NEW SOUTH WALES
Public Health Bulletin

Volume 3
Number 8
August, 1992

NSW HEALTH DEPARTMENT

ISSN 1034 7674

A PRACTICAL GUIDE TO SCREENING PROGRAMS

Screening is the process of detecting markers of disease or abnormality in people who appear to be well. It is applied to the community at large, or to groups of people who are at greater risk than others of having the disease or abnormality. Screening programs have two key components: (i) a screening test, administered to the people in the target group, and (ii) a protocol to ensure those with an abnormal test result receive appropriate follow-up, which usually consists of further investigations and preventive procedures.

Decisions about the use of screening as a preventive measure are complex and might take account of a number of issues outlined below.

Is the condition suitable for screening?
In general, we screen only for conditions which cause a significant burden of morbidity and/or mortality in the community.

Is effective prevention or treatment available for people identified through the screening program to have the condition?
The effectiveness of the available measures may be controversial (e.g. treatments for some malignancies), or established (e.g. phenylketonuria). The treatment or prevention may benefit the affected individual (e.g. women with Down Syndrome pregnancies), or the public health (e.g. HIV), or both (e.g. syphilis).

Is there a good screening test?
This is a crucial question because almost all tests are imperfect. Some people who show a positive test result will turn out not to be affected (false positives), while some people who show a negative test result will turn out in fact to be affected (false negatives). In the screening context, the people who turn out to have false-positive results may have had to undergo possibly unpleasant, expensive, time-consuming and potentially hazardous diagnostic tests, and suffer anxiety while awaiting the definitive findings; people with false-negative results will be falsely reassured and will miss the possible benefits of early diagnosis and treatment.

Because of the potentially distressing effects of false positives and false negatives, and because screening programs usually consume a lot of health resources which are always scarce, a careful evaluation is mandatory before such programs are mounted on a large scale.

As part of this evaluation you need to know three basic things about a screening test:

- How good is the test at correctly identifying people who really do have the condition of concern, i.e. people who are truly affected?

  This is indicated by the **sensitivity** of the test. If the sensitivity is 100 per cent, you can be sure that every truly-affected person who receives the test will show a positive result, that is, everyone would be correctly identified as being affected. Note that this does not mean everyone who tests positive is affected. Further, if the sensitivity is 90per cent, a truly-affected person would have a 90 per cent chance of getting a positive test result, and a 10 per cent chance of getting a negative result (i.e. false negative).

Continued on page 86 ►

Contents

Correspondence

Please address all correspondence and potential contributions to:

The Editor,
NSW Public Health Bulletin,
Public Health Division,
NSW Health Department
Locked Bag No 961,
North Sydney NSW 2059
Telephone: (02) 391 9218
Facsimile: (02) 391 9232

► Continued from page 85

Sensitivity is a characteristic of the test, and is a measure of the test's validity, i.e. a measure of the extent to which the test detects what it purports to detect. It does not matter how common or uncommon the target disorder is in the group of people to whom the test is applied — the sensitivity should not vary.

- How good is the test at correctly identifying truly-*un*affected people?

  This is indicated by the **specificity** of the test. If the specificity is 100 per cent, you can be sure that every truly-*un*affected person who receives the test will show a negative result, that is, everyone would be correctly identified as being *un*affected. Further, if the specificity is 90 per cent, a truly-*un*affected person would have a 90 per cent chance of getting a negative test result, and a 10 per cent chance of getting a positive result (i.e. false positive).

  Like sensitivity, specificity is a characteristic of the test, is a measure of the test's validity, and should not vary with the occurrence of the disorder which the test purports to detect.

- From a clinical perspective, how do you interpret a positive (or negative) test result?

  As indicated before, screening tests do not have sensitivities and specificities of 100 per cent. Therefore if you are advising a person who has a positive or negative test result, you cannot be sure that he or she has or does not have the disorder. We will concentrate on someone who has a positive test result. While you cannot be sure that he or she does have the disorder, you want to be able to calculate the person's chance of being truly affected. The chance of someone being truly affected, if he or she has a positive test result, is called the **positive predictive value** of the test.

  Unlike the sensitivity and specificity, the positive predictive value is not simply a characteristic of the test. It is determined both by the validity of the test *and by the occurrence of the disorder in the group of people to whom the test is applied.* This is termed "prevalence-dependent". If you test someone from a group of people in whom the disorder is common, the positive predictive value will be *higher* than it would be if the same test were applied to a person from a group in which the disorder is uncommon.

  If you are advising a person who has a positive test result, and the positive predictive value of the test is 75 per cent in the group of people to whom the subject belongs, then you can tell the person he or she has a 75 per cent chance of truly having the disorder tested for. He or she also has a 25 per cent chance of actually being unaffected, despite the test result. At this point the person would be referred for further testing to establish whether he or she actually had the condition.

Is a screening program effective in reducing the occurrence or health consequences of the condition?

Even if the answers to the preceding questions are affirmative, there are two main reasons a screening program may not lead to a reduction in the occurrence of the condition or its consequences. First, the program may not reach a large proportion of the people in the target group. Second, people with a positive result (indicating abnormality) may be unwilling to comply with follow-up. For example, women with positive results from a maternal serum screening test for Down Syndrome and neural tube defects may be unwilling to undergo further diagnosis (i.e. amniocentesis) and subsequent termination of pregnancy.

The only way to find out unequivocally whether the program does reduce the occurrence or consequences of the condition is to conduct a randomised controlled trial. In such a trial, subjects are randomly allocated to receive the screening program or not; typically the latter group receives usual treatment in the community. The incidence of the outcome is then assessed in the two groups.

To evaluate a program of universal maternal serum screening for Down Syndrome markers, one group might receive the screening program and subsequent follow-up protocol, while the other group receives the usual antenatal care (which might include serum screening and other procedures for some individuals). The incidence of Down Syndrome babies would then be assessed in the two groups, and compared. This trial would take into account not only the validity and reliability of the serum screening test(s) used, and whether or not the test(s) reach the majority of people in the target group, but also the willingness of screened women to undergo the follow-up procedures. The trial would also take into account whether or not individuals are receiving the definitive follow-up even in the absence of screening. Thus, unscreened women over a certain age may seek or be offered amniocentesis anyway.

Can the health system cope with the screening program?

The final issue that might be considered in determining the worth of a screening program is whether the health system can cope with the screening program. This issue refers not only to the administration of screening tests, but also to the follow-up of cases screened positive, and the costs of both the testing and the follow-up. The follow-up includes diagnostic procedures, counselling of people who were positive on screening but were subsequently found not to have the condition, and treatment of people actually diagnosed as having the condition. In practice, follow-up may be more of a problem and more expensive than the testing.

Michael Frommer, Deputy Director,
David Lyle, Manager, Chronic Disease and Injury Prevention Section,
Epidemiology and Health Services Evaluation Branch
NSW Health Department.

