



## SUDDEN INFANT DEATH SYNDROME IN NSW: RECENT DEVELOPMENTS

In NSW sudden infant death syndrome (SIDS) ranks high as a cause of death in the first year of life. Excluding conditions arising in the perinatal period and congenital anomalies, *sudden death, cause unknown* accounts for three-quarters of infant deaths<sup>1</sup>.

Under the guidance of the NSW SIDS Advisory Committee\*, the NSW Health Department has recently taken steps to improve the monitoring of SIDS and instigate prevention based on newly identified risk factors. This article outlines these developments.

### EPIDEMIOLOGICAL SURVEILLANCE OF SIDS

The monitoring of SIDS relies on a mechanism to obtain timely data on SIDS occurrence and a uniform approach to diagnosis of the cause of unexpected death in infancy.

#### 1. Notification of SIDS

SIDS is a notifiable condition under the Public Health Act 1991. Unexpected infant deaths in NSW are invariably reported to the State Coroner, who orders an autopsy. The medical practitioner who makes the diagnosis of SIDS at autopsy (either a forensic pathologist or a Government Medical Officer) is responsible for the notification to the Health Department and must supply the following information:

- the full name and date of birth of the infant's mother and her usual address at the time of birth of the infant;
- the infant's full name, dates of birth and death, sex, and usual address;
- the name of the hospital of birth, or address of the place of birth (if not a hospital); and
- the address of the place at which the infant was found deceased or moribund<sup>2</sup>.

The Regulation under the Public Health Act stipulating details of the notification process was instigated in November 1991. To obtain epidemiological data on unexpected infant deaths before 1992, all 1990 infant deaths reported to the Coroner were reviewed, and a review of the 1991 deaths is planned. A separate article (to be published in a forthcoming issue of the *Public Health Bulletin*) outlines the main findings from 1990.

#### 2. Uniform approach to diagnosis

A uniform approach to diagnosis is a key element in the epidemiological surveillance of SIDS. The diagnosis of SIDS can be made only if the history, death scene investigation and a thorough autopsy exclude other causes of death.

##### • *New arrangements for infant autopsies*

A standardised Australian SIDS autopsy protocol is being developed by the Royal College of Pathologists of Australasia. This protocol will be used in the State's two major forensic centres (the Institute of Forensic

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## SIDS in NSW: Recent developments

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Medicine at Glebe, and the Department of Forensic Medicine in the Institute of Clinical Pathology and Medical Research at Westmead).

To promote uniformity of diagnosis throughout NSW, the SIDS Advisory Committee has recommended to the State Coroner that all coronial infant autopsies be done at Glebe or Westmead. Until 1991 these two centres had served mainly the Sydney metropolitan area. In 1991 the then State Coroner, Mr Kevin Waller, wrote to all coroners outside the Sydney area recommending that they order infant autopsies be done by a forensic pathologist either at Glebe or at Westmead. While coroners in country districts and urban areas other than Sydney retain the discretion to order that an infant autopsy be done locally, an increasing proportion of these autopsies is now done at Glebe and Westmead.

Autopsies are done promptly (the Institute of Forensic Medicine provides an autopsy service 24 hours a day, seven days a week), and the costs of transporting deceased infants to and from Glebe or Westmead is met by the Attorney-General's Department. The new arrangements appear to have gained wide community acceptance. In strongly supporting the program, the Sudden Infant Death Association of NSW (SIDA) has recognised that the specialised facilities available at Glebe and Westmead permit a more detailed and comprehensive post-mortem examination to be done.

Hospital accident and emergency departments throughout NSW have a protocol for staff who deal with unexpected infant deaths and the affected families. The Health Department has recently distributed a revised protocol<sup>3</sup> which incorporates information on the new autopsy arrangements.

### • Death scene investigation protocol

Immediately after an unexpected infant death is reported, a police officer visits the place of death, interviews the carers of the infant and records particulars. Because unexpected infant deaths are rare, no individual district police officer is likely to become experienced in their investigation. A working group of the SIDS Advisory Committee, including the representative of the Coronial Investigation Unit, has prepared a checklist which could assist police officers to obtain key information items. When finalised this checklist will be offered to the Police Department. If it is incorporated in police procedures, the checklist should contribute to the standardisation of diagnosis.

## RISK FACTOR INTERVENTION

In July 1991 the Australian Rotary Health Research Fund, in association with the Sir Robert Menzies Memorial Foundation, hosted a meeting of Australian and invited international SIDS experts to discuss the growing body of epidemiological literature which implicates the prone sleeping position as a risk factor for SIDS. Other possible risk factors implicated in the literature — maternal smoking, non-breast feeding and overheating — were also discussed. The deliberations of the meeting have been published in the *Journal of Paediatrics and Child Health*<sup>4</sup>. Participants agreed there was strong epidemiological evidence linking the prone sleeping position and the other risk factors with SIDS, and recommended population-based interventions. Programs had already been instituted elsewhere, and initial evaluations suggested they were effective.

The response in NSW was to conduct an information campaign directed at health professionals. This campaign comprised wide distribution throughout the NSW health system of an Information Bulletin entitled *Sudden Infant Death Syndrome and Associated Risk Factors*<sup>5</sup>, a seminar (attended by more than 200 health professionals from all over the State) in which the risk factors and their significance were explained, and incorporation of information on the risk factors in an updated version of the Department's information booklet on SIDS<sup>6</sup>.

SIDA intends to conduct a public campaign aimed at reducing SIDS risk this winter.

In order to determine the impact of any structured interventions or publicity, the NSW Health Department rapidly carried out a survey of the prevalence of infant sleeping positions, breast feeding and exposure to cigarette smoke. The findings of this survey will also be reported in a forthcoming issue of the *Public Health Bulletin*. It is proposed that the survey will be repeated late in 1992.

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\* The NSW SIDS Advisory Committee is chaired by the State Coroner. Its members include paediatricians, forensic pathologists, a respiratory physician/physiologist, social workers, representatives of the Sudden Infant Death Association of NSW, the Police Coronial Investigation Unit and the NSW Ambulance Service, and an epidemiologist. The secretariat is managed jointly by the Department's Epidemiology and Health Services Evaluation Branch and the Services Development Branch.

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# SPECIAL INTEREST GROUP FOCUSES ON TRAINING NEEDS

The establishment of 14 Public Health Units and the continuing evolution of the new public health infrastructure in NSW has meant that many of those now working in the public health network perceive they have inadequate formal training to meet their changing roles. Ensuring that all such staff, whatever their professional background, have a minimum level of public health "core skills" has therefore been identified as a priority for 1991-92.

A NSW public health network training special interest group (SIG) with representation from Central Office, metropolitan and rural Units, public health officers, public health nurses, environmental health officers, and specialist staff, was convened in February 1991 to address the training needs of those working in public health.

An audit of the training needs of existing staff was performed in May 1991, with results as indicated in Table 1.

Further training in keyboard skills, core skills in basic epidemiology and biostatistics and competency in computer use for public health were chosen as priorities for training. Following discussion at the July 1991 Unit Directors' meeting, it was resolved to supplement each Public Health Unit budget with enhancement funding conditional on minimum training requirements for staff being met.

