



'FLUORIDE: BENEFITS FAR OUTWEIGH THE RISKS'

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Media reports have raised concerns about the health effects of excessive fluoride intake in young children, particularly if they swallow adult toothpaste containing fluoride. While this toothpaste may pose a health hazard if used incorrectly, the NSW Health Department strongly supports the continued use of fluoride additives to toothpaste and domestic water supplies to maintain high levels of dental health.

To avoid problems associated with excessive fluoride intake the Department advises parents to:

- supervise teeth cleaning of children aged up to 10 years and encourage them to "spit and rinse";
- use junior toothpaste (with half as much fluoride) in children 2-8 years old;
- use a very small smear of toothpaste for children under 2 years of age; and
- encourage all children to use small amounts (a pea-sized amount).

The dramatic reduction in rates of dental caries in the whole population following the fluoridation of domestic water supplies is well established. Fluoride in toothpaste can further reduce levels of caries by its direct action on tooth enamel. However, if children swallow excessive amounts of fluoridated toothpaste they may develop some staining of the tooth enamel. In this article we review briefly some of the adverse health effects which have been attributed to fluoride and present a summary of some recent findings which strongly support the continued use of fluoride in our drinking water.

DENTAL FLUOROSIS

Dental fluorosis occurs when excessive amounts of fluoride are taken up by the teeth, resulting in staining or, in severe cases, pitting and mottling of the dental enamel. With water fluoridation levels in NSW at one part per million, dental fluorosis occurs rarely; less than 3 per cent of the population^{1,2}. Most of this will be mild and detectable only by trained observers.

There are other sources of fluoride which may contribute to the development of dental fluorosis. The most important for children is fluoride toothpaste, which contains 1,000 parts per million of fluoride and contributes up to 50 per cent of their total intake³. This can be controlled by the methods listed above.

BONE FRACTURES

There is no clear evidence that water fluoridation causes bone fractures. While some studies in areas using fluoridated water have shown increased fracture rates^{4,5,6}, at least one study showed a reduced rate in areas with fluoridated water⁷ and others showed no association^{8,9,10}. These studies have methodological problems, including failure to account for other risk factors such as physical activity, sedative medication use, and hormone replacement therapy in post-menopausal women, which influence the number of fractures. Differences in the prevalence of these factors, rather than any differences in fluoride intake, may explain the different rates of fractures observed.

Large doses of fluoride may increase the risks of bone fractures, but these doses are 30 times the amount obtained from drinking two litres of fluoridated water a day¹¹.

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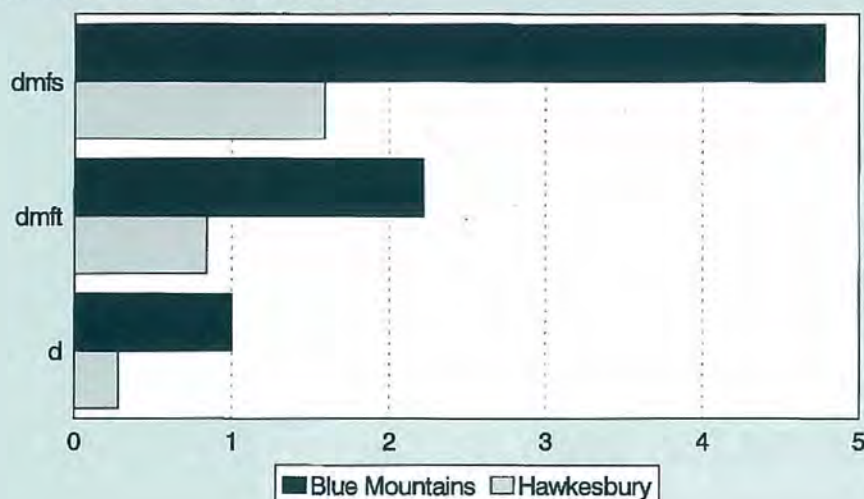
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'Fluoride: benefits far outweigh the risks'

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FIGURE 1

MEAN DENTAL CARIES PER CHILD – CONTINUOUS RESIDENTS



Three measures were used to compare the number of caries in children. These were:

Dental caries experience – the number of teeth that are decayed or missing or filled because of decay. This is abbreviated as **dmft** for the primary teeth.

Dental caries extent – the number of tooth surfaces that are decayed or missing or filled because of decay. This is abbreviated as **dmfs** for the primary teeth; each tooth has five surfaces.

Active dental caries – the number of teeth that have active or untreated dental decay. This is abbreviated as **d** for primary teeth.

BONE CANCER

Fluoride does not cause cancer¹². This issue has been extensively studied in the United States, where trends have been examined comparing cancer rates in people living in areas with fluoridation to those without fluoridation. No differences were found.

WHY DO WE ADD FLUORIDE TO OUR WATER?

Fluoridation substantially reduces dental caries in adults and children². This is important for our health as dental caries, especially untreated, leads to poor dental hygiene and ultimately poor nutrition and associated disfigurement and pain.

A survey by the NSW Health Department provides further evidence of the continued benefit to our community of adding fluoride to public water supplies¹³. In this survey, rates of dental caries in 1,100 primary school children with a lifelong exposure to fluoridated water living in the Hawkesbury Local Government Area (LGA) were compared to rates in 1,106 children in the Blue Mountains LGA, where the water was fluoridated only recently.

All children had a clinical examination and their parents provided details of their complete residential history, preventive dental behaviour and socio-demographic data.

Children in the Blue Mountains LGA had 1.7 times the amount of tooth decay compared with children from the Hawkesbury LGA. This difference is even more marked if we focus on children who had been lifelong residents in the two areas (Figure 1). The children from the unfluoridated Blue Mountains LGA experienced 2.5 times more decay than the fluoridated Hawkesbury LGA. However, there

were also significant differences between Hawkesbury and Blue Mountains children in non-continuous residents.

These differences persisted even after taking into account other factors related to dental caries such as socio-economic status.

The substantial and proven benefits of water fluoridation on dental health in the community outweigh the potential health risks. Furthermore, these health problems can be avoided by reducing discretionary intake of fluoride, particularly from fluoridated toothpaste.

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CRYPTOSPORIDIUM IN WATER

Primrose Hutton, Parasitologist, AWT Science & Environment, Water Board, West Ryde
Jerry Ongerth, Associate Professor, University of Washington, Seattle

SUMMARY

Concerns have been raised in recent weeks about the presence in the Sydney water supply of the parasite *Cryptosporidium*. This article describes the Water Board's newly developed monitoring program, and discusses overseas experiences.

Cryptosporidium is a protozoan parasite which has been recognised as a cause of gastrointestinal illness in humans since 1976¹. While the most common route of infection is faecal-oral contact, the organism has been implicated in waterborne outbreaks in several other countries, particularly in the USA and the UK².