THE UNITED STATES CENTERS FOR DISEASE CONTROL

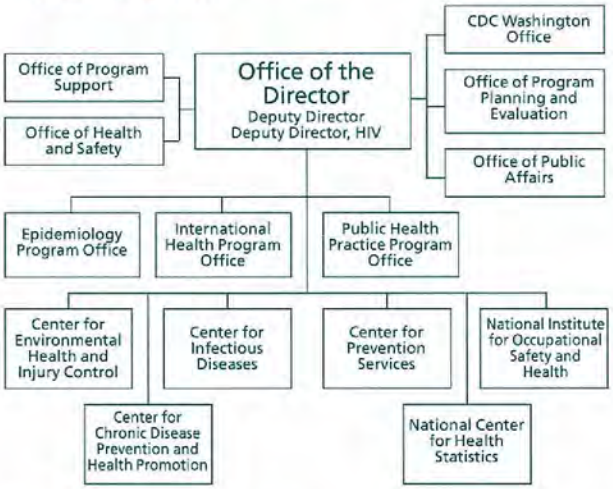
The Centers for Disease Control (CDC) was established as the Communicable Disease Center in 1946 in Atlanta, Georgia, to deal with malaria, typhus, polio etc. Malaria Control in War Areas (MCWA) had been established in 1942 to control malaria in military establishments. The CDC, an agency of the Federal Government Public Health Service, has led efforts to control diseases such as malaria, typhus, polio, rabies, sexually transmissible diseases, smallpox, toxic shock syndrome, Legionnaires' disease and acquired immunodeficiency syndrome (AIDS). Over the past two decades, CDC's responsibilities have expanded from the prevention and control of infectious diseases to address chronic diseases, injury, environmental and occupational hazards and behavioural risks.

The mission of CDC now is to prevent unnecessary disease, disability and premature death of US citizens and to promote healthy lifestyles. This mission involves the study and prevention of chronic diseases; controllable risk factors such as poor nutrition, smoking, lack of exercise, high blood pressure, stress and drug misuse; infectious diseases; and injury or disease associated with environmental, home and workplace hazards.

CDC comprises five Centers, one Institute and three Program Offices (Figure 1):

FIGURE 1

CENTERS FOR DISEASE CONTROL — ORGANISATION, 1991



Through these nine units, CDC provides national and international leadership; conducts applied epidemiologic, laboratory and behavioural research; develops public health by providing technical and financial assistance and training; sets standards and guidelines; conducts public health surveillance and reports health statistics, policy recommendations and investigation results through a variety of publications — perhaps most notably, the *Morbidity and Mortality Weekly Report (MMWR)*.

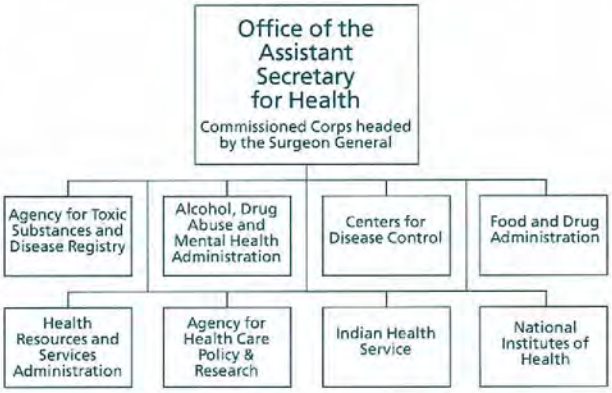
CDC is one of eight agencies of the Public Health Service (Figure 2) which in turn is one of the four administrations under the jurisdiction of the US Secretary for Health and Human Services — Children and Families, Health Care Financing, Social Security and the Public Health Service. The Assistant Secretary for Health presides over the Public Health Service.

In addition to being a key player in the network of federal health and social welfare agencies, CDC has extensive links with state and local health departments, academic institutions, professional and voluntary and community organisations.

CDC has a staff of 6,700 and a budget of $US1.4 billion (FY 1991) — 65 per cent for extramural work (co-operative agreements and program contracts) and 35 per cent for intramural work (program operations, program support, research, buildings and facilities). Almost 40 per cent of the budget is spent on HIV/AIDS prevention. Other expenditure includes: infectious disease control including immunisation (28 per cent), chronic and environmental diseases and injuries (9 per cent), preventive health block grants (8 per cent), occupational safety and health (8 per cent), epidemic services (5 per cent) and health statistics (4 per cent).

FIGURE 2

UNITED STATES PUBLIC HEALTH SERVICE



Of its many major achievements, some stand out:

- establishing the Epidemic Intelligence Service and the *MMWR*;
- establishing the National Laboratory Improvement Program;
- spearheading national immunisation campaigns;
- identifying the organism responsible for Legionnaires' disease;
- identifying the AIDS epidemic;
- seminal studies in toxic shock and Reye syndromes and the health effects of toxic dump sites;
- motivating the development of national health objectives for the year 2000 and taking lead responsibility for more than half of prevention priorities; and
- establishing pilot breast and cervical cancer control programs in several states.

The Epidemic Intelligence Service (EIS) has attracted much professional admiration and public attention through the electronic media, books and journals including the prestigious *National Geographic* magazine. The service was established in 1951 by Dr Alexander Langmuir to prevent and control infectious diseases, to increase the number of field-trained epidemiologists in the US, to provide services to state and local health departments and to improve disease surveillance nationally. Today, with more than 1600 graduates, the program has broadened its scope to include all the areas of involvement of CDC. Under the supervision of practising epidemiologists in the US and overseas, EIS officers develop skills in applying epidemiology to address key public health issues. Officers have the opportunity to investigate disease outbreaks, conduct epidemiologic studies, teach, travel and present and publish their work.

As many EIS officers assume leadership roles in public health nationally and internationally, the CDC seeks to attract the most highly qualified applicants from a diverse pool of health professionals. While the majority of EIS officers are medical practitioners whose specialties include internal medicine, paediatrics, family practice, preventive medicine, occupational medicine and obstetrics and gynaecology, others include

Continued on page 88 ►

Centers for Disease Control

► Continued from page 87

veterinarians, nurses, dentists, doctoral-level epidemiologists, statisticians, nutritionists and behavioural and social scientists.

EIS officers spend two years learning and practising epidemiology with only a small proportion of time in the first year being occupied by formal training. Each July, a new EIS class begins with an intensive three- to four-week training course on the principles and methods of applied epidemiology and biostatistics. Additionally, in August, the first year officers gather in Atlanta for a week of training in public health surveillance techniques and epidemiologic methods. In April, all officers return to Atlanta for the EIS Conference which is a week-long professional meeting focusing on applied epidemiology.

The remainder of the two-year period is spent learning by doing — responding to inquiries, monitoring reports of diseases, investigating outbreaks and analysing epidemiologic data. Over the course of two years, each officer is expected to:

- participate in a field investigation of an acute health problem;
- analyse an epidemiologic data base;
- design, implement, revise or evaluate a surveillance system;
- prepare a scientific paper;
- deliver a presentation at the annual EIS conference;
- deliver an oral presentation at the weekly CDC Professional Staff Seminar; and
- respond to public inquiries.

After serving for one year, EIS officers who are medical practitioners or veterinarians are eligible to apply for a Preventive Medicine Residency program. This additional training component is recognised by the American Board of Preventive Medicine as fulfilling the certification requirements of one year of supervised training and field experience. About 18 officers are selected each year for this program. These officers begin their residency in the second EIS year and complete it after a third extension year. Of those graduating from the EIS program over the past five years, about 75 per cent remain in epidemiology and public health. The remainder take up university positions, do further training and enter private health practice.

A number of Australians — Julian Gold, Charles Guest and the author — have served in the EIS. Liz Sullivan and Jeremy McAnulty are now serving on the program.