Expressions of interest were called from NSW universities to run short courses to address these identified training needs. Replies were received from seven universities indicating their ability to offer further training in these fields. Several courses were felt to have special relevance to public health training needs, as well as being "best buys" in terms of value for money. The first of these courses was run by the Department of Public Health at the University of Sydney. Staff from 12 of the 14 Public Health Units, as well as two Central Office staff, attended. Professional background is shown in Table 2.

An evaluation completed by 40 of the 41 participants rated the course content "good" (20 per cent) "or very good" (75 per cent), while 33 per cent felt it was "relevant" and 53 per cent felt it was "very relevant" to their working needs.

A further course in biostatistics is planned at the University of Sydney next month, and similar courses will also be held at the University of Newcastle. A distance learning component is also being developed.

For the NSW public health network to come together as a cohesive whole, it is essential that all staff acquire a sound grounding in basic skills. As the network continues to develop, it is hoped that similar opportunities to acquire new skills will be made available to Health Promotions, Aboriginal Health, Women's Health and other health professionals whose work contains a component of public health.

Following the successful establishment of the training program, the Special Interest Group has changed the format of its terms of reference as follows, and will continue to coordinate training:

## TERMS OF REFERENCE 1992

- To meet at least twice annually, and to be broadly representative of all grades and categories of professional staff working in the NSW public health network.
- To advise on the continuing professional education needs of such staff.

TABLE 1

Category of staff	Training requirements		
	1	2	3
Medical (Directors & others)	Biostatistics (including statistics packages)	Management	Epidemiology and public health update
Public Health Officers	Epidemiology and public health	Biostatistics	Computer skills
Environmental Health Officers	Computer skills	Professional update (subject areas)	Epidemiology
Public Health Nurses	Epidemiology	Computer skills	Biostatistics
Research/Project Officers	Epidemiology	Computer skills	Biostatistics
Administrative/Clerical	Computer skills	Management skills	Public relation skills
Media and public relations skills, management skills, infectious diseases management, immunisation update and toxicology were also identified by significant numbers of staff as being desirable areas for future skills acquisition.			

TABLE 2

Category	Number
Medical Officer	3
Environmental Health Officer	14
Public Health Nurse	6
Food Inspector	3
Special Project/Research Officer	6
Other	9
<b>Total</b>	<b>41</b>

- To develop a graded/structured program of skills acquisition for those working in the public health network.
- To encourage "multi-skilling" for staff working within the public health network.
- To act as a "clearing house" for short courses and training opportunities.
- To identify areas where documentation for training purposes would be useful, and to encourage the development of this on an appropriate contract basis.
- To ensure recognition of training and accreditation in a form suitable for future professional advancement.

Our thanks are due to the members of the Training SIG, and the many staff both inside and outside the public health network who have contributed to the successful implementation of training requirements.

*David Jeffs, Chairman*  
*Shing Chung Fung, Secretary*  
*on behalf of the NSW public health network training SIG*

# RISK FACTOR LEVELS FOR CARDIOVASCULAR DISEASE

In 1990 47 per cent of all deaths in NSW were due to cardiovascular disease (CVD), mainly coronary (or ischaemic) heart disease and stroke. For men there were 7,477 deaths (32 per cent of all deaths) due to coronary heart disease and 1,882 (8 per cent) due to stroke; for women the numbers of deaths were 6,820 (34 per cent) from coronary heart disease and 2,937 (14 per cent) from stroke<sup>1</sup>. For the period July 1988 to June 1989 there were 32,227 hospital admissions for coronary disease and 11,841 for stroke, with an estimated cost of more than \$200 million<sup>2</sup>. CVD is clearly one of the major health problems.

There is considerable geographic variation in mortality from heart disease, with the highest rates in Western and South Western Sydney and the lowest rates in Southern and North Sydney<sup>3</sup>. Hospital admission rates for heart attacks have been found to be significantly higher than the State average in the Central West and North Coast and lowest in Southern, Central and North Sydney<sup>4</sup>.

It is now well established that much CVD can be prevented or delayed by reductions in cholesterol, blood pressure, cigarette smoking and body weight and increases in exercise by individuals and populations, so these risk factors are the targets of many health promotion activities.

The NSW Better Health Program included a project to identify all sources of data on risk factor levels for CVD throughout NSW, to summarise the coverage and comparability of the data, to identify gaps and to summarise the findings.

A total of 43 projects which measured risk factors in populations in 1984-90 was identified. Thirteen were prevalence surveys involving random samples of subjects, 20 were community screenings of self-selected participants and 10 were worksite projects. The graphs show results for selected projects involving 100 or more subjects. These were chosen according to how "representative" of the population the subjects probably were (so worksite screenings are not included) and according to the comparability of measurement methods. Full details are given in reports prepared for the Health Promotion Unit of the NSW Department of Health<sup>5,6</sup>.

Prevalence of cigarette smoking is shown in Figure 1. This varied from more than 70 per cent for the Aboriginal population in Wilcannia to 17 per cent reported from participants in the North Coast Cholesterol Check Campaign (NCCCC). The rates compare with rates of 24 per cent for men and 21 per cent for women found in the National Heart Foundation's survey of capital cities (Australia 1989 NHF). The target of "Health for All Australians" is to reduce the prevalence of smoking to 15 per cent or less by the year 2000.

Average cholesterol levels (Figure 2) ranged from 6.0mmol/L among women measured in an ethnic screening project in the Hunter Region to 4.9mmol/L in the North Coast Aboriginal and Islander population. The proportion of people with total cholesterol at or above 6.5mmol/L (the level considered by the National Heart Foundation to indicate high risk of coronary heart