The Water Board, through its trading arm Australian Water Technologies (AWT), and the Drinking Water Program, has developed a monitoring program to investigate Sydney's water supply system for the presence of this organism. Until recently methods for the detection of this parasite have been very difficult and inaccurate. They involved filtration of very large volumes of water (up to 1000L), concentration of the filtrate with flotation techniques and microscopic examination of pellets using fluorescence microscopy, a very laborious (one person day per sample) and inefficient (~ 0.5 to 5% recovery) procedure. AWT, in collaboration with Macquarie University and Thames Water Utility, has developed a flow cytometry technique which is faster (5 to 10 samples a day), requires much smaller sample volumes (10L), and is considerably more sensitive than the older methods³.

The Sydney monitoring program has been designed to identify concentrations of *Cryptosporidium* oocysts throughout the water system, from the reservoirs to consumers' taps. This examination of the whole system will enable the Water Board to develop management strategies to minimise the levels of the organism entering the distribution system.

Results to date (85 samples) have shown that *Cryptosporidium* oocysts are generally present in raw water sources at a concentration of about 0.1-1 oocysts/L. These concentrations are reduced by about 10 times within the distribution system in the unfiltered areas of the supply (94 per cent of Sydney's water), and by about 100 times in the filtered areas⁴.

Overseas data from Great Britain and the USA, and analysis of major waterborne outbreaks of cryptosporidiosis, provide a reasonable basis for judging the potential health significance of *Cryptosporidium* concentrations that may be identified in Sydney's water supplies. Concentrations of oocysts in raw or filtered drinking water from unprotected lowland catchments in England⁵ and the eastern USA^{6,7}

and unfiltered drinking water from the north-west USA^{8,9} are in the same range or exceed those found in Sydney's water supply (Table 1). The data presented in Table 1 are from more than 80 communities ranging in population from 50,000 to 1.5 million resulting from monitoring conducted over up to two years. Monitoring of raw and filtered surface waters in Great Britain indicates that oocyst concentrations in drinking water there are similar to those reported in USA locations^{5,9}.

ACKNOWLEDGMENTS

This program was instigated by David Manzi and Colin Nicholson and supported through the Drinking Water Program, Water Board. We would also like to acknowledge scientific input from staff at AWT Science & Environment and Macquarie University.

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EDITORIAL COMMENT

Cryptosporidium is a protozoan parasite which has been responsible for at least one outbreak of diarrhoeal illness in NSW¹⁰ and a number of cases overseas.

The improved method for the quantification of *Cryptosporidium* in water supplies is a welcome development and has implications world wide for the improved management of drinking water supplies. Improvements in the detection of the organism will enable a better definition of the link between *Cryptosporidium* in the water supply and illness.

This development is an important part of an overall strategy for the Water Board to reduce the potential for outbreaks of cryptosporidiosis. Reducing the risk of the organism entering water supplies through catchment management and optimal management of the water treatment and supply systems will ensure drinking water is safe. The Department will continue to work with the Water Board to prevent outbreaks of cryptosporidiosis. It will also improve monitoring of the illness and ensure an appropriate response in the event of future episodes of cryptosporidiosis.

TABLE 1

SUMMARY OF CRYPTOSPORIDIUM OOCYST LEVELS FOUND IN RAW SOURCE WATERS AND IN BOTH FILTERED AND UNFILTERED DRINKING WATERS

Water source	Water type	No of samples	Crypto conc Avg, No/L	Crypto conc Min, No/L	Crypto conc Max, No/L	Reference
East USA	Raw	84	280	7	9680	6
West USA	Raw	36	12	2.9	66	8
West USA	Drinking	36	1.7	0.4	7.2	8
East USA	Filtered drinking	82	1.5	0.13	9.6	7
West USA	Filtered drinking	11	0.22	0.12	0.38	9
West USA	Reticulation	5	0.007	0.003	0.02	9
England	Raw	318	0.03	0.04	3	5
Sydney	Raw	85	0.5	<0.001	14.3	4
Sydney	Reticulation	60	0.002	<0.001	0.04	4

PERSONAL HEALTH RECORD HELPS IMPROVE CHILD HEALTH

Fiona Bailey, Project Coordinator, Public Affairs, NSW Health Department

Elisabeth Murphy, Medical Adviser, Child and Family Health, NSW Health Department

David Jeffs, Director, Illawarra Public Health Unit

Victor Nossar, Service Director, Community Paediatrics, South Western Sydney Area Health Service

The Personal Health Record (PHR), also known as the Blue Book, has been issued free of charge to the parents of all babies born in, or moving to, NSW since January 1988. Almost half a million PHRs have been distributed.

The PHR is intended to:

- provide documentation of important health events (including immunisation status);
- act as a means of communication between the health professionals providing child health care — including the general practitioner (GP), early childhood nurse, paediatrician and hospital Accident and Emergency (A&E) Department staff;
- provide information and advice to parents on a range of child health-related topics, including immunisation and normal child development;
- provide a lifelong health record for every child and adolescent receiving health care in NSW; and
- enhance parents' involvement in, and sense of responsibility for, the care of their child.

The PHR has recently undergone an external evaluation, commissioned through the office of the NSW Health Department's Chief Health Officer¹. The evaluation was under the direction of a multidisciplinary steering committee including representatives of the NSW Health Department, obstetric and children's teaching hospitals, paediatricians, community-based child health medical officers, child health nurses and general practitioners. This proved to be a good model for successful intersectoral working. The steering committee recommended two parallel studies.

The retention and use of the PHR in children born after January 1, 1988, and parents' opinions about it were assessed through a doorstep interview. The study population consisted of a stratified population sample of 622 households in 25 randomly selected local government areas, in 10 of the 16 Health Service Areas/Regions in NSW (representative of 74 per cent of all children under five years in the State). Ninety-seven per cent of eligible parents completed the questionnaire.

In a related study the views of general practitioners, community-based child health nurses, paediatricians, child health medical officers and A&E staff were obtained using a pre-tested postal questionnaire. Response rates were high — with a 95 per cent response among child health nurses, 79 per cent among general practitioners, 69 per cent among paediatricians and child health doctors, and 37 per cent among A&E Department staff.