Australian Public Health is forging further links with the Centers. First, the NSW Public Health Officer Training Program is modelled on the EIS. The NSW program differs in that it extends for three years, requires entrants have at least completed course work for a Masters Degree in Public Health, and offers rotation through training positions each year. Second, the Master of Applied Epidemiology Program offered by the National Centre for Epidemiology and Population emulates the EIS Program and offers training and experience in epidemiology and infectious disease prevention and control. Indeed Mike Lane, a representative of the Centers, is working in Australia to strengthen the program. Third, Australian public health professionals are in direct contact with CDC experts. Staff of the NSW Health Department recently contacted rabies experts at CDC about precautions to be taken with contacts of a young Vietnamese girl admitted to hospital with the disease. And finally, vast opportunities have been opened up with access to the Centers' massive US Public Health Information Network.

Those fortunate enough to visit or work at CDC find it to be the world centre of excellence at the crossroads of health surveillance, epidemiologic investigation, policy formulation and basic public health laboratory research.

George Rubin, Director,
Epidemiology and Health Services Evaluation Branch,
NSW Health Department
(The author served with CDC from 1978-1986)

RELEASE OF MAJOR HIV/AIDS POLICY

The NSW Health Department has announced the release of two major policies dealing with HIV infection:

- The **New South Wales Infection Control Policy for HIV, AIDS and Associated Conditions**; and
- **HIV and Hepatitis B infected Health Care Workers**.

The policies represent a package of procedures which will protect both patients and workers in the health system from the transmission of HIV and other blood-borne infections.

Chief Health Officer Sue Morey launched the policies, and said, "Patients in the health care system must be protected from the risk of acquiring life-threatening infections as a consequence of their treatment and health care workers have a right to a safe working environment.

"Transmission of HIV from health care worker to patient in the health care setting is extremely rare. There are no known cases of this occurring in Australia.

"The cornerstone of both policies is that strict adherence to universal infection control procedures provides the best protection for both patients and health workers," said Professor Ron Penny.

"The New South Wales HIV/AIDS Infection Control Policy has been developed with extensive consultation over a period of almost two years, and represents the most detailed and comprehensive reference on this subject yet developed in Australia. It expands on previous infection control guidelines issued by the Australian National Council on AIDS issued in New South Wales in 1991."

Professor Penny, Director of the Centre for Immunology at St Vincent's Hospital, chairs the Ministerial Advisory Committee on AIDS Strategy, an expert panel which convened a working party in April 1991 to advise the Department on the assessment and management of health care workers who are infected with HIV or hepatitis. This working party was chaired by Professor Tania Sorrell, Professor of Infectious Diseases at Westmead Hospital.

The report of the Sorrell working party identified certain procedures which HIV or Hepatitis B e antigen positive workers should not perform. These procedures have on rare occasions been associated with the transmission of Hepatitis B in health care settings.

Health workers who perform such procedures should know their HIV or hepatitis status by seeking routine testing. Mandatory testing of all health workers is not justified. Health workers who are infected with HIV or Hepatitis B should seek the guidance of their specialist physician in regard to their ongoing role in direct patient care. These assessment procedures will mean that HIV and Hepatitis B infected health care workers will be excluded from performing tasks that expose them to risk.

"With these policies the Department recognises the civil and employment rights of health care workers while also protecting patient safety," Professor Sorrell said.

Both these new policies have been issued as Department Circulars with extensive distribution throughout the Health system during July.

Any inquiries about the policies can be directed to Ross O'Donoughue in the AIDS Bureau on (02) 391-9255.

FIGURE 3

HEPATITIS C NOTIFICATION RATE BY AREA/REGION, NSW, JANUARY TO JULY 1992

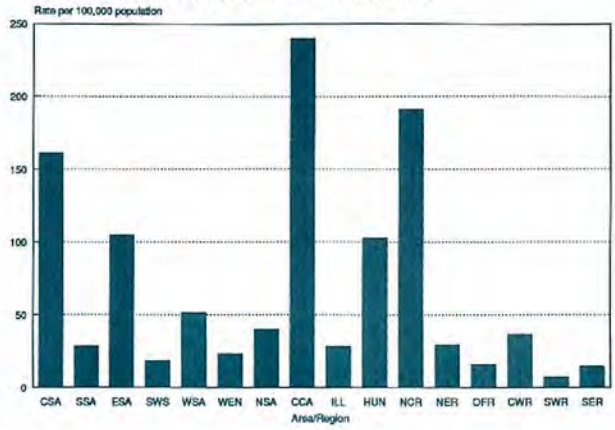


FIGURE 4

HEPATITIS C NOTIFICATION RATE BY AGE AND SEX, NSW, JANUARY TO JULY 1992

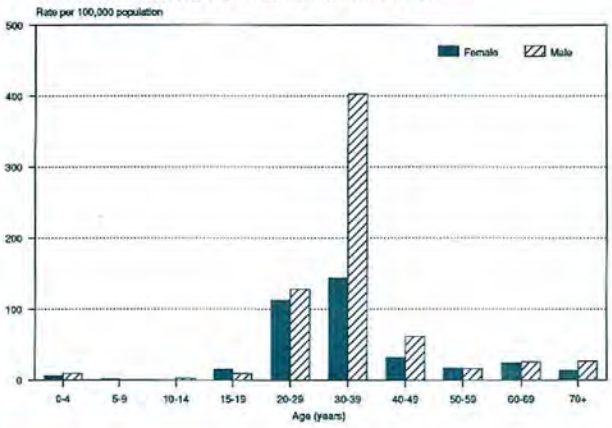


FIGURE 5

HEPATITIS C NOTIFICATIONS FOR FEMALES BY AGE, AREAS/REGIONS, JANUARY TO JULY 1992

Rate per 100,000 population (thousands)

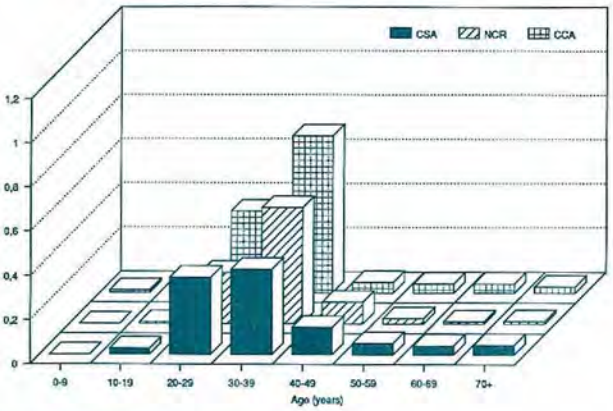
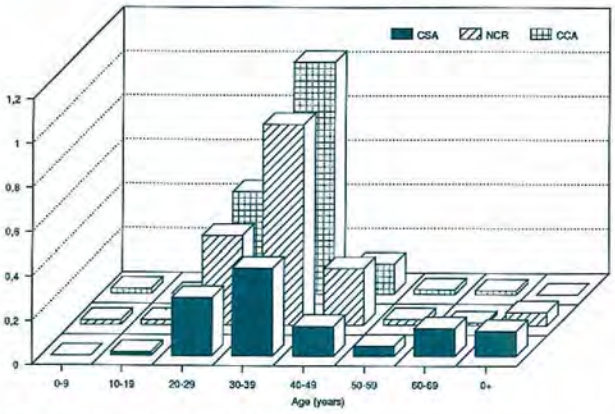


FIGURE 6

HEPATITIS C NOTIFICATIONS FOR MALES BY AGE, AREAS/REGIONS, JANUARY TO JULY 1992

Rate per 100,000 population (thousands)



NOTIFICATIONS

HEPATITIS C

Between January and July 1992, the public health network received 1,867 reports of hepatitis C. Of these, 51 (2.7 per cent) were for acute hepatitis C and the rest were hepatitis C unspecified.