FIGURE 1

PROPORTION OF SMOKERS PROJECT

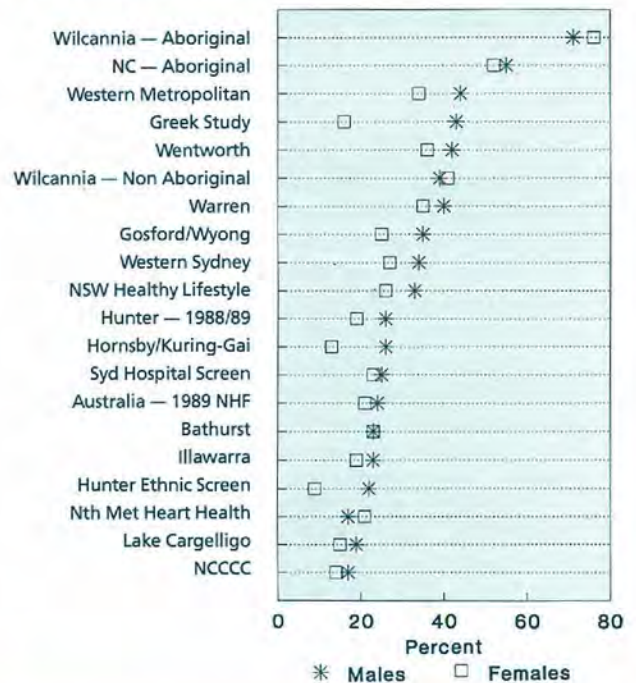


FIGURE 2

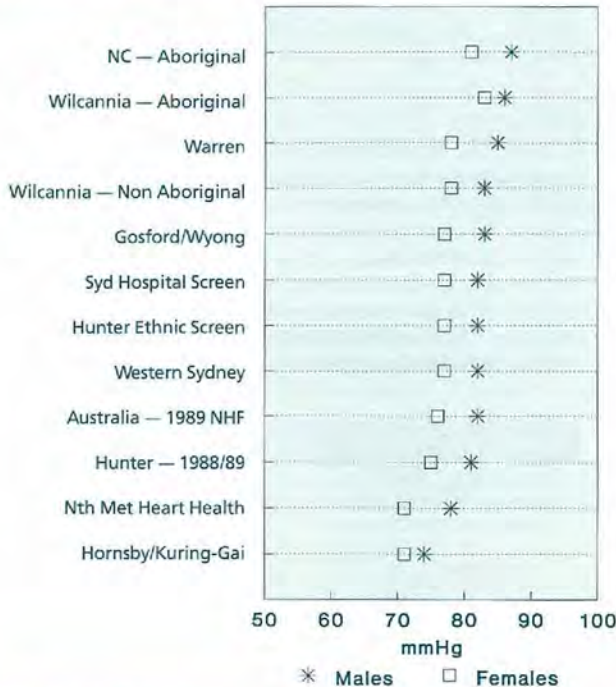
MEAN TOTAL CHOLESTEROL PROJECT



disease) was as high as 25 per cent in Wilcannia and Warren and still more than 10 per cent in the Hornsby/Kuring-Gai study which had the lowest prevalence. The "Health for All Australians" targets for the year 2000

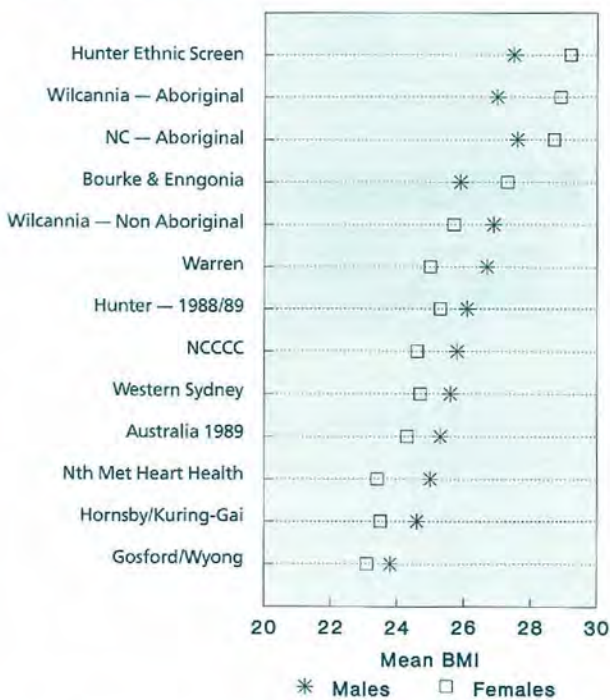
**FIGURE 3**

**MEAN DIASTOLIC BLOOD PRESSURE PROJECT**



**FIGURE 4**

**MEAN BODY MASS INDEX PROJECT**



are for cholesterol levels below 4.8mmol/L and prevalence of  $\geq 6.5$ mmol/L in 8 per cent or less of the population.

Diastolic blood pressure levels are shown in Figure 3. The highest blood pressure levels were found among the

Aboriginal populations, and everywhere men had higher levels than women. The national target for 2000 is to reduce the proportion of adults with diastolic blood pressure above 90mmHg to 5 per cent or less. This contrasts dramatically with recent results from the Orana and Far West Region, where 46 per cent of men in Warren and 36 per cent of Aboriginal women in Wilcannia had diastolic blood pressure above 90mmHg. Even in Hornsby/Kuring-Gai 11 per cent of men and 8 per cent of women exceeded this level.

Body mass index (BMI) is an indicator of weight relative to height (Figure 4). Generally men have higher BMI than women except among Aboriginal and ethnic populations. Most of the NSW projects found average BMI above those in the National Heart Foundation survey. Among women the proportions who were overweight or obese included 64 per cent in the Aboriginal population of Wilcannia, 59 per cent in the Greek Good Heart/Good Life project in Sydney, 53 per cent in Purfleet and Forster and 51 per cent in non-Aborigines at Wilcannia. Among men 66 per cent in the Lake Cargelligo project were overweight or obese, as were 62 per cent in the Greek Good Heart/Good Life project.

Levels of physical activity were difficult to compare because of differing methods of defining and categorising exercise. For example, reported prevalence of regular vigorous exercise varied from 1 per cent among Aborigines at Wilcannia to 64 per cent among men and 48 per cent among women at Lake Cargelligo. The need for consistent measurement methods for exercise was one of the recommendations of this review project.

In summary, prevalence of all the major risk factors for CVD was found to be high throughout NSW (which probably explains why, for example, the State has among the highest death rates from heart disease in Australia<sup>7</sup>). In particular, risk factor levels were consistently high in Aboriginal populations.

Reports of this project<sup>5,6</sup>, giving details of all the studies reviewed, can be obtained from the Health Promotion Unit, NSW Health Department, Locked Mail Bag 961, North Sydney 2059 (phone 02-391 9585) or the Hunter Region Heart Disease Prevention Program, Centre for Clinical Epidemiology and Biostatistics, The University of Newcastle, Newcastle 2308 (phone 049-21 5507).

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# RUBELLA VACCINE (RA27/3 STRAIN) IN AUSTRALIAN SCHOOLGIRLS

## SUMMARY

The immunogenicity and reactogenicity of the RA27/3 strain of rubella vaccine was evaluated in schoolgirls 11 to 12 years old in a study from April to July, 1987. The incidence of adverse events was lower in initially seropositive girls compared to seronegative cohorts throughout the follow-up period. Overall, 22 per cent of the vaccinees reported symptoms in the first week after vaccination, the most frequent being pain at the site of injection and headache. All initially seronegative girls administered vaccine seroconverted. This vaccine is immunogenic and well-tolerated and can therefore be used without the need for pre-vaccination screening.

## INTRODUCTION

The frequency of congenital rubella in Australia has decreased, primarily due to the introduction of mass rubella vaccination programs<sup>1</sup>. In these programs it is important and more cost-effective to vaccinate all girls of a certain age, without pre-vaccination screening for the determination of existing levels of anti-rubella virus antibodies.

The success of these programs also depends on the widespread acceptance of the vaccine to be used. Previous studies<sup>2</sup> have shown that the RA27/3 strain, although more immunogenic than other strains<sup>3-5</sup>, may be particularly reactogenic — leading to an increase in the number of subjects refusing vaccination.

We have studied the reactogenicity of the RA27/3 strain rubella vaccine in both initially seronegative and seropositive schoolgirls aged 11 and 12 years. These subjects were followed up for three months to compare the frequency and severity of adverse reactions after vaccination in the two groups. The immunogenicity of the RA27/3 strain rubella vaccine was also evaluated in initially seronegative subjects.

## Subjects and methods

Girls 11 and 12 years old were included in this study, irrespective of any history of rubella infection. They were recruited from April to July 1987 from 19 high schools and four randomly selected primary schools in the Illawarra area of NSW. An explanatory letter about the clinical trial was sent to the parents of each girl, and written informed consent was obtained. All subjects were healthy at the time of vaccination and had no history of allergy to neomycin and no other contra-indication to participation in the study.

Subjects were given a card to record any adverse events during the three-month period after vaccination. Local symptoms such as pain, redness and induration were evaluated for four weeks. General symptoms, including fever, rash, joint pains and headache, were recorded for the full three months.

Blood samples for the detection of anti-rubella virus antibodies were taken immediately before vaccination and again three months later. Sera were stored at  $-20^{\circ}\text{C}$  until titrated. Blood samples were assayed by Haemagglutination Inhibition Test using trypsinized human group O red blood cells according to the method of Gupta and Peterson<sup>6</sup>. Antibody titres are given as the reciprocal of the highest reactive dilution. Titres under 10 were regarded as seronegative, those over 20 as seropositive. Seroconversion was defined as a four-fold, or greater, rise in antibody titres.

The live attenuated RA27/3 rubella virus vaccine (Ervevax, SmithKline Biologicals) was used. The vaccine was given subcutaneously in the deltoid region in one dose.

## RESULTS

### Immune status of subjects before vaccination

Of the 504 subjects enrolled in this study, 264 (52.4 per cent) were seronegative before vaccination. The remaining subjects had pre-vaccination anti-rubella virus titres ranging from 40 to 640 (geometric mean titre = 186).

### Immunogenicity of the RA27/3 rubella vaccine

Of the initially seronegative subjects, 247 (93.6 per cent) returned for follow-up blood tests three months after vaccination. At this time, all were found to have seroconverted. The post-vaccination geometric mean antibody titre in these subjects was 157. The distribution of antibody titres is shown in Figure 5. Post-vaccination blood samples of initially seropositive girls were not assayed.

FIGURE 5

ANTI-RUBELLA ANTIBODY TITRES IN INITIALLY SERONEGATIVE ADOLESCENT GIRLS AFTER VACCINATION

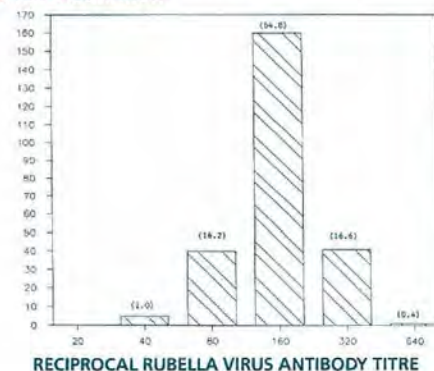
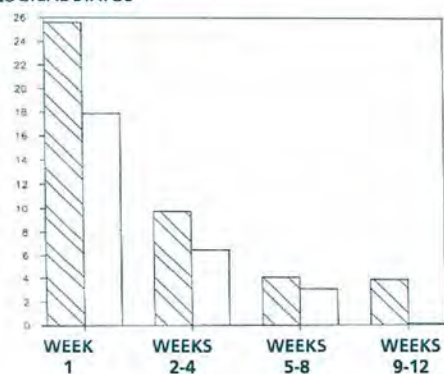


FIGURE 6

FREQUENCY OF SYMPTOMS AFTER VACCINATION IN ADOLESCENT GIRLS ACCORDING TO PRE-VACCINATION SEROLOGICAL STATUS



INIT. SERONEGATIVE

INIT. SEROPOSITIVE

### Reactogenicity of the rubella vaccine

The reactogenicity of the rubella vaccine was assessed from patient diary cards completed by the parents or children. Four hundred and seventy girls (93.3 per cent, 258 initially seronegative and 212 seropositive subjects) returned cards. The reactogenicity of the vaccine was examined with respect to the initial immune status of the vaccinee. The follow-up period was divided in four, as shown in Figure 6. The overall reactogenicity observed in initially seropositive girls was lower than that observed in seronegative subjects. During the first week after vaccination (Week 1) 66 of 258 (25.6 per cent) initially seronegative girls reported symptoms whereas only 38 of 212 (17.9 per cent) seropositive girls did so (Table 3). In both seronegative and seropositive subjects, pain and itchiness were the most frequently reported local symptoms, experienced by 39.4 per cent and 24.0 per cent, respectively, of those girls with adverse effects after vaccination. Headache (40.4 per cent) and joint pain (17.3 per cent) were the most frequently observed general reactions. During weeks 2 to 4, the number of adverse reactions in both groups fell to below 10 per cent of all vaccinees. Nearly 4 per cent of initially seronegative girls reported symptoms 5 to 12 weeks after vaccination. It is unlikely that these events were a result of the rubella vaccine because of the general nature of the complaints (e.g. headache, dizziness, slight cough).

### DISCUSSION

This report confirms the immunogenicity of the RA27/3 strain as all 247 initially seronegative schoolgirls vaccinated during the course of the study had seroconverted at the three-month follow-up.

The adverse events observed were similar to those already reported using the same strain<sup>1</sup>. The most common local side-effect of vaccination was pain near the injection site, reported by 39.4 per cent of all girls with post-vaccination symptoms. Headache was also frequently reported. No severe reaction attributable to the vaccine was noted. The incidence of adverse events was lower in initially seropositive girls when compared to seronegative cohorts. The low incidence of reactions in seropositive subjects (fewer than one in five vaccinees) shows that this vaccine is safe and well-tolerated in all subjects, even those with prior evidence of rubella infection, and can therefore be used in mass immunisation programs without the need for pre-vaccination antibody screening.

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TABLE 3

### SYMPTOMS OBSERVED IN THE FIRST WEEK AFTER VACCINATION

SEROLOGICAL STATUS	-	+	OVERALL %
TOTAL WITH SYMPTOMS	66/258 (25.6%)	38/212 (17.9%)	22.1
LOCAL			
pain	25	16	39.4
redness	8	4	11.5
hardness	12	4	15.4
itching	18	7	24.0
SYSTEMIC			
headache	26	16	40.4
joint pain	12	6	17.3
rash	5	2	6.7
fever	3	3	5.8
other	16	7	22.1

### EDITORIAL COMMENT

This study confirms a very low reaction rate with the RA27/3 strain of rubella vaccine and shows 100 per cent seroconversion in non-immune schoolgirls<sup>1</sup>. The RA27/3 vaccine has a slightly higher conversion rate than the other rubella vaccine strains and is included in the measles-mumps-rubella (MMR) vaccines presently available in Australia. 52.4 per cent of the 11- and 12-year-old schoolgirls in this study were seronegative before vaccination. A much higher rate of immunity to rubella can be anticipated in about 10 years, following the inclusion of MMR vaccine in the routine immunisation schedule for all infants at the age of 12 months.

The symptoms experienced by the seropositive subjects in this study may not all be due to the vaccine. An elegant double-blind, placebo-controlled, cross-over study in 581 twin pairs in Finland using MMR vaccine showed a very low true frequency of side-effects from the vaccine<sup>2</sup>. Some vaccines are known to cause slightly more immediate discomfort at the injection site than others, but this is transient and of little real importance as are the injection site reactions and headaches reported by these schoolgirls. The value of rubella vaccine in preventing congenital rubella infection is established<sup>3</sup>. Every effort should be made to encourage schoolgirls and non-immune adult women to be vaccinated.

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Please send your articles, news, comments or letters to Dr George Rubin — Locked Bag 961, North Sydney NSW 2059 or Fax (02) 391 9232. Articles should, where possible, be submitted with a disk using WordPerfect.

