NEW SOUTH WALES
Public Health Bulletin

Volume 6
Number 5
May, 1995

NSW HEALTH DEPARTMENT

ISSN 1034 7674
State Health Publication No (PH) 950048

WAITING LISTS IN NSW PUBLIC HOSPITALS

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The number of people waiting for in-hospital treatment and the length of time for which they are required to wait are important health service performance indicators. This article outlines the major concepts and definitions relevant to the analysis of waiting list data, and summarises some recent information on NSW public hospital admissions and waiting lists as a background to future reports on waiting lists. The waiting list terms described here are now used uniformly throughout all Australian States and the Commonwealth.

HOSPITAL ADMISSIONS

Hospital admissions may be emergency or elective. If admission to hospital is required for clinical reasons within 24 hours, it is categorised as an emergency admission. An elective admission is one which, in the opinion of the treating clinician, may be deferred for at least 24 hours. Emergency cases are immediately admitted to NSW hospitals. Waiting lists therefore cover only elective admissions.

Elective admissions are further categorised according to their clinical urgency. The categories are:

1 Urgent – to be admitted within seven days

2 High priority – to be admitted within one month

3 Standard – to be admitted at the next available opportunity

4 Not ready for care. This category is defined below.

WHAT IS A WAITING LIST?

A waiting list is a list which is kept by a hospital and contains the names of all people registered as requiring elective admission to that hospital. The term "booking list" is synonymous with "waiting list", the latter now being preferred.

Some of the people on a waiting list have been allocated a planned admission date. These people are known as scheduled or booked patients. Conversely, unscheduled or unbooked patients do not have a planned admission date.

All NSW public hospitals are required to report waiting list information to the NSW Health Department each month, using the Department of

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Hospital waiting lists

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Health Reporting System (DOHRS). This information is compiled into Statewide reports.

How is a waiting list made?

The process of being placed on a hospital's waiting list begins when the patient's doctor sends in a completed form recommending admission. This form contains the information items listed in Table 1. The day on which the patient is added to the waiting list is the listing date (previously known as the "notification date"). The patient's clinical type is the same as his/her attending medical officer's specialty. For the purposes of waiting lists, 14 specialties are defined (Table 2). The planned procedure is the procedure or treatment the person is to undergo when admitted.

For the purposes of analysis, 57 indicator procedures have been chosen, linked to specialties. Examples of indicator procedures (and their related specialties) are as follows:

- Coronary artery bypass graft (cardio-thoracic)
- Haemorrhoidectomy (general surgery)
- Hysterectomy (gynaecology)
- Cataract extraction, with or without intraocular lens insertion (ophthalmology)
- Laminectomy (orthopaedics/ neurosurgery)
- Colonoscopy (general surgery/ medical)

Other important items recorded from the recommendation for admission form are:

- the name of the attending medical officer, i.e. the doctor responsible for the care of the patient;
- the anticipated accommodation status, i.e. the election the person is expected to make on admission (public, private); and
- discharge intention – whether the patient is expected to be admitted and discharged on the same day or admitted to stay at least overnight.

Patients' readiness for care

A patient on the waiting list is described as ready for care if (i) he/she would be prepared to accept admission for the awaited procedure should it be offered in the near future, and (ii) in the opinion of the treating clinician, he/she is ready to be admitted. Conversely, a patient is not ready for care if he or she is not at present available for admission, but will become available some time in the future.

Patients who are not ready for care are classified as staged or deferred.

Staged means not ready for admission for medical reasons. This will often happen when the planned treatment has to occur at staged intervals or at some definite time in the future (e.g. a check cystoscopy). Obstetric patients are considered to be staged because they are awaiting confinement.

Deferred means not ready for admission for personal or social reasons. For example, elective surgery on a child could be postponed until the next school vacation.

TABLE 1

DATA ITEMS ON THE RECOMMENDATION FOR ADMISSION FORMS

- Surname
- Other names
- Sex
- Date of birth
- Address
- Telephone numbers (home and work)
- Anticipated accommodation status
- Local medical officer (general practitioner)
- Clinical urgency
- Presenting problem
- Planned procedure/proposed operation
- Indicator procedure code
- Co-morbidity/other illness
- Planned length of stay
- Attending medical officer
- Status review date for not-ready-for-care patients

TABLE 2

STANDARD SPECIALTIES FOR WAITING LISTS

Cardio-thoracic
ENT
General surgery
Gynaecology
Neurosurgery
Ophthalmology
Orthopaedics
Plastic surgery
Urology
Dental surgery
Other surgery
Renal
Obstetrics
Other medical

Admissions and waiting lists in 1993-94

There were about 1,240,000 admissions to NSW public hospitals in 1993-94. Of these:

- 400,000 were emergency admissions (admitted immediately);

- 85,000 were obstetric patients, and 75,000 were admissions for renal dialysis (admitted immediately on clinical need);
- 60,000 were admissions of psychiatric, geriatric and rehabilitation patients (admitted under special categories); and
- 600,000 were elective admissions booked into hospitals for surgical or medical treatment via waiting lists.

The average waiting times for the 10 most common procedures on waiting lists in September 1994 are listed in Table 3. These procedures together accounted for 23 per cent of the total number of admissions from waiting lists in that year. The admissions were mostly for investigative procedures (upper and lower gastrointestinal endoscopy, cystoscopy, diagnostic laparoscopy, hysteroscopy and cardiac catheterisation) with average waiting times in the range 3-5 weeks, and the great majority were likely to have been same-day admissions. Cataract extraction, removal of skin lesions, and inguinal herniorrhaphy were also among the 10 most frequent procedures. Average waiting times for cataract extraction (3 months) and inguinal herniorrhaphy (8 weeks) were considerably longer.

The procedures with the longest average waiting times in 1994 were as follows:

- Average waiting time three months: vaginal repair, tonsillectomy, cataract extraction, stripping and ligation of varicose veins, repair of cystocele and rectocele, and total hip replacement.
- Average waiting time four months: repair of knee ligament, total knee replacement, removal of bunion, septoplasty.
- Average waiting time five months: rhinoplasty.