All Areas and Regions reported cases of hepatitis C (Figure 3). The number ranged from 9 (7.2/100,000) in the South Western Region to 326 (191.2/100,000) in the North Coast Region and 259 (230.8/100,000) in the Central Coast Area. The overall notification rate for NSW was 65.5/100,000 population.

Of the notifications reported by sex, 735 (50.5/100,000) were females and 1,094 (99.3/100,000) males.

Hepatitis C was reported for all age groups with a peak in the 20-39 age group for both females and males (Figure 4). The number of hepatitis C notifications by age and sex was 254 (12.3/100,000) for females and 297 (128.0/100,000) for males in the 20-29 age group, and 318 (143.8/100,000) for females and 563 (251.3/100,000) for males in the 30-39 age group.

For the three Areas/Regions reporting the highest rates of hepatitis C the rate was highest for females and males in the 20-39 age group (Figures 5 and 6). These Areas/Regions showed an increase in the rate of hepatitis C notifications in the 30-39 age group for both females and males, with a decrease in the over 70 age group.

HEPATITIS B AND INFANTS

Public Health Unit staff are encouraged to continually assess the accuracy of infectious diseases notifications on their database.

Between January 1 and July 9, 1992, seven infants were notified as hepatitis B positive through the Public Health Network. All infants were recorded as less than one month old. Of these seven notifications, five were denotified. Of those denotified, three had incorrect dates of birth with all cases being greater than 15 years of age, one case was deleted from the infectious database and one was a record used by a laboratory for the quality control testing of their generated data.

The presence of HBsAg in the cord blood is not always predictive of the development of a hepatitis B carrier state in the infant[1]. The presence of HBsAg in the cord blood may indicate transient antigenaemia or contamination with maternal blood at the time of birth. The infant is usually two to three months old before the development of a carrier state can be determined.

All infants born to HBsAg carrier mothers should receive hepatitis B immunoglobulin within 12 hours of birth and hepatitis B immunisation should be commenced.

---

1. Gilbert GL. Infectious Disease in Pregnancy and the Newborn Infant. Chur:Harwood Academic Publishers, 1991.

Continued on page 90 ►

Infectious diseases

► Continued from page 89

INFLUENZA

Nine PHUs (CCA, C/SSA, CWR, ILL, ESA, NSA, SER, SWS and WSA) provide General Practitioner Sentinel Surveillance data on influenza. The rate of influenza-like illness (ILI), expressed as the number of cases per 100 consultations, in NSW for July ranged from 4.4 in the first week of the month to 1.9 for the last week. For the same period all PHUs reported rates of ILI fewer than 5.0 cases per 100 consultations except for CWR (10.2 cases) and ESA (5.8 cases) in the first week of July.

SALMONELLA VIRCHOW

Food branch received 17 notifications of *S. virchow* between January and July. Of these, eight cases were notified in July. The ages of cases have ranged from five months to 62 years, with a mean of 20 years. One notification was received from the Eastern Sydney Area, three from the Northern Sydney Area, two from the Central/Southern Sydney Areas, three from the Western Sydney and Wentworth Areas, four from the South Western Sydney Area (including three from one postcode), one from the Hunter Area and one from the Central Coast Area. For two cases the address was unknown. In 1991, only one notification was received (in December). Food inspectors have begun an investigation.

MEASLES

During July, 10 cases were notified from six Areas or Regions. None of the cases was aged less than one year and therefore considered preventable by childhood vaccination.

Three of the cases were resident in the Central Sydney Health Area. The incidence for Central Sydney for 1992 has been the highest in NSW, with a rate of 16.4 notifications per 100,000 population per year. Although the Hunter Area notified no new cases of measles in July, the incidence for 1992 in the Hunter Area has been the second highest in NSW, at 15.0 per 100,000 per year.

SYPHILIS

From January to July 1992, 447 cases of syphilis were notified, including 45 cases of less than one year's duration, four of congenital syphilis, one of neurosyphilis, 27 of more than one year duration and 370 cases otherwise 'unspecified'.

In July, 21 cases of syphilis were notified from six Areas or Regions, including six cases from the Orana and Far West Region, five from the North Coast Region and five from the Central Sydney Area. Five of the cases were reported to be of less than one year duration and 16 were otherwise 'unspecified'. No cases of congenital syphilis were notified in July.

TIMELINESS AND COMPLETENESS OF REPORTING

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 1) and to inclusion of basic epidemiological parameters on infectious disease notifications (Table 2).

Data in this *Bulletin* relate to Epiweeks 1 to 30. The following table lists the number of weekly reports made to the Epidemiology and Health Services Evaluation Branch this year, out of a possible 29.

TABLE 1

NUMBER OF WEEKLY REPORTS MADE TO EPIDEMIOLOGY BRANCH — 1992

Public Health Unit	Number	Status
Central/Southern Sydney	24	Complete
Eastern Sydney	15	Incomplete
South Western Sydney	16	Incomplete
Western Sector	27	Complete
Northern Sydney	29	Complete
Central Coast	18	Incomplete
Illawarra	23	Complete
Hunter	23	Incomplete
North Coast	28	Complete
New England	27	Complete
Orana and Far West	29	Complete
Central West	29	Complete
South-West	29	Complete
South-East	28	Complete

TABLE 2

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

Public Health Unit	Age	Sex	Aboriginality
Central Sydney	0.6	Complete	84.3
Southern Sydney	0.2	0.3	80.6
Eastern Sydney	4.6	4.1	83.1
South Western Sydney	2.3	5.6	56.6
Western Sydney	5.2	6.6	67.7
Wentworth	2.0	4.6	75.0
Northern Sydney	4.3	3.7	89.8
Central Coast	1.8	2.7	96.2
Illawarra	1.4	0.7	89.6
Hunter	2.6	1.7	99.3
North Coast	1.9	1.1	33.1
New England	21.3	8.3	65.2
Orana and Far West	6.3	0.4	37.1
Central West	4.4	Complete	60.0
South-West	1.1	Complete	29.5
South-East	3.6	2.4	44.0

TABLE 3

INFECTIOUS DISEASE NOTIFICATIONS BY HEALTH AREA AND REGION JULY 1992

CONDITION	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NCR	NER	OFR	CWR	SWR	TOTAL
AIDS infection	–	–	–	–	–	–	1	–	–	–	–	1	–	–	–	2
Arboviral infection	–	–	–	–	–	–	–	–	1	1	1	–	–	–	–	3
Foodborne illness (NOS)	2	–	1	–	3	–	–	–	–	–	–	–	–	–	–	6
Gonorrhoea infection	1	–	2	–	1	–	2	–	–	–	–	4	1	–	–	11
H. Influenzae epiglottitis	–	1	–	–	–	–	–	–	1	–	1	–	–	–	–	3
H. Influenzae meningitis	–	–	1	1	1	–	1	–	–	–	–	–	–	–	–	4
H. Influenzae infection (NOS)	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1
Hepatitis A — acute viral	–	1	–	–	2	–	2	–	–	–	6	4	2	–	1	18
Hepatitis B — acute viral	–	–	1	–	–	–	–	–	–	–	1	–	1	–	–	3
Hepatitis B — unspecified	16	10	–	–	12	–	12	1	2	2	6	5	3	–	–	69
Hepatitis C — unspecified	6	2	1	–	8	5	6	1	3	12	25	4	2	–	3	78
Leptospirosis	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	2
Malaria	–	–	–	–	–	–	–	–	2	–	–	–	–	–	1	3
Measles	3	2	–	–	1	–	–	–	1	–	–	1	2	–	–	10
Meningococcal meningitis	1	1	–	–	–	–	–	1	2	–	–	–	–	4	–	9
Meningococcal septicaemia	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Mycobacterial tuberculosis	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	2
Pertussis	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	2
Q Fever	–	–	–	–	–	–	–	–	–	1	2	2	–	–	–	5
Rubella	–	–	–	–	–	–	–	–	–	–	1	1	–	–	–	2
Salmonella infection (NOS)	1	1	–	–	1	1	1	–	–	1	2	–	1	–	–	9
Syphilis infection	5	–	–	–	3	–	–	–	1	–	5	1	6	–	–	21
Typhoid & paratyphoid	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1