Suggestions for improving the reporting of infectious diseases are most welcome.

# INFECTIOUS DISEASES

## NOTIFICATIONS

Data in this Bulletin relate to Epiweeks 1 to 21. Table 4 lists the number of weekly reports made to the Epidemiology and Health Services Evaluation Branch this year, out of a possible 20.

There has been an improvement in the quality of infectious diseases data received from Public Health Units (PHUs), both with respect to weekly reporting (Table 4) and to inclusion of basic epidemiological parameters on infectious disease notifications (Table 5). South West Region has complete reporting for all four reporting criteria reported in this *Bulletin*.

**TABLE 4**

NUMBER OF WEEKLY REPORTS MADE TO EPIDEMIOLOGY BRANCH — 1992

Public Health Unit	Number	Status
Central/Southern Sydney	16	Complete
Eastern Sydney	8	Complete
South Western Sydney	10	Incomplete
Western Sector	20	Complete
Northern Sydney	20	Complete
Central Coast	11	Complete
Illawarra	16	Complete
Hunter	15	Complete
North Coast	19	Complete
New England	18	Complete
Orana and Far West	20	Complete
Central West	14	Complete
South West	20	Complete
South East	20	Complete

**TABLE 5**

PERCENTAGE OF NOTIFICATIONS WITH INCOMPLETE INFORMATION BY VARIABLE AND PUBLIC HEALTH UNIT, JANUARY-APRIL 1992

Public Health Unit	Age	Sex	Aboriginality
Central/Southern Sydney	1.0	Complete	100.0
Eastern Sydney	5.5	5.3	97.8
South Western Sydney	2.7	3.5	22.4
Western Sydney	6.3	7.7	94.4
Wentworth	3.6	4.8	84.1
Northern Sydney	4.1	3.8	97.7
Central Coast	3.3	1.1	87.7
Illawarra	2.2	1.1	94.0
Hunter	2.7	1.3	99.1
North Coast	1.3	1.1	41.9
New England	27.1	9.8	68.3
Orana and Far West	6.9	Complete	33.9
Central West	4.5	Complete	69.2
South West	Complete	Complete	Complete
South East	1.5	3.1	Complete

## SEXUALLY TRANSMITTED DISEASES — NOTIFIABLE

Gonorrhoea is a laboratory-notifiable condition. One hundred and thirty-six notifications were received to the end of May, compared with 177 for the same period in 1991

— a 13 per cent decrease. Taking into account reporting delays, the total for 1992 is compatible with the decline of gonorrhoea incidence observed since 1982.

Syphilis is doctor-notifiable. To the end of May 172 notifications of syphilis had been received. This compares with the 245 observed for the same period in 1991 — a 30 per cent decrease, which suggests a level of under-reporting. Sexual Health Clinics (SHCs) had been reluctant to notify syphilis cases under the original provisions of the Public Health Act as they were required to include identifying data. A change to the Regulation in April allows SHCs to notify cases using the first two letters of the given and family names, if all public health action has been carried out.

Statistics on the cases of AIDS are now being entered on the Infectious Diseases Surveillance System (IDSS) by Public Health Units. By the end of May 53 cases had been entered into IDSS. Most were from the Northern Sydney and Central and Southern PHUs.

## SEXUALLY TRANSMISSIBLE DISEASES — NON NOTIFIABLE

Several sexually transmissible diseases that were notifiable under the Public Health Act 1902 need no longer be routinely reported to the Health Department following the passing of the Public Health Act 1991. Surveillance of *Chlamydia trachomatis*, Donovanosis, genital herpes and genital warts, non-specific urethritis and *Lymphoma granuloma* will now occur through Sexual Health Centres reporting to PHUs. (See Table 6.)

## MEASLES

Ten Area Health Services and Regions notified a total of 25 cases of measles during May.

Twenty-one notifications (84 per cent) were for children over the age of 12 months, and were therefore "preventable" through age-appropriate immunisation. Measles immunisation is recommended as a combined measles-mumps-rubella vaccine at the age of 12 months.

The Hunter Area notified 13 cases for a rate of 32.8 notifications per 100,000 population per year.

## HEPATITIS C

This condition is being notified more often. Caution is required in interpreting notification data. Available tests do not distinguish between incident and prevalent cases. During May, only three of 103 notifications for hepatitis C were described as acute episodes.

In addition, test sensitivity has increased in the past two years. Blood donations in NSW have been screened for hepatitis C since February, 1990. During May the NSW Health Department became aware of eight cases of blood and blood products contaminated with hepatitis C that had been transfused during 1991.

Intravenous drug use remains the highest risk factor for acquisition of hepatitis C.

**TABLE 6**

NOTIFICATIONS OF NON-NOTIFIABLE SEXUALLY TRANSMITTED DISEASES RECEIVED IN MAY 1992, BY AREA HEALTH SERVICE/REGION.

AHS Disease	CSA	SSA	ESA <sup>1</sup>	SWS	WSA + WEN <sup>2</sup>	NSA <sup>3</sup>	CCA	ILL	HUN <sup>4</sup>	NCR	NER <sup>5</sup>	OFR	CWR	SWR <sup>6</sup>	SER
<i>Chlamydia trachomatis</i>			92		19	2			1		1				—
Donovanosis			—		—	—			—		—				—
Genital herpes			198		13	2			17*		1				4
Genital warts			456		94	24			30*		6				—
Non-specific urethritis			287		107	8			19		—				—
<i>Lymphoma granuloma</i>			—		—	—			—		—				—

<sup>1</sup> Cumulative statistics to April 1992.  
<sup>2</sup> Cumulative statistics to March 1992.  
<sup>3</sup> Statistics for March, April 1992.  
<sup>4</sup> Males, females to March, and females to April 1992.  
<sup>5</sup> Statistics for part of May 1992.  
<sup>6</sup> Statistics for April 1992.  
 \* New cases.



# Q FEVER VACCINATION PROGRAM IN NEW ENGLAND REGION

Q fever is a well recognised health hazard for abattoir workers, dairy workers, shearers, wool sorters, tanners and veterinarians. It is contracted by the inhalation of aerosols or dust contaminated by the infected products of conception of cattle, sheep and goats. The infectious agent is a rickettsia, *Coxiella burnetii*.

The New England Region was one of four Health Regions in NSW with high notifications of Q fever (18 per 100,000 population in 1990). The perceived costs in employee claims under the Occupational Health & Safety Act were identified as high by the abattoir administration.

The five abattoirs in the Region were approached in July 1991 with a proposal to screen and vaccinate their workforce against Q fever. Discussions were held with abattoir managers, personnel managers, occupational health nurses and union representatives. Background information was gained from the Central West Region, where a testing program had been implemented, and from Professor Barry Marmion of Adelaide.

Screening involves taking a short medical and occupational history, a skin-test and venipuncture for Q fever serology. The skin-test is read five to seven days later, when pathology results are also received. Vaccination is offered only to those who have negative serology and skin tests.

## The New England program

The Public Health Nurse (PHN) was trained as a Q fever vaccinator by Professor Marmion. After accreditation the PHN trained the occupational health nurse at Gunnedah Abattoir, and initially assisted her with the screening of employees. This program began in September 1991 and continued until the expiry date of the only vaccine source in February 1992. With minimal disruption to the abattoir

operation, screening was offered for several hours a day, including for night-shift workers, up to four days a week.