RESULTS

Results of the evaluation were released by the NSW Health Minister, Ron Phillips, at the Fifth Annual NSW Child and Family Health Conference held recently at Macquarie University. The evaluation demonstrated that the PHR continues to be popular with parents and health

professionals, and fulfils many of its intended objectives. In particular:

- ninety-three per cent of participating parents said they still had their child's Personal Health Record, and 78 per cent of all parents surveyed were able to produce the PHR for the interviewer;
- ninety-one per cent of the records examined had at least one immunisation recorded, and almost 70 per cent had the full immunisation schedule recommended by the National Health and Medical Research Council documented by age four years;
- eighty-nine per cent of parents said they found the PHR helpful or very helpful and 93 per cent wished for it to continue to be issued;
- eighty-nine per cent of the GPs said they had used the PHR (but only 35 per cent stated the purpose had been explained to them);
- eighty-nine per cent of parents believed doctors should regularly make entries in the PHR;
- eighty-seven per cent of all health professionals surveyed were aware of the PHR, and 84 per cent believed it was beneficial to the health care children received;
- eighty-four per cent of health professionals believed the PHR was an effective communication instrument and 80 per cent said it contributed to the parents feeling more responsible for their child's health;
- forty-five per cent of parents usually or always took the PHR when they went to their GP; and
- forty-three per cent of parents said that if the doctor did not ask for the PHR, or did not fill it in, they would make entries in it themselves on their return home.

CONCLUSIONS

The Personal Health Record issued in NSW is valued by parents and used by, and useful to, a range of health professionals.

The evaluation report makes seven recommendations, which have been referred to the Health Department for consideration. Foremost among them is that the Personal Health Record should continue to be issued for all children born in, or moving to, NSW and that its use should be extended throughout adolescence. It is believed the PHR could become even more valuable if more health professionals were aware of its potential. An education strategy is being developed to promote its use by health professionals.

Those in the NSW Public Health Network also need to be aware of the role of the PHR in promoting and documenting immunisation, and in improving communication between the sectors involved in child health care.

ACKNOWLEDGMENT

The authors acknowledge the invaluable contribution of co-researchers Wayne Smith and Tien Chey from the Western Sector Public Health Unit, the members of the PHR evaluation steering committee, and the GPs, paediatricians, child health nurses and emergency department staff who participated in the surveys.

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OVERSEAS TRAVEL HEALTH SEMINAR

Greg Stewart, Medical Officer of Health
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Sydney Area Health Service Public Health Unit

SUMMARY

Public Health Unit staff are often required to give advice to people planning to travel overseas. The South Western Sydney Area Health Service Public Health Unit organised a seminar to canvass issues that recur in giving travel health advice. This article covers discussions about topics such as malaria and other mosquito-borne diseases, food and waterborne diseases, sexually transmissible diseases, rabies, meningococcal meningitis and vaccinations.

Those of us who provide telephone advice to overseas travellers know it is sometimes difficult, sometimes amusing, sometimes an encumbrance on our heavy workload, but always a satisfying means of maintaining contact with the people of the Areas/Districts we serve.

It is not easy to provide concise and accurate advice to overseas travellers over the phone and indeed there is a view that such advice should be given only at a one-to-one consultation. But we believe the advice that can be given about food and water precautions, measures to prevent mosquito bites and recommended vaccinations is a useful starting point for those who contact us. In common with other Public Health Units, we always emphasise that more detailed advice, prescription of vaccines and anti-malaria tablets must be undertaken by the caller's local doctor, who will have detailed knowledge of his/her medical history. For those with complex itineraries, we often recommend attendance at a travel health practice.

Several difficult issues recur in giving travel health advice and advice can vary depending on the person, time of travel and place to be visited. For this reason, the South Western Sydney Area Health Service (SWSAHS) Public Health Unit organised an overseas travel health advice seminar for PHU staff and private practitioners interested in the providing of care to overseas travellers. The seminar was held in January 1992.

SWSAHS has several experts in international health close at hand. Professor Karl Rieckmann, of the Australian Army's Malaria Research Unit, is based at Ingleburn. Professor Rosemary Munro, Director of Microbiology, South Western Area Pathology Service, is based on the Liverpool campus. The Commonwealth Government's Communicable Diseases Adviser, Dr Robert Hall, is located a little further south. The only speaker at the conference who had to travel any distance was Dr Mark Ferson, Director of the Eastern Sydney Public Health Unit.

The four speakers provided seminar participants with up-to-date advice about overseas travel issues. Their contributions generated much discussion, a summary of which follows.

MALARIA

Professor Rieckmann gave an update on malaria around the world. He emphasised the increasing resistance to anti-malarials, in particular in northern Thailand and the

Thai-Burmese border. He also emphasised the necessity of measures to prevent mosquito bites, including use of DEET-containing repellents, mosquito netting, and avoidance of situations which may result in mosquito bites.

The consensus of the seminar was that the Commonwealth Government booklet, *Health Information for International Travel*, provided the most up-to-date and rational approach to malaria chemoprophylaxis. For travellers with complicated travel plans, it was agreed that a personal consultation with an expert in international health would be advisable.

OTHER MOSQUITO-BORNE DISEASES

Dr Hall spoke about other mosquito-borne diseases such as dengue fever, Japanese encephalitis and yellow fever. Like Professor Rieckmann, he emphasised the importance of measures to prevent mosquito bites. He outlined Commonwealth Government policy in relation to yellow fever, i.e. restrictions on people entering Australia from infected areas, as defined in the *Weekly Epidemiological Report*. The restrictions are much more stringent for people travelling north of Brisbane because of the potential for transmission of the disease.

In relation to Japanese encephalitis, Dr Hall said there had been four serious reactions to the vaccine since he had been in charge of approving its use (about 1,000 doses were approved in this period). For this reason, it is no longer available for travellers to areas where Japanese encephalitis is endemic.

FOOD AND WATERBORNE DISEASES

Dr Ferson summarised current issues in relation to food and waterborne diseases, in particular hepatitis A and typhoid. It was noted that a vaccine against hepatitis A will soon be available in Australia. [Editorial Note: the vaccine was released in July this year.] It was agreed this should be used in preference to Human Normal Immunoglobulin (HNIG). The issue of serological testing before administration of HNIG (or in the future hepatitis A vaccine) was discussed and it was agreed this would be worthwhile, particularly for those who go overseas frequently. The older the traveller, the more reason there is for serological testing, as the proportion of people with antibodies increases with age.

Seminar participants agreed the oral typhoid vaccine is preferable to the injectable vaccine. The issue of booster doses for the oral vaccine was raised. It was agreed that the manufacturer's guidelines for booster doses should be followed. Concerns about non-compliance with the oral vaccine were raised and this problem should be borne in mind when prescribing the oral typhoid vaccine.

There was no consensus about the use of cholera vaccine. It was recognised that the vaccine has low efficacy and short duration. Nevertheless, because of the El Tor epidemic, there were reports that travellers to endemic areas were being required to have on-the-spot vaccination if they did not have a current vaccination certificate. Some seminar participants recommended a single shot of cholera vaccine when still in Australia to avoid the possibility of a less than hygienic injection overseas.

