
Hepatitis B: acute viral*	11	6	5	5	7	8	8	15	10	8	8	3	94
Hepatitis B: other*	343	328	382	254	266	314	335	368	310	373	367	274	3914
Hepatitis C: acute viral*	5	15	9	6	11	9	16	8	13	17	17	12	138
Hepatitis C: other*	670	781	826	552	540	540	529	583	495	599	735	525	7375
Hepatitis D*	0	0	1	1	0	2	0	5	0	0	0	1	10
Hepatitis E*	0	2	3	1	1	0	0	0	0	1	0	1	9
Total Legionnaires'	2	0	5	8	5	3	2	5	1	2	6	2	41
L. longbeachae*	0	0	0	1	2	0	2	2	0	1	2	2	12
L. pneumophila*	2	0	4	7	2	3	0	3	0	1	4	0	26
NOS	0	0	1	0	1	0	0	0	1	0	0	0	3
Leprosy	0	0	0	0	1	0	0	0	0	0	1	0	2
Leptospirosis*	2	1	5	3	11	5	3	0	2	10	7	4	53
Listeriosis*	2	2	1	0	1	1	0	1	1	1	2	6	18
Malaria*	23	16	18	21	28	19	30	18	17	15	8	13	226
Total Measles	2	1	1	4	0	0	1	1	4	5	8	5	32
Measles : Laboratory confirmed cases*	1	0	0	1	0	0	1	1	3	3	5	5	20
Measles : other	1	1	1	3	0	0	0	0	1	2	3	0	12
Total Meningococcal	19	10	11	15	14	29	27	29	33	20	20	21	248
Meningitis	11	6	4	8	6	14	8	16	12	6	7	7	105
Septicaemia	7	3	4	7	4	8	4	6	13	8	10	4	78
NOS	1	1	3	0	4	7	15	7	8	6	3	10	65
Mumps*	2	2	8	11	19	10	7	13	7	7	4	2	92
Mycobacterial infection: other than TB*	20	36	30	37	37	40	30	25	28	9	13	7	312
Paratyphoid*	2	0	2	1	2	1	2	2	0	0	0	1	13
Pertussis	155	120	116	152	201	333	470	473	501	416	398	347	3682
Q Fever*	12	6	11	7	7	9	9	20	15	11	11	10	128
Rubella*	4	7	6	2	5	5	11	23	17	55	36	19	190
Total Salmonella*	145	119	150	126	164	75	44	68	61	95	145	195	1387
Salmonella bovis morbificans infections*	4	1	4	5	2	2	3	4	1	2	6	5	39
Salmonella typhimurium infections*	76	48	75	70	90	38	24	25	31	36	61	114	688
Salmonella infections (NOS)*	65	70	71	51	72	35	17	39	29	57	78	76	660
Total Syphilis	41	41	42	32	47	42	50	48	45	43	62	42	535
Syphilis - <1 year duration*	7	10	6	6	7	4	10	5	7	4	9	1	76
Syphilis - >1 year duration*	9	11	15	9	19	14	13	14	12	13	13	12	154
Syphilis congenital	0	0	0	0	1	0	0	0	0	0	0	0	1
Syphilis (NOS)*	25	20	21	17	20	24	27	29	26	26	40	29	304
Tetanus	0	0	1	0	0	0	0	0	0	0	0	1	2
Tuberculosis	37	43	32	23	32	37	34	35	41	39	43	43	439
Typhoid*	4	1	3	5	1	1	5	2	2	0	1	1	26
Verotoxin - producing *E. coli* infections*	0	0	0	0	0	0	1	0	0	0	0	0	1

* Laboratory-confirmed cases only NOS = Not Otherwise Specified

HEPATITIS A IN NEW SOUTH WALES, 1991–2000

Valerie Delpech, Mohamid Habib, Ming Lin and Jeremy McAnulty
Communicable Diseases Surveillance and Control Unit
NSW Department of Health

Hepatitis A is an acute illness typically presenting with fever, malaise, anorexia, nausea and abdominal discomfort followed by jaundice and dark urine a few days later. The illness usually persists for several weeks and adults are more likely than children to be symptomatic.[1]

Transmission of the hepatitis A virus (HAV) occurs through the ingestion of contaminated food or drinking water; and through faecal material transferred by direct contact, including during sexual contact. Parenteral transmission is rare but can occur during the short viraemic phase of the infection.[2]

The incubation period ranges from 15 to 50 days but is generally around 28 days. Cases are most infectious during the latter half of the incubation period until one week after the onset of jaundice.[1]

Under the NSW Public Health Act 1991, all laboratories must notify cases of hepatitis A infection confirmed by serology to their local public health unit (PHU). In addition, medical practitioners and hospital chief executive officers must notify a diagnosis of acute viral hepatitis on clinical suspicion. PHU staff investigate cases that are notified to them and intervene to control the spread of the infection. Interventions include education about appropriate hygiene measures and the administration of immunoglobulin to close contacts.