TABLE 4

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	3	3	–	–	–	–	–	1	–	1	5	5	–	–	–	3	–	–	21
AIDS infection	12	2	2	2	8	5	20	1	2	2	9	4	–	2	5	1	–	–	77
Arboviral infection	1	–	–	–	6	6	6	7	6	20	105	24	50	10	25	–	–	–	266
Cholera	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1
Foodborne illness (NOS)	5	2	29	2	30	7	–	10	3	5	5	2	29	1	1	–	–	–	131
Gastroenteritis (Instit)	14	1	8	1	4	1	–	–	1	50	2	92	4	–	–	–	–	–	178
Gonorrhoea infection	42	8	77	7	14	1	13	–	3	5	15	10	8	7	3	5	–	–	218
H. Influenzae epiglottitis	–	3	1	2	5	3	1	–	2	4	3	2	–	–	1	–	–	–	27
H. Influenzae meningitis	3	4	3	4	3	5	13	1	3	4	5	3	1	–	3	2	–	–	57
H. Influenzae septicaemia	–	1	1	2	2	–	3	–	–	2	1	–	–	–	1	–	–	–	13
H. Influenzae infection (NOS)	2	1	2	–	2	–	–	1	–	1	–	1	1	–	2	3	–	–	16
Hepatitis A — acute viral	81	30	88	17	36	5	73	3	18	25	71	102	39	4	7	5	1	–	605
Hepatitis B — acute viral	4	3	32	4	4	2	3	1	6	1	8	2	17	2	1	1	–	–	91
Hepatitis B — unspecified	234	199	12	155	224	22	175	20	10	66	40	31	17	11	11	17	2	–	1246
Hepatitis C — acute viral	1	1	3	14	7	1	3	1	2	–	8	4	4	1	–	4	–	–	51
Hepatitis C — unspecified	267	74	166	42	144	30	142	258	40	245	318	32	7	29	9	13	–	–	1816
Hepatitis D — unspecified	–	–	1	–	–	–	–	1	–	1	2	–	–	–	–	–	–	–	5
Hepatitis, acute viral (NOS)	–	–	–	4	1	–	–	1	–	–	–	1	3	2	1	–	–	–	13
HIV infection*	44	17	119	8	20	6	25	3	2	19	16	–	2	–	1	4	10	158	454
Hydatid disease	–	–	–	–	–	–	–	–	–	–	1	2	–	1	–	–	–	–	4
Legionnaires' disease	2	2	1	28	14	2	4	6	2	2	1	–	–	–	–	1	–	–	65
Leprosy	–	–	–	–	1	–	–	–	–	–	–	1	–	–	1	–	–	–	3
Leptospirosis	–	1	–	–	–	1	–	–	–	–	4	2	–	5	–	–	–	–	13
Listeriosis	–	1	–	–	–	1	4	–	–	–	1	–	–	1	–	–	–	–	8
Malaria	5	5	6	2	11	–	15	–	5	2	6	5	1	1	3	2	–	–	69
Measles	32	10	7	13	22	6	16	6	10	40	17	11	10	5	–	7	–	–	212
Meningococcal meningitis	2	3	–	2	2	2	–	2	4	4	3	–	1	5	–	–	–	–	30
Meningococcal septicaemia	–	–	1	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	3
Meningococcal infection (NOS)	–	–	–	–	–	–	1	–	1	–	–	2	–	–	–	–	–	–	4
Mumps	–	–	3	1	3	–	1	–	–	3	1	–	–	–	1	1	–	–	14
Mycobacterial atypical	25	10	19	4	18	3	20	–	2	12	–	–	–	–	1	–	–	–	114
Mycobacterial tuberculosis	23	16	19	36	27	4	36	7	5	1	7	5	–	1	–	4	–	–	191
Mycobacterial infection (NOS)	8	5	–	–	5	2	8	1	7	3	–	4	1	–	2	–	1	–	47
Pertussis	2	9	1	6	3	5	10	1	–	2	24	2	–	–	–	–	–	–	65
Q Fever	–	–	–	–	4	2	–	1	–	5	35	18	12	2	2	1	–	–	82
Rubella	2	–	2	1	5	1	8	–	–	1	4	1	–	–	–	2	–	–	27
Salmonella bovis morbificans	1	2	–	–	–	1	1	–	–	–	1	1	–	–	–	–	–	–	7
Salmonella typhimurium	5	14	2	9	21	15	16	3	4	13	2	2	4	–	4	–	–	–	114
Salmonella infection (NOS)	17	24	29	22	35	15	57	11	8	18	37	20	15	13	8	15	–	–	344
Syphilis infection	84	26	75	13	27	3	27	–	7	5	78	23	62	12	3	1	1	–	447
Tetanus	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Typhoid and paratyphoid	4	–	3	–	2	–	5	–	1	–	–	–	–	–	2	–	–	–	17

*Data to June only.

Abbreviations used in this Bulletin:
CSA Central Sydney Health Area, SSA Southern Sydney Health Area, ESA Eastern Sydney Health Area, SWS South Western Sydney Health Area, WSA Western Sydney Health Area, WEN Wentworth Health Area, NSA Northern Sydney Health Area, CCA Central Coast Health Area, ILL Illawarra Health Area, HUN Hunter Health Area, NCR North Coast Health Region, NER New England Health Region, OFR Orana & Far West Health Region, CWR Central West Health Region, SWR South 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 5

SUMMARY OF NSW INFECTIOUS DISEASE NOTIFICATIONS JULY 1992

Condition	Number of cases notified Period		Cumulative	
	July 1991	July 1992	July 1991	July 1992
Adverse reaction	N/A	–	N/A	21
AIDS	24	2	208	77
Arboviral infection	11	3	447	266
Brucellosis	–	–	2	–
Cholera	–	–	–	1
Diphtheria	–	–	–	–
Foodborne illness (NOS)	282	6	1904	131
Gastroenteritis (instit.)	3	–	32	178
Gonorrhoea	37	11	236	218
H influenzae epiglottitis	4	3	10	27
H influenzae B — meningitis	4	4	20	57
H influenzae B — septicaemia	3	–	6	13
H influenzae infection (NOS)	18	1	81	16
Hepatitis A	123	18	406	605
Hepatitis B	145	72	703	1337
Hepatitis C	60	78	203	1867
Hepatitis D	N/A	–	N/A	5
Hepatitis, acute viral (NOS)	4	–	233	13
HIV infection*	64	53	467	454
Hydatid disease	–	–	2	4
Legionnaires' disease	1	–	22	65
Leprosy	–	–	–	3
Leptospirosis	1	2	23	13
Listeriosis	–	–	–	8
Malaria	17	3	126	69
Measles	18	10	216	212
Meningococcal meningitis	9	9	23	30
Meningococcal septicaemia	–	1	8	3
Meningococcal infection (NOS)	5	–	24	4
Mumps	N/A	–	N/A	14
Mycobacterial tuberculosis	29	2	155	191
Mycobacterial — atypical	12	–	61	114
Mycobacterial infection (NOS)	8	–	101	47
Pertussis	5	2	30	65
Plague	–	–	–	–
Poliomyelitis	–	–	–	–
Q fever	17	5	129	82
Rubella	6	2	23	27
Salmonella infection (NOS)	81	9	849	465
Syphilis	56	21	325	447
Tetanus	–	–	3	1
Typhoid and paratyphoid	3	1	38	17
Typhus	–	–	–	–
Viral haemorrhagic fevers	–	–	–	–
Yellow fever	–	–	–	–

