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COMPLIANCE WITH THE TOBACCO ADVERTISING PROHIBITION ACT 1991 IN WESTERN SYDNEY

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Cigarette smoking is a major preventable risk factor for many diseases including cardiovascular disease, and respiratory and non-respiratory cancers, especially lung cancer, oral cancer and cancer of the cervix, bladder and pancreas¹. In Australia about 50 per cent of all premature deaths are due to cardiovascular disease and cancer². In the 1980s, in western Sydney alone, eliminating cigarette smoking would have resulted in about 2,400 potential years of life saved a year³.

There is evidence that advertising plays a key role in inducing young people to take up smoking^{4,5}. This has resulted in increased legislative powers to control cigarette advertising.

The Tobacco Advertising Prohibition Act 1991 and Regulation is another legislative tool to limit tobacco advertising. It came into force on July 30, 1993 and prohibits the advertising of tobacco products where the advertising is visible from a public place. A three-month moratorium declared by the NSW Health Department expired on September 30, 1993. An exemption under the Act permits certain types and sizes of advertising adjacent to the point of sale in tobacco retail outlets. Billboards are not controlled under this legislation.

In October 1993 the Western Sector Public Health Unit initiated a study to assess the level of compliance of tobacco retailers in western Sydney with the Tobacco Advertising Prohibition Act 1991, and to describe the ways in which the Act was being breached. Only advertisements visible from a public place outside the premises were assessed in the study. We did not assess compliance with permitted advertising requirements adjacent to the point of sale.

METHODS

We surveyed nine major shopping centres and 53 service stations within the boundaries of the Western Sydney and Wentworth Health Areas. The survey began on October 12, 1993 and was completed on October 22, 1993.

The shopping centres were in Auburn, Parramatta, Merrylands, Blacktown, Mt Druitt, Castle Hill, Windsor, Penrith and Katoomba, and service stations were in Auburn, Parramatta, Merrylands, Blacktown and Castle Hill. We selected service stations from the electronic yellow pages. For each suburb we included all service stations that were listed.

We conducted the survey in three stages. In the first stage, a research assistant was briefed on assessment of compliance with the Tobacco Advertising Prohibition Act 1991 and Regulation. The research assistant visited each of the shopping centres and systematically searched for tobacco retailers. If any tobacco

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Tobacco advertising

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advertisements were visible outside a retail outlet from a public place, the research assistant photographed the advertisements and recorded the following details:

- date and time photograph was taken;
- name of shop and street address;
- type of shop (e.g. takeaway food shop, tobacconist, supermarket);
- type of advertisement (e.g. brand name, poster); and
- position of advertisement (window, sandwich board, wall).

We instructed the research assistant not to enter premises to determine point of sale compliance, nor to alert the retailer when photographing any advertisements. The research assistant followed a similar protocol for the service stations.

In the second stage of the study two of the investigators examined all photographs and notebook annotations. Where a breach was detected or suspected, we sent a warning letter by certified mail to the proprietor of the retail outlet. A "suspected" breach was where we could not determine from the photograph if live stock (i.e. packets containing cigarettes) had been used in a display. The use of live stock for display purposes does not constitute a breach. In some instances the legislation was ambiguous and we obtained an interpretation from the Legal Branch of the NSW Health Department.

In the third stage of the study an Environmental Health Officer (EHO) inspected all tobacco retail outlets that had been sent a warning letter. The first inspection occurred about six weeks after the letters were sent. We wanted to assess compliance after receipt of the warning letter. If the breach had not been rectified following receipt of the warning letter, the EHO discussed the matter with the proprietor. A further two-week grace period was given before a second EHO inspection. The purpose of this inspection was to obtain formal evidence to enable institution of legal proceedings.

RESULTS

Retail outlets in shopping centres

The overall compliance rate at the initial survey by the research assistant was 90.5 per cent ($n=189$) (Table 1). Only 18 outlets (9.5 per cent) did not comply with the Act. When the offending retail outlets were inspected by an EHO (after receipt of the warning letter), only eight were in breach. On reinspection, only one retail outlet remained in breach. Thus, after two EHO inspections, the compliance rate was 99.5 per cent.

Service stations

When the research assistant surveyed service stations, only two breaches were detected (compliance rate 96.2 per cent). When the two offending service stations were inspected by an EHO after sending a warning letter, only one was in breach. At the second EHO inspection the breach had been rectified.

Breaches by type of retail outlet

The type and number of tobacco retail outlets which were initially in breach is presented in Table 2. These figures

TABLE 1

NUMBER OF TOBACCO RETAIL OUTLETS IN BREACH DURING INITIAL SURVEY, FIRST EHO INSPECTION AND SECOND EHO INSPECTION, OCTOBER 1993

Shopping Centre	Initial Breaches	First Inspection	Second Inspection
Auburn (n=24)	1	1	0
Blacktown (n=26)	3	0	0
Castle Hill (n=12)	1	1	0
Katoomba (n=12)	0	0	0
Merrylands (n=27)	4	1	0
Mt Druitt (n=16)	0	0	0
Parramatta (n=41)	5	2	1
Penrith (n=24)	3	2	0
Windsor (n=7)	1	1	0
TOTAL (n=189)	18	8	1

TABLE 2

NUMBER OF TOBACCO RETAIL OUTLETS IN BREACH BY TYPE OF RETAIL OUTLET, OCTOBER 1993

Retail Outlet	Initial Breaches	Failure Rate %
Tobacconist (n=29)	12	41
Gift shop (n=12)	2	17
Take-away food shop (n=46)	2	4
Service station (n=53)	2	4
Supermarket (n=25)	1	4
Cafe (n=11)	1	9
Others (n=66)	0	0
TOTAL (n=242)	20	8

include the shopping centre retail outlets and the service stations. The largest group of tobacco outlets that breached the Act were specialist tobacconists.

Type of advertising

Only shopping centre tobacco retail outlets are included in this analysis. We classified the 48 breaches into four categories:

- advertising that a tobacco product was available on the premises, e.g. "Cigarettes Sold Here" (40 breaches);
- display of material other than live product (three breaches);
- display of a slogan, e.g. "Anyhow have a Winfield 25s" (three breaches); and
- non-complying priceboard visible from outside the retail outlet (two breaches).