PHU staff record details of laboratory confirmed cases on the confidential statewide Notifiable Diseases Database (NDD). Where a cluster of cases is identified, PHUs collect additional information including potential sources of infection, risk factors, and exposures.

Here we report on the epidemiology of hepatitis A surveillance in NSW over the last decade, and highlight significant outbreaks of disease.

METHODS

Data for this review were extracted from NDD for the period January 1991 to December 2000. We analysed the characteristics of the notified cases for age, sex, area health service (AHS) of residence and occupation by date of onset of their illness. Notification rates were calculated using mid-year population estimates from the Australian Bureau of Statistics (ABS) for each year.

The NSW Department of Health Inpatients Statistics Collection (ISC) for the years 1991–1999 was used to identify hospital separations of NSW residents with an ICD-9 diagnosis code of 070.0 and 070.1 (hepatitis A). ABS Causes of Death data was reviewed to identify deaths from hepatitis A in NSW residents for the years 1991–1999.

TABLE 1

HEPATITIS A NOTIFICATIONS, HOSPITALISATIONS AND DEATHS, NSW, 1991–2000

Year of onset	Notified cases *N*	(%)	Notification Rate /100,000	Hospital admissions *N*	(%)*	Deaths
1991	1128	(14.6)	19.1	191	(16.9)	1
1992	906	(11.7)	15.4	263	(24.9)	1
1993	580	(7.4)	9.8	227	(39.1)	0
1994	586	(7.6)	9.9	213	(36.4)	1
1995	615	(7.9)	10.4	218	(35.4)	0
1996	958	(12.4)	16.2	281	(29.3)	1
1997	1429	(18.5)	24.2	467	(32.7)	2
1998	927	(12.0)	15.7	371	(40.0)	2
1999	408	(5.3)	6.9	184	(45.1)	1
2000	202	(2.6)	3.4	N/A	N/A	
Total	7739	(100.0)	13.1	2415	(31.2)	9

* Percentage of notifications

RESULTS

Notifications

Over the 10-year period, 7,739 laboratory confirmed cases of hepatitis A were reported in NSW (Table 1). The number of reported cases in 1999 and 2000 was low compared to previous years. The average annual incidence for the 10-year period was 13.1 notifications per 100,000 persons. The number of notifications fluctuated from year to year with notable peaks in 1991 (14.6 per cent of all cases) and 1997 (18.5 per cent of all cases).

The average annual notification rate among males (16.4 per 100,000 population) was almost double the female rate (8.6) for the period (Table 2). Adults aged 20–29 years (30.1 percent of cases) and 30–39 years (23.1 per cent) were more commonly notified, with an average annual age-specific rate of 24.9 and 18.4 per 100,000 population respectively. Most cases in children occurred among 5–9 year olds, accounting for 9.8 per cent of all notifications (an age-specific notification rate of 17.4 per 100,000 population).

The notification rate among Sydney residents was similar to the rate among rural residents (12.8 compared to 12.1 per 100,000 population). South Eastern Sydney (SES) AHS had the highest number of notifications accounting for 21.6 per cent of all cases. However, the Far West AHS had the highest average annual notification rate (30.0 per 100,000) followed by SES (22.6) and New England (22.2).

Data on Aboriginal or Torres Strait Islander status was complete for 3,729 (48 per cent) of notifications and of these 9.0 per cent were identified as Aboriginal or Torres Strait Islander. The rate of infection among Aboriginal and Torres Strait Islanders was higher (31.1 per 100,000 population) than for the state's population as a whole.

Occupational information was provided for 3,349 (43 per cent) of all notifications; and, of these, 148 people (4.4 per cent) were employed in the food or hospitality industry and 35 (1.0 per cent) were reported to be inmates of correctional facilities at the time of infection.

