

Guest Editorials

Cardiovascular disease in the 1990's

A global perspective on a Pacific problem

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Each year an estimated 50 million deaths occur worldwide, with approximately 10 million attributed to cardiovascular diseases (4 million coronary heart disease, 4 million stroke, 0.4 million rheumatic heart disease, and 1.2 million from other causes)¹. The majority of cardiovascular diseases (CVD) deaths (approximately 6 million) occur in lower and middle income countries. Cardiovascular diseases are also a leading cause of disability, with much of the global burden of stroke disability occurring in China and India.

Mortality rates and trends

Useful cause-specific mortality data are available from the World Health Organisation for only 40 countries, reflecting the absence of cause of death information for two-thirds of the world's population, including most Pacific countries. There are striking variations among countries in both the mortality rates and their rate of change. For example, coronary heart disease death rates vary more than 12-fold in both men and women from the highest rate in the Ukraine to the lowest rate in Japan. The countries with the highest rates are now in Central and Eastern Europe and many of these countries also have increasing rates. The variation among countries in stroke rates are greater, over 20-fold. The highest stroke mortality rates are in also Central and Eastern Europe and these are the only countries in which stroke rates have, on average, increased since 1970. In parallel with the major variations among countries, is the universal finding of social class inequalities in the distribution of CVD within countries.



The mortality trends for all causes of death from CVD since 1950 are available for four Pacific rim countries (Japan, USA, Australia, New Zealand and Singapore). In these countries, death rates for all causes and for cardiovascular disease have declined dramatically over the last three decades. For example, in the United States and New Zealand, coronary heart disease death rates have declined by over 50% and in Japan the decline in stroke mortality rates has been even more striking. With these is a parallel decline in all causes of mortality, resulting in increases in the life expectancy of middle and older aged people in these countries. Unfortunately, there are only limited mortality trend data for Pacific Island Countries. Cardiovascular disease death rates in Fiji have increased steadily in the period 1970-1990, and are now higher than in Australia or New Zealand, especially in Fijian Indians, although this data may be inaccurate²

Incidence rates and case fatality

The WHO MONICA Project is investigating the trends and determinants of cardiovascular disease in 25, mostly European countries³. Cross sectional coronary heart disease register data validate the mortality rates and indicate that the variation in mortality rates is due to variations in incidence rates; acute myocardial infarction case fatality is uniformly high among countries. Although the trend data from the MONICA Project are not yet available, it appears that declining mortality rates are mostly due to declining incidence rates, with a smaller contribution from declining in-hospital case fatality. Limited trend data suggest that, at least recently, the decline in stroke mortality has been due to a reduction in the severity of the disease and lower case-fatality⁴. Over the long-term, declining incidence rates must be the major explanation for the striking declines in stroke mortality in countries like Japan and Australia, since there have been few advances in acute stroke therapy.

Cardiovascular disease risk factors

The major risk factors for cardiovascular disease have been known for over 40 years. Although first identified in countries with high mortality and incidence rates, these risk factors have the same significance in countries with low mortality and low incidence rates. There are major variations in risk factor levels among the MONICA populations, although in an ecological analysis there was only a relatively weak association between national cardiovascular mortality rates and the evidence of these factors in the population. Little is known about the distribution of risk factors in the majority of developing countries, although small scale studies suggest that all four major factors are common, especially in men⁶. The distribution of risk factors is with disadvantaged groups having higher

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levels of risk. However, the social class distribution of risk factors explains less than half the social class variation in event rates, at least in United Kingdom civil servants⁷. The major risk factors "explain" most of the recent declines in coronary heart disease mortality rates and about three-quarters of the decline in stroke mortality rates^{8,9}.

Surveys have repeatedly highlighted the high level of the major CVD risk factors in Pacific Island Countries. Unfortunately because of lack of standardisation of methods it is not possible to determine whether risk factor levels are changing in the Pacific in either a positive or negative direction. Furthermore, the various surveys have been usually conducted by outside "experts" and agencies, and have not produced local ownership such that there is an impact on prevention and control programmes.

Cardiovascular disease prevention

Two major strategies for the prevention of cardiovascular disease, are the population or "mass" strategy, and the high risk strategy¹⁰. High risk strategies, such as screening and treatment for high blood pressure and cholesterol levels, have universally received the most attention and resources. This effort has not been well directed and only recently has attention been focussed on individuals at highest absolute risk of future disease, usually because of the combination of risk factors or because of a prior history of cardiovascular disease. For most of the world, there is little more to be gained from clinical trials; few countries will be able to afford much more than diuretics for high blood pressure and aspirin for acute myocardial infarction. Although the population strategy holds the key to preventing the cardiovascular disease epidemics, it is the most difficult to implement and politically the least acceptable. Only with smoking control in adults in some wealthy countries has this strategy been unequivocally successful; despite this success, the global epidemics of tobacco caused death and disease continue.