The procedures with the shortest average waiting time (<3 weeks) were bronchoscopy, breast biopsy, dilatation of oesophagus, repair of knee cartilage, colectomy, coronary angioplasty, lithotripsy, insufflation of the Fallopian tubes.

TABLE 3

TOP 10 PROCEDURES ON NSW PUBLIC HOSPITALS' WAITING LISTS, 1993-94

Procedure	No. of elective admissions[2]	Average waiting time
Endoscopy – small intestine	20,749	3 weeks
Cataract extraction	20,165	3 months
Cystoscopy	17,152	5 weeks
Colonoscopy	16,815	4 weeks
Removal of skin lesion	14,780	4 weeks
Diagnostic laparoscopy	11,891	5 weeks
Gastroscopy	10,132	3 weeks
Cardiac catheterisation	10,079	3 weeks
Hysteroscopy	8,074	4 weeks
Inguinal herniorrhaphy	7,310	8 weeks

[2] Sources: Elective Admissions – Inpatient Statistics Collection 1993-1994
Waiting Time – Waiting List Information System, September 1994

NEW DEVELOPMENTS IN THE REPORTING OF WAITING LISTS

A new information system for waiting list data will be introduced on July 1, 1995. From that date public hospitals will supply the Department with unit record-based waiting list data. It will be possible to link these data with the NSW Inpatient Statistics Collection, enabling a more comprehensive analysis of waiting lists to be undertaken.

Future issues of the *NSW Public Health Bulletin* will publish reports on the epidemiology of waiting lists in NSW, seeking to answer questions such as:

- Who are waiting? (demographic characteristics)
- What are they waiting for? (proposed surgical procedures or medical reasons for admission)
- How long are they waiting?

PUBLIC HEALTH EDITORIAL STAFF

The editor of the Public Health Bulletin is Dr Michael Frommer, Director, Research and Development, NSW Health Department. Dr Lynne Madden is production manager.

The Bulletin aims to provide its readers with population health data and information to motivate effective public health action. Articles, news and comments should be 1,000 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 using the Vancouver style, the full text of which can be found in *British Medical Journal* 1988; 296:401-5.

Please submit items in hard copy and on diskette, preferably using WordPerfect, to the editor, NSW Public Health Bulletin, Locked Mail Bag 961, North Sydney 2059. Facsimile (02) 391 9029.

Please contact your local Public Health Unit to obtain copies of the NSW Public Health Bulletin.

NEWS AND COMMENT

NSW LEGIONNAIRES' DISEASE DATABASE PROJECT PROGRESS REPORT

Part 6 (Microbial Control) of the Regulations under the Public Health Act 1991 requires local government authorities to maintain registers that document the location and other details of water cooling towers and other such systems. The NSW Legionnaires' Database Project will collate the information describing these registered systems and thereby provide a means of rapidly identifying some of the potential sources of *Legionella* infection in NSW. The project, which is coordinated by the Northern Sydney Area Public Health Unit (NSAPHU), will also record sporadic cases of Legionnaires' disease in NSW.

All Public Health Units (PHUs) in NSW were contacted by mail in August 1994 and asked to request from their local councils data held in these registers. There has been a good response to this request with a number of councils using the project as an impetus for updating their registers or for creating one.

So far, 11 of the 15 PHUs in NSW have forwarded data to the NSAPHU, with responses from 69 of the 176 councils in NSW (26 on computer disk). Missing or incomplete data are identified and sought through the appropriate PHU. A progress report, which summarises the information received from each PHU and council, has been circulated to all PHUs.

Once the database of registered systems is complete it will be matched to a MapInfo streets database (geocoded) so the systems throughout NSW can be mapped. This will enable the exact position of any system to be identified. A Statewide database of sporadic cases of Legionnaires' disease will also be created. The mapping programs will enable the ready comparison of the location of cases with the location of possible sources of infection.

The feasibility of carrying out an efficacy study of approved disinfection methods for cooling towers is also being investigated as part of this project.

For further information contact Leen van Lien on (02) 477 9188 or John Skinner on (02) 477 9186 at the Northern Sydney Area PHU.

NSW HEALTH OUTCOMES INITIATIVES UPDATE

To support local health outcomes initiatives, earlier this year $50,000 was allocated to each Area Health Service, Rural Public Health Unit and the NSW Ambulance Service. Each recipient of funds was requested to nominate a local person to become the Health Outcomes Contact for their Area, District or Service. The Health Outcomes Contact will act as a local resource for health outcomes information and advice and will maintain liaison with the NSW Health Department. It is anticipated that every two months the Health Outcomes Contacts will meet to discuss local and Statewide issues pertaining to health outcomes. These meetings will be co-ordinated by the NSW Health Department's Health Outcomes Development Branch. A first meeting was held in April 1995 and demonstrated the quantity, quality and variety of health outcomes initiatives being undertaken in Areas and Districts. Table 4 lists the Health Outcomes Contacts and their details.

Other recent Health Outcomes initiatives include the *First Health Outcomes Project Feedback Workshop*, held at Prince of Wales Hospital on May 4, 1995. The workshop included presentations from 26 projects funded since 1992-93 under the Health Outcomes Program project grants and concluded with a discussion of how to implement successful health outcomes approaches. The book of abstracts from the workshop featured 37 abstracts and was inserted into the April issue of the *Public Health Bulletin*.

The next issue of the NSW Health Outcomes Newsletter will be inserted in the July 1995 issue of the *Public Health Bulletin* and will include a report on the workshop.