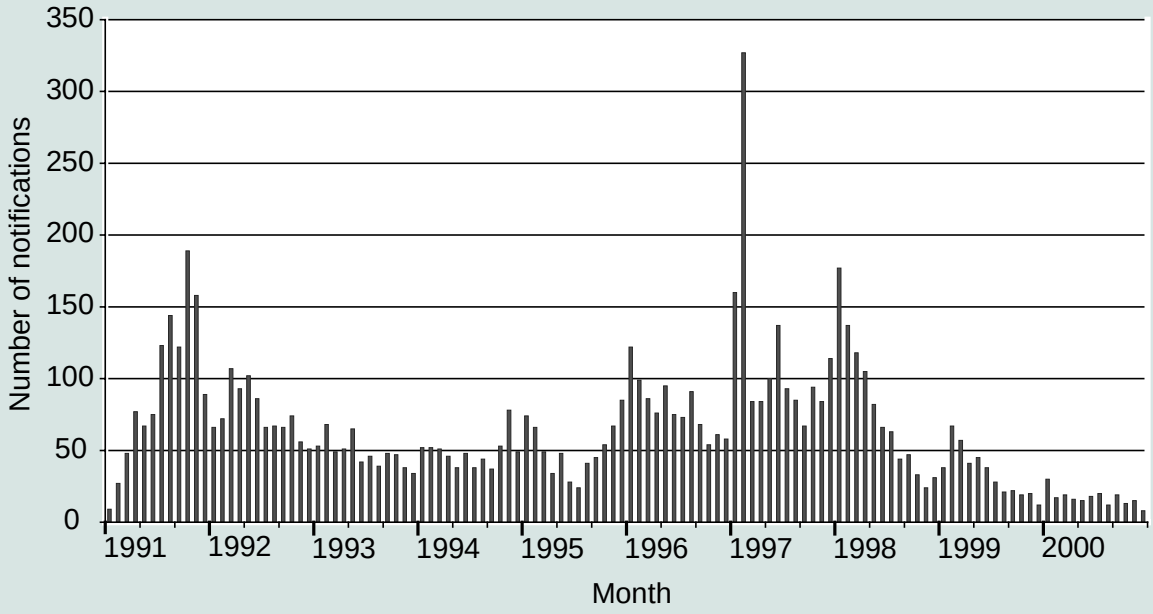
There was considerable variation in the number of notifications reported by month (Figure 1). The median number of notifications received monthly across NSW was 54.0 with an average of 64.5 notifications (standard deviation = 43.8).

Over the last 10 years, NSW has had a number of notable outbreaks of hepatitis A:

- large outbreaks occurred in 1991–1992, 1995–1996 and 1997–1998, and were reported predominantly in residents of the inner and eastern suburbs of Sydney and were associated with male-to-male sex.[3,4,5] Peak notification rates of 520 per 100,000 population per year were reported in 25–29 year old males residing in eastern Sydney (the former Eastern Sydney Health Area) during an outbreak in 1991–1992, and 405 per 100,000 population per year in 30–34 year old males

FIGURE 1

HEPATITIS A NOTIFICATIONS, NSW, 1991–2000



during an outbreak in 1995–1996.[3] Over 80 per cent of the cases notified in SES between June 1997–May 1998 were in males and the age-specific rate among 20–39 year old males was 110.1 per 100,000 population. Sixty-one per cent of cases reported male-to-male sexual contact.[5]

- a large outbreak beginning January 1997 to April 1997 associated with the consumption of oysters from the Wallis Lake area.[6] A total of 467 cases linked to this outbreak were notified between 22 January and 4 April 1997 with a notifications reaching a peak in February 1997 (327).
- smaller outbreaks in 1994–1995 and 1998–1999 predominantly in SES have been associated with illicit drug use.[5,7,8] In the 1994–1995 outbreak, one quarter of all cases of hepatitis A notified in SES reported a recent history of injecting drug use.[7] A second outbreak was reported between December 1998 and May 1999. Forty-five of the 76 notifications in SES over this six month period reported illicit drug use or contact with an illicit drug user. The male to female ratio was 1 to 1.2 and the mean age was 28 years (range 7–72).[5]

Morbidity

Over the nine year period 1991–1999, there were 2,415 hospitalisations for hepatitis A recorded on the Inpatient Statistics Collection in NSW. The peak in hospitalisations was in 1997 (467) corresponding to the Wallis Lake outbreak. The male to female ratio was 1.2 to 1. About a quarter (24.1 per cent) of hospitalised cases were aged 20–29 years (age-specific rate of 44.7 per 100,000 population) and less than five per cent were aged between 0–10 years (age-specific rate of 6.4 per 100,000 population).

The number of cases hospitalised represented about one third (32.2 per cent) of cases notified for the same period. The proportion of women and men hospitalised was 46.3 per cent and 32.8 per cent respectively (odds ratio = 1.77 or 1.60–1.97).