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Overseas travel health seminar

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It was suggested that since overseas authorities who adopt the above approach are basically interested in documentary proof of vaccination, such documentation could be provided without the vaccine being given. There was a difference of opinion among seminar participants about this approach. Dr Hall emphasised that no country officially requires cholera vaccination or proof of same.

RABIES

It was agreed that advice about avoidance of domestic and wild animals was not given frequently enough. Professor Munro emphasised that all travellers should be advised to avoid wild and domestic animals (although domestic animals are considered to be safe in many developed countries). Long-term visitors to rabies-infected countries, and those with potential vocational exposure, should be considered for pre-exposure prophylaxis. There was no consensus about prophylaxis for "back-packers".

MENINGOCOCCAL MENINGITIS

Dr Hall emphasised that epidemics of meningococcal meningitis occur frequently in some parts of the world.

PUBLIC HEALTH EDITORIAL STAFF

The Bulletin's editorial advisory panel is as follows:

Dr Sue Morey, Chief Health Officer, Public Health Division, NSW Health Department; Professor Stephen Leeder, Director, Department of Community Medicine, Westmead Hospital; Professor Geoffrey Berry, Head, Department of Public Health, University of Sydney; Dr Christine Bennett, General Manager, Royal Hospital for Women; Dr Michael Frommer, Deputy Director, Epidemiology and Health Services Evaluation Branch, NSW Health Department; Ms Jane Hall, Director, Centre for Health Economics Research and Evaluation; and Mr Michael Ward, Manager, Health Promotion Unit.

The editor is Dr George Rubin, Director, Epidemiology and Health Services Evaluation Branch, NSW Health Department.

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. Please submit items in hard copy and on diskette, preferably using WordPerfect 5.1, to the editor, Public Health Bulletin, Locked Mail Bag 961, North Sydney 2059. Facsimile (02) 391 9232.

Design — Health Public Affairs Unit, NSW Health Department. Suggestions for improving the content and format of the Bulletin are most welcome.

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

Details of areas with recent epidemics, and those for whom vaccination is recommended, can be found in Health Information for International Travel.

ROUTINE VACCINATIONS

Seminar participants agreed that all travellers should be advised to update their routine vaccinations. In the case of tetanus and diphtheria, this should be as a booster dose of ADT every 10 years. Travellers to developing countries should be advised to have a booster dose of polio vaccine, if one has not been given in the previous 10 years. Oral polio vaccine (OPV) should be used, except in those cases where the well-described contraindications mean that killed vaccine is indicated. The rare complication of OPV-induced polio was discussed. However, it was agreed that the benefit of a booster dose of vaccine outweighed this risk.

SEXUALLY TRANSMISSIBLE DISEASES

Seminar participants agreed that brief (or in occasional cases more detailed) advice about the possibility of acquiring sexually transmissible diseases, including hepatitis B and HIV, was a valuable part of provision of travel health advice and should be given to most travellers.

OTHER ISSUES

Participants agreed that a "cookbook" approach to overseas travel health advice is inappropriate. It was also agreed that electronic cookbooks are not useful unless the user has up-to-date knowledge about overseas travel health issues.

There was discussion about whether telephone advice should be followed up by written advice, perhaps including some fact sheets. It was noted that Health Information for International Travel contains several very useful fact sheets. The consensus was that PHUs which provide overseas travel advice should follow up this advice with a written record of the advice given, accompanied by fact sheets.

CONCLUSION

Public Health Units have an important role to play in provision of travel health advice as we often have more up-to-date information than many GPs. While we always emphasise the importance of a formal consultation with a doctor, the information we can provide is a useful starting point for travellers.

INFORMATION SOURCES

Health Information for International Travel, 3rd edition 1991. Commonwealth Department of Health, Housing and Community Services.

International Travel and Health — Vaccination Requirements and Health Advice. Annual editions. World Health Organisation (obtainable from Hunter Publications, PO Box 404, Abbotsford Vic. 3067).

Travel Bugs — CSL's Country by Country Guide to International Travel Immunisation. 3rd edition. Commonwealth Serum Laboratories. Health Information for International Travel. Annual editions. US Department of Health and Human Services, Public Health Service. Immunisation Procedures. 4th edition 1991. NHMRC.

Travel Health Info Line (Commonwealth Department of Health, Housing and Community Services) phone (06) 269 7815. (For up-to-date information about yellow fever-infected areas phone (06) 269 7816.)

NEWS AND COMMENT

REACTION ON RURAL RESTRUCTURE

Dear Editor

With reference to your editorial, Restructure to meet rural needs, April 1993 (Vol. 4 No. 4, page 37), there is an error in the anticipated number of newborns requiring transfer. Whilst 4-5 out of every 730 babies are at birthweights below 1,500 grams, many other babies require transfer.

Each year the Newborn Emergency Transport Service (NETS) retrieves over 1,000 infants (1:80, 9 per 730). Indeed over 60 percent of NETS patients requiring high level interhospital retrieval are born at full term and for the purpose of your "birds-eye" view of a population, the total population of infants expected to be transferred out might have been quoted.

Andrew Berry
Medical Director
NETS

Dear Editor

I thank Dr Berry for his comments on the numbers of babies requiring transfer to major centres. The concept I am trying to develop is one based on prevalence of risk or morbidity in a community rather than actual utilisation of services. I would welcome Dr Berry's involvement in the further development of this concept by providing data on the prevalence of other conditions which may require transfer in full-term infants. This will be of assistance in promoting appropriate preventive and clinical services for the people of NSW.

Sue Morey
Chief Health Officer,
NSW Health Department

EDITORIAL COMMENT

Dr Berry notes that the Newborn Emergency Transport Service retrieves more than 1,000 infants each year. This figure includes retrievals to any higher level hospital, including retrievals to hospitals with a neonatal intensive care unit.

The NSW Midwives Data Collection (MDC) is a Statewide surveillance system which collects information on every birth in NSW. Information on retrieval is not routinely collected. However, if a neonate is transferred the destination hospital is reported.

TABLE 2

NEWBORNS TRANSFERRED TO HOSPITALS WITH A NEONATAL INTENSIVE CARE UNIT BY GESTATIONAL AGE, NSW MIDWIVES DATA COLLECTION, 1991

Gestational age (weeks)	No.	%
20-27	34	4.5
28-31	75	9.8
32-36	231	30.3
37-41	397	52.1
42+	25	3.3
Total	762	100.0

TABLE 3

NEWBORNS TRANSFERRED TO HOSPITALS WITH A NEONATAL INTENSIVE CARE UNIT BY BIRTHWEIGHT, NSW MIDWIVES DATA COLLECTION, 1991

Birthweight (grams)	No.	%
400-999	28	3.7
1000-1499	63	8.3
1500-1999	89	11.7
2000-2499	108	14.2
2500-2999	149	19.6
3000-3499	145	19.0
3500-3999	129	16.9
4000-4499	34	4.5
4500 +	11	1.4
Not stated	6	0.8
Total	762	100.0

Among births reported to the MDC in 1991, 762 neonates were reported as transferred to a hospital with a neonatal intensive care unit. Of these, 340 (44.6 per cent) were less than 37 weeks gestation (Table 2) and 288 (37.8 per cent) were less than 2,500 grams birthweight (Table 3). The majority of neonates transferred to a hospital with a neonatal intensive care unit were, therefore, not premature or low birthweight.