TABLE 4

HEALTH OUTCOMES CONTACTS
AREA HEALTH SERVICES AND RURAL PUBLIC HEALTH UNITS

Area Health Service	Contact Name	Contact Details
Central Coast Area Health Service	**Dr Peter Lewis** Director Central Coast Public Health Unit Ph: (043) 204 560 Fax: (043) 204 550	Central Coast PHU Birralee PO Box 361 Gosford 2250
Central Sydney Area Health Service	**Dr Jeanette Ward** Director, Health Outcomes and Needs Assessment Unit Ph: 550 6810 Fax: 565 1690	Central Sydney Area Health Service Royal Prince Alfred Hospital Missenden Road Camperdown 2050
Eastern Sydney Area Health Service	**Mr David Loy** Manager, Health Service Development Unit Ph: 399 4833 Fax: 398 8296	Eastern Sydney Area Health Service Edmund Blacket Building Prince of Wales Hospital Cnr High and Avoca Streets Randwick 2031
Hunter Area Health Service	**Ms Helen Wildman** Project Officer Tel: (049) 21 4932 Fax: (049) 21 4959	Booked Surgery Research Project Hunter Area Health Service Lookout Road (Locked Bag No 1) New Lambton 2305

TABLE 4 Continued

HEALTH OUTCOMES CONTACTS
AREA HEALTH SERVICES AND RURAL PUBLIC HEALTH UNITS

Area Health Service	Contact Name	Contact Details
Illawarra Area Health Service	**Dr Victoria Westley-Wise** A/g Director, PHU Tel: (042) 26 4677 Fax: (042) 26 4917	Illawarra Public Health Unit, Illawarra AHS PO Box 66 Keiraville 2500
Northern Sydney Area Health Service	**Mr Wayne Salvage** Assoc Director, Health Services Development Ph: 926 7011 Fax: 906 6174	Northern Sydney Area Health Service Royal North Shore Hospital Pacific Highway St Leonards 2065
South Western Sydney Area Health Service	**Mr Maurie Breust** Director Health Services Development Ph: 828 5756 Fax: 828 5769	South Western Sydney Area Health Service Locked Mailbag 17 Liverpool 2170
Southern Sydney Area Health Service	**Dr Jeremy McAnulty** Director, Southern Sydney PHU Ph: 350 3377 Fax: 350 3474	Southern Sydney PHU PO Box 482 Kogarah 2 217
Wentworth Area Health Service	**Ms Elizabeth Tracey** Health Outcomes Project Manager Ph: (047) 242 497 Fax: (047) 210 610	Wentworth Area Health Service PO Box 63 Penrith 2751
Western Sydney Area Health Service	**Ms Carla Cranny** Director Health Services Development Ph: 633 7018 Fax: 689 2041	Western Sydney Area Health Service Westmead Hospital Cnr Darcy and Hawkesbury Roads Westmead 2145
Rural Public Health Unit	**Contact Name**	**Contact Details**
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North Coast Public Health Unit	**Ms Anne Kempton** Deputy Director Ph: (066) 217 231 Fax: (066) 222 151	North Coast PHU 31 Uralba Street Lismore 2480
Northern Districts Public Health Unit	**Ms Christine Robertson** Acting Director Ph: (067) 662 288 Fax: (067) 663 003	Northern Districts PHU Suite 7, 2nd Floor Parry Shire Building 470 Peel Street Tamworth 2340
South West Public Health Unit	**Mr Richard Howell** Ph: (060) 230 350 Fax: (060) 230 168	South West PHU 475 Townsend Street Albury 2640
South Eastern Public Health Unit	**Dr Paul Van Buynder** Director Ph: (048) 273 432 Fax: (048) 273 438	South Eastern PHU Kenmore Hospital Taralga Road Goulburn 2580
Western NSW Public Health Unit	**Dr Michael Douglas** Director Ph: (068) 812 235 Fax: (068) 847 223	Western NSW PHU 62 Windsor Parade Dubbo 2830
NSW Ambulance Service	**Contact Name**	**Contact Details**
NSW Ambulance Service	**Dr Barbara-Ann Adelstein** Medical Director Ph: 818 0340 Fax: 818 0360	NSW Ambulance Service Locked Bag 105 Rozelle 2039

FIGURE 1

INFLUENZA-LIKE ILLNESS

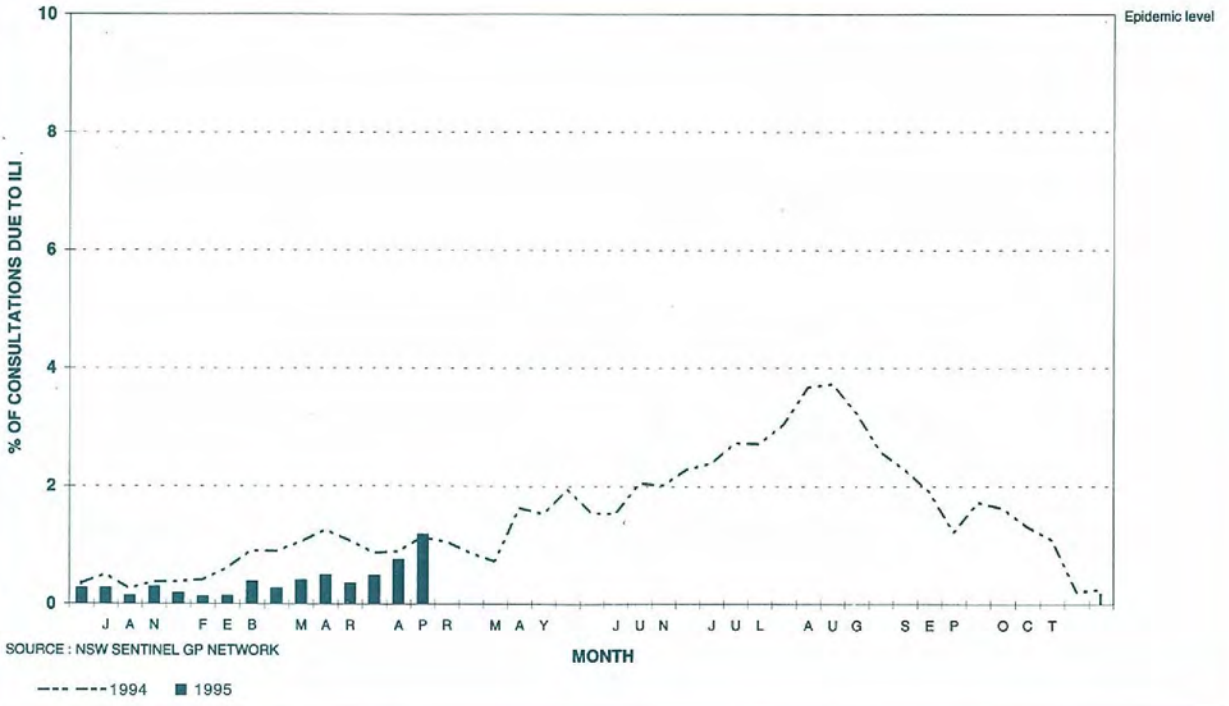
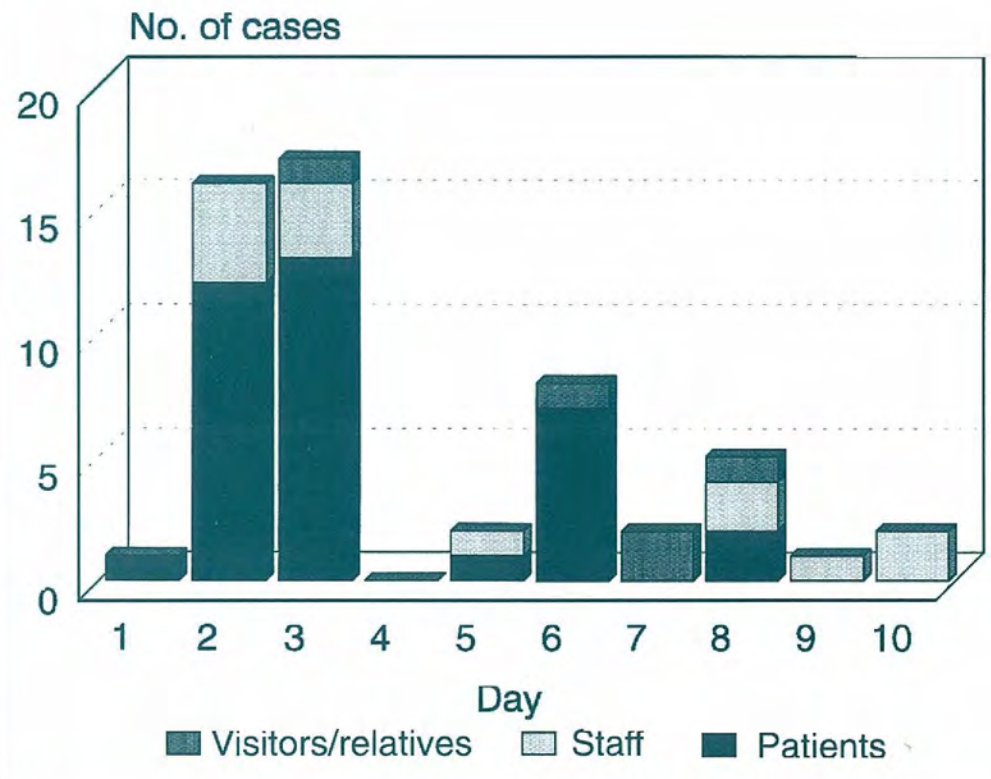


FIGURE 2

GASTROENTERITIS IN A NURSING HOME



INFECTIOUS DISEASES

EBOLA FEVER OUTBREAK IN ZAIRE

The World Health Organisation (WHO) in Geneva and the authorities in Zaire have confirmed that an outbreak of viral haemorrhagic fever (VHF) in the town of Kikwit in Bandundu province, in southern Zaire, is due to Ebola virus. It appears that this outbreak began in January 1995 although the WHO did not become involved until May. The risk to travellers in the infected area is considered to be small and the risk of a case being imported into Australia is considered to be remote.

Infection is transmitted by close contact with the body fluids of an infected person. Ebola fever has an incubation period of up to three weeks (usually one-two weeks). It presents as a prostrating fever, with headache and sore throat, and develops rapidly with diarrhoea and a rash which resembles that of measles.

Haemorrhagic features include bloody diarrhoea, haemoptysis, spontaneous bruising, and haematemesis. Haemorrhagic manifestations with presumptive disseminated intravascular coagulation usually occur in fatal cases. In reported outbreaks, 50-90 per cent of cases have been fatal.

Patients who survive tend to excrete virus for some days or weeks after the fever resolves, but eventually recover completely. The natural reservoir of infection is unknown. Person-to-person spread is generally associated with direct contact with blood, other body fluids and contaminated needles. Aerosol transmission has not been described and is considered to be unlikely.

For the duration of the outbreak travellers who, on their return to Australia and within 21 days of leaving Zaire, present with fever are advised to contact a doctor promptly. They are, however, much more likely to have malaria or dysentery than a VHF.

The management of a patient with an unexplained fever will be determined by the level of suspicion of VHF. All hospitals in NSW have reviewed their capacity to handle such cases by implementing the *Contingency Plan for Cases of Suspected Quarantinable Diseases including Viral Haemorrhagic Fevers.*

Infectious disease physicians and consultants in communicable disease control are requested to report cases about whom they have a moderate or strong level of suspicion of VHF to Professor Tania Sorrell, the Medical Adviser in Quarantine on (02) 633 7191.

For any patient who has been in Zaire since the outbreak began, the levels of suspicion of VHF are classified as follows:

Minimal: febrile patient who left Zaire within the past 21 days but has not been in the affected area (southern half of Bandundu province).

Moderate: febrile patient who left the affected area (or any other area in which Ebola virus infection has been confirmed) within the past 21 days.

Strong: febrile patient who left an affected area in Zaire within the past 21 days **and**

- nursed a patient with confirmed or highly suspected Ebola virus infection; or
- was a contact of a virologically confirmed case; or
- was a laboratory worker who has handled Ebola virus; or
- was originally classified in the minimal or moderate suspicion categories but whose illness is consistent with VHF and other possible causes have been eliminated; or
- was originally classified as minimal or moderate suspicion but develops haemorrhagic features, severe prostration, or shock.