A total of nine deaths attributed to hepatitis A were reported by the ABS for the period 1991–1999. This compares with five deaths identified on the NDD data for the same period. The case fatality rate (using ABS data) was 1.2 per 1000 notifications. (one woman aged more than 85 years old and eight men aged more than 30 years old). The deaths occurred in one woman aged more than 85 years and eight men aged more than 30 years old.

TABLE 2

HEPATITIS A NOTIFICATIONS, NSW, 1991–2000

	No.	%	Average annual rate / 100,000
Gender			
Males	5026	64.9	16.4
Females	2668	34.5	8.6
Not stated	45	0.6	-
Age group			
0–4	391	5.1	9.0
5–9	759	9.8	17.4
10–14	526	6.8	12.2
15–19	516	6.7	11.9
20–29	2329	30.1	24.9
30–39	1789	23.1	18.4
40–49	758	9.8	8.7
50–59	326	4.2	5.2
60+	345	4.5	3.4
AHS			
Central Sydney	926	12	19.6
Northern Sydney	659	8.5	8.8
Western Sydney	687	8.9	10.7
Wentworth	189	2.4	6.3
South Western Sydney	531	6.9	7.3
Central Coast	185	2.4	6.9
Hunter	335	4.3	6.5
Illawarra	275	3.6	8.3
South Eastern Sydney	1670	21.6	22.6
Northern Rivers	521	6.7	21.3
Mid North Coast	329	4.3	13.4
New England	399	5.2	22.2
Macquarie AHS	172	2.2	16.8
Mid Western	261	3.4	15.8
Far West	152	2	30.1
Greater Murray	193	2.5	7.5
Southern	98	1.3	5.5
Not Stated	157	1.9	-

DISCUSSION

Hepatitis A infection remains endemic in NSW at an average annual rate of 13.1 notifications per 100 000 population. Hepatitis A causes significant morbidity in the community with a relatively high proportion of hospitalisations. Women are more likely to be hospitalised. However, despite significant morbidity associated with infection, hepatitis A is rarely fatal.

The epidemiological investigation of cases and clusters of illness remain essential to the identification of transmission routes and risk factors, many of which are amenable to preventative measures. In the Wallis Lake outbreak, for instance, a case-control study identified that over two-thirds of cases and no controls reported eating oysters (odds radio 42; 95 per cent, confidence interval 5–379).[6] In response, a public warning was issued and the oysters withdrawn from sale. Hepatitis A virus was subsequently identified in oyster samples from Wallis Lake.[6]

Men who have sex with men remain a high risk group for contracting hepatitis A in SES, and account for the

majority of male notifications. Outbreaks of HAV among injecting drug users have been documented in recent years in NSW as well as in other states.[9,10,11] The route of transmission among injecting drug users remains unclear, and is probably multi-factorial, but poor personal hygiene is likely to play a significant role.[11,12]

Recent seroprevalence data indicates that at some time during their lifetime about 41 per cent of the Australian population have been exposed to the hepatitis A virus.[13] Seroprevalence significantly increases with age. The majority of Australians therefore remain susceptible to acquiring the infection.

The epidemiological investigation of reported cases is critical to the control of the disease. Vaccination against hepatitis A among high risk groups, including travellers to endemic regions, people in high risk occupations, men who have sex with men, and illicit drug users, remains an important preventative strategy.