Our data support Dr Berry's comments that the figures for neonatal retrieval are actually much higher than suggested by the original article and that the majority of neonates requiring high level interhospital retrieval are born at full term.

VALIDATION SURVEY OF A HEALTH INTERVENTION

Gay Rixon and Helen Longbottom,
Northern Sydney Area Public Health Unit

Since its inception in 1990 the Northern Sydney Public Health Unit (PHU) has used letters to provide information and advice to parents during an outbreak of an infectious disease in a childcare setting. In conjunction with the letter the PHU offers advice on infection control to the centre. Anecdotal evidence from centres, parents and general practitioners has indicated such information is useful and we recently carried out a formal validation of this method of delivering health information.

Following the laboratory confirmation of three cases of giardia in the nursery section of a childcare centre, the PHU sent a letter to parents providing information about giardia and advising them to seek medical care for their children.

We conducted a post-intervention survey by means of a questionnaire. Thirty-two parents received the letter and 63 per cent (20) responded to the survey. Of the respondents, 80 per cent (16) found the letter useful and although only 25 per cent (five) of the children in the nursery section had gastric symptoms, 95 per cent (19) of parents sought medical care as advised. Follow-up by the PHU after the distribution of the letter to parents determined there were no further cases of giardia in the nursery section.

The results of the questionnaire indicate a high level of acceptance to seek medical care in the 63 per cent who responded. While socio-economic and cultural factors may affect a parent's response to this form of intervention the results indicate that in our Health Area a letter is an effective public health tool.

(We acknowledge the assistance of Lyn March in the design of the questionnaire.)

INFECTIOUS DISEASES

MEASLES

During the first seven months of 1993 all Area Health Services and Regions except South Eastern Region, representing 97 per cent of the NSW population, have received notifications for measles.

The annual notification rate for the State is 9.3 per 100,000 population. Orana and Far West Region has received notifications at a rate of 40.3 per 100,000 population.

Measles notifications peaked in epiweeks 6 to 10 and again in epiweeks 17 and 18, with a further peak in weeks 23 to 27. Twenty-seven notifications from Western Sydney were received between epiweeks 23 and 27, for a rate of 45.9 per 100,000 population.

TABLE 4

SUMMARY OF NSW INFECTIOUS DISEASE NOTIFICATIONS
JULY 1993

Condition	Number of cases notified			
	Period		Cumulative	
	July 1992	July 1993	July 1992	July 1993
Adverse reaction	—	—	24	16
AIDS	20	4	199	131
Arboviral infection	11	—	305	565
Brucellosis	—	—	1	2
Cholera	—	—	—	—
Diphtheria	—	—	—	—
Foodborne illness (NOS)	8	1	138	83
Gastroenteritis (instit.)	40	—	212	186
Gonorrhoea	55	1	179	185
H influenzae epiglottitis	4	—	28	24
H influenzae B - meningitis	9	4	62	36
H influenzae B - septicaemia	6	1	20	15
H influenzae infection (NOS)	2	—	17	6
Hepatitis A	65	8	664	327
Hepatitis B	293	31	1944	1696
Hepatitis C	406	47	2401	2482
Hepatitis D	—	—	5	5
Hepatitis, acute viral (NOS)	1	2	12	6
HIV infection	62	29	463	321
Hydatid disease	—	—	5	1
Legionnaires' disease	8	—	80	38
Leprosy	—	—	4	—
Leptospirosis	1	—	16	10
Listeriosis	—	1	8	6
Malaria*	13	16	94	142
Measles	23	22	240	320
Meningococcal meningitis	17	1	38	24
Meningococcal septicaemia	2	2	6	16
Meningococcal infection (NOS)	2	—	6	6
Mumps	1	—	17	1
Mycobacterial tuberculosis	20	2	271	124
Mycobacterial - atypical	25	—	267	119
Mycobacterial infection (NOS)	—	—	22	38
Pertussis	13	2	85	220
Plague	—	—	—	—
Poliomyelitis	—	—	—	—
Q fever	21	1	113	170
Rubella	5	1	34	155
Salmonella infection (NOS)	51	1	575	522
Syphilis	101	7	599	325
Tetanus	—	—	1	3
Typhoid and paratyphoid	5	—	22	13
Typhus	—	—	—	—
Viral haemorrhagic fevers	—	—	—	—
Yellow fever	—	—	—	—

* from Malaria Register

Only 15 of 320 notifications (5 per cent) for NSW were laboratory confirmed.

WHOOPIING COUGH

During the first seven months of 1993 all Area Health Services and Regions except South Eastern Region, representing 97 per cent of the NSW population, have received notifications for whooping cough.

The annual notification rate for the State is 6.4 per 100,000 population. Central West Region has received notifications at a rate of 17.3 per 100,000 population. Northern Sydney Area has received notifications at a rate of 10.7 per 100,000 population.

RUBELLA

During 1993 all Area Health Services and Regions with the exception of Orana and Far West, representing 98 per cent of the NSW population, have received notifications for rubella.

Notifications for rubella have continued to decrease since the first four weeks of the year. Forty-one per cent of the year's notifications were for January. The notification rate for the State for 1993 is 4.5 per 100,000 population.

TUBERCULOSIS

An improvement in tuberculosis notifications has occurred following the first meeting of the tuberculosis coordinators last month.

One hundred and twenty-four notifications have been received for the first six months of the year, for a rate of 1.05 per 100,000 population. There would still be substantial delayed reporting for tuberculosis due to prolonged laboratory procedures in confirming cases. Public Health Units and Chest Clinic staff are encouraged to register provisional notifications of tuberculosis. The Hunter Area Health Service has received notifications at a rate of 1.2 per 100,000 population.

LEGIONNAIRES' DISEASE

A total of 38 notifications for Legionnaires' disease has been received for 1993, for a rate of 1.1 notifications per 100,000 population. This compares with a rate of 2.4 notifications per 100,000 population for the same period in 1992.