Most breaches were in the category that advertised the availability of tobacco products. Some retail outlets

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BROADENING THE SCOPE OF THE EASTERN SYDNEY AREA SENTINEL SURVEILLANCE NETWORK

Leena Gupta and Mark Ferson
Eastern Sydney Public Health Unit

The general practice-based sentinel surveillance network in Eastern Sydney Area (ESA) has been operating for two years. Its purpose has been to document temporal variations in general practice consultation rates for specific diseases, to detect epidemics or disease clusters and to contribute to Statewide influenza surveillance. Until October 1993 conditions reported by participating general practitioners (GPs) included influenza, asthma, chickenpox, hand, foot and mouth disease and shingles. Aggregate data are reported in a monthly bulletin produced by the ESA Public Health Unit.

In October 1993 we conducted a review of general practice-based sentinel surveillance in ESA. We interviewed participating GPs and contacted other units in NSW which coordinate general practice-based sentinel surveillance. The 13 GPs interviewed reported they found participation in the network useful to their clinical practice, particularly in the provision of aggregate information to patients. Several GPs considered it unnecessary to report some infectious conditions and suggested alternatives, such as domestic violence, injuries, acne in adolescence, pap smears and requests to screen for sexually transmitted diseases. In contacting other units which co-ordinate sentinel surveillance, we found that some units had broadened the scope of reporting to include such conditions as occupational injury, alcohol-related consultations and marital disharmony.

As a result of the review we modified the list of conditions reported and have now included only those in which clinical, public health or other (social, economic) intervention may be implemented in ESA, or where the impact of intervention could be monitored. Specifically, we have reduced the extent to which infectious diseases are reported and begun reporting of known or suspected cases of domestic violence. In ESA sentinel surveillance age/sex data on domestic violence have been collected for 10 months using a case definition developed with the ESA Women's Health Coordinator. GPs also classify the manifestations of domestic violence as physical, psychological, sexual, social/cultural or economic.

The data on domestic violence have considerable public health significance, in view of a previous study in an Eastern Sydney emergency department, where domestic violence accounted for 12 per cent of 512 presentations for injuries due to violence in a six-month period¹. Studies elsewhere have demonstrated that between 1 per cent and 20 per cent of women who present to a hospital emergency department have a recent history of domestic violence^{2,3,4}. The collection of this information is relevant to the development and implementation of the NSW Domestic Violence Strategic Plan⁵, the NSW Health Department Domestic Violence Policy⁶ and the ESA Health Service Domestic Violence Policy and Protocol⁷, all of which identified the need for further data collection.

Care has been exercised in interpreting data obtained because of methodological difficulties inherent to voluntary small-scale sentinel surveillance systems. Bias is of particular concern because the surveillance network is not population-based – the participating GPs are volunteers and are not distributed evenly by geographic location, practice

demographics or casemix. In addition, compliance is variable. As a result, data are not representative of the population seen by GPs in ESA. Poor sensitivity is also a significant limitation, as case definitions for domestic violence and its manifestations have been simplified to assist in rapid assessment and classification of patients for reporting purposes. This has resulted in underreporting of cases and may result in misclassification.

Despite these limitations we believe reporting of domestic violence has been valuable because of the paucity of data about the problem. From data collected by the surveillance network it will, at least, be possible to determine baseline consultation rates for participating practitioners and to detect temporal trends in consultation rates over longer periods, as further strategies to increase recognition and improve management of domestic violence are implemented. The value of the data may also be in estimating the proportion of domestic violence presentations to GPs with a certain manifestation – for example, the proportion of consultations for domestic violence in which social/cultural abuse is a manifestation. Most important, the collection of primary care data on domestic violence will complement data from, for example, emergency presentations and will be an indicator of the need for more extensive data collection.

Since ESA PHU began data collection on domestic violence, some other sentinel networks have started collecting similar data. We have also considered monitoring other conditions, to complement current clinical or preventative initiatives. These "conditions" include injuries due to falls (the leading cause of hospitalisation for injury in 1989-1990⁸), presentations with scalds and referrals for mammography. The possibility of reporting self-inflicted injuries provides a mechanism by which the general practice-based sentinel surveillance network could link with the ESA Health Outcomes Council which is focusing on suicide. Amendments to the existing list of conditions will be made in consultation with participating GPs.

Previous articles in the *NSW Public Health Bulletin* have indicated potential benefits of general practice-based surveillance networks^{9,10}. Mira et al¹⁰ have suggested that sentinel surveillance has the potential to monitor conditions other than infectious diseases and preventative care. We consider that the scope of "conditions" reported by general practice-based sentinel surveillance networks can be broadened further to provide a useful mechanism for monitoring the impact of a wide range of public health and health promotion initiatives, social welfare programs or clinical services, at a local or statewide level.

ACKNOWLEDGMENT

We gratefully acknowledge Susan Furber, David Lyle, Karen Alexander and Michael Mira for their input and thank all the general practitioners who have participated in the network.

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Tobacco advertising

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displayed more than one advertising sign that breached the Act.

DISCUSSION

Overall, 90.5 per cent of tobacco retailers in suburban shopping centres and 96.2 per cent of service stations complied with the Act at the initial survey. This may have been due to a number of factors. In mid-1993, the NSW Health Department wrote to all tobacco retailers explaining the legislation. In addition, before the September 30 deadline, tobacco companies began supplying legal advertising material to retailers. Some advice and advertising material from the tobacco companies, however, does not comply with the Act.

The most common advertising breaches were those that advertised the availability of tobacco products, e.g. "Cigarettes sold here". In many instances these signs were provided by the tobacco companies and were in the colours of major tobacco companies. Tobacco retailers were happy to remove these illegal advertising signs, especially when they were told they were liable to prosecution rather than the tobacco companies.

All but one tobacco retailer had complied by the final inspection. This retailer is a member of a major supermarket chain. We were told by the management that its advertising policy was determined at the corporate level and that it would eventually comply. We did not prosecute the retailer as the NSW Health Department is negotiating with the supermarket chain.

Warning letters seemed to alter advertising behaviour in some of the retailers. We did not have sufficient statistical power to evaluate the effectiveness of warning letters in changing advertising behaviour. In view of limited resources, it is important, in a future study, to compare the relative effectiveness of warning letters and visits by an EHO in changing advertising behaviour. It should be noted

that very high compliance rates were achieved in the survey population without recourse to prosecutions.

Specialist tobacconists had the highest failure rate. It may be that as the retailing of tobacco products is their sole source of livelihood they are willing to risk illegal advertising. In any education campaign, they should be given a high priority.

We did not record any breaches in business names. At the time of the study, there was debate about whether it was legal to use the word "tobacconist" in registered business names. If business names such as "discount tobacconist" were not permissible, there would have been 25 additional breaches and 16 additional offending retail outlets. It is now NSW Health Department policy, however, that business signs with the word "tobacconist" are acceptable provided they are part of a registered business name and comply with the spirit of the Act.