*Data to June only

IMMUNISATION STATUS SURVEY, CENTRAL WESTERN REGION, 1991

Parents are required to complete a questionnaire detailing the health status of their child as part of the school-entry screening program. This includes immunisation status of the child. The immunisation status referred to in this report is the complete recommended National Health and Medical Research Council schedule of immunisation.

Year K immunisation status

The Central Western Region has failed to achieve a minimum 95 per cent level of immunisation of year K school children, but staff working in the Bathurst, Blayney, Cowra and Bland local government areas have obtained the minimum level. There was a 9.4 per cent increase in the level of immunisation since 1987 and a reduction in the number of children requiring follow-up immunisation (Table 6).

TABLE 6

SCHOOL SCREENING COVERAGE FROM 1987 TO 1991 FOR YEAR K CENTRAL WESTERN REGION SCHOOLS

Year K	1987	1988	1989	1990	1991
Number screened	2,275	2,523	2,056	3,238	2,767
Number enrolled	2,385	2,710	2,228	3,589	2,911
Percentage coverage	95.4	93.4	92.3	90.2	95.05
Number not completely immunised	397	194	179	273	223
Percentage immunised	82.6	97.7	92.7	91.0	91.9

Year 5 immunisation status

The Region has failed to achieve a 95 per cent level of immunisation of year 5 school children, although staff working in the Cowra, Bland and Cabonne shire (part only) LGAs have obtained the minimum level. There has been a 12.5 per cent increase in the level of immunisation since 1987 and a reduction in the number of children requiring follow-up for immunisation (Table 7).

TABLE 7

SCHOOL SCREENING COVERAGE FROM 1987 TO 1991 FOR YEAR 5 CENTRAL WESTERN REGION SCHOOLS

Year 5	1987	1988	1989	1990	1991
Number screened	2,365	2,096	2,113	2,470	2,669
Number enrolled	2,597	2,355	2,382	2,868	2,922
Percentage coverage	91.1	89.0	88.7	86.1	91.3
Number of completely immunised	513	231	180	331	243
Percentage immunised	78.3	89.0	91.5	86.6	91.0

Conclusion

The level of immunisation in the Region has increased since 1987 but there has been no major increase in the level of immunisation since 1988, the year of the national measles immunisation program.

Neil McLennan, Central West Regional Research Officer.

(This is a summary of a more extensive review. Correspondence should be directed to the author at Webb's Chambers, 175 George St, Bathurst 2795.)

A CLUSTER OF MENINGOCOCCAL CASES IN CAMPBELLTOWN

Fifteen cases of meningococcal disease occurred in South Western Sydney Area Health Service (SWSAHS) in 1991. Figure 7 shows the distribution of cases by month, and Table 8 summarises the cases. Seven of these cases (six patients with meningitis and one with septicaemia) occurred between July 17 and August 3. Five of seven patients (cases 5, 6, 8, 10 and 11 of Table 8) were from the Campbelltown Local Government Area (LGA). All the cases from the Campbelltown LGA were caused by Group C meningococcus.

The incidence of meningococcal disease in NSW is about 1-2 cases/100,000 people per year[1]. On the basis of this rate, we would expect two or three cases a year of meningococcal disease in the Campbelltown LGA, and 7-13 cases a year in the Area as a whole. While meningococcal disease occurs more commonly in winter and spring[2], this clustering of cases in late July-early August was a cause of concern, particularly in light of reported outbreaks associated with Group C meningococcus in Western Australia and Queensland[3,4].

The following steps were taken by the SWSAHS Public Health Unit (PHU) in response to this cluster of cases of meningococcal disease:

- All isolates were confirmed as *Neisseria meningitidis (N. meningitidis)* and serogrouping was performed by the Microbiology Department, South Western Area Pathology Service (SWAPS).
- The cases were investigated by PHU staff. The admitting hospital arranged rifampicin prophylaxis for family contacts. The PHU assessed whether other contacts required prophylaxis. Associations between the cases were sought. No contact between them could be established. Cases 10 and 11 attended the same school at Campbelltown, but were in different classes and did not play together inside or outside school.
- Hospitals in the Area were notified of the cluster to raise awareness among Emergency Department staff of the possibility of meningococcal disease in children presenting with symptoms including fever, vomiting and poor feeding.
- General practitioners were advised through the Area GP newsletter, prepared by the SWSAHS Division of General Practice and issued in early August.
- Local media were informed and the two Campbelltown newspapers ran stories which explained the need for early medical assessment if a child became unwell.
- A decision was made to offer meningococcal vaccine to all children at the school in which the two cases had occurred, their siblings aged two-five years and children from two local preschools. A few older siblings of children at the school attended a different primary school and were also offered immunisation.

FIGURE 7

MENINGOCOCCAL DISEASE IN SWSAHS. DISTRIBUTION OF CASES BY MONTH 1991

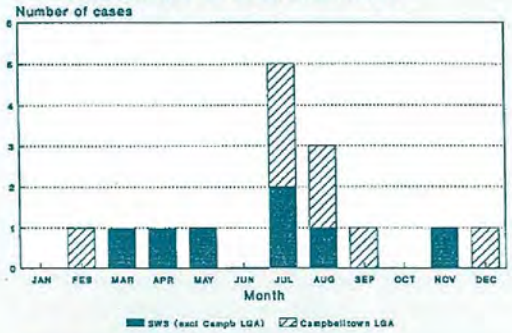


TABLE 8

SUMMARY OF CASES OF MENINGOCCAL DISEASE OCCURRING IN SWSAHS in 1991

Case No.	Sex	Age	Date of admission	LGA	Lab Confirmed/ Group
1	M	16 yrs	7/2/91	Campbelltown	Yes Group C
2	M	26 mth	23/3/91	Bankstown	Yes Group C
3	F	8 mth	20/4/91	Liverpool	Yes Group B
4	F	5 mth	26/5/91	Fairfield	Yes Group C
5	F	2.5 yrs	17/7/91	Campbelltown	Yes Group C
6	F	14 yrs	18/7/91	Campbelltown	Yes Group C
7	M	16.5 yrs	22/7/91	Fairfield	No
8	M	5 mth	28/7/91	Campbelltown	Yes Group C
9	M	2.5 yrs	31/7/91	Fairfield	Yes Group B
10	F	6.5 yrs	1/8/91	Campbelltown	Yes Group C
11	M	10 yrs	3/8/91	Campbelltown	Yes Group C
12	M	5 yrs	20/8/91	Camden	Yes Group C
13	M	11.5 yrs	12/9/91	Campbelltown	Yes Group C
14	F	21 yrs	29/11/91	Camden	Yes Group C
15	M	7 mth	31/12/91	Campbelltown	Yes Group B

THE IMMUNISATION CAMPAIGN

After the decision to conduct an immunisation campaign was made, letters were sent to about 100 local GPs outlining the reasons for the campaign and for targeting this group of children. An information sheet on meningococcal disease (originally prepared by the Western Australian Department of Health and used with its permission) was attached. This strategy had two benefits: it raised GP awareness about meningococcal disease, and it also allowed GPs to provide more complete advice to any parents who sought information.