No case of VHF has ever been diagnosed or notified in NSW. A possible case that presented in 1993 in a visitor from Africa was diagnosed as yellow fever.

Outbreaks of Ebola virus infection occurred in the equatorial provinces of Sudan and Zaire in 1976, and in southern Sudan in 1979. In 1989 an outbreak among monkeys imported into the United States from the Philippines was caused by an Ebola virus but was not associated with human disease.

INFLUENZA SURVEILLANCE

Influenza activity in NSW during April has remained low since surveillance began at the beginning of the month (Figure 1). Surveillance data provided by sentinel general practices representing about 50 doctors and 6,700 consultations a week were reported through six PHUs. The consultation rate for influenza-like illness per 100 patient encounters showed a slight increase in April. The rates for the first two weeks of April were 0.8 per cent and 1.2 per cent, respectively. The highest rate – 1.5 per cent – occurred in Eastern Sydney in the first week of April. School absentee rates were reported by three PHUs and covered five schools and about 3,000 pupils. The rate for the last week of April was 2.8 per cent.

Up to the first week of May laboratories had reported 21 samples as positive for influenza A serology and nine for influenza B. The Institute of Clinical Pathology and Medical Research (ICPMR) at Westmead Hospital reported one isolation of influenza A(H1N1) similar to A/Texas/36/91-like strain in February and one influenza B early in January. No viral isolates have been reported since March.

GASTROENTERITIS OUTBREAK IN A NURSING HOME

Northern Sydney PHU has reported almost 70 per cent of the State's notifications of gastroenteritis in an institution this year (Tables 6 and 10). This is due to an outbreak of gastroenteritis in a nursing home in April. Over a 10-day period 54 cases were diagnosed; 36 were residents, 13 staff and five relatives (not all these cases appear in the tables yet). Most cases presented on the second and third days of the outbreak (Figure 2). In most cases the illness resolved within 24 hours, although some individuals reported mild diarrhoea for up to four days. Although no organisms were isolated from faecal samples, the outbreak was consistent with a viral agent transmitted through person-to-person contact and via contaminated surfaces.

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Infectious diseases

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An environmental inspection identified the following areas that required attention:

(1) the lack of easily accessible hand-washing facilities for staff providing direct patient care; and

(2) the poor quality of gloves provided for direct patient care.

Physiological changes associated with the ageing process render the aged person more susceptible to acquire and transmit gastrointestinal infections. These factors include incontinence and the difficulty in maintaining personal hygiene.

This outbreak has highlighted the need for attention to infection control procedures in nursing homes. Staff, who may have had no formal health training, should receive training in relevant infection control procedures. Adequate facilities for hand washing should also be provided. The PHU should be advised promptly of any outbreak of gastroenteritis in any institution, and visiting general practitioners informed of cases of communicable disease in residents.

BARMAH FOREST VIRUS

The South East Public Health Unit has reported the largest cluster of Barmah Forest Virus (BFV) infection ever recorded[1]. Eighty cases from the Batemans Bay area were notified between February and April 1995. The Mid North Coast and Richmond Districts have also reported relatively high numbers of BFV infections this year, with 22 and 12 cases respectively.

BFV is an arbovirus. Like all arbovirus it is transmitted by arthropods (e.g. ticks and mosquitoes), and it causes an illness characterised by fever, malaise and a rash. It was first isolated in Victoria in 1974. Only 200 cases have ever been notified in NSW, and 127 of these were in 1995. The outbreak was associated with high rainfall in December 1994 and high mosquito numbers in the early part of 1995.

In the overall pattern of arbovirus infections in NSW, Ross River Virus (RRV) infection is usually much more common than BFV infection. Between 1992 and 1994 RRV accounted for 89 per cent of arboviral infections (Figure 3). So far this year, BFV infections have accounted for 52 per cent of arboviral notifications (Figure 4). The largest recent arbovirus epidemic occurred in 1993, when there were 565 notifications of RRV infection in the south-west and western parts of NSW. RRV infection usually has a more severe clinical picture than BFV, with arthritis (which may last for months) and a maculopapular rash. Both RRV and BFV are self-limiting illnesses.

FIGURE 3

ARBOVIRUS NOTIFICATIONS

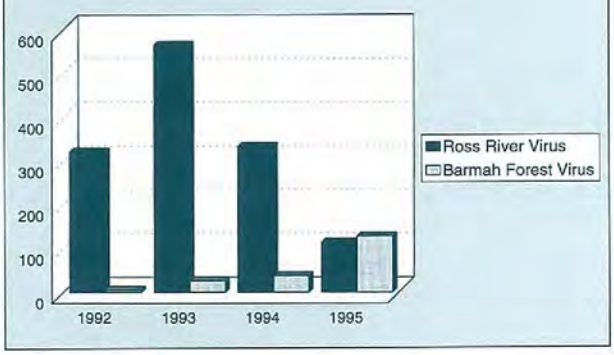
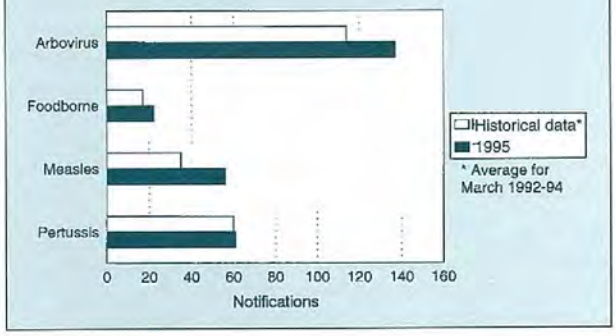


FIGURE 4

SELECTED INFECTIOUS DISEASES MARCH 1995 AND HISTORICAL DATA



1. Van Buynder P et al. *Communicable Diseases Intelligence*, 1995; 19(8):188-91.

GONOCOCCAL ISOLATE SURVEILLANCE, JANUARY-MARCH

One hundred and sixty-five gonococcal samples were referred to the Prince of Wales Hospital Gonococcal Reference Laboratory in this quarter. Of these, 163 remained viable for further examination. This was a slight increase on the 144 strains examined in the first quarter of 1994. The male:female ratio of infection was 10:1, once again an increase over both 1994 and recent quarters.

TABLE 5

INFECTED SITES

Males		Females	
Urethra	118	Endocervix/vagina	14
Pharynx	18	Pharynx	0
Anus/rectum	14	Anus/rectum	0
		Blood	1
Total	**150**	**Total**	**15**

Definition
Isolate: a culture of organisms grown from a single colony
Strain: subtype or phenotype within a species

Antibiotic sensitivity patterns

Penicillins (including penicillin, ampicillin and amoxycillin)
Forty-eight gonococcal isolates (29.4 per cent) were penicillin resistant, either by virtue of lactamase production (penicillinase producing *Neisseria gonorrhoea* or PPNG) – 21 isolates – or by chromosomally mediated mechanisms – 27 isolates. This pattern of resistance has been present for some time. The high proportion of isolates resistant to penicillins means this group of antibiotics is an inappropriate therapy for gonorrhoea in NSW.

Ceftriaxone
All isolates examined in this quarter were sensitive to this injectable cephalosporin which is very active against gonococci. An oral third generation cephalosporin, cephodoxime, has recently been released in Australia. The likely outcome of therapy with this antibiotic can be inferred from *in vitro* sensitivity data on ceftriaxone.

Spectinomycin
All gonococci strains tested were susceptible *in vitro* to this injectable antibiotic.

Quinolones (Ciprofloxacin)
Concerns are arising over the appearance of gonococcal isolates showing resistance to oral quinolone antibiotics. Twelve isolates (7.3 per cent) had some level of resistance in this quarter. Although strains showing some form of quinolone resistance have been present in NSW since 1984, the recommended treatment regimen of a single dose of 500mg of ciprofloxacin has been sufficient to cure nearly all infections encountered to date. However, in the last quarter of 1994 three isolates from two patients had very high levels of quinolone resistance and those infected with these types of gonococci usually did not respond to quinolone therapy.

WHO sources indicate that quinolone resistance is rapidly increasing in overseas areas frequently visited by Australians (Japan, South-East Asia and Africa). Continued monitoring of resistance in this group of antibiotics is essential, especially in patients who have recently entered or returned to Australia. Strains of gonococcus from individuals whose treatment has apparently failed need close examination.

Tetracyclines
Tetracyclines are not recommended for treatment of gonorrhoea in NSW. Some of the chromosomal mechanisms that increase resistance to penicillins also increase resistance to the tetracycline group. Consequently, where high levels of chromosomal resistance to penicillin exist, tetracycline resistance will also be common. In addition, tetracyclines are not suitable for single-dose therapy. For these reasons, isolates are not routinely tested for chromosomal resistance to the tetracyclines, but the minimum inhibitory concentrations (MICs) for the tetracyclines are periodically examined. In a sample of more than 100 isolates recently tested for sensitivity to the tetracyclines, more than a quarter had a significant degree of chromosomal resistance (MICs of 2mg/l or more).

An interesting form of plasmid-mediated high-level tetracycline resistance (tetracycline resistant *Neisseria gonorrhoea* – TRNG) has also emerged in the past decade and has spread throughout the world. Again some countries close to Australia, predominantly in Asia and Africa, have high levels of TRNG. Strains are therefore examined routinely for the presence of this high-level tetracycline resistance. In this quarter there were 13 isolates of TRNG from patients in NSW (8 per cent of the total), a substantial increase over the corresponding quarter in 1994. Ten of the 13 strains were PPNG also and six were of an IA (WI) serogroup. This serogroup is uncommon in NSW where the IB (WII/III) subgroup represents about 85 per cent of isolates.

TABLE 6

INFECTIOUS DISEASE NOTIFICATIONS FOR 1995 BY SELECTED MONTH OF ONSET FOR NOTIFICATIONS RECEIVED BY APRIL 30, 1995

Condition	Jan	Feb	Mar	Apr
Adverse event after immunisation	3	1	2	1
AIDS	25	19	20	7
Arboviral infection	19	28	137	30
Foodborne illness (NOS)	16	84	22	13
Gastroenteritis (instit.)	2	3	10	33
Gonorrhoea infection	31	34	30	15
H influenzae epiglottitis	–	–	1	2
H influenzae infection (NOS)	–	1	–	1
H influenzae meningitis	2	–	1	–
H influenzae septicaemia	–	1	2	–
Hepatitis A – acute viral	73	61	42	19
Hepatitis B – acute viral	1	2	8	4
Hepatitis B – chronic/carrier	49	38	35	15
Hepatitis B – unspecified	341	364	345	87
Hepatitis C – acute viral	–	9	2	–
Hepatitis C – unspecified	745	677	684	168
Hepatitis D – unspecified	1	4	–	1
Hydatid disease	–	–	3	–
Legionnaires' disease	16	6	7	1
Leptospirosis	1	–	–	1
Listeriosis	–	4	2	–
Malaria	9	1	2	1
Measles	96	48	56	18
Meningococcal infection (NOS)	3	1	2	2
Meningococcal meningitis	2	6	4	1
Meningococcal septicaemia	1	5	1	–
Mumps	2	–	–	–
Mycobacterial atypical	38	24	16	1
Mycobacterial infection (NOS)	10	6	9	1
Mycobacterial tuberculosis	34	10	12	1
Pertussis	82	54	61	18
Q fever	18	20	7	4
Rubella	9	13	6	2
Salmonella (NOS)	142	186	113	49
Salmonella infection	–	1	–	–
Syphilis infection	84	59	67	19
Tuberculosis – non active	–	7	3	1
Typhoid and paratyphoid	4	12	1	4
Vibrio infection (non cholera)	–	1	–	–

TABLE 7

SUMMARY OF NSW INFECTIOUS DISEASE NOTIFICATIONS APRIL 1995

Condition	Number of cases notified			
	Period		Cumulative	
	April 1994	April 1995	April 1994	April 1995
Adverse reaction	5	1	16	7
AIDS	67	7	171	71
Arboviral infection	60	30	240	214
Brucellosis	–	–	–	–
Cholera	–	–	–	–
Diphtheria	–	–	–	–
Foodborne illness (NOS)	64	13	100	135
Gastroenteritis (instit.)	48	33	69	48
Gonorrhoea	37	15	135	110
H influenzae epiglottitis	2	2	8	3
H influenzae B – meningitis	2	–	5	3
H influenzae B – septicaemia	2	–	5	–
H influenzae infection (NOS)	2	1	6	2
Hepatitis A	49	19	206	195
Hepatitis B	345	106	1,397	1,289
Hepatitis C	614	168	2,814	2,285
Hepatitis D	3	1	8	6
Hepatitis, acute viral (NOS)	–	–	2	–
HIV infection	38	29	171	158
Hydatid disease	–	1	3	3
Legionnaires' disease	12	1	24	30
Leprosy	–	–	–	–
Leptospirosis	1	1	8	2
Listeriosis	–	–	4	6
Malaria	14	1	83	13
Measles	15	18	274	218
Meningococcal meningitis	6	1	20	13
Meningococcal septicaemia	1	–	6	7
Meningococcal infection (NOS)	1	2	2	8
Mumps	1	–	2	2
Mycobacterial tuberculosis	29	1	150	57
Mycobacterial – atypical	33	1	186	79
Mycobacterial infection (NOS)	3	1	12	26
Pertussis	96	18	536	215
Plague	–	–	–	–
Poliomyelitis	–	–	–	–
Q fever	22	4	104	49
Rubella	3	2	45	30
Salmonella infection (NOS)	113	49	598	491
Syphilis	90	19	381	229
Tetanus	–	–	–	–
Typhoid and paratyphoid	3	4	13	21
Typhus	–	–	–	–
Viral haemorrhagic fevers	–	–	–	–
Yellow fever	–	–	–	–

TABLE 8

**INFECTIOUS DISEASE NOTIFICATIONS FOR 1995
BY PUBLIC HEALTH UNIT FOR NOTIFICATIONS RECEIVED BY APRIL 30, 1995**

Condition	CCA	CSA	CW	ESA	HUN	ILL	NC	ND	NSA	SE	SSA	SW	SWS	WEN	WN	WSA	Total
AIDS	–	18	–	23	4	–	7	–	7	–	7	–	2	2	–	1	71
Arboviral infection	3	2	–	4	3	9	75	20	1	79	2	9	–	1	6	–	214
Gonorrhoea infection	2	16	5	44	2	1	8	5	3	3	5	–	4	1	4	7	110
Hepatitis B – acute viral	–	3	–	2	–	–	1	2	–	1	1	–	–	1	4	–	15
Hepatitis B – chronic/carrier	8	–	5	74	–	–	2	5	–	–	1	–	–	4	4	34	137
Hepatitis B – unspecified	6	123	5	22	27	6	15	3	151	5	183	7	399	3	4	178	1,137
Hepatitis C – acute viral	–	–	–	1	–	–	–	–	–	–	–	–	–	2	7	1	11
Hepatitis C – unspecified	57	260	101	384	158	25	241	48	186	65	154	73	251	52	8	211	2,274
Hepatitis D – unspecified	–	–	–	–	–	–	3	–	–	–	–	–	3	–	–	–	6
Hydatid disease	–	–	1	1	–	–	–	–	1	–	–	–	–	–	–	–	3
Legionnaires' disease	–	1	–	1	6	1	–	1	4	–	–	–	–	1	–	15	30
Leptospirosis	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	–	2
Malaria	2	–	–	1	2	–	1	–	1	–	–	1	1	1	–	3	13
Meningococcal infection (NOS)	1	–	–	1	1	–	2	–	–	–	2	–	1	–	–	–	8
Meningococcal meningitis	1	1	1	–	2	1	1	1	1	1	2	–	1	–	–	–	13
Meningococcal septicaemia	–	2	–	–	5	–	–	–	–	–	–	–	–	–	–	–	7
Mycobacterial atypical	–	13	1	21	8	–	4	1	5	1	5	–	13	1	6	–	79
Mycobacterial infection (NOS)	3	1	–	–	2	–	1	–	8	–	–	–	11	–	–	–	26
Mycobacterial tuberculosis	1	6	–	1	2	–	1	1	13	1	12	–	6	–	1	12	57
Q fever	–	–	3	–	5	1	5	15	–	–	–	–	–	–	19	1	49
Syphilis	2	29	5	53	7	2	16	14	11	1	15	1	32	6	19	16	229

TABLE 9

**VACCINE PREVENTABLE AND RELATED CONDITIONS, NOTIFICATIONS FOR 1995
BY PUBLIC HEALTH UNIT FOR NOTIFICATIONS RECEIVED BY APRIL 30, 1995**

Condition	CCA	CSA	CW	ESA	HUN	ILL	NC	ND	NSA	SE	SSA	SW	SWS	WEN	WN	WSA	Total
Adverse event after immunisation	–	–	–	–	–	–	–	1	–	–	1	4	–	1	–	–	7
H. influenzae epiglottitis	–	–	–	1	–	–	1	–	–	–	1	–	–	–	–	–	3
H. influenzae infection (NOS)	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	2
H. influenzae meningitis	–	1	–	–	–	–	1	–	–	–	–	–	–	–	–	1	3
H. influenzae septicaemia	–	–	–	–	1	–	–	–	–	–	1	–	–	–	–	1	3
Measles	6	14	1	33	27	18	8	22	9	4	12	4	15	26	–	19	218
Mumps	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1	2
Pertussis	9	8	5	11	10	7	39	2	26	4	12	21	8	21	4	28	215
Rubella	–	–	–	2	–	–	3	1	1	–	6	–	–	4	1	12	30

TABLE 10

**FOODBORNE INFECTIOUS DISEASE NOTIFICATIONS FOR 1995
BY PUBLIC HEALTH UNIT FOR NOTIFICATIONS RECEIVED BY APRIL 30, 1995**