The survey method was labour-intensive. A list of licensed tobacco retail outlets was unavailable. Such a list would have ensured a complete sampling frame.

In summary, it was gratifying that most tobacco retailers in shopping centres and service stations in western Sydney were complying with the Tobacco Advertising Prohibition Act 1991. Specialist tobacconists, however, have a high non-compliance rate. This group of retailers will need to be targeted in any follow-up publicity or education campaigns.

ACKNOWLEDGMENTS

We would like to thank the Drug and Alcohol Directorate, NSW Health Department, for funding this study.

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Sentinel surveillance network

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PUBLIC HEALTH EDITORIAL STAFF

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The Bulletin aims to provide its readers with population health data and information to motivate effective public health action. Articles, news and comments should be 1,000 words or less in length and include a summary of the key points to be made in the first paragraph.

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HEPATITIS B IN A CHILD WITHOUT KNOWN RISK FACTORS

Magnolia Cardona, Cissy Chow, Louise McDonnell
Western Sector Public Health Unit

On July 8, 1994 the Western Sector Public Health Unit was notified by a general practitioner (GP) of a case of acute hepatitis B in a child under the age of 12. The child presented to the GP with the mother on June 6, 1994 with a history of feeling generally unwell and was found to be jaundiced. Blood tests revealed the child had abnormal liver function tests, was positive for hepatitis B surface antigen and had IgM for hepatitis B core antigen. On questioning the GP found there had been no known contact with a case or carrier of hepatitis B virus (HBV). The child had not had surgery, acupuncture, tattoos, blood transfusions, blood products or donor organs. The child had not been exposed to injected drugs or human bites. There was no known sexual contact and the mother believed this was very unlikely. The child had attended a dental surgery for an initial assessment on May 5, 1994 and for a dental filling on June 15.

Both parents and the child were born in Australia. The GP ascertained that members of the child's family were all negative for hepatitis B antigens. The mother completed a course of hepatitis B vaccination in February 1994 and as a result was hepatitis B surface antibody positive. She had no known risk factors for hepatitis B and the reason she was vaccinated is unknown.

Exposure to dental intervention six weeks before the onset date and lack of other risk factors for hepatitis B raised concerns that the child may have acquired the disease at the dental practice. In the interest of the health of the public, and given the GP's concern, the situation provided sufficient grounds to pursue an investigation of the potential sources of infection.

THE INVESTIGATION

The child had a dental filling five days before the onset of symptoms. However, based on the incubation period reported in the literature (usually 45-180 days, average 60-90 days and as short as two weeks)¹, we ruled out the possibility of transmission at this visit and focused our investigation on the earlier dental consultation. The dental practice employed several dentists and dental assistants.

Using the guidelines for prevention of transmissions of viral infections in dentistry issued by the US Centers for Disease Control and Prevention² and the Australian National Health and Medical Research Council³ (NHMRC), we designed a questionnaire and administered it to two dentists and one dental assistant directly involved in the care of the child. The questionnaire aimed to establish potential sources of cross-contamination from the dental staff or other patients attending on the day investigated. It included questions on immunisation status of staff members.

An infectious disease control expert from a dental school assisted in the transcription of dental records of all patients who attended the practice the same day as the child, the day before and the day after. From these records we obtained information on patients' self-reported hepatitis B status and risk factors for the disease, the invasiveness of the procedure performed and whether there was any needlestick accident or parenteral exposure documented.

FINDINGS

The child and most other patients attending the practice on the day investigated had had a dental examination only – that is, a non-invasive procedure where the possibility of blood spilling is negligible unless there is serious gingivitis. No written evidence of needlestick accidents or any other high-risk events was found in any of the records reviewed, including the child's record. There was no history of past hepatitis B infection documented in dental notes of any of the patients attending on the day investigated, the day before or the day after.

From the interviews of dental staff we concluded that the dentists had a reasonable level of awareness of infection control practices but the dental assistant was more knowledgeable on cleaning procedures. This was expected as assistants, unlike dentists in this practice, are directly involved in the disinfection and sterilisation of equipment as well as in the disposal of waste. Overall, the staff's knowledge of management of a needlestick injury was unsatisfactory.

All dentists and the only senior dental assistant allowed to perform procedures without supervision had been immunised against hepatitis B within the past eight years. All had had a booster immunisation after five years or satisfactory antibody levels tested within the past year. Three junior dental assistants had not received any hepatitis B immunisation and one had received two doses. Neither of the junior assistants had direct involvement in patient procedures.

We matched the initials, date of birth, gender and postcode of all dental staff and some 30 patients attending the day of the consultation, the day before and the day after against the NSW hepatitis B notification database (IDSS) at the NSW Health Department. There were no matches found.

We did not conduct a formal inspection of the premises, but staff interviews took place in the premises and this gave us the opportunity to cross-check some of the information provided. The dental consultant was satisfied there was nothing unusual about the practice except for some deficiencies in record-keeping.

DISCUSSION

Our findings suggest the dental practice was unlikely to be the source of the child's hepatitis B infection because:

- the date of the dental filling was too close to the onset date;
- the earlier consultation did not involve an invasive procedure;
- there were no matches for hepatitis B in the IDSS database among dental staff or patients undergoing procedures on the same day as the child;
- staff members performing direct patient procedures were immunised; and
- knowledge of infection control among staff was satisfactory.

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Hepatitis B in a child

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We provided copies of the NHMRC guidelines for infection control in dentistry and the Australian National Council on AIDS guidelines on management of needlestick injuries⁴ to the staff and recommended:

- the unimmunised dental assistants be screened for hepatitis B status and, if applicable, be immunised as soon as possible;
- the practice implement stricter control of needlestick injuries by keeping a log book and by familiarising staff with the NHMRC guidelines in case of accidents of this kind; and
- specific inadequacies in record-keeping be corrected in future for the benefit of the practice.

We were unable to determine the source of hepatitis B infection in this case.

Horizontal transmission of HBV (through saliva, wounds) among children aged less than 10 years is common in endemic countries. It is also possible among pre-adolescents and young school children in developed countries despite low prevalence of carriers in those age groups⁵. The extent of cross-infection in primary school children in Sydney is thought to be low even in schools with a large concentration of "high-risk" children⁶. In a NSW rural community with a high proportion of Aborigines, markers for HBV were significantly more prevalent among Aborigines than non-Aborigines and many of the seropositive children had been infected before school age, suggesting vertical rather than horizontal transmission⁷. Our investigation found no other cases of HBV among children had been notified within Western and Wentworth Health Areas since the local IDSS was established in 1991, and there was no history of human bites or wounds so this route was considered unlikely.