An explanatory letter, with attached consent for immunisation, was sent to parents of all children at the school and preschools. Letters and consents were translated into Cambodian, Vietnamese, Spanish and Arabic.

The PHU established strong links with the executive of the school and the Primary Health Nurse attached to the school. PHU staff addressed the teachers about meningitis and meningococcal disease and the reasons for the immunisation campaign. Questions about the risk to themselves and their children were discussed, as were organisational matters about the campaign.

Continued on page 94 ►

Meningococcal cases in Campbelltown

► Continued from page 93

Contact was made with two nearby schools to allay anxiety about the cluster and to give teachers information about meningitis.

The immunisation campaign was conducted in the school auditorium on August 13 and 14. The PHU enlisted the assistance of a range of health care workers from within SWSAHS. PHU staff, Primary Health Nurses, Infection Control staff, and staff from the Microbiology Department of SWAPS assisted in the campaign. Two small catch-up clinics were conducted the following week. A GP with a practice close to the school also assisted by immunising a few children unable to attend the clinics. Vaccine was provided by the PHU.

A total of 892 children was immunised during the campaign. Of these, 646 were school children. This represented an 89 per cent immunisation rate among the school children. As part of the campaign, parents were asked to consent to their child having a throat swab to assess carriage rates of meningococci in the school. Seven hundred and ninety-three swabs were collected. The results of this study will be reported elsewhere.

A follow-up survey assessed side-effects of the vaccine. Among school children, there was a 51 per cent response rate (332 out of 646 children immunised) to the survey. No serious adverse effects were reported; 17 per cent reported a sore arm for more than two days, 25 per cent reported redness at the injection site and 12 per cent reported a high temperature after immunisation.

DISCUSSION

In recent years an increase in meningococcal disease has been observed throughout Australia, with the Group C meningococcus comprising an increasing proportion of *N. meningitidis* isolates[5]. This finding is consistent with the data in SWSAHS, where 11 of the 15 cases of meningococcal disease (73 per cent) occurring between January and December 1991 were caused by Group C meningococci. Three of 15 (20 per cent) were caused by Group B meningococci.

Vaccination has been advocated in the control of outbreaks caused by Group A and C meningococcus. The vaccine available in Australia (Mencevax AC, supplied by Smith Kline Biologicals) contains purified meningococcal polysaccharides A and C. A single dose induces protective antibodies within 10-14 days in about 90 per cent of recipients over the age of two years[6].

Recent outbreaks caused by Group C meningococcus have occurred in Katanning in Western Australia and Doomadgee in Queensland[3,4]. Widespread immunisation campaigns in both cases contained the outbreaks.

The decision was made to conduct the immunisation campaign at the school because a defined group at increased risk could be identified, given that two pupils at the school had developed Group C meningococcal disease. There was also concern that this cluster of five cases in the Campbelltown LGA occurring within an 18-day period may have represented the beginning of a larger outbreak.

Siblings aged two-five years were offered immunisation because of their close links with the school community, and because children less than five years of age have an increased risk of developing meningococcal disease[1]. Children at two local preschools were offered immunisation because the majority were siblings of children at the school, and this approach facilitated access to the group.

The community was aware that two children at a local school had developed meningococcal disease. This had given rise to concern, particularly among parents of school-aged children. When it became known that an immunisation campaign was being conducted at the school, parents with children at nearby schools contacted the PHU requesting immunisation, or presented for immunisation. For this reason, age and residential criteria for immunisation were established before the campaign. Children had to be aged between two and 12 years, and either attend the school or reside in the Education Department's catchment area for the school. Apart from a handful of special cases (exceptions were determined by the Medical Officer of Health), these criteria were adhered to. This involved explaining to several parents and/or their GPs why immunisation was not recommended for their children.

The decision to immunise was made only after consultation with a range of experts, both in Sydney and interstate, and an extensive review of the literature. The potential avoidance of further cases had to be weighed against the potential side-effects of the vaccine. In addition, the vaccine is expensive and although it was supplied at a discount by Smith Kline Biologicals, the total cost was more than $23,000.

The circumstances under which immunisation should be used in the control of meningococcal disease are not clear. The National Health and Medical Research Council Communicable Diseases Standing Committee has decided that a working party should be established to formulate guidelines on the role of immunisation in the management of outbreaks of meningococcal disease.

From August 3 until the end of 1991 two further cases of meningococcal disease occurred in the Campbelltown LGA (one Group C, one Group B). No cases occurred in children who had been immunised.

Kerry Chant, Public Health Officer,
SWSAHS Public Health Unit.
Greg Stewart, Medical Officer of Health,
SWSAHS Public Health Unit.
John Brown, Public Health Nurse,
SWSAHS Public Health Unit.
Rosemary Munro, Director of Microbiology,
South Western Area Pathology Service.
George Toouli, Senior Hospital Scientist,
Microbiology Department SWAPS.
Katherine Kociuba, Microbiology Registrar, SWAPS.

1. Levy M, Manning W, Rubin G. Bacterial meningitis makes a comeback. *NSW Public Health Bulletin* 1991; 2:8-10.
2. Benenson AS (ed). Control of Communicable Diseases in Man. 14th edition. American Public Health Association. Washington DC. 1985.
3. Watson C, Gardner V. A cluster of cases of Group C meningococcal infection in Katanning, Western Australia. CDI 90/5:4-7.
4. Pearce M, Sheridan J. An extraordinary outbreak of meningococcal meningitis at Doomadgee Aboriginal Community. CDI 91/10:168-169.
5. Clements DA, Gilbert L. Increase in meningococcal infections detected at the Royal Children's Hospital, Melbourne. CDI 90/8:4-7.
6. Hall R. Editorial comment. CDI 90/5:6-7.

MICROBIOLOGICAL MONITORING OF PUBLIC DRINKING WATER SUPPLIES — July 1991-June 1992

Routine monitoring of the microbiological status of drinking water in rural NSW is necessary to ensure the provision of acceptable water quality to the public. Local government is responsible for implementing a microbiological monitoring program whereby water samples are collected regularly and submitted for analysis, usually to the Division of Analytical Laboratories. In some Regions (South West and North Coast) alternative facilities are available for microbiological testing.

The NSW Health Department has adopted sampling frequency guidelines published by the National Health and Medical Research Council and the Australian Water Resources Council. These are shown in Table 9.

TABLE 9

SAMPLING FREQUENCY GUIDELINES

Population supplied with water	Minimum number of samples per distribution per month
Up to 2,000	1 sample
2,000-10,000	1 sample per 2,000 population
10,000-100,000	3 plus 1 sample per 5,000 population
100,000+	13 plus 1 sample per 10,000 population

In the interest of public health, the importance of regular water sample submissions from every distribution system cannot be over-emphasised. However, some councils do not submit the recommended number of samples at the specified intervals. Overall, of 481 locations in the State, samples were not received from 129 locations (27 per cent) between July 1991 and June 1992 inclusive, as shown in Table 10.