Tamworth Abattoir, with 90 employees, has no occupational health nurse but was included in December 1991. The Public Health Nurse coordinated the program at this small abattoir one morning a week over four weeks.

Concurrently in Tamworth a group of 41 of the New England Dairymen's Association was screened and vaccinated. The cost of their vaccination was met by individuals or their employers.

The combined abattoir program tested 655 employees (110 females, 545 males). Serology and skin testing demonstrated that 340 (52 per cent) had previously been infected. Of these:

- 315 (48 per cent) had negative serology and skin test;
- 111 (17 per cent) had both positive serology and skin test;
- 183 (28 per cent) had positive serology only; and
- 46 (7 per cent) had positive skin test only.

Vaccination was offered to the 315 serology and skin-test negative reactors.

In comparison, of the 41 dairymen screened eight (20 per cent) had been previously infected. Four (10 per cent) had positive serology only and four (10 per cent) had a positive skin test and negative serology.

Vaccine availability has limited the program to the present participants and prevented its extension to the remaining abattoirs.

*Contributed by Greg Bell, Senior Environmental Health Officer; Cathy Johnson, Public Health Nurse and John Rooney, Director, Public Health Unit.*

## LEPROSY

The first cases of leprosy in two years have been notified, from South West Region (1) and Central Sydney Area Health Service (2). Details of the three cases are as follows:

AGE (YEARS)	SEX	COUNTRY OF BIRTH
34	Male	Vietnam
51	Female	New Guinea
77	Male	India

Leprosy is primarily a disease of the tropics and subtropics. It is a disease of low infectivity, usually being transmitted after prolonged personal contact. Antibiotic treatment is effective. Infectiousness is lost within three days of treatment with rifampicin.

The diagnosis should be considered when a patient from a country where leprosy is endemic presents with unexplained neuropathy or skin lesions. As leprosy is adequately treated in the outpatient setting and laboratory diagnosis is not always reliable, had been retained on the list of conditions to be notified by all medical practitioners.

## HAEMOPHILUS INFLUENZAE INFECTIONS

Ten notifications were received for *Haemophilus influenzae* infections during May. This compares with 22 notifications received for the same period in 1991.

A total of 59 notifications has been received for 1992. Twenty-three (39 per cent) were for children aged between 18 months and five years, and therefore potentially preventable by the currently available vaccine.

## Q FEVER

As the vaccine against Q fever is unavailable, the serological screening and immunisation program has been stopped. The success of the program has been reflected in the 52 per cent decrease in Q fever notifications in 1992 compared with the same period in 1991.

## FOODBORNE ILLNESSES

Notifications for foodborne diseases have decreased for several reasons. Among these is:

- The new notification criteria for foodborne diseases (campylobacter, yersinia and shigella are no longer notified as single cases, unless they occur in an "institution"); and
- Delays in data entry of foodborne notifications as the Food Branch processes notifications and embarks on surveillance and public health action before passing notifications to PHUs.

This second factor will be streamlined with the integration of Food Branch officers into the PHUs.

## INFLUENZA

Six PHUs (Western Sydney, Central/Southern Sydney, Illawarra, Central Coast, Central West Region and South Eastern Region) provide General Practitioner Sentinel Surveillance data on influenza. The rate of influenza, expressed as the number of cases per 100 consultations, increased from 1.63 at the beginning of May to 7.37 by the first week of June.

The national reporting scheme ASPREN recorded an increase in "influenza-like illness" in late April and early May.

**TABLE 7**

**INFECTIOUS DISEASE NOTIFICATIONS  
BY HEALTH AREA AND REGION  
CUMULATIVE 1992**

CONDITION	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NCR	NER	OFR	CWR	SWR	SER	OTH	U/K	TOTAL
Adverse event after immunisation	1	1	-	-	5	-	-	1	-	1	3	5	-	-	-	2	-	-	14
AIDS infection	9	2	-	2	5	5	12	1	1	2	6	2	-	1	4	1	-	-	53
Arboviral infection	-	-	-	-	1	3	4	4	1	19	92	21	24	-	17	-	-	-	186
Diphtheria	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Foodborne illness (NOS)	-	-	24	1	16	6	-	10	-	6	-	2	17	1	1	-	-	-	84
Gastroenteritis (instit)	1	-	1	-	3	2	-	-	-	34	1	92	2	-	-	-	-	-	136
Gonorrhoea infection	15	3	59	6	8	-	7	-	2	3	8	5	6	7	2	5	-	-	136
H. influenzae epiglottitis	-	-	-	-	2	1	-	-	-	4	2	2	-	-	1	-	-	-	12
H. influenzae meningitis	1	-	-	-	2	3	9	-	3	3	3	-	1	-	2	2	-	-	29
H. influenzae septicaemia	-	-	1	2	2	-	2	-	1	1	1	-	-	-	1	-	-	-	10
H. influenzae infection (NOS)	-	-	1	-	2	-	-	1	-	-	-	1	1	-	-	2	-	-	8
Hepatitis A - acute viral	16	8	73	12	25	4	63	1	14	22	40	78	23	3	5	3	-	-	390
Hepatitis A - unspecified	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	3
Hepatitis B - acute viral	-	1	3	4	4	2	3	-	5	1	7	2	14	-	-	-	-	-	46
Hepatitis B - unspecified	123	96	31	111	151	18	115	11	6	55	21	18	6	4	8	12	2	-	788
Hepatitis C - acute viral	-	1	1	14	6	-	3	-	2	-	9	4	4	1	-	1	-	-	46
Hepatitis C - unspecified	148	35	116	27	87	15	87	34	22	201	208	21	2	4	6	8	-	-	1021
Hepatitis D - unspecified	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	2
Hepatitis, acute viral (NOS)	-	-	-	4	-	-	-	1	-	-	1	2	1	1	1	-	-	-	10
HIV infection*	37	14	93	4	10	4	15	2	2	8	10	-	2	-	1	3	-	102	307
Hydatid disease	-	-	-	-	-	-	-	-	-	-	1	2	-	1	-	-	-	-	4
Legionnaires' disease	-	1	1	28	7	1	4	2	1	1	1	-	-	-	-	1	-	-	48
Leprosy	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	3
Leptospirosis	-	1	-	-	-	-	-	-	-	-	1	2	-	3	-	-	-	-	7
Listeriosis	-	1	-	-	-	1	2	-	-	-	1	-	-	1	-	-	-	-	6
Malaria	-	1	-	1	2	-	7	-	2	2	1	2	1	1	2	2	-	-	24
Measles	6	3	4	11	18	3	15	6	9	33	13	9	7	5	-	7	-	-	149
Meningococcal meningitis	1	2	-	1	1	1	-	1	1	3	1	-	1	-	-	-	-	-	13
Meningococcal septicaemia	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Meningococcal infection (NOS)	-	-	-	-	-	-	1	-	1	-	-	2	-	-	-	-	-	-	4
Mumps	-	-	-	1	3	-	1	-	-	3	1	-	-	-	1	1	-	-	11
Mycobacterial atypical	8	3	19	-	9	1	9	-	1	10	-	-	-	-	-	-	-	-	60
Mycobacterial tuberculosis	14	10	13	10	14	3	28	3	3	1	3	6	-	-	-	2	-	-	110
Mycobacterial infection (NOS)	-	-	-	-	4	1	2	1	4	3	-	1	1	-	1	-	-	-	18
Pertussis	-	5	1	6	3	-	9	-	-	23	-	-	-	-	-	-	-	-	49
Q fever	-	-	-	1	1	1	-	1	-	4	17	9	13	-	2	-	-	-	48
Rubella	1	-	2	-	4	1	8	-	-	1	3	-	-	-	-	2	-	-	22
Salmonella (NOS)	9	11	23	17	22	10	44	11	6	17	32	18	13	9	6	13	-	-	261
Salmonella bovis moribificans	1	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	4
Salmonella typhimurium	3	11	2	1	3	-	12	3	3	12	2	1	2	-	2	-	-	-	57
Syphilis infection	25	10	19	9	8	1	17	-	2	4	26	11	34	3	1	1	1	-	172
Tetanus	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Typhoid and paratyphoid	1	-	1	-	2	-	3	-	1	-	-	-	-	-	2	-	-	-	10

\* Data to April only.