REFERENCES

1. Chin J, editor. *Control of communicable diseases manual, 17th edition.* Washington: American Public Health Association, 2000.
2. Evans A and Kaslow R (editors). *Viral Infections in humans: Epidemiology and Control, 4th edition.* New York: Plenum Medical Book Company, 1997.
3. Ferson MJ, Young LC, Stokes ML. Changing epidemiology of hepatitis A in the 1990s in Sydney, Australia. *Epidemiol Infect,* 1998; 121: 631–6.
4. Stokes ML, Ferson MJ, Young LC. Outbreak of hepatitis A among homosexual and bisexual men. *Am J Public Health 1995*; 154: 828–31.
5. Delpech VC, Thackway SV, Young LC, Pontivivo G, Smedley EJ, Morgan KR & Ferson MJ. Hepatitis A in South Eastern Sydney 1997–1999: Continuing concerns for gay men and an outbreak among illicit drug users. *Comm Dis Intell* 2000: 24: 7.
6. Conaty S, Bird P, Bell G, Kraa E, Grohmann G, McAnulty J. Hepatitis A in New South Wales, Australia, from consumption of oysters: the first reported outbreak. *Epidemiol Infect* 2000; 124: 121–130.
7. Ferson MJ, Young LC. Hepatitis A in injecting drug users-preliminary report. *Commun Dis Intell* 1994; 18: 655.
8. Delpech VC, Thackway SV, Young LC, Pontivivo G, Smedley EJ, Morgan KR & Ferson MJ. Outbreak of hepatitis A among illicit drug users in South Eastern Sydney. *Med J Aust* 2000; 172: 143 (letter).
9. Shaw D, Whiteman D, Merritt A, El-Saadi D, Stafford R, Heel K, Smith G. Hepatitis A outbreaks among illicit drug users and their contacts in Queensland, 1996. *Med J Aust*. 1999; 170(12): 584–587.
10. Gilroy N, Tribe G, Passaris I, Hall R, Beers M. Hepatitis A in injecting drug users: a national problem. *Med J Aust*. 2000; 172 (3): 142–3.
11. Crofts N, Cooper G, Stewart T et al. Exposure to hepatitis A virus among blood donors, injecting drug users and prison entrants in Victoria. *J Viral Hepatitis*, 1997; 4: 333–8.
12. Schade CP, Lambert EY. Factors in hepatitis A transmission. *Am J Public Health*, 1989; 79: 1571.
13. Amin J, Gilbert GL, Escott RG, Heath TC, Burgess MA. Hepatitis A epidemiology in Australia: national seroprevalence and notifications. *Med J Aust.*2001; 174(7): 338–41.

FACT*SHEET*

HEPATITIS B

WHAT IS HEPATITIS B?

Hepatitis B is an infection of the liver caused by a virus called *hepatitis B*. 'Hepatitis' means 'inflammation or swelling of the liver'.

WHAT ARE THE SYMPTOMS OF INFECTION?

Many people will have no symptoms when they are newly infected. When symptoms are present they usually include jaundice (yellowing of the skin and eyes), dark urine, fatigue, abdominal pain, loss of appetite, nausea, vomiting, and joint pain.

HOW DOES HEPATITIS B INFECTION AFFECT PEOPLE IN THE LONG TERM?

Once infected, people will either:

- clear the infection and have no further problems;
- not clear the infection and become chronically infected. People with chronic infection are sometimes known as 'carriers'.

CHRONIC INFECTION

Some carriers of hepatitis B can have health problems related to the infection, while others will not. Whether a person clears the infection or becomes chronically infected depends mainly on their age: 90 per cent of babies, 20–50 per cent of children aged 1–5 years, 1–10 per cent of older children and adults, become chronically infected. People with chronic infection are usually infectious for life, and may develop ongoing hepatitis. After many years this can result in complications such as cirrhosis or liver cancer.

HOW DO YOU CATCH HEPATITIS B ?

Hepatitis B is passed on to others when blood or body fluids (for example, saliva, semen, and vaginal secretions) that contain the *hepatitis B* virus enters a person's body through:

- broken skin,
- mucous membranes,
- the bloodstream by:
  - — sharing contaminated injecting equipment, or using needles after an infected person, or a needlestick injury;
  - — having sex with an infected person without using a condom.

Hepatitis B can also be passed on to a baby at birth from an infected mother.

People at risk of infection include:

- injecting drug users;
- babies born to infected women;
- people with multiple sexual partners;
- sexual contact with carriers;
- men who have sex with men;
- haemodialysis patients;
- health care workers;
- children of people born in countries with high rates of hepatitis B infection;
- household contact with people infected with hepatitis B.

IS THERE A TEST FOR HEPATITIS B?

A blood test can show if a person has been infected with hepatitis B in the past, and whether a person is chronically infected. Other tests, such as a liver function test, can show if any damage has been done to the liver.

IS THERE ANY TREATMENT FOR HEPATITIS B ?

Viral infections such as hepatitis B can be very difficult to treat. Some people may benefit from treatment. Talk to your doctor about possible treatments. People with chronic infections should take care of their livers. Drinking alcohol can make your liver disease worse.

PREVENTION

Immunisation

Hepatitis B vaccine is very effective in preventing infection:

- all children should be vaccinated at birth, and aged two, four, and six months of age. These vaccines are given by your doctor or clinic as part of the routine childhood vaccinations;
- all 10 year old children who were not immunised as babies should receive three doses of vaccine from their general practitoner;
- these vaccines are free.