Challenges for the Pacific

In much of the world, the extent of the cardiovascular disease problem remains unmeasured. Measurement and monitoring of the evolution of the cardiovascular disease epidemics are a pre-requisite for appropriate preventive programmes. Unfortunately, few, if any countries in the Pacific will be prepared to devote the necessary resources for long-term monitoring of incidence. The development of reliable cause of death data on at least a sample of the population is essential. Measurement of the major risk factors in the standard manner, in selected middle-aged populations

in urban and rural areas will identify risk factors for priority action. Where standardised laboratories are unavailable, the focus should be on blood pressure, smoking, obesity, and physical inactivity; these four factors will enable adequate targeting of the high risk strategies. Case-control studies will be useful in confirming the importance of the major risk factors for political and resource reasons, but intervention need not wait on this evidence. An important barrier is the lack of resources, especially human, for cardiovascular disease epidemiology and prevention activities. The proposed postgraduate training program in public health at the Fiji School of Medicine will eventually overcome the shortage of personnel; in the meantime, it will be necessary to use resources provided by donor partners. The financial resources required for prevention are relatively small and could easily be provided by a small dedicated tax on tobacco products within Pacific Island Countries.

The major challenge is implementation of the population strategy for primary prevention of cardiovascular disease. Prevention has been a political priority in some countries on occasions, for example, in post-revolutionary China and Cuba. Useful lessons can also be learnt from the tobacco

wars. Important, above all, is a social movement for health.

Global leadership for cardiovascular disease prevention is required to ensure that adult health takes its rightful place alongside the international goals of improving the health of children

and women. The future roles of World Health Organisation and the World Bank will continue to evolve. At the national and regional levels, and to complement the global leadership, focal points for cardiovascular disease prevention and control are required. This is a particular priority for Pacific Island countries where cardiovascular disease epidemics are well established. The major lesson for Pacific Island countries from the experience of wealthier countries is that the cardiovascular disease epidemics are preventable. The Pacific challenge is to match and surpass the achievements of the wealthier countries.

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Chapman was right after all!

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Simon Chapman recently contrasted the concerns over the nuclear testing in the Pacific with the cancer colonisation of tobacco in the region². The use of tobacco is a critical health issue facing the Pacific but is it more a problem than French nuclear testing? This issue of *Pacific Health Dialog* focuses on non-communicable disease and several articles outline the high levels of smoking currently in island countries. The paper by Collins and colleagues shows disturbing levels of smoking, up to 90% in some communities, with higher use than exists in many other areas of the world². This confirms earlier work of Tuohimäki and others³. Woodward has shown that

smoking prevalence in Tonga was 65% for men and 14% for women⁴. Wessen in earlier studies, taken in three time periods in Tokelau, showed smoking levels in men as high as 76% and of 70% women in key age groups⁵. The staggering rises in consumption over the period from 1968 to 1982 were reflected by even higher prevalence of smoking in Tokelauans living in New Zealand.

Meo reported at the 1995 Fiji Medical Association Conference that prevalence of smoking in rural Fijian villages was 70% of men in the 46 - 65 year age category. Incidental reports from education, anthropology and medicine confirm the widespread Pacific use of tobacco. Other noteworthy trends include, the rural - urban transition, the rising levels of affluence in some economies, the use of different types of tobacco and gender differences. Indications are that while rural smoking prevalence is generally higher than urban, young urban women are smoking in increased numbers. Durand recently reported disturbing high trends of smoking among some Micronesian school students (39% for males and 32% for females) with age of uptake as young as six years⁶.

Two recent reports of the World Bank highlight the health needs within the Pacific - World Development Report 1993⁷ and the Health Priorities and Options in the World Bank's Pacific Member Countries⁸ - and both focus on the need for action on tobacco. In the Pacific no government has introduced policies and programs to deal realistically with measures which will reduce present and future tobacco related diseases and the associated costs. According to the latter report, some of the most prevalent and emergent health problems are non-communicable diseases closely related to lifestyle and behaviour patterns which are amenable to change. Well targeted preventive and education programs designed to alter behaviour patterns can assist, as can policies designed to increase the price of products known to have a detrimental effect on health status^{7,8}. The tobacco industry has wielded a global influence, by fair and foul means, including buying out politicians and power brokers in the community. This is then protested as the sacred cow of freedom to advertise and sell a legal, though dangerous, product. This has also occurred in the Pacific.

In many ways, the Pacific is a disaster area for some public health initiatives. In the early 1980's in Western Samoa, a tobacco industry was established with foreign aid with joint government and private ownership. The Ministry of Finance is therefore a joint owner with the tobacco industry of the Western Samoa tobacco company. In Fiji, a monopoly of Australian companies has ensured marketing of low cost cigarettes with inadequate health warnings and no informa-

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tion on tar, nicotine or carbon monoxide levels for over 20 years. This has continued despite a Fiji Health Department request for change. As long as policy and decision makers give license to market this lethal product in a reckless manner, the health outcome of Pacific populations will be greatly compromised, all this in exchange for protection of the investments of a few wealthy people. Is this reasonable and just? For thirty years the global tobacco industry has known that tobacco is addictive, produces cancer, and significantly effects the health of non-smokers through exposure to environmental tobacco smoke⁹. This information has been concealed from the public. There needs to be a much greater awareness on the part of politicians, decision makers and health advocates of the role tobacