PUBLIC HEALTH ABSTRACTS

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

DISABILITY AMONG IMMATURE INFANTS

Neo-natal intensive care has been described as 'perhaps the most successful of all medical technologies'. In terms of improving the chance of survival this may be so, but the rate of disabilities among the survivors is high as has been shown by a comprehensive survey involving nearly 100,000 infants in the United Kingdom. About 3.5 of 1,000 of these births were before 29 weeks of gestation. Half the babies survived to be discharged from the nursery. At four years, 93 per cent of the premature infants were still alive. Only 35 per cent of those four-year-olds were within normal limits. Around 29 per cent had mild disability, 13 per cent a moderate disability and 23 per cent were severely disabled. The severe disablements included cerebral palsy, blindness, severe hearing loss and intellectual handicap. A number of babies had multiple disabilities. An important finding was that the incidence of disability increases with declining gestational age of the babies.

Johnson A, Townshend P, Yudkin P et al. Functional abilities at age 4 years of children born before 29 weeks of gestation. *Br Med J*, 1993; 306:1715-1718.

NEVER DISMISS WHAT A PATIENT TELLS YOU

When 90-year-old Burt Adams was admitted to hospital he asked the staff to let his mother know. The doctors thought he must be senile. In fact, his mother Daisy, at 113 years, is the oldest woman in Britain. (The names are fictitious.)

Editorial. *Br Med J*, 1993; 307:48-49.

SEX, PREGNANCY, HORMONES AND MELANOMA

Many questions remain unanswered about the relationship between melanoma (the most rapidly increasing Australian cancer) and the hormonal environment. Several conclusions can be made within the current state of knowledge. First, there is no evidence that the use of oestrogens, either as oral contraceptives or hormone replacement therapy, has a role in the aetiology of melanoma. Second, women have a survival advantage over men that could be due to the inhibitory effect of normal oestrogens in the growth of melanoma. Third, prescribed oestrogens do not promote progression of the disease in patients with melanoma, therefore women who have been treated for melanoma can safely use hormonal supplements. Last, pregnancy seems to carry no adverse effect on survival after treatment for melanoma. (However, patients with thick melanomic lesions are advised to delay pregnancy for two to three years as this is when they are at the greatest risk of relapse).

Jatoi I and Gore ME. Sex, pregnancy, hormones and melanoma. *Br Med J*, 1993; 307:2-3.

BREAST-FEEDING REDUCES RISK OF BREAST CANCER

A large British study has confirmed that breast-feeding is associated with a statistically significant decreased risk of breast cancer. The risk of breast cancer falls with increased duration of breast-feeding, and with the number of babies breast-fed. However, breast-feeding each baby for longer than three months confers no additional benefits.

United Kingdom National Case-Control Study Group. Breast feeding and risk of breast cancer in young women. *Br Med J*, 1993; 307:17-20.

PRIVILEGE AND HEALTH – WHAT IS THE CONNECTION?

Socio-economic status is a powerful determinant of health. In current jargon, socio-economic status refers to a mix of factors that shape a person's relative social advantage. It is usually gauged by income, education, profession or some combination of the three. But no-one knows exactly which factors determine health, much less how they do so. This is a crucial issue as we know that in Australia the premature death rates among the highest social categories are about half those of the lowest social categories. The differences do not seem to be simply a matter of the privileged having better access to health care. So closely does socio-economic status co-relate with health that it confounds the interpretation of much clinical research. For example, studies of the effect of passive smoking on childhood asthma are uninterpretable unless an attempt is made to control for socio-economic status. Until more specific knowledge is

Quality and population

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5. Improve epidemiologic capability

There is much to be done requiring epidemiologic capability. This is not to say that we necessarily need more epidemiologists, however, we do need to get clinicians, managers, and even consumers thinking epidemiologically.

Training in, and practice of, epidemiology has expanded dramatically in Australia over the past five years. There has been a proliferation of university public health courses offering epidemiology as a key subject. The Faculty of Public Health Medicine has formed to improve training of doctors in the practice of epidemiology and public health. National and State programs have developed to train health professionals, both medical and non-medical, to apply epidemiologic principles to improving health services. Public health networks staffed with young epidemiologists are developing in most States.

NSW has established Statewide epidemiologic expertise with a central unit and a network of public health units. A training program encourages health professionals into public health and epidemiologic practice and links are being forged between the public health network, health services management and clinical practice.

We started by identifying the major gap between the structure and process preoccupations of current quality assurance thinking on the one hand, and health outcomes on the other. We have the means to close this gap, and we are already doing it. Optimistic that what is already happening will snowball over the next 12 months, we predict that health outcomes will remain the star on the catwalks of healthcare fashion. We will be well on the way to closing feedback loops between outcomes and the quality of services.

available about the way in which socio-economic status influences health, the fact that some illness has a socio-economic basis, and is therefore theoretically preventable, does not diminish the need for treatment or palliation.

Angell M. Privilege and health – what is the connection? *New Engl J Med*, 1993; 329:2:126-127.