Others who should be vaccinated are:

  - — those who have household or sexual contact with carriers;
  - — men who have sex with men;
  - — people with sexually transmissible infections;
  - — injecting drug users;
  - — haemodialysis patients;
  - — people who receive blood products for clotting disorders;
  - — people with chronic liver disease or hepatitis C infection;

— residents and staff of facilities for persons with intellectual disabilities;
— inmates and staff of correctional facilities;
— health care workers;
— embalmers;
— staff of emergency departments and services.

PREVENTING SPREAD

To prevent the spread of hepatitis B infection:

- use condoms if you are having sex with new sexual partners or with partners infected with hepatitis B;
- if you are pregnant, you should have a blood test for hepatitis B; infants born to hepatitis B infected mothers should be given hepatitis B immunoglobulin and vaccine within 12 hours after birth;
- do not share injecting equipment;
- do not share personal items that may have blood on them, (for example, razors or toothbrushes);
- if having a tattoo or your body pierced, make sure that the practitioner uses disposable and sterile equipment.

If you are infected:

- do not donate blood, organs or tissue if you have hepatitis B;
- advise your doctor and dentist that you are infected;
- be very careful to make sure that other people are not exposed to your blood or body fluids. Clean up any spills with a paper towel and clean thoroughly with detergent and water until no obvious stains are left. If a large blood spill occurs on carpet, it may need to be shampooed or steam cleaned;
- cover your wounds with a waterproof bandage;
- use condoms with new sexual partners.

For further information please contact your local Public Health Unit, Community Health Centre, or doctor.

September 2001.

NSW HEALTH
Better Health Good Health Care

Health Working as a Team The Way Forward

COMMUNICABLE DISEASES, NSW: SEPTEMBER 2001

TRENDS

Reports of **influenza** began to increase in late June. The majority of cases of influenza diagnosed by major laboratories in NSW have been influenza A, while a small proportion have been influenza B.

Following a promising decline in notifications earlier in the year, **pertussis** has re-emerged (Figure 1). Almost 2,000 cases have been reported this year across the state through to July 2001. The highest rates of infection remain in children of school age. This increase is particularly concerning because, historically, cases rise in spring, which begins this month.

Six cases of **Legionnaires** disease were reported in July. Three were due to *Legionella longbeachae*, thought to be transmitted largely by breathing in dust from soil or potting mix. Three were due to *Legionella pneumophila*, thought to be transmitted largely by breathing in aerosols of contaminated water. These cases were unrelated.

Twenty-four cases of **meningococcal** disease were notified across the state in July (Table 1), which is in line with seasonal expectations. **Hepatitis A** notifications increased slightly in July with 21 cases notified.

FIGURE 1

REPORTS OF SELECTED COMMUNICABLE DISEASES, NSW, JANUARY 1996 TO JULY 2001, 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.

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

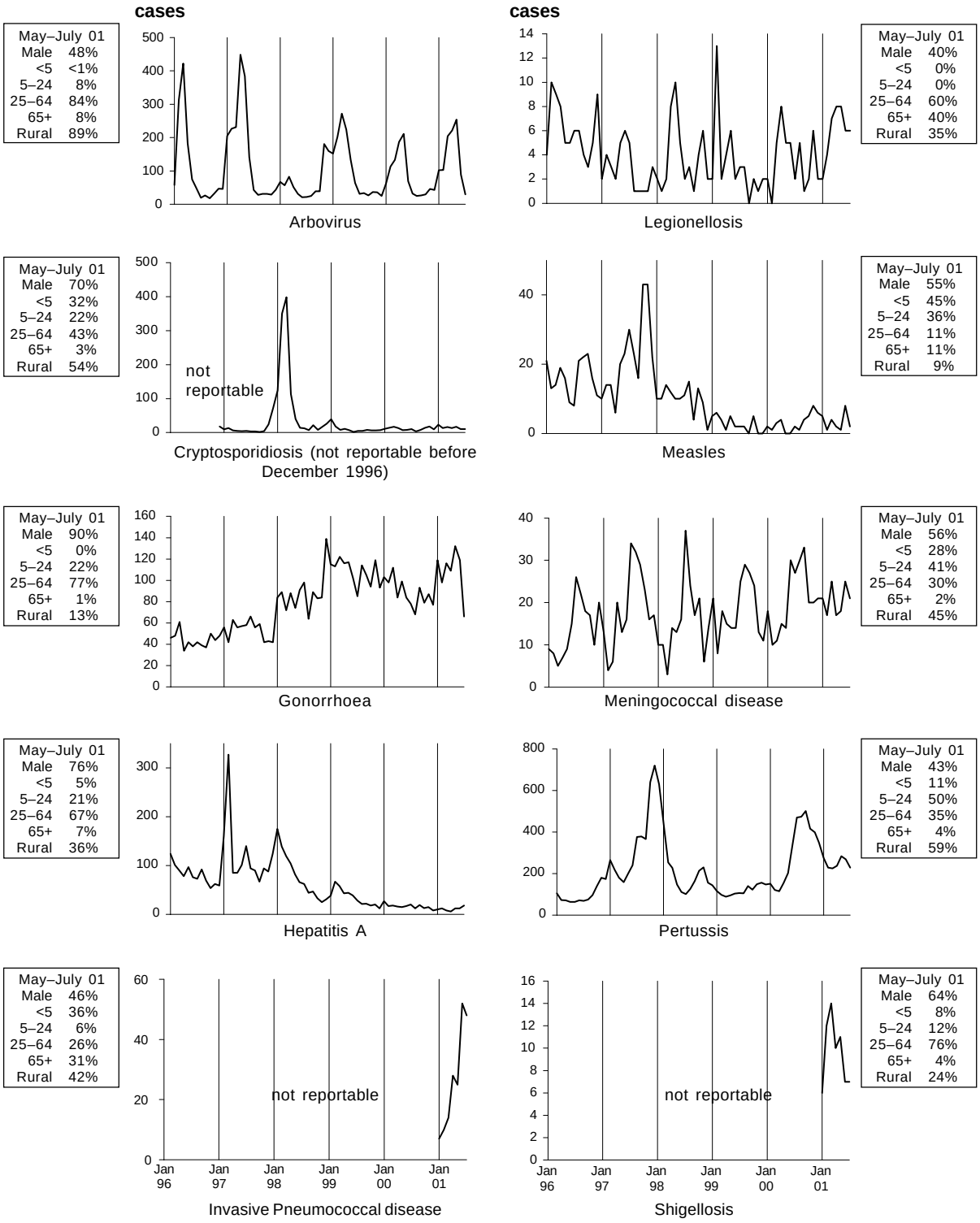


TABLE 1 REPORTS OF NOTIFIABLE CONDITIONS RECEIVED IN JULY 2001 BY AREA HEALTH SERVICES

Condition	Area Health Service (2001) CSA	NSA	WSA	WEN	SWS	CCA	HUN	ILL	SES	NRA	MNC	NEA	MAC	MWA	FWA	GMA	SA	CHS	Total for July†	Total To date†
Blood-borne and sexually transmitted																				
AIDS	-	-	-	-	-	1	-	-	3	-	-	-	-	-	-	-	-	-	4	61
Chancroid*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlamydia (genital)*	15	49	44	17	-	9	26	9	95	19	17	18	7	15	2	19	5	2	371	2,509
Gonorrhoea*	17	6	7	2	-	1	1	-	50	4	1	3	-	-	2	-	-	-	94	795
Hepatitis B - acute viral*	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	49
Hepatitis B - other*	58	44	95	9	2	8	6	14	77	3	5	6	1	1	2	3	1	3	339	2,382
Hepatitis C - acute viral*	1	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	1	5	90
Hepatitis C - other*	44	48	200	31	-	33	50	41	92	26	36	10	5	24	4	11	8	35	703	5,000
Hepatitis D - unspecified*	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	11
HIV infection*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	144
Syphilis	7	2	4	1	-	1	1	1	18	-	-	-	1	-	-	-	-	1	39	309
Vector-borne																				
Arboviral infection (BFV)*	-	-	-	-	-	-	1	2	-	8	14	-	1	-	1	-	1	-	28	319
Arboviral infection (Other)*	-	3	1	1	1	-	3	-	1	-	-	-	1	-	-	-	-	-	12	41
Arboviral infection (RRV)*	-	1	3	1	1	2	1	-	-	7	8	1	3	-	2	-	-	-	30	704
Malaria*	-	3	2	-	-	1	-	-	2	-	-	1	-	-	-	-	-	-	9	86
Zoonoses																				
Anthrax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brucellosis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leptospirosis*	-	-	-	-	-	1	3	-	-	-	1	1	-	-	-	-	-	-	6	43
Lyssavirus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Psittacosis	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	2	16
Q fever*	-	-	-	-	-	-	-	-	-	3	1	1	-	-	1	-	1	-	7	89
Respiratory and other																				
Blood lead level*	-	6	-	1	-	-	-	2	-	1	1	-	3	1	4	-	-	-	19	274
Influenza	-	-	3	-	-	1	2	-	9	5	1	1	-	-	-	-	2	-	24	40
Invasive pneumococcal infection	-	11	12	5	-	8	3	5	9	-	-	1	-	2	1	-	-	-	57	179
Legionnaires' longbeachae*	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	3	21
Legionnaires' pneumophila*	-	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	20
Legionnaires' (Other)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Leprosy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Meningococcal infection (invasive)	2	2	3	-	1	1	-	3	8	-	1	-	1	-	-	1	1	-	24	148
Tuberculosis	4	4	5	-	-	1	2	1	6	1	2	-	1	-	-	-	-	-	27	211
Vaccine-preventable																				
Adverse event after immunisation	-	1	1	-	-	1	1	-2	-	-	-	-	-	-	-	-	-	6	52	
H.influenzae b infection (invasive)*	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	8
Measles	-	-	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4	24
Mumps*	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	2	17
Pertussis	3	41	29	26	19	8	13	29	22	26	25	24	16	14	2	41	1	-	339	1,966
Rubella*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38
Tetanus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Faecal-oral																				
Botulism	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cholera*	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	1
Cryptosporidiosis*	-	-	3	-	-	-	-	-	4	3	1	-	-	-	1	1	-	-	13	106
Food borne illness (not otherwise specified)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
Gastroenteritis (in an institution)	5	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	258
Giardiasis*	4	9	7	5	-	-	1	-	14	4	1	2	1	2	-	2	-	-	52	594
Haemolytic uraemic syndrome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Hepatitis A*	3	3	2	-	1	-	1	3	5	2	-	-	-	-	-	1	-	-	21	87
Hepatitis E*	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	9
Listeriosis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Salmonellosis (not otherwise specified)*	6	13	19	1	1	2	6	6	16	6	-	1	2	7	-	3	-	-	89	1,085
Shigellosis	-	3	1	-	1	-	-	1	2	1	-	-	-	-	-	-	-	-	9	63
Typhoid and paratyphoid*	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3	22
Verotoxin producing E. coli*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* 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