FOOT LACERATION LEADS TO TETANUS

A 61-year-old male presented to the Emergency Department of Sutherland Hospital on May 21 with an infected laceration of his left foot. The laceration had been infected two weeks previously (on May 6) by a gardening tool. The man had been treated at Sutherland Hospital Accident and Emergency Department that day, and the wound had been toileted and sutured and tetanus toxoid administered. On examination on May 21, he was found to have dysphagia, difficulty opening his mouth (lockjaw), painful lower back muscles and a history of fever and sweats for the past two days, although he was afebrile at examination. A diagnosis of tetanus was made and was subsequently confirmed by a positive wound culture for *Clostridium tetani*.

TABLE 5

INFECTIOUS DISEASE NOTIFICATIONS
BY SELECTED MONTH OF ONSET FOR 1993

Condition	Month			
	Apr	May	Jun	Total
Adverse event after immunisation	5	1	4	10
AIDS	13	16	8	37
Arboviral infection	59	26	17	102
Brucellosis	1	1	-	2
Foodborne illness (NOS)	18	19	12	49
Gastroenteritis (instit.)	-	64	83	147
Gonorrhoea	42	24	16	82
H influenzae epiglottitis	4	6	5	15
H influenzae meningitis	9	4	3	16
H influenzae septicaemia	3	3	1	7
Hepatitis A - acute viral	47	66	33	146
Hepatitis B - acute viral	6	9	1	16
Hepatitis B - unspecified	254	279	249	782
Hepatitis C - acute viral	2	-	1	3
Hepatitis C - unspecified	396	440	402	1238
Hepatitis D - unspecified	2	1	1	4
Hepatitis, acute viral (NOS)	1	1	1	3
HIV infection	46	70	50	166
Hydatid disease	-	-	1	1
Legionnaires' disease	13	6	1	20
Leptospirosis	1	1	-	2
Listeriosis	-	-	1	1
Measles	29	40	53	122
Meningococcal meningitis	7	4	6	17
Meningococcal septicaemia	4	4	2	10
Meningococcal infection (NOS)	2	-	1	3
Mumps	-	1	-	1
Mycobacterial - atypical	19	8	4	31
Mycobacterial tuberculosis	19	13	16	48
Mycobacterial infection (NOS)	10	6	8	24
Pertussis	33	25	18	76
Q fever	30	30	21	81
Rubella	13	17	11	41
Salmonella bovis moribificans	1	1	1	3
Salmonella typhimurium	30	22	18	70
Salmonella (NOS)	54	53	29	136
Syphilis	52	45	43	140
Tetanus	-	1	-	1
Typhoid and paratyphoid	2	-	-	2
Total	1227	1307	1121	3655

The patient was given tetanus antitoxin, human tetanus immunoglobulin, intravenous penicillin (two million units) and transferred to the Intensive Care Unit where he is in a serious but stable condition. He was fully conscious and orientated and had experienced no generalised muscular spasms, seizures or episthotonus. He has experienced painful muscular spasms of his left leg, pain and difficulty moving, and chest tightness. His chest x-ray, which was clear on admission, shows basal atelectasis from decreased chest excursion secondary to muscular pain. He is being managed with Midazolam and Pethidine infusions and continues intravenous penicillin therapy (one million ivv, six hourly).

Public health implications

On interview by the Public Health Unit on May 27, the man could not confirm that he had ever had a primary series of tetanus immunisation. Previous to the tetanus toxoid he received at Sutherland Hospital on May 6, he stated that he had had one tetanus toxoid about five years previously. The man was born in the United Arab Emirates where widespread immunisation of children was probably not available at the time of his birth in 1932. More thorough questioning at the time of his initial Emergency Department visit may have identified the deficient immunisation history in which case he could have been given tetanus immunoglobulin as specified in the NSW Health Department Circular No 93/13.

Public Health Unit action

The patient's wife was questioned as to her immunisation status and gave a history of deficient immunisation for tetanus. She has been advised to consult her doctor for primary tetanus immunisation.

Recommendations

This case identifies two important areas where adequate education may have prevented this case of tetanus and may prevent cases in future. First, many elderly people

Continued on page 94 ►

TABLE 6

VACCINE PREVENTABLE DISEASE NOTIFICATIONS
BY PUBLIC HEALTH UNIT
CUMULATIVE 1993

Condition	PHU																		Total
	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NCR	NER	OFR	CWR	SWR	SER	U/K		
Measles	40	29	5	46	71	20	11	10	12	20	17	3	33	2	1	-	-	320	
Mumps	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Pertussis	9	7	8	28	29	23	46	3	9	10	13	4	11	17	3	-	-	220	
Rubella	5	12	10	15	18	14	21	3	2	17	17	10	-	2	3	6	-	155	
Tetanus	-	1	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	3	

TABLE 7

RARELY NOTIFIED INFECTIOUS DISEASES
BY PUBLIC HEALTH UNIT
CUMULATIVE 1993

Condition	PHU																		Total
	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NCR	NER	OFR	CWR	SWR	SER	U/K		
Brucellosis	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	2	
Leptospirosis	-	-	-	-	-	-	-	-	-	1	3	1	1	-	4	-	-	10	
Listeriosis	2	-	-	2	1	-	-	-	-	1	-	-	-	-	-	-	-	6	

Infectious diseases

► Continued from page 93

have deficient tetanus immunisation and are at risk from tetanus, particularly if they engage in gardening which is a common pursuit for the elderly. Widespread tetanus immunisation in Australia began in the 1940s and triple antigen (diphtheria, tetanus, pertussis) became available in 1953. A health education program for adults, targeting those born before the 1940s and/or those born in countries without widespread immunisation programs, is recommended. Second, health care workers in emergency departments of public hospitals and general practitioners should be made aware of these high-risk groups so thorough immunisation history of the elderly and/or overseas-born patient is undertaken. Particular attention should be directed to whether a completed primary series of tetanus immunisation has been received when such patients present with tetanus-prone wounds.

ANTIBIOTIC SENSITIVITY OF GONOCOCCI — SYDNEY APRIL-JUNE 1993

The antibiotic sensitivity of 165 strains of *Neisseria*

gonorrhoeae was examined by the Gonococcal Reference Laboratory in the second quarter of 1993. Little change in the pattern of gonococcal infection or in the antibiotic sensitivity of isolates was noted in this quarter.

The total number of strains isolated is about the same as in the preceding three months and in the corresponding period in 1992. The preponderance of isolates in male patients (male:female 10.8:1) continues and two subtypes of gonococci account for most isolates in males.

Overall resistance to penicillin is 14 per cent; about one-third of the strains are fully sensitive to the penicillins. All isolates remained sensitive to Ceftriaxone and Spectinomycin and a small proportion showed a decreased sensitivity to Ciprofloxacin. However, none of the isolates had levels of resistance which would compromise treatment with the higher doses of quinolones now recommended. Three strains have high-level resistance to the tetracyclines. Two of these were Papua New Guinea. One patient was infected locally and another in Bali, with the source of acquisition of the remaining isolates unknown.