**TABLE 8**

**INFECTIOUS DISEASE NOTIFICATIONS  
BY HEALTH AREA AND REGION  
May 1992**

CONDITION	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NCR	NER	OFR	CWR	SWR	SER	OTH	U/K	TOTAL
Adverse event after immunisation	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2
AIDS	-	-	-	-	3	1	1	-	-	-	1	-	-	-	-	-	-	-	6
Arboviral infection	-	-	-	-	1	1	2	-	-	2	7	2	2	-	-	-	-	-	17
Foodborne illness (NOS)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Gastroenteritis (instit)	-	-	-	-	-	1	-	-	-	32	-	-	-	-	-	-	-	-	33
Gonorrhoea infection	1	-	16	-	1	-	-	-	-	-	-	2	1	-	-	-	-	-	21
H. influenzae epiglottitis	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	3
H. influenzae meningitis	-	-	-	-	-	-	3	-	1	-	-	-	-	-	-	-	-	-	4
H. influenzae septicaemia	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
H. influenzae infection (NOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Hepatitis A - acute viral	-	1	4	1	3	1	2	-	1	2	14	12	2	-	-	-	-	-	44
Hepatitis B - acute viral	-	-	2	-	-	-	1	-	4	-	-	-	-	-	-	-	-	-	7
Hepatitis B - unspecified	-	4	5	-	12	1	12	1	-	8	10	-	1	1	-	-	-	-	55
Hepatitis C - acute viral	-	-	-	-	1	-	-	-	-	-	-	1	1	-	-	-	-	-	3
Hepatitis C - unspecified	2	-	8	-	-	1	12	2	1	28	44	1	-	-	-	-	-	-	100
Hepatitis, acute viral (NOS)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Leptospirosis	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
Malaria	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	2
Measles	2	1	-	1	1	-	-	-	1	13	2	1	2	1	-	-	-	-	25
Meningococcal meningitis	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	2
Mumps	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Mycobacterial atypical	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	2
Mycobacterial tuberculosis	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-	-	-	4
Pertussis	-	2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	3
Q fever	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Salmonella infection (NOS)	-	-	1	-	-	-	6	1	-	1	1	3	2	-	1	-	-	-	16
Salmonella bovis moribificans	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Salmonella typhimurium	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	2
Syphilis infection	-	-	1	-	-	-	2	-	-	-	4	-	-	-	-	-	-	-	7
Typhoid and paratyphoid	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

Abbreviations used in this Bulletin:

CSA Central Sydney Health Area, SSA Southern Sydney Health Area, ESA Eastern Sydney Health Area, SWS South Western Sydney Health Area, WSA Western Sydney Health Area, WEN Wentworth Health Area, NSA Northern Sydney Health Area, CCA Central Coast Health Area, ILL Illawarra Health Area, HUN Hunter Health Area, NCR North Coast Health Region, NER New England Health Region, OFR Orana & Far West Health Region, CWR Central West Health Region, SWR South West Health Region, SER South East Health Region, OTH Interstate/Overseas, U/K Unknown, NOS Not Otherwise Stated

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

**TABLE 9**

**SUMMARY OF NSW INFECTIOUS DISEASE NOTIFICATIONS MAY 1992**

CONDITION	Number of Cases Notified			
	Period		Cumulative	
	May 1991	May 1992	May 1991	May 1992
Adverse reaction	N/A	2	N/A	14
AIDS	30	6	169	53
Arboviral infection	37	17	354	186
Brucellosis	1	-	2	-
Cholera	-	-	-	-
Diphtheria	-	-	-	1
Foodborne illness (NOS)	257	1	1481	84
Gastroenteritis (instit.)	3	33	27	136
Gonorrhoea	27	21	177	136
H. influenzae epiglottitis	1	3	3	12
H. influenzae B - meningitis	5	4	12	29
H. influenzae B - septicaemia	1	2	2	10
H. influenzae infection (NOS)	18	1	50	8
Hepatitis A	65	44	199	393
Hepatitis B	106	62	466	834
Hepatitis C	17	103	104	1067
Hepatitis D	N/A	-	N/A	2
Hepatitis, acute viral (NOS)	52	1	187	10
HIV infection*	70	65	320	307
Hydatid disease	-	-	1	4
Legionnaires' disease	2	-	17	48
Leprosy	-	-	-	3
Leptospirosis	2	1	22	7
Listeriosis	-	-	3	6
Malaria	24	2	85	24
Measles	15	25	178	149
Meningococcal meningitis	3	2	11	13
Meningococcal septicaemia	1	-	7	1
Meningococcal infection (NOS)	6	-	14	4
Mumps	N/A	1	N/A	11
Mycobacterial tuberculosis	21	4	99	110
Mycobacterial - atypical	11	2	39	60
Mycobacterial infection (NOS)	20	-	79	18
Pertussis	3	3	24	49
Plague	-	-	-	-
Poliomyelitis	-	-	-	-
Q fever	20	1	101	48
Rubella	7	-	11	22
Salmonella infection (NOS)	127	19	692	322
Syphilis	65	7	245	172
Tetanus	1	-	2	1
Typhoid and paratyphoid	1	1	33	10
Typhus	-	-	-	-
Viral haemorrhagic fevers	-	-	-	-
Yellow fever	-	-	-	-

\*Data to April only.

**SURVEILLANCE OF ANTIBIOTIC SENSITIVITY OF GONOCOCCI**

In the March quarter of 1992, 33 per cent of gonococcal isolates referred to the Australian Gonococcal Surveillance Program were fully sensitive to penicillin. Only 17 per cent were found to be penicillinase producers (PPNG).

The proportion of strains fully sensitive to the penicillin group of antibiotics continues to rise. Despite this increase, more than a quarter of all strains examined were resistant to penicillin, either through lactamase production or intrinsic resistance. Twenty of 25 PPNG isolated in this quarter were imported from overseas and only three local infections with PPNG were recorded. This confirms the previously reported decline in the endemic transmission of PPNG in Sydney.

*Contributed by Dr John Tapsall, Prince of Wales Hospital.*

**NEW STATISTICS TO PLUG THE GAPS**

In Australia, private hospitals provide a significant proportion of health services and employ a large proportion of the health workforce. But there are only very limited data available on their resources, finances and activities.