This investigation has not been able to exclude the possibility of other routes of exposure to HBV, including sexual exposure.

The potential risk of cross-infection with hepatitis B in dental settings to and from patients has been recognised for some two decades^{8,9,10} and several studies have reported a high prevalence of HBV carriers among dental professionals^{11,12,13,14}. None of the investigated dental staff had been notified to the Health Department as HBV positive and all those directly performing patient procedures had been immunised. We relied on the dental staff's self-report of hepatitis B immunisation and antibody status, lack of personal history of the disease and lack of matches to the IDSS to assess the carrier status of staff. We did not serologically test any of them but think it unlikely any was an asymptomatic carrier of HBV. We recognise that some cases of HBV occurring before the establishment of IDSS may have gone unnotified. Testing of staff may be appropriate for other specific investigations.

Immunisation against HBV is considered the frontline

protective measure for workers in dentistry^{11,15}. Gloves, masks and eyewear alone offer limited protection¹⁵. Educating health workers on infection control and encouraging the implementation of practice guidelines continue to be basic strategies for the prevention of patient-to-patient and worker-to-patient infections. Dental staff at the practice had a sound knowledge of the universal precautions for prevention of bloodborne infections but less than optimal level of awareness of management guidelines in the event of injuries with sharps.

The NSW Health Department has established a special committee to assess strategies leading to adequate implementation of infection control guidelines in medical and dental settings. The committee will also provide expert advice on the nature and extent of future investigations on infection control.

ACKNOWLEDGMENTS

Thanks are due to the following people involved in the investigation: the treating GP; staff from the dental practice for their time and co-operation; Rob Menzies for data matching; Ron Robinson for expertise in planning and record review; staff from the Dental Branch and AIDS/Infectious Diseases Branch of the NSW Health Department and the Dental Hospital for their input on the design of the questionnaire; and Louisa Jorm for her input in the draft of this paper.

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PUBLIC HEALTH ABSTRACTS

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

SERUM CHOLESTEROL LEVELS AND DEATHS FROM TRAUMA

Two clinical trials have shown that reduction in serum cholesterol, while lowering the incidence of coronary heart disease, has resulted in an apparent increase in deaths from violence and accidents. Accordingly, it is alleged that lowering serum cholesterol has not affected total mortality from all causes. Because of this finding a large study has been conducted in Finland involving more than 20,000 subjects whose mortality was monitored over 10-15 years. This study showed that to the contrary, serum cholesterol concentration was not associated with mortality from accidents, suicides and other violent deaths. But there was a relationship between such violent deaths and smoking and drinking alcohol.

Vartiainen E, Puska P, Pekkanen J. Serum cholesterol concentration and mortality from accidents, suicide and other violent causes. *Br Med J* 1994; 309:445-447.

CONDOMS EFFECTIVE IN PREVENTING HIV TRANSMISSION

An American study of heterosexual couples where one partner was HIV positive has shown that couples who used condoms had no transmission of HIV in contrast to other couples who used condoms inconsistently. This is the first good prospective evidence that condoms, if consistently and appropriately used, can reduce the rate of HIV transmission.

Vincenzi I et al. A longitudinal study of human immunodeficiency virus transmission by heterosexual partners. *New Engl J Med* 1994; 331:341-346.

INCREASE IN LIVER CANCER IN WESTERN SYDNEY

The incidence of hepatocellular carcinoma (cancer of the liver) appears to be steadily increasing in most countries. A study from Western Sydney has indicated a probable increase as demonstrated by a doubling of the incidence between 1979 and 1992. This apparent increase involved individuals born in Australia (50 per cent) as well as immigrants. This cancer was associated with cirrhosis in 93 per cent of patients. The increase appears to be predominantly due to alcohol use and abuse but also hepatitis B and hepatitis C.

Brotodihardjo AE, Tait N, Weltman MD et al. Hepatocellular carcinoma in western Sydney. *Med J Aust* 1994; 161:433-435.

FINANCIAL SECURITY AND RUPTURE OF THE APPENDIX

A major American study has for the first time documented that there is a relationship between financial security and health care. Rupture of the appendix was used as an indicator because it is accepted that delay in seeking treatment is directly related to rupture of an inflamed appendix. This large study demonstrated that lack of any medical insurance, coverage by fee-for-service private insurance and coverage by limited government aid were

significant risk factors for ruptured appendix in patients admitted to hospital for acute appendicitis compared to patients who had prepaid insurance plans. This finding was independent of other characteristics, including poverty and socioeconomic status, and can be explained by insurance-related delays in seeking medical care. Uninsured patients might delay seeking care at private and county hospitals because of their concern about ability to pay. Lack of a primary care physician could also be associated with delays in seeking or receiving medical help.

Braveman P, Schaaf VM, Egerter S et al. Insurance-related differences in the risk of ruptured appendix. *New Engl J Med* 1994; 331:444-449.

CORONARY ARTERY BYPASS SURGERY INCREASES SURVIVAL

In the 25 years since coronary artery bypass graft surgery was introduced it has become clear that the operation relieves angina and probably improves the quality of life. But whether the operation increased survival has been a matter of controversy. A large international collaborative study has clearly shown such surgery is associated with lower mortality as compared to management by medical means including delayed surgery if necessary. The risk reduction was greater in patients with left main artery disease than in those with disease in three vessels.

Yusuf S, Zucker D, Peduzzi P et al. Effect of coronary artery bypass graft surgery on survival: overview of 10-year results from randomised trials by the Coronary Artery Bypass Graft Surgery Trialists Collaboration. *Lancet* 1994; 344:563-579.

BIRTHS: FRIENDS AND RELATIVES MORE IMPORTANT THAN CHEMICALS

A United Kingdom study which has reviewed in detail many studies has concluded that provision of a companion throughout labour reduces the need for analgesia, lowers the incidence of caesarean and operative vaginal delivery and improves foetal outcome. Early amniotomy and early oxytocin do not reduce the rates of caesarean sections and operative vaginal deliveries.

Thornton JG, Lilford RJ. Active management of labour: current knowledge and research issues. *Br Med J* 1994; 309:366-369.