Condition	CCA	CSA	CW	ESA	HUN	ILL	NC	ND	NSA	SE	SSA	SW	SWS	WEN	WN	WSA	Total
Foodborne illness (NOS)	10	9	–	–	55	–	3	1	–	–	–	5	28	–	10	14	135
Gastroenteritis (instit.)	–	10	–	–	2	–	–	–	33	–	–	–	–	–	–	3	48
Hepatitis A – acute viral	6	26	29	52	10	1	8	–	12	–	12	7	14	2	2	14	195
Listeriosis	–	1	1	1	–	–	–	–	1	1	–	–	–	–	–	1	6
Salmonella (NOS)	13	21	13	33	48	12	60	36	46	15	37	16	48	25	20	48	491
Typhoid and paratyphoid	–	1	–	6	–	–	1	–	2	–	4	–	3	1	–	3	21
Vibrio infection (non cholera)	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1

FOODBORNE INFECTIOUS DISEASE

Hunter Public Health Unit has reported the largest number of incidents of foodborne illness (where two or more related cases are involved) this year (Table 10). Several small unrelated outbreaks contributed to 55 notifications, all of which have been resolved.

PUBLIC HEALTH ABSTRACTS

Professor James S. Lawson, Professor and Head of the School of Health Services Management at the University of NSW, has prepared the following public health items from the literature.

SURVIVAL OF TINY BABIES – GOOD AND BAD NEWS

The special vulnerability of very premature infants under the assault of modern intensive care techniques evokes strong responses – both the desire to sustain their fragile existence and doubts about the widsom of doing so. A US-based report has again highlighted these issues. Twenty per cent of newborn children under 750 grams who survived to school age had one or more severe disabilities. About half have one or more less serious disabilities and about half survived without any disabilities. Clearly, prevention of prematurity is desirable, but there is not sufficient knowledge to enable specific preventive programs to be established.

McCormick MC. Survival of very tiny babies. *N Engl J Med* 1994; 331:802-803.

METHADONE MAINTENANCE TREATMENT IN OPIATE DEPENDENCE

A detailed review of methadone maintenance programs has concluded that they are beneficial in terms of reducing illicit opiate use, reducing criminal behaviour and achieving other positive social changes. But there is clear evidence that programs vary substantially in their efficacy. The differences include dosage of methadone, maintenance versus abstinence and support services. Despite the endorsement of the value of methadone programs, clearer guides are needed to define the minimum conditions necessary to deliver an effective intervention.

Farrell M, Ward J, Mattick R, Hall W et al. Methadone maintenance treatment in opiate dependence. *Br Med J* 1994; 309:997-1001.

CORONARY ANGIOPLASTY COMPARED WITH BYPASS GRAFTING

Major studies are becoming available from the US which give quite detailed guidelines for intervention in people with coronary artery disease. It is now clear that coronary surgery for some types of coronary disease can be lifesaving and certainly pain-reducing. It is also clear that angioplasty (dilating the coronary arteries) can be equally effective in some forms of heart disease.

Hillis LD, Rutherford JD. Coronary angioplasty compared with bypass grafting *N Engl J Med* 1994; 331:1086-1087.

THE SICK BUILDING SYNDROME

In 1982 the World Health Organisation formally described the Sick Building Syndrome (SBS) as a combination of symptoms including mental fatigue and headache, dryness and irritation of the eyes and throat, and skin symptoms such as redness and dry skin. This list of symptoms appears to be associated with buildings with indoor climate problems. The symptoms do not form an accepted clinical syndrome. A Swedish study has confirmed the existence of the syndrome but has concluded that individuals who have existing personal factors are at particular risk when working in buildings with climate problems. In addition, the study found that the presence of photocopiers was related to an increased prevalence of the reported symptoms. Specific personal factors were photosensitive skin and psychosocial conditions.

Stenberg B, Eriksson N, Hoog J et al. *Int J Epidemiology* 1994; 23:1190-1197.

INJURIES TO THE EYE

Injuries to the eye in Australia are an important cause of loss of vision and morbidity. During a 12-month period, 6,308 patients were admitted to the Royal Eye and Ear hospital in Victoria because of eye injuries. These injuries were work-related (44 per cent), due to home accidents (39 per cent) and sport-related (5 per cent). Most of the injured people failed to use safety eye wear, which may have prevented more than half the injuries.

Fong LP, Eye injuries in Victoria. *Med J Aust* 1995; 162-64-68.

ORIGINS OF CEREBRAL PALSY

The Australian and New Zealand Perinatal Societies have prepared a consensus statement about the origins of cerebral palsy. The consensus is that there is no evidence that obstetric practices can reduce the risk of cerebral palsy. The origins of many cases of cerebral palsy are likely to be antenatal and, with the exception of known factors such as rubella, cannot be prevented.

The origins of cerebral palsy – a consensus statement. *Med J Aust* 1995; 162:85-90.

WHY IS THE NEW ZEALAND ASTHMA EPIDEMIC OVER?

Soon after the introduction of effective drugs for the treatment of asthma these agents were accused of provoking asthma-related deaths. As early as 1948 it was suggested that the use of adrenaline spray had resulted in a five-fold increase in asthma mortality. Subsequent peaks in mortality followed the introduction of other medications. International comparisons have suggested that the drug fenoterol (obtainable over the counter) was the likely reason for the high death rate in New Zealand compared with the United Kingdom and Holland.

Blauw CJ, Westendorp RCJ. Asthma deaths in New Zeland. *Lancet* 1995; 345:2-3.

CORONARY ARTERY DISEASE, ALCOHOL AND THE FRENCH PARADOX

There is a strikingly low rate of mortality from CHD in France compared with other developed countries. It appears the most likely reason is the high intake of alcohol in wine among the French (high alcohol in spirits and, to a lesser extent, in beer makes little difference). This is despite the high consumption of saturated fats in France (about the same as in Australia). However, high alcohol consumption does not decrease mortality as deaths due to alcohol are high.

Criqui MH; Ringel BL. Does diet or alcohol explain the French paradox? *Lancet* 1994; 3444:1719-1723.