NSW PUBLIC HEALTH BULLETIN

The *NSW Public Health Bulletin* is a publication of the NSW Department of Health.
The editor is Dr Lynne Madden, Manager, Public Health Training and Development Unit.
Dr Michael Giffin is managing editor.

The *Bulletin* aims to provide its readers with population health data and information to support effective public health action.

Submission of articles

Articles, news and comments should be 1000–1500 words or less in length and include a summary of the key points to be made in the first paragraph. References should be set out in the Vancouver style, described in the *New England Journal of Medicine*, 1997; 336: 309–315. Send submitted articles on paper and in electronic form, either on disc (Word for Windows is preferred), or by email. The article must be accompanied by a letter signed by all authors. Full instructions for authors are available on request from the managing editor.

Editorial correspondence

Please address all correspondence and potential contributions to The Editor, *NSW Public Health Bulletin,* Locked Mail Bag 961, North Sydney, NSW 2059, Australia or by email to phbulletin@doh.health.nsw.gov.au.
Tel: 61 2 9391 9241, Fax: 61 2 9391 9232.

Distribution

To obtain copies of the *NSW Public Health Bulletin* please contact your local Public Health Unit or telephone 61 2 9391 9942. A new subscribers/change of address form is printed in most issues of the *Bulletin* for your use.
The *Bulletin* can be accessed via the Internet from the Department's Web site at: **www.health.nsw.gov.au/public-health/phb/phb.html**.
Back issues can be obtained from the Public Health Training and Development Unit, Locked Mail Bag 961, North Sydney, NSW 2059, Australia.

NEW SUBSCRIBERS–CHANGE OF ADDRESS FORM

Please return to:

NSW Public Health Bulletin
NSW Department of Health
Locked Mail Bag 961, North Sydney NSW 2059, Australia

Fax: 61 2 9391 9232

SUBSCRIBE AND UNSUBSCRIBE

☐ I wish to be placed on the mailing list

☐ Please remove me from the mailing list

Name: _____

Organisation: _____

Mailing address: _____

_____

City: _____ State: _____

Postcode: _____ Country: _____

Telephone: _____ Facsimile: _____

Email: _____

CHANGE OF ADDRESS

☐ I wish to change my mailing details, as follows:

FROM: _____

_____

_____

_____

TO: _____

_____

_____

_____

SUBSCRIBE TO THE WEB VERSION

The *Bulletin* can be accessed via the Internet from our Web site at **www.health.nsw.gov.au/public-health/phb/phb.html**. If you would like to be informed by email when new issues of the *Bulletin* become available, please subscribe to the Internet mailing list when you next visit the site.