# PUBLIC HEALTH ABSTRACTS

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

### **COMMON COLDS INCREASE WITH STRESS**

**S** tressful life events are commonly believed to suppress resistance to infection. When demands imposed by events exceed a person's ability to cope, a stress response occurs which appears to operate through the nervous system affecting lymphoid tissue or hormonal effects on immune cells.

There is now substantial evidence that stressful life events and perceived stress are associated with changes in immune function. A major study conducted at the Common Cold Unit in Salisbury, England, clearly indicates that rates of both respiratory infection and clinical colds increase in a dose-response manner with increases in the degree of psychological stress. Infection rates change from about 74 to about 90 per cent according to levels of psychological stress.

However as Swartz, commenting on this study, states, 'some caution is warranted in interpreting the results. The observed effects of stress were relatively small, although they were detected in a large study group'.

Cohen S, Tyrrell DAJ, Smith AP. Psychological Stress and Susceptibility to the Common Cold. *New Eng J Med* 1991; 325:606-612. Swartz MN. Stress and the Common Cold. *New Eng J Med* 1991; 325:654-655.

## **DRASTIC EFFECTS OF WESTERNISATION**

When Australian Aboriginals make the transition from a traditional hunter/gatherer to a westernised lifestyle, they have been shown to be particularly vulnerable to developing obesity and non-insulin dependent diabetes. They share this vulnerability with other populations around the world which have been subjected to a similar rapid lifestyle change in the 20th century, including native Americans and many Pacific Islanders.

A detailed review by Kerin O'Dea of Deakin University suggests that insulin resistance was important to the survival of Aborigines as hunter/gatherers, and this characteristic has predisposed them to obesity, diabetes and coronary heart disease after westernisation. Accordingly, intervention strategies should be directed at lifestyle modification.

O'Dea K. Westernisation, Insulin Resistance and Diabetes in Australian Aboriginals. *Med J Aust* 1991: 155:258-264.

## **BLOOD CHOLESTEROL STUDIES FROM CHINA**

n populations in which serum cholesterol is relatively high, studies indicate a strong association between serum cholesterol and coronary heart disease. But questions remain about the relation at lower concentrations of cholesterol. In a very large (more than 9000 subjects) prospective study in Shanghai, China, it has been shown that the relationship between serum cholesterol and coronary heart disease remains despite the average serum cholesterol levels in these subjects being 20 to 25 per cent lower than that in western populations. Accordingly, the question of what constitutes a desirable blood cholesterol concentration is an important practical issue. Comparison with populations in which cholesterol concentrations are low and coronary heart disease is rare suggests that few people in western populations have a biologically normal (as opposed to population average normal) cholesterol concentration. The population studied had an average serum cholesterol of about 4mmol/L (the Australian average is between 5.5 and 6mmol/L). However, there are populations in rural China in which the serum cholesterol is below 3mmol/L and in which rates of coronary heart disease are even lower than in Shanghai. This provides an interesting speculation about what might be achievable in the West if practicable methods could be devised to reduce cholesterol concentrations on a population basis.

Chen Z, Peto R, Collins R, MacMahon S et al. Serum Cholesterol Concentration and Coronary Heart Disease in Population with Low Cholesterol Concentrations. *Br Med J* 1991; 303:276-282.

#### **96 PER CENT VACCINATION COVERAGE IN FINLAND**

n the 1970s mass vaccination projects against measles and congenital rubella were started in various parts of the world, with eradication as the final goal. In many countries, including Finland, the elimination of measles failed because of low vaccination coverage.

A combined measles/mumps/rubella vaccination program was started in Finland in 1982. Computerised recording of the vaccinated children was used and was integrated with a population registry to identify hard-to-reach families. Several interventions improved compliance, including a mass media campaign and notification of non-vaccinated children to local health professionals and parents. All successive campaigns increased vaccination significantly, with the notification of parents about their non-vaccinated child being especially affected. A vaccination cover of more than 96 per cent was achieved.

Paunio M, Virtanen M, Peltola H, Cantell K et al. Increase of Vaccination Coverage by Mass Media and Individual Approach: intensified measles, mumps and rubella prevention program in Finland. *Am J Epidemiol* 1991; 133:1152-1160.

#### **TOBACCO SCIENTISTS BELIEVE SMOKING IS BAD NEWS**

The United States Surgeon General has stated that 'smoking represents the most extensively documented cause of disease ever investigated in the history of biomedical research'. However, despite overwhelming scientific evidence against cigarettes, the tobacco industry continues to assert that controversy, debate and uncertainty exists among scientists concerning smoking as an important cause of illness.

But a survey among scientists receiving funds from the tobacco industry found that the vast majority of these scientists also believe cigarette smoking is an addiction that causes a wide range of serious and often fatal diseases. This result suggests that the tobacco industry is unwilling to accept even the opinions of scientists it has deemed worthy of funding.

Cummings KM, Sciandra R, Gingrass A, Davis R. What Scientists Funded by the Tobacco Industry Believe About the Hazards of Cigarette Smoking. *Am J Pub Health* 1991; 81:894-896.