A new nation-wide Private Health Establishments Collection being conducted by the Australian Bureau of Statistics (ABS) this month will provide a variety of statistics about private hospitals and day surgeries. This will fill some of the most serious gaps in Australia's health information systems.

The collection is to be done annually following the recognition by the Australian Health Ministers' Advisory Council (AHMAC) and by agencies responsible for the planning and administration of health care in Australia of the need for national statistics and the important role played by the private sector in provision of institutional health services.

The information being collected is based on the National Minimum Data Set endorsed by AHMAC and also includes other details needed by the private hospital sector. It will provide feedback to assist in management and policy development and allow individual hospitals to see how their business is performing in relation to trends in the industry. This, with information also about public hospitals collected by the Australian Institute of Health, will provide the first comprehensive set of national statistics relating to hospitals which is comparable across all States and Territories.

The first collection will be for the 1991-92 financial year. The questionnaires will collect information about facilities and activities, types of inpatients and non-inpatients treated, staffing, finances, fees and charges.

Content of the questionnaires was designed in close consultation with the Australian Institute of Health, Department of Health, Housing and Community Services and health industry associations. The ABS has also consulted a number of hospitals to test the content and design of the questionnaires.

The ABS is required by the Census and Statistics Act to maintain the secrecy of all information provided to it. No identifiable information about individual hospitals or chains of hospitals will be released. The data are for release in aggregate form only.

Results from the collection are to be released in April 1993. The ABS is keen to hear from people interested in using the statistics so their views can be used to help shape the content and formats of the output. If you want to help in this way, or wish to find out more about the survey, contact Keith Carter or Brian Holliday on 008 806 415 (toll free).

**FIRST PUBLIC HEALTH NETWORK CONFERENCE**

A conference for presentation of scientifically excellent projects undertaken by members of the Public Health Network is planned for November this year in Sydney. It is intended that the conference, organised by the Epidemiology Branch and Public Health Officers, will become an annual event. Suitable topics for presentation will include investigation of a disease cluster, assessment of an environmental health hazard, or implementation or evaluation of a public health program. Further details will be provided in the next *Public Health Bulletin*.

**P**rofessor 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.

## COFFEE AND MILD HYPERTENSION

Coffee drinking has been associated with higher blood pressure, and a reduction of chronic caffeine intake has been linked with a fall in blood pressure. The studies on which these statements are made were done in patients with significantly raised blood pressure. Now a Scottish study has shown that for people with mild hypertension, reduction of caffeine intake had no effect on the level of blood pressure.

MacDonald TM, Sharpe K, Fowler G, Lyons D et al. Caffeine restriction: effect on mild hypertension. *Br Med J* 1991; 303:1235-1258.

## MANSLAUGHTER CONVICTIONS FOR MISTAKES

Two young doctors in England have been found guilty of manslaughter over the death of a 16-year-old leukaemia patient who had been prescribed two chemotherapeutic drugs — one to be received into the spinal canal and the other intravenously. One doctor, aged 27, supervised another doctor, aged 25, to administer vincristine to the spinal canal instead of intravenously. It appears the more junior doctor got the drugs mixed up. The conviction went against the doctors because the jury believed they had acted recklessly, not just negligently. The judge said: "It seems to me you could have been helped much more than you were helped." The *British Medical Journal* editorial said: "Bringing the full weight of the criminal law to bear on two fledgling doctors will do little to remedy a system which lets juniors loose on patients with too little training, too little support and too little sleep."

Dyer C. Manslaughter Convictions for Making Mistakes. *Br Med J* 1991; 16:303:1218.

## POPULATION GROWTH A PUBLIC HEALTH ISSUE

The United Nations estimates the world's population will reach 10 billion by the year 2050. (It was 5 billion in July 1987.) Such a growth cannot be sustained without widespread catastrophe. The problem is now concentrated in Africa, the Indian sub-continent and Indonesia. China has been most successful of all Third World countries in controlling its growth, but by the year 2025 it will have increased in population size by the equivalent of three Japans.

Walker A. Population: more than a numbers game. *Br Med J* 1991; 303:1194-1197.

## ELECTROMAGNETIC FIELDS AND BREAST CANCER

Several studies have found some association between a variety of cancers and electromagnetic fields. A careful United States study has again found there appears to be an association between exposure below the age of 30 and an increased level of breast cancer in men.

Demers PA, Thomas DB, Rosenblatt KA et al. Occupational Exposure to Electromagnetic Fields and Breast Cancer in Men. *Am J Epidemiol* 1991; 134:340-347.

## PHYSICAL ACTIVITY IMPROVES MENTAL HEALTH

It has become generally accepted that regular physical exercise confers mental health benefits on participants. The biological mechanisms involved in this phenomenon may include an increased flow of blood to the cortex of the brain, and release of endorphins and other chemicals. It has also been suggested that strenuous exercise allows for a discharge of hostility, reducing emotional strain and perhaps also serving as a buffer against stressful events. A US-based study has again confirmed these phenomena and provides further evidence of a greater level of depression among people with low levels of physical activity.

Camacho TC, Roberts RE, Lazarus NB et al. Physical Activity and Depression: evidence from the Alameda County study. *Am J Epidemiol* 1991; 134:220-231.

## DIET AND CANCER OF THE PANCREAS

The pancreas is about the fifth most common site of cancer in Australia for both men and women and accounts for almost 5 per cent of all cancer deaths. In Australia only 15 per cent of people with cancer of the pancreas survive for more than a year from the date of diagnosis.

Little is known about the cause of the disease but a study based in South Australia found a statistically strong link between cancer of the pancreas and high consumption of sweet and fatty foods and a relatively low intake of vegetables and fruit. In addition, smokers are at more risk. No association with coffee drinking was found. This finding is in sympathy with several other studies.

Baghurst PA, McMichael AJ, Slavotinek AH et al. A Case-Control Study of Diet and Cancer of the Pancreas. *Am J Epidemiol* 1991; 134:167-179.

## SUCCESS IN IDENTIFYING OSTEOPOROSIS DANGERS

The number of fractures associated with osteoporosis is rising, mainly because of the increasing age of the population. Treating osteoporosis is difficult and often disappointing and it is therefore essential to be able to prevent the disease from developing or to treat the early stage before fractures occur.

Prevention could be accomplished by treating all women with estrogen-like drugs. But these drugs may have long-term adverse effects and are often expensive. An alternative strategy is to treat only the women at risk of developing osteoporosis. A Danish group has demonstrated from a long-term study that a single measurement of bone mass combined with a single estimation of the rate of bone loss can reliably identify women at menopause who are at highest risk of developing the disease later in life.

Hansen MA, Overgaard K, Riis BJ and Christiansen C. Role of peak bone mass and bone loss in post-menopausal osteoporosis: 12-year study. *Br Med J* 1991; 303:961-964.

## METHADONE REDUCES USE OF HEROIN

A good American trial has shown that the provision of methadone, that did not include formal drug abuse counselling or other supportive services, reduced the use of heroin from 63 per cent to 29 per cent one month after commencement. This is compared with no change in heroin consumption in a control group.

Yancovitz SR, Des Jarlais DC, Peyser NP et al. A Randomised Trial of an Interim Methadone Maintenance Clinic. *Am J Public Health* 1991; 81:1185-1191.