SURGERY FOR BREAST CANCER IN AUSTRALIA

The early detection of breast cancer by mammography and clinical examination or mammography alone has been shown to reduce mortality from breast cancer by about 30 per cent. Based on international studies and a recent publication of the experience of the Central Sydney Area Health Service Breast X-Ray Program, up to 90 per cent of women who have had early detection of their breast cancer can expect to have a 10-year survival rate. Nearly 60 per cent of the cancers that were detected could not be felt by clinical examination. This is an important advance as breast cancer continues to be a major cause of mortality in Australia.

Harrison RI, Glen DC, Niesche FW et al. Surgical management of breast cancer. *Med J Aust* 1994; 160:617-620.

INFECTIOUS DISEASES

NOTIFICATIONS

GONOCOCCAL ISOLATES IN NSW

In the July-September quarter of 1994 the Neisseria Reference Laboratory at the Prince of Wales Hospital, Sydney, examined 132 isolates of *Neisseria gonorrhoeae*. This is a similar figure to the 127 strains examined in 1993 but considerably fewer than the 180 seen in 1992. The trend to lower numbers of isolates, first observed 12 months ago, appears to be continuing.

The downward trend in the number of *Neisseria gonorrhoeae* isolates this year is largely due to a reduction in isolates from males. The male:female ratio for 1994 is 5.6:1, a decrease from 8.8:1, the figure for the corresponding period in 1993.

Rectal isolates accounted for 10.7 per cent of all isolates from males, and 6.2 per cent of isolates from men were from the pharynx.

Thirty-five of 132 isolates (26.5 per cent) were resistant to penicillin, with most resistant strains (24/35) resulting from a chromosomally mediated mechanism of resistance. Five of the 11 cases of penicillin-resistant *Neisseria gonorrhoeae*

detected in this quarter were from patients infected overseas and one infection was locally acquired. Acquisition details were not available in the other six patients.

All isolates were sensitive to ceftriaxone and spectinomycin and only a single isolate displayed low-level ciprofloxacin resistance. There were 11 strains (8.3 per cent) with high-level tetracycline resistance (TRNG), an increase from six resistant strains detected in the last quarter. Details of acquisition are incomplete but available information suggests overseas acquisition is frequent. The pattern of antibiotic resistance was essentially unaltered, but there was an increase in the number of TRNG isolates.

NOTE TO ACCOMPANY TABLES

Data this month are incomplete, due to disruptions caused by the installation of the revised version of the Infectious Diseases Surveillance System. Six Public Health Units (PHUs) were unable to provide data for October. All PHUs will be up to date for the next *NSW Public Health Bulletin*.

CHANGE IN ABBREVIATION

The abbreviation for Western NSW PHU has changed from WNSW to WN.

TABLE 3

SURVEILLANCE OF NON-NOTIFIABLE SEXUALLY TRANSMITTED DISEASES
JANUARY-OCTOBER 1994
(Diagnoses from sexual health centres unless otherwise stated in footnote)

AHS Infection	CSA ¹	SSA ²	ESA ³	SWS ⁴	WSA ⁴ + WEN	NSA ⁵	CCA ³	ILL ⁵	HUN ⁶	NC ⁵	ND ⁷	WN ⁸	CW ⁹	SW ⁹	SE ¹⁰	Total	
Chlamydia trachomatis	Male	1	-	62	2	6	2	1	5	8	-	5	7	-	3	-	102
	Female	1	-	53	5	7	1	1	4	14	1	18	23	-	8	-	136
	Total	2	-	115	7	13	3	2	9	22	1	23	30	-	11	-	238
Donovanosis	Male	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Female	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Genital herpes	Male	3	1	231	3	12	8	12	-	15	7	3	1	-	5	-	301
	Female	4	3	144	5	9	9	11	11	15	9	14	6	-	7	-	247
	Total	7	4	275	8	21	17	23	11	30	16	17	7	-	12	-	548
*Genital warts	Male	11	6	635	69	74	22	35	68	75	33	8	6	-	8	-	1,050
	Female	8	6	257	32	37	21	20	23	30	11	27	19	-	10	-	501
	Total	19	12	892	101	111	43	55	91	105	44	35	25	-	18	-	1,551
Nongonococcal urethritis	Male	3	1	467	23	55	14	33	24	43	13	10	7	-	4	-	697
	Female	-	-	-	-	3	2	-	-	-	-	-	2	-	2	-	9
	Total	3	1	467	23	58	16	33	24	43	13	10	9	-	6	-	706
Lymphogranuloma venereum	Male	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Female	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* First diagnosis
 1. 01/01/94-30/04/94
 2. 01/01/94-31/01/94
 3. 01/01/94-31/09/94
 4. 01/01/94-31/03/94
 5. 01/01/94-31/08/94

6. 01/01/94-31/06/94
 7. 01/01/94-31/10/94
 8. No SHC in Region
 9. Laboratory and SHC data 01/01/94-31/08/94
 10. No data yet received for 1994

TABLE 4

INFECTIOUS DISEASE NOTIFICATIONS FOR 1994
BY SELECTED MONTH OF ONSET FOR NOTIFICATIONS
RECEIVED BY OCTOBER 31, 1994

Condition	Jul	Aug	Sep	Oct	Total
Adverse event after immunisation	4	3	1	-	8
AIDS	28	29	23	5	85
Arboviral infection	7	4	2	-	13
Brucellosis	-	2	-	-	2
Foodborne illness (NOS)	5	5	8	4	22
Gastroenteritis (instit.)	46	38	9	-	93
Gonorrhoea	28	26	18	4	76
H influenzae epiglottitis	-	-	2	1	3
H influenzae meningitis	-	2	1	-	3
H influenzae septicaemia	1	1	1	-	3
Hepatitis A - acute viral	37	42	29	15	123
Hepatitis B - acute viral	7	10	2	1	20
Hepatitis B - chronic/cARRIER	47	48	18	3	116
Hepatitis B - unspecified	310	336	302	132	1,080
Hepatitis C - acute viral	3	6	2	-	11
Hepatitis C - unspecified	748	851	619	211	2,429
Hepatitis D - unspecified	1	-	-	1	2
Hepatitis, acute viral (NOS)	1	1	1	-	3
HIV infection	36	35	33	17	121
Hydatid disease	2	2	-	1	5
Legionnaires' disease	10	3	2	-	15
Leprosy	-	1	-	-	1
Leptospirosis	-	2	-	-	2
Listeriosis	-	1	1	-	2
Malaria	12	17	10	6	45
Measles	38	40	207	165	450
Meningococcal meningitis	6	18	3	4	31
Meningococcal septicaemia	5	7	4	2	18
Meningococcal infection (NOS)	2	2	3	-	7
Mumps	-	1	1	1	3
Mycobacterial atypical	31	20	14	1	66
Mycobacterial tuberculosis	17	18	17	5	57
Mycobacterial infection (NOS)	11	8	12	5	36
Pertussis	95	119	91	25	330
Q fever	16	13	13	3	45
Rubella	2	2	1	1	6
Rubella - congenital	-	1	-	-	1
Salmonella (NOS)	37	37	35	34	143
Salmonella bovis morbificans	1	1	1	-	3
Salmonella typhimurium	18	23	5	-	46
Syphilis	66	107	71	19	263
Typhoid and paratyphoid	3	3	2	-	8
Total	1,681	1,885	1,564	666	5,796