HIV/AIDS SURVEILLANCE

HIV surveillance is conducted through HIV reference laboratories and the Blood Transfusion Service. This is a very effective surveillance system, as all HIV positive screening tests carried out in NSW are subject to confirmatory testing by one of these laboratories. Therefore, under-reporting of diagnosed cases is almost zero and there is very little reporting delay. This must be kept in mind when comparing HIV and AIDS notifications, as AIDS surveillance, being based on the notification of clinical diagnoses by doctors and hospital chief executive officers, is subject to under-reporting and considerable reporting delay.

Results tabulated here represent new diagnoses for the periods specified, but the actual time of infection is often not known and may be several years before diagnosis. Since the beginning of 1992 about 30 per cent of reported HIV diagnoses occurred when the patient had symptoms of advanced HIV disease.

The distribution of cases across NSW in Table 8 shows that, as for AIDS notifications, the epidemic is concentrated in Sydney, with ESA, CSA and NSA accounting for 77 per cent of NSW notifications where the postcode of residence is known.

NON-NOTIFIABLE STDs

Table 9 shows relatively high levels of reported new infections of genital herpes and genital warts compared with other non-notifiable STDs. Symptomatic infections are only a small proportion of total infections for both herpes simplex virus (HSV) and human papilloma virus (HPV). Actual seroprevalence has been frequently shown to be at least several times the number of medical consultations for new infections. The strong associations between HPV and cervical cancer, and HSV-2 and HIV infection, further highlight the significant public health importance of these two incurable viral STDs.

INFLUENZA SURVEILLANCE

Data from the NSW sentinel GP network show that the activity of influenza-like illness (ILI) during July reached a high for the year so far of 2 per cent of consultations. However, this is considerably lower than the 1992 peak of 13 per cent. During July sentinel GP data were received from seven PHUs. Of those, NER reported the highest rate of ILI with 4.4 per cent. The next highest was SWS with 2.7 per cent.

Data on school absentee rates were received from WSA, CWR and SER PHUs for July. The only increase noted here was immediately before and after the school holidays, which is probably not related to influenza. The ESA laboratory surveillance system has reported isolates of influenza A and B during June and July, with influenza B predominating.

FIGURE 2

INFLUENZA-LIKE ILLNESS NSW 1993



TABLE 8

INFECTIOUS DISEASE NOTIFICATIONS
BY HEALTH UNIT
CUMULATIVE 1993

Condition	PHU																	Total
	CSA	SSA	ESA	SWS	WSA	WEN	NSA	CCA	ILL	HUN	NCR	NER	OFR	CWR	SWR	SER	OTH	
Adverse event after immunisation	1	2	1	—	4	—	1	—	—	2	—	—	—	5	—	—	—	16
AIDS	23	1	57	6	5	1	12	—	2	1	12	1	2	3	5	—	—	131
Arboviral infection	1	1	1	1	1	3	3	1	1	23	48	19	100	13	345	4	—	565
Foodborne illness (NOS)	6	2	—	17	23	12	—	2	5	—	—	1	10	—	5	—	—	83
Gastroenteritis (instit.)	50	2	—	9	13	3	—	—	—	39	—	16	2	20	32	—	—	186
Gonorrhoea	28	8	73	9	9	3	11	4	3	6	8	6	7	6	1	3	—	185
H. Influenzae epiglottitis	1	4	1	—	—	2	4	1	2	2	1	2	—	—	2	2	—	24
H. Influenzae meningitis	3	2	—	4	3	3	2	2	6	1	3	3	1	2	—	1	—	36
H. Influenzae septicaemia	—	3	—	7	—	—	—	—	1	2	—	2	—	—	—	—	—	15
H. Influenzae infection (NOS)	—	—	1	—	1	1	—	2	—	—	—	—	1	—	—	—	—	6
Hepatitis A — acute viral	31	10	28	30	89	14	26	8	9	7	33	26	6	4	3	3	—	327
Hepatitis B — acute viral	2	1	2	—	5	1	—	—	—	—	23	2	—	—	1	2	—	39
Hepatitis B — unspecified	273	185	10	511	251	23	245	20	17	36	32	19	12	8	9	6	—	1657
Hepatitis C — acute viral	—	—	—	—	—	—	—	1	1	—	1	3	—	—	—	2	—	8
Hepatitis C — unspecified	371	172	331	268	256	48	270	133	68	222	171	37	16	36	44	31	—	2474
Hepatitis D — unspecified	2	1	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	5
Hepatitis, acute viral (NOS)	1	—	1	—	—	—	—	—	—	1	—	1	—	2	—	—	—	6
HIV infection	49	8	122	10	7	4	25	5	4	10	5	1	—	—	2	1	68	321
Hydatid disease	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Legionnaires' disease	4	1	—	11	13	—	2	1	1	1	1	—	1	—	1	1	—	38
Malaria	8	12	12	8	14	6	27	3	8	9	5	10	—	1	2	6	11	142
Meningococcal meningitis	—	2	—	6	1	—	1	2	1	2	4	—	1	—	1	3	—	24
Meningococcal septicaemia	3	5	—	1	—	1	—	—	1	1	1	1	1	—	—	1	—	16
Meningococcal infection (NOS)	—	—	1	—	—	—	—	1	—	1	1	—	1	1	—	—	—	6
Mycobacterial atypical	24	5	7	4	20	2	10	—	4	21	13	4	1	—	4	—	—	119
Mycobacterial tuberculosis	14	15	11	20	15	5	15	8	1	12	2	2	2	2	—	—	—	124
Mycobacterial infection (NOS)	7	2	1	—	1	—	14	3	5	—	2	—	1	—	2	—	—	38
Q fever	—	—	1	—	3	—	1	—	—	13	34	45	62	7	1	3	—	170
Salmonella bovis morificans	—	3	—	—	1	—	2	—	—	10	—	—	—	—	1	—	—	17
Salmonella typhimurium	16	21	12	14	9	7	14	2	—	21	5	5	12	—	5	5	—	148
Salmonella (NOS)	17	35	34	27	15	2	37	23	6	52	38	29	20	5	10	7	—	357
Syphilis	31	11	39	102	10	3	17	4	4	5	28	15	49	2	4	1	—	325
Tuberculosis — non active	—	—	—	1	—	—	—	—	—	—	—	—	—	8	—	—	—	9
Typhoid and paratyphoid	1	1	4	—	—	2	2	—	—	1	2	—	—	—	—	—	—	13

TABLE 9

NOTIFICATIONS OF NON-NOTIFIABLE SEXUALLY TRANSMITTED
DISEASES JANUARY-JULY 1993
(Diagnoses from sexual health centres unless otherwise stated in footnote)