TABLE 10

LOCATIONS FROM WHICH NO SAMPLES WERE SUBMITTED FOR MICROBIOLOGICAL EXAMINATION, JULY1991-JUNE 1992[1]

Areas or Regions	Total Number of Locations	Percentage of Locations not tested
Central Coast Area	32	19
Hunter Area	11	36
Illawarra Area	34	12
Central Western Region	70	29
South Eastern Region	100	12
North Coast Region	80	26
New England Region	68	19
Orana and Far West Region	86	57

1. Division of Analytical Laboratories Report on water sample submissions for microbiological monitoring of public drinking water.

PUBLIC HEALTH ABSTRACTS

CHANGE IN CHILDHOOD POISONING

Poisoning accounts for 1 in 200 admissions to the Camperdown Children's Hospital. The pattern of poisoning has changed since 1956 when the main agents were kerosene, pesticides, aspirin and digoxin. Now the main agents are benzodiazepines, iron preparations, paracetamol and anticonvulsants.

It was disturbing that in a recent study from the hospital, 10 children were thought to have been poisoned deliberately by a parent. When poisonings occur in children under two years old there should be some suspicion.

Preventive strategies remain the same: education about dangerous substances, appropriate storage, re-examination of child-resistant packaging and the care of physicians when prescribing medications.

Campbell D and Oates RK. Childhood poisoning — a changing profile with scope for prevention. *Med J Aust* 1992; 156:238-240.

CERVICAL CANCER — ROLE OF THE HUMAN PAPILLOMAVIRUS

Cancer of the cervix is common and deaths in women associated with this malignancy are exceeded only by those from breast cancer. There is epidemiological data over more than a century suggesting a link between cervical cancer and an infectious agent. There is now compelling evidence strongly linking certain human papillomavirus types with cancer of the cervix. The authors of a Melbourne-based review of the known scientific literature on this issue have concluded that the causative role is yet to be proved. However there is impressive in-vitro evidence for a cancer-inducing role for the human papillomavirus in the development of cervical cancer. The epidemiological data are still limited.

Garland SM, Faulkner-Jones BE, Fortune DW and Quinn MA. Cervical cancer — what role for human papillomavirus. *Med J Aust* 1992; 156:204-212.

REDUCTION OF CORONARY ARTERY DISEASE WITH DIETS AND MEDICATION

Despite many major studies there is still little evidence that changing diets will reduce coronary artery disease. A new study on a relatively small number of patients has shown, by x-ray angiography plus clinical outcomes, that lipid-lowering diets and medications will reduce coronary artery narrowing and the incidence of cardiovascular events including death.

Watts GF, Lewis B, Brunt JNH, Lewis ES et al. Effects on coronary artery disease of lipid-lowering diet, or diet plus cholestyramine, in the St Thomas' Atherosclerosis Regression Study (STARS). *Lancet* 1992; 339:563-569.

COST-EFFECTIVENESS OF CLINICAL NURSES FOR ANTENATAL CARE

A United States study has shown that the use of clinical nurse specialists to care for antenatal women provided the greatest client satisfaction and the lowest cost per visit with an equal health outcome to antenatal care provided by medical physicians.

Graveley EA and Littlefield JH. A cost-effectiveness analysis of three staffing models for the delivery of low-risk prenatal care. *Am J Pub Health* 1992; 82:2:180-184.

NEWS AND COMMENT

NEW JOURNAL FOCUSES ON TOBACCO AND HEALTH

A new international journal, *Tobacco Control*, is being produced quarterly by the BMJ Publishing Group of London. The journal is edited by Ronald M. Davis, Chief Medical Officer of the Michigan Department of Community Health. Its deputy editor is Simon Chapman of the Department of Community Medicine, University of Sydney, and Westmead Hospital. The first edition contains a range of articles on tobacco advertising bans, workplace smoking restrictions, litigation and tobacco and disease.

Dr Davis wrote in his first editorial: "Despite its slow growth, the field of tobacco and health has a lot going for it. There is no shortage of horrifying statistics to justify working in this area. For those who seek challenges, we are fighting a deadly, addictive behaviour supported by a wealthy and powerful industry. The people who work in this area are extremely committed to, and passionate about, their work. Our problems include lack of resources and an inadequate co-ordination of activities. Our goals are often disparate and our efforts are fragmented — and fragmentation seems to be increasing . . . *Tobacco Control* will not be able to ameliorate the problem of scarce resources. However, my hope is that it will help foster communication, co-operation and cohesion among the many organisations and individuals working in this field. I also hope the journal can enhance the esteem of the movement, to help it attract a more abundant supply of educators, advocates and researchers."

READERS ASKED FOR STATISTICS SUBJECT SUGGESTIONS

The Queensland office of the Australian Bureau of Statistics wants people interested in statistics on acute hospitals, psychiatric hospitals and day hospital facilities to help it decide which tables should be produced each year. Data are being collected from private and public hospitals to provide comprehensive 1991-92 statistical information on hospitals in Australia. Suggestions should be telephoned to Keith Carter or Brian Holliday at the ABS on (008) 806 415.

NEW GP SENTINEL SURVEILLANCE NETWORK

The Northern Sydney Area Health Service Public Health Unit has set up a sentinel surveillance network with 30 general practitioners in the Area. The network, launched in June, adds to other sentinel networks in the Central Sydney and Western Sydney Area Health Services. The networks use common definitions of conditions and similar computer software where possible.

Northern Sydney's sentinel GPs will monitor acute asthma, chicken pox, hepatitis B, immunisation and the new *Haemophilus influenzae* type b (Hib) immunisation. They can also comment on interesting or unusual conditions they encounter. Data are sent to the PHU and entered on the computer database. The GPs receive any analysis of the data, and the result is that both the PHU and the GPs are able to:

- collect morbidity data or conditions not normally monitored, such as acute asthma and chicken pox;
- detect rapidly a change in the rate of **non**-notifiable disease such as influenza; and
- measure the impact of the introduction of a new vaccine.

Donald Holt, Director, Northern Sydney Area Public Health Unit.

HEALTH PROMOTION UNIT MOVES TO PUBLIC HEALTH DIVISION

On July 1, 1992 the Central Office Health Promotion Unit (HPU) became part of the Public Health Division under the direction of the Chief Health Officer. The move was aimed to strengthen the Department's efforts to improve health outcomes in NSW.

Deputy Chief Health Officer Gavin Frost said the Unit has mounted well regarded campaigns, including Me No Fry and Fruit'n Veg, under the leadership of Michael Ward. However much more can be done to improve synergy of public health efforts focusing on the major health problems in NSW. The move is an important step in this direction, he said.

PUBLIC HEALTH NETWORK CONFERENCE

The first annual NSW Public Health Network Conference will be held on November 23 and 24, 1992 at Westmead Hospital. The theme is Public Health In Action. The conference will provide a forum for presentation of the work of members of the Network (the Epidemiology Branch of the NSW Health Department, and Public Health Units). Staff of other public health organisations are encouraged to submit abstracts.

Suitable topics include investigation of clusters of disease (infectious or otherwise), development or evaluation of surveillance systems, evaluation of health services, assessment of environmental health hazards, research on public health problems and implementation or evaluation of a public health program. The deadline for submission of abstracts is September 30.

Send requests for the registration and abstract forms to: PHN Conference Organiser, Epidemiology and Health Services Evaluation Branch, NSW Health Department, Locked Mail Bag 961, North Sydney 2059. Facsimile 391 9232 and telephone 391 9100.