TABLE 5

SUMMARY OF NSW INFECTIOUS DISEASE NOTIFICATIONS
OCTOBER 1994

Condition	Number of cases notified			
	Period	Cumulative	Oct 1993	Oct 1994
Adverse reaction	2	-	23	27
AIDS	35	5	315	285
Arboviral infection	15	-	627	352
Brucellosis	-	-	4	2
Cholera	-	-	-	-
Diphtheria	-	-	-	-
Foodborne illness (NOS)	2	4	107	146
Gastroenteritis (instit.)	24	-	333	205
Gonorrhoea	31	4	297	256
H influenzae epiglottitis	1	1	31	21
H influenzae B - meningitis	2	-	52	13
H influenzae B - septicaemia	2	-	23	11
H influenzae infection (NOS)	1	-	14	8
Hepatitis A	50	15	517	413
Hepatitis B	379	136	3,329	3,352
Hepatitis C	633	211	5,261	6,737
Hepatitis D	2	-	11	13
Hepatitis, acute viral (NOS)	-	-	6	6
HIV infection	47	17	472	370
Hydatid disease	-	1	1	13
Legionnaires' disease	4	-	56	52
Leprosy	-	-	3	3
Leptospirosis	2	-	14	12
Listeriosis	5	-	11	6
Malaria	5	6	151	160
Measles	494	165	1,482	770
Meningococcal meningitis	17	4	78	61
Meningococcal septicaemia	4	2	34	31
Meningococcal infection (NOS)	2	-	11	13
Mumps	-	1	6	6
Mycobacterial tuberculosis	32	5	350	250
Mycobacterial - atypical	37	1	335	324
Mycobacterial infection (NOS)	8	5	39	70
Pertussis	308	25	989	1,083
Plague	-	-	-	-
Poliomyelitis	-	-	-	-
Q fever	31	3	338	197
Rubella	159	1	653	37
Salmonella infection (NOS)	54	34	779	839
Syphilis	59	19	613	816
Tetanus	-	-	5	2
Typhoid and paratyphoid	5	-	24	23
Typhus	-	-	-	-
Viral haemorrhagic fevers	-	-	-	-
Yellow fever	-	-	-	-

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, NC North Coast Public Health Unit, ND Northern District Public Health Unit, WN Western New South Wales Public Health Unit, CW Central West Public Health Unit, SW South West Public Health Unit, SE South East Public Health Unit, 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 6

INFECTIOUS DISEASE NOTIFICATIONS FOR 1994
BY PUBLIC HEALTH UNIT, RECEIVED BY OCTOBER 31, 1994

Condition	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NC	ND	WN	CW	SW	SE	U/K	Total
Adverse event after immunisation	—	2	2	2	6	4	—	—	—	—	2	1	—	—	2	6	—	27
AIDS	41	18	98	13	35	16	20	4	9	5	18	6	—	1	1	—	—	285
Arboviral infection	—	2	2	—	—	—	11	4	6	40	189	57	26	4	9	2	—	352
Brucellosis	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	2	—
Foodborne illness (NOS)	3	12	8	32	15	8	5	14	1	8	23	1	3	7	2	4	—	146
Gastroenteritis (instit.)	68	14	—	10	41	27	1	1	—	3	10	—	—	30	—	—	—	205
Gonorrhoea	30	16	96	8	13	1	12	4	7	6	5	19	25	5	6	3	—	256
H. influenzae epiglottitis	2	3	1	2	1	3	2	3	2	—	2	—	—	—	—	—	—	21
H. influenzae meningitis	1	—	—	4	2	—	2	—	—	—	1	—	1	2	—	—	—	13
H. influenzae septicaemia	—	—	—	1	1	1	2	1	—	1	2	—	1	—	—	1	—	11
H. influenzae infection (NOS)	—	—	—	—	1	—	1	3	1	—	1	—	—	—	1	—	—	8
Hepatitis A - acute viral	22	21	44	40	24	5	29	3	7	19	40	48	6	29	73	3	—	413
Hepatitis B - acute viral	4	2	27	4	3	—	—	—	1	4	8	2	6	1	1	—	2	66
Hepatitis B - chronic/cARRIER	—	235	1	100	6	14	17	—	24	28	10	6	10	—	2	—	453	
Hepatitis B - unspecified	390	408	80	896	408	28	394	20	63	46	34	13	9	6	27	11	—	2,833
Hepatitis C - acute viral	1	—	—	1	—	—	1	—	—	—	1	—	6	—	1	4	—	15
Hepatitis C - unspecified	756	426	1,172	701	653	144	605	227	299	369	749	133	45	115	148	180	—	6,722
Hepatitis D - unspecified	3	2	2	—	1	—	1	—	—	4	—	—	—	—	—	—	—	13
Hepatitis E - acute viral	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Hepatitis, acute viral (NOS)	—	—	3	—	—	—	—	—	—	—	—	—	—	1	—	—	—	5
HIV infection	52	19	132	17	15	5	22	4	3	7	6	—	—	1	—	2	1	84
Hydatid disease	1	3	2	—	—	—	—	—	1	1	—	1	1	—	2	—	—	13
Legionnaires' disease	3	2	2	7	11	2	12	—	3	7	—	—	—	2	—	—	—	52
Leprosy	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Leptospirosis	1	—	—	—	—	—	—	—	—	3	5	2	—	—	1	—	—	12
Listeriosis	—	—	2	—	—	1	—	—	1	1	—	—	1	—	—	—	—	6
Malaria	16	10	15	11	11	4	40	4	6	7	11	8	—	3	6	8	—	160
Measles	30	17	14	32	38	36	27	8	22	36	167	97	31	16	2	197	—	770
Meningococcal meningitis	5	8	2	8	5	2	4	3	5	5	4	1	3	3	1	2	—	61
Meningococcal septicaemia	2	4	1	7	3	—	4	1	1	5	2	—	1	—	—	—	—	31
Meningococcal infection (NOS)	—	1	2	1	2	—	—	—	—	—	4	2	1	—	—	—	—	13
Mumps	—	—	1	1	—	—	2	—	1	—	1	—	—	—	—	—	—	6
Mycobacterial atypical	50	20	85	43	12	15	36	8	2	36	11	3	—	1	2	—	—	324
Mycobacterial tuberculosis	31	42	28	43	31	4	29	1	9	10	6	5	3	2	5	1	—	250
Mycobacterial infection (NOS)	9	2	3	2	8	1	33	1	—	3	3	2	—	3	2	—	—	70
Pertussis	23	77	57	90	104	36	62	15	53	47	416	30	25	16	7	25	—	1,083
Q fever	2	2	—	1	1	1	—	1	—	23	24	65	55	18	3	1	—	197
Rubella	—	—	4	—	9	2	4	1	—	—	4	6	2	—	3	—	—	35
Rubella - congenital	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	2
Salmonella (NOS)	26	38	32	47	44	21	54	15	10	31	68	60	25	11	19	10	—	511
Salmonella bovis morbificans	—	2	1	1	1	3	2	—	1	2	—	—	—	—	—	—	—	13
Salmonella typhimurium	22	25	21	11	51	16	36	17	20	23	14	12	9	10	26	2	—	315
Syphilis	113	49	204	124	52	5	50	10	12	5	31	36	103	11	8	3	—	816
Tetanus	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	2
Typhoid and paratyphoid	5	2	3	2	3	1	1	—	—	1	3	—	—	—	2	—	—	23