AHS Infection		CSA + SSA ¹	ESA ²	SWS ²	WSA ³ + WEN	NSA ²	CCA ²	ILL ⁴	HUN ¹	NCR ²	NER ¹	OFR ²	CWR ³	SWR ⁶	SER ⁷
Chlamydia trachomatis	Male	2	47	3	13	1	—	2	8	2	2	12	—	5	—
	Female	2	37	3	7	1	—	2	16	2	7	8	—	16	—
	Total	4	84	6	20	2	—	4	24	4	9	20	—	21	2
Donovanosis	Male	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
*Genital herpes	Male	7	172	2	17	10	2	1	13	2	2	—	—	1	—
	Female	2	110	2	10	3	3	3	17	3	3	2	—	10	—
	Total	9	282	4	27	13	5	4	30	5	5	2	—	11	2
*Genital warts	Male	34	390	1	90	15	17	23	70	28	9	15	—	—	—
	Female	32	169	1	34	15	10	11	23	17	13	12	—	—	—
	Total	66	559	2	124	30	27	34	93	45	22	27	—	—	11
Nongonococcal urethritis	Male	9	415	8	181	9	8	20	45	13	1	7	—	1	—
	Female	—	—	3	1	4	5	—	—	4	—	—	—	—	—
	Total	9	415	11	182	13	13	20	45	17	1	7	—	1	—
Lymphogranuloma venereum	Male	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* First diagnosis; 1. 01/01/93-31/05/93; 2. 01/01/93-30/06/93; 3. 01/04/93-30/04/93; 4. 01/01/93-31/03/93; 5. No SHC in Region;
6. No SHC in Region. Laboratory data 01/01/93-30/06/93; 7. No SHC in Region. Data from GP network 01/01/93-18/07/93.

PUBLIC HEALTH ABSTRACTS

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

POPULATION GROWTH AND ENVIRONMENTAL DISASTER

Tony McMichael of Adelaide has written an elegant paper summarising the likely consequences of world population growth and environmental degradation during the next 40 years. The world population, now 5.5 billion, is going through its third and greatest sustained surge and is projected to reach 9 billion in 2030 and 11 to 12 billion later next century. About 90 per cent of that growth will occur in the poor third world where pressures on dwindling supplies of arable and pasture lands are extending erosion, desertification and other forms of land degradation. Meanwhile, energy consumption and waste generation have reached vast proportions in the rich first world, raising concerns about the global impact of changes in the atmosphere leading to a rise in temperatures and ozone depletion.

Accordingly, McMichael argues that those with responsibilities in the public health field need to extend their interests to population control and environmental degradation. He reminds us that the disasters ahead have happened before on a local scale. The best example is the Tigris and Euphrates river basin which was a flourishing civilisation 5,000 years ago. Irrigated agricultural systems supported major cities but led to soil salinity followed by deforestation, a rise in the water table, further salt accumulation and a ruining of the agricultural heartland.

McMichael AJ. Global environmental change and human population health: a conceptual and scientific challenge for epidemiology. *Int J Epidemiology* 1993; 1:22:1-8.

NEGATIVE LINK BETWEEN CANCER AND ELECTRICITY TRANSMISSION EQUIPMENT

Several studies have provided evidence for a possible relationship between exposure to electric fields and the promotion of leukaemia and other cancers. A Dutch-based study has considered this matter and found no evidence which supports such an association.

Schreiber GH, Swaen GMH, Meijers JMM, Slangen JM et al. Cancer mortality and residence near electricity transmission equipment: a retrospective cohort study. *Int J Epidemiology* 1993; 1:22:9-15.

SCREENING FOR FAECAL BLOOD REDUCES MORTALITY FROM COLORECTAL CANCER

Although the concept of faecal blood detection has existed since 1864, there was little interest in its application until 1967 when it was proposed that a home use test involving paper impregnated with chemicals would be made available. However, since that time there has been no direct evidence whether such screening reduces deaths from colorectal cancer. A major United States study involving about 50,000 participants over a 13-year period has shown that annual faecal blood testing decreased mortality from colorectal cancer by 33 per cent.

Mandel JS, Bond JH, Church TR and Snover DC. Reducing mortality from colorectal cancer by screening for faecal occult blood. *New Engl J Med* 1993; 328:1365-1371.

HUMAN PAPILLOMAVIRUS AND CERVICAL CANCER

There is strong evidence that some types of the human papillomavirus are associated with cervical cancer. A recent study has confirmed this evidence and has strongly indicated that other infectious agents which continue to be identified from women with cervical cancer are not as significant. Despite the availability of this evidence the association of human papillomavirus and cervical cancer is not widely known.

Jha PKS, Beral V, Peto J, Hack S et al. Antibodies to human papillomavirus and to other genital infectious agents and invasive cervical cancer risk. *Lancet* 1993; 341:1116-1118.

A GENETIC BASIS FOR FAMILIAL BREAST AND OVARIAN CANCER

The gene for inherited susceptibility for breast and ovarian cancer has been identified. Women with such an inherited predisposition have a nearly 60 per cent likelihood of getting breast or ovarian cancer by age 50. Fortunately, this is a fairly rare gene. A reasonable recommendation for such women is intensive surveillance for early cancer. Additional interventions might include mastectomy and chemotherapy.

Li FP and Garber JE. Cancer genetics: gene for familial breast and ovarian cancer. *Lancet* 1993; 341:1060-1061.

SLEEP DISORDERS — A MAJOR PUBLIC HEALTH PROBLEM

A National Commission on Sleep Disorders was established by the American Congress in 1988. The commission has reported that major sleep disorders are common and serious. The most important is obstructive sleep apnea. This disorder is characterised by the recurrent cessation of respiratory airflow during sleep which causes a collapse of the upper airway. The loss of airflow is usually followed by awakening. The cycle may be repeated as many as 200 times during 6-8 hours of sleep. The obvious consequence is excessive daytime sleepiness. This has the practical consequence that people fall asleep while driving and those with the condition are involved in traffic crashes two to three times more often than the general population. These new studies indicate that about 4 per cent of women and 9 per cent of men have the condition.

Phillipson EA. Sleep apnea — a major public health problem. *New Engl J Med* 1993; 328:1271-1273.

FAT AND HEART DISEASE BEGINS IN AUSTRALIAN CHILDHOOD

Gliksman and colleagues have completed a study of more than 5,000 schoolchildren on an Australia-wide basis. It shows that among highest socio-economic groups there is a lower total energy intake and dietary fat intake than in lower socio-economic groups. In addition, the highest socio-economic groups of children had diets that were relatively rich in unrefined carbohydrates. In turn they had more favourable cardiovascular risk factor profiles. Accordingly, differences in dietary intake may be important in explaining the socio-economic gradient in the risk of cardiovascular disease.

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