SUDDEN DEALTH IN ELITE ATHLETES

The deaths of two elite United States athletes, Reggie Lewis and Hank Gathers, have drawn international attention to the problem of illness and sudden death in young athletes. Such athletes perform in a supercharged atmosphere with an intoxicating public recognition and enormous sums of money at stake and, accordingly, become viewed as high-priced commodities and not as patients. Both probably had viral-based infections of the heart and perhaps if they had been withdrawn from competitive sports for six to 12 months, could have returned safely to competition. However, the pressure to perform is enormous for all concerned – the athletes, medical advisers and competing teams. Medical and safety issues must have priority.

Maron BJ. Sudden Death in Young Athletes. *New Engl J Med*, 1993; 329:1:55-57.

CHANGING PATTERNS OF STREPTOCOCCAL DISEASE

Early this century Lancefield discovered that the bacteria streptococci could be classified into various groups. Group A streptococcus was associated with pharyngitis, leading to acute rheumatic fever and glomerulonephritis. Fry, in 1938, recognised a group B streptococcus which was associated with puerperal (post-pregnancy) sepsis. It has now been realised in the United States that group B streptococcus infections among non-pregnant adults are becoming an important cause of disease. These diseases include skin infection, septicaemia, pneumonia and a range of other infections. There is a mortality associated with these infections. Nearly all patients (98 per cent) have one or more underlying disease such as diabetes or cancer. Treatment approaches include penicillin.

Wessels MR and Kasper DL. The Changing Spectrum of Group B Streptococcal Disease. *New Engl J Med*, 1993; 328:1843-1844.
Farley MM, Harvey C, Stull T et al. A population-based assessment of invasive disease due to group B streptococcus in non-pregnant adults. *New Engl J Med*, 1993; 328:1807-1811.

SEX OF PHYSICIAN INFLUENCES CARE

There is a growing consensus that women's health issues have been neglected in terms of quality and quantity. Many factors affect women's cancer screening rates, including knowledge, attitudes and beliefs about disease, screening and the efficacy of treatment. But the most common reason women give for not being screened for breast and cervical cancer is that it was not offered or recommended by their physicians. A study involving nearly 100,000 women in the United States has demonstrated that female physicians are more much likely to be successful promoters and practitioners of preventive programs affecting women, particularly if they involve reproductive organs. The differences decline with age and physicians over 50 years of age are much more likely to be successful with offering preventive care to women than younger physicians, particularly those below 40. While many patients report a preference for a physician of the same sex, other factors include the possibility that women may be more interested and pay more attention to preventive care than men.

Lurie N, Slater J, McGovern P, Ekstrum J et al. Preventive Care for Women. *New Engl J Med*, 1993; 329:478-482.

VITAMIN K AND CHILDHOOD CANCER

The most appropriate method of administering vitamin K to newborns is under discussion again. Vitamin K deficiency occurs in newborns because of poor placental transfer from the mother and leads to haemorrhagic disease which affects about 1.5 per cent of infants. The administration of vitamin K has virtually eliminated this problem. Golding and colleagues published two papers based on United Kingdom studies which implicated the giving of vitamin K by intramuscular injection in a higher incidence of leukaemia and other childhood tumours. This finding has been challenged on grounds of inadequate methodology. It has also been pointed out that the intramuscular use of vitamin K in the UK has increased steadily from 1978 to 1982 while the incidence of childhood leukaemia has not. A new and major study in the United States by Klebanoff and associates refutes the conclusion of Golding and colleagues. This study followed more than 50,000 children born in the early 1960s for eight years.

The divergent results are not easy to reconcile but appear to be based on different study methods. Golding and colleagues performed retrospective reviews whereas Klebanoff and colleagues had a prospective study. The conclusion is that the widespread use of vitamin K and the recognised serious consequences that result when it is withheld make it unjustifiable to repeat these studies. The study design and quality of data in the report by Klebanoff render its conclusion more credible. The continued use of intramuscular vitamin K has been recommended until an appropriate and effective oral preparation is available. This recommendation is from the American Academy of Paediatrics and is confirmed in a leading article in the Medical Journal of Australia by William McWhirter.

Golding J, Paterson M and Kinlen LJ. Factors associated with childhood cancer in a national cohort study. *Br J Cancer*, 1990; 62:304-8.
Golding J, Greenwood R, Birmingham K and Mott M. Childhood cancer, intramuscular vitamin K, and pethidine given during labour. *Br Med J*, 1992; 305:341-6.
Hilgartner MW. Vitamin K and the newborn. *N Engl J Med*, 1993; 329:957-958.
Klebanoff MA, Read JS, Mills JL and Shiono PH. The risk of childhood cancer after neonatal exposure to vitamin K. *N Engl J Med*, 1993; 329:905-908.
McWhirter WR. Vitamin K and childhood cancer. *Med J Aust*, 1993; 159;499.

CORONARY ARTERY SURGERY REMARKABLY SAFE

About 12,000 patients who had coronary artery surgery in Adelaide between 1978 and 1990 have been reviewed. The overall mortality rate is now 0.99 per cent, compared with the operative mortality of 5.8 per cent in the early 1970s. There is a very much lower operative mortality in patients who have an average bypass time of below 50 minutes compared with those whose bypass time was more than 100 minutes. These outstanding results are not a measure of the long-term survival of patients with ischaemic heart disease whether or not they have coronary artery surgery.

Iyer VS, Russell WJ, Leppard P and Craddock D. Mortality and myocardial infarction after coronary artery surgery. *Med J Aust*, 1993; 159:166-170.