TABLE 7

SELECTED INFECTIOUS DISEASE NOTIFICATIONS FOR 1994
BY PUBLIC HEALTH UNIT, RECEIVED BY OCTOBER 31, 1994

Condition	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NC	ND	WN	CW	SW	SE	Total	
Adverse event after immunisation	—	2	2	2	6	4	—	1	—	—	2	1	—	—	2	6	27	
H. influenzae epiglottitis	2	3	1	2	1	3	2	3	2	—	2	—	—	—	—	—	21	
H. influenzae meningitis	1	—	—	4	2	—	2	—	—	—	1	—	1	2	—	—	13	
H. influenzae septicaemia	—	—	—	1	1	1	2	1	—	1	2	—	1	—	—	1	11	
H. influenzae infection (NOS)	—	—	—	—	1	—	1	3	1	—	1	—	—	—	1	—	8	
Measles	30	17	14	32	38	36	27	8	22	36	167	97	31	16	2	197	—	770
Mumps	—	—	1	1	—	—	2	—	1	—	1	—	—	—	—	—	6	
Pertussis	23	77	57	90	104	36	62	15	53	47	416	30	25	16	7	25	—	1,083
Rubella	—	—	4	—	9	2	4	1	—	—	4	6	2	—	3	—	35	
Tetanus	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	2	

TABLE 8

FOODBORNE INFECTIOUS DISEASE NOTIFICATIONS FOR 1994
BY PUBLIC HEALTH UNIT, RECEIVED BY OCTOBER 31, 1994

Condition	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NC	ND	WN	CW	SW	SE	Total
Foodborne illness (NOS)	3	12	8	32	15	8	5	14	1	8	23	1	3	7	2	4	146
Gastroenteritis (instit.)	68	14	—	10	41	27	1	1	—	3	10	—	—	30	—	—	205
Hepatitis A - acute viral	22	21	44	40	24	5	29	3	7	19	40	48	6	29	73	3	413
Listeriosis	—	—	2	—	1	—	—	—	1	1	—	—	1	—	—	—	6
Salmonella (NOS)	26	38	32	47	44	21	54	15	10	31	68	60	25	11	19	10	511
Salmonella bovis morbificans	—	2	1	1	1	3	2	—	1	2	—	—	—	—	—	—	13
Salmonella typhimurium	22	25	21	11	51	16	36	17	20	23	14	12	9	10	26	2	315
Typhoid and paratyphoid	5	2	2	3	3	1	1	—	—	—	1	3	—	—	—	2	23

NEWS AND COMMENT

LETTER TO EDITOR

HIV Investigation

The women who were unnecessarily subjected to the stress of HIV testing, and the health care worker whose privacy was abandoned as soon as he was diagnosed with HIV, were predictable casualties of the NSW Health Department's recent "investigation" of 149 women who had undergone obstetric procedures. But perhaps the greatest tragedy of this episode is that the Health Department's response directly undermined the confidence of health care providers and the public in the adequacy of infection control practice.

For more than a decade the health system in Australia has been responding to the challenges of HIV/AIDS. One important development has been the recognition across the health care sector that universal precautions, not blood testing, must be the basic framework for infection control. Documented cases of HIV transmission to health care workers and patients in the course of health care provision have emphasised the need for rigorous adherence to universal precautions, but have not presented a serious challenge to their validity.

Why, then, on (apparently) the first occasion that the Health Department heard of the existence of an HIV-infected health care worker practising in this State, was there a rush to an "investigation"? Did the Department not believe the validity of its own infection control guidelines, or did it suspect they were being violated? Was it reasonable to dismiss the overseas experience, through which thousands of patients treated by HIV-infected surgeons, dentists and other health care workers have been followed up? The five patients treated by a Florida dentist remain the only HIV cases attributed to transmission from a health care worker, and the context of transmission in these cases remains shrouded in controversy.

It would be irresponsible to suggest that transmission of HIV from health care workers to patients absolutely can not occur; hepatitis B transmission has been clearly demonstrated in this situation. On the other hand, the Department's responsibility to promote and maintain infection control should not be subordinated to its apparent need to cover itself, at all costs, against the remote possibility that infection control had failed.

David A Cooper

*Director, National Centre in HIV Epidemiology and Clinical Research
Professor of Medicine, University of New South Wales*

Editorial response

The authors acknowledge that universal infection control precautions are the most important strategy for the protection of health workers and patients from the bloodborne viruses and that the reported overseas experience has established that the risk of HIV-infected health care workers infecting their patients is extremely low. The look-back investigation of patients at King George V was undertaken by the Health Department on the recommendation of an expert panel of clinicians, virologists, public health officials and policy makers in consideration of these factors: the nature of the exposure-prone procedures undertaken, the possibility that the health care worker may have been a recent seroconverter, the potential for any women infected to transmit their infection to infants through breastfeeding and the lack of Australian studies to validate the overseas experience. The outcome of the

investigation, that no women were found to have been infected as a result of their care, should indeed serve to reinforce the importance and utility of universal precautions, particularly in the light that one previously undiagnosed patient was found to have been HIV positive at the time of her child's delivery.

NSW HEALTH PROMOTION SURVEY

*Kym Scanlon, Health Promotion Unit
Sallie Newell, Rob Sanson-Fisher,
Hunter Centre for Health Advancement
David Lyle, Epidemiology Branch*

The NSW Health Department's first Statewide Health Promotion Survey is under way. The aim of the survey is to collect information on a wide range of health status indicators which will be used to:

- monitor the outcomes of public health programs; and
- inform the development and implementation of effective health promotion programs and practices throughout NSW.

Indicators measured in the survey include the prevalence of key health behaviours and related risk factors, as well as the amount of support for major health promotion initiatives in NSW. Areas addressed include demographics, perceived health status, nutrition, blood pressure, physical activity, smoking, solar protection, alcohol, HIV/AIDS, social support, provision of information, injury prevention, adult immunisation, asthma and diabetes.

The NSW Health Promotion Survey was developed over an 18-month period through:

- consultation with NSW health promotion and public health personnel, Hunter Centre for Health Advancement, Newstat, Australian Bureau of Statistics and more than 80 experts throughout Australia;
- review of the literature on valid and reliable telephone questions; and
- survey pre-testing, reliability, validity and sensitivity testing.

Data collection for the survey began in May 1994 and is being finalised this month. Survey data will be analysed and prepared for strategic release in 1996.

The survey sample is 16,000 NSW residents aged 18 years and over, including non-English speaking residents, who have been selected randomly from the Electronic White Pages. The sample is geographically stratified by NSW Health Areas and aggregates of adjacent rural Districts. The survey is being conducted by computer assisted telephone interview (CATI) and is preceded by an introductory letter.

Using a Health Outcomes framework, health promotion information from the survey will be released in such a way as to inform work practices of health promotion personnel throughout the State. This will be achieved by combining information from the following sources:

- interpretation of survey data;
- literature reviews of effective health promotion practice; and

- consultation with health promotion personnel, senior management from NSW Health and intersectoral colleagues.

A copy of the NSW Health Promotion Survey data tape will be released for secondary analyses in early 1996.

The survey has been developed and conducted by the NSW Health Department with the Hunter Centre for Health Advancement, Newstat, Hunter Valley Research Foundation, AGB McNair and EMD Consultants. Many NSW Health personnel have contributed to its development.

Further information about the Health Promotion Survey, including a copy of the questionnaire, is available from the Health Promotion Unit. Please fax all requests to the Unit on (02) 391 9579.

LEAD IN NSW

The Lead Taskforce Report released by the Minister for the Environment, the Hon Chris Hartcher MP, on November 8, 1994 presents a coordinated strategy for dealing with lead contamination in NSW. The report presents the findings on the nine working groups established under the auspices of the Lead Taskforce and chaired by the NSW Environment Protection Authority (EPA).

The report outlines a lead management action plan which focuses on the establishment of a lead reference centre as an information resource for the wider community. The main role of the lead reference centre will be to develop education materials and programs and to provide an information service to the community. The report also focuses on the establishment of lead centres in point-source communities where significant risk has been identified. Such centres have already been established at North Lake Macquarie and Broken Hill. The Broken Hill Lead Centre provides a blood lead surveillance program which aims to recruit all children living in Broken Hill. The centre will also carry out evaluation of remediation activities on a number of houses to determine the most appropriate long-term strategy.

Further to the NSW work, the Australian Institute of Health and Welfare will be conducting a national blood lead survey of children aged 12-60 months. Aims of the survey are to determine the distribution of blood lead levels nationally and in each State, to compare children living in rural and urban areas, and to determine blood lead levels of children living in "at risk" areas.

LEAD REMEDIATION PROGRAM UNDER WAY IN BROKEN HILL

Annual surveys of children since 1991 show that children living in Broken Hill have blood lead levels which are on average twice as high as children in other parts of NSW¹. A strategy to reduce blood lead levels in Broken Hill children has been developed jointly by the NSW Department of Health and the Environment Protection Authority in collaboration with the local council, industry and community groups.

The centrepiece of this \$3.67 million strategy is the remediation of individual houses where a significant risk of lead exposure has been identified. The aims of the remediation strategy are threefold:

- to evaluate the effectiveness of home remediation in permanently reducing lead levels in children in home environments in Broken Hill;

- to identify the main sources and pathways of lead exposure in children in Broken Hill; and
- to make recommendations about long-term measures needed to reduce the risks of lead exposure for children in Broken Hill.

About 150 children will be selected for inclusion in a trial of home remediation. The child's usual place of residence will be remediated according to a written protocol. Remediation will be contingent on a number of factors including the child's age and initial blood lead level as well as an assessment of risk factors in the home environment. Families will be offered temporary relocation while the remediation is carried out. Appropriate occupational health and safety safeguards for workers employed in remediation work will be an integral part of the program.

The outcome of the remediation will be evaluated by the change in blood lead level before and after remediation and by measured changes in the rate of lead deposition in and around the child's home.

The program began in August 1994. Technical staff have been recruited and a comprehensive blood lead survey of all pre-school-aged children in Broken Hill was completed in November 1994. Houses have been brought to provide interim accommodation for families while their homes are being remediated and the first houses for remediation have been identified. The program is due for completion in June 1996.

1. Phillips A, Hall J. Risk Factors for Blood Lead Levels in Pre-School Children in Broken Hill 1991-93. Western NSW Public Health Unit.

WATER SHORTAGE

Water restrictions now apply in a number of areas across the State, with some towns also having to secure an alternative source of water for drinking and domestic use. The subsequent use of improperly treated water may increase the risk of gastrointestinal disease.

Water distributed by water carts should comply with the National Health and Medical Research Council's guidelines for drinking water and the equipment used for cartage should be adequately cleaned and sterilised. Water samples should be sent to the Division of Analytical Laboratories (DAL) at Lidcombe for analysis before distribution.

Where individual property owners need to treat water from alternative sources such as creeks and dams, the Health Department recommends that chemical analysis of the water be conducted before treatment and use. In particular, analysis for pesticides should be conducted where pesticide spraying occurs.

Emergency treatment of individual property supplies can be carried out by flocculation and chlorination of the water. If the water is not clear or if it is cloudy, it should first be treated with a flocculent to remove particulate matter which can influence taste and odour, and harbour microorganisms. It then requires treatment in the form of chlorination, boiling or sterilisation tablets.

Water carters and property owners who need to treat water should contact Environmental Health Officers at their local Public Health Unit for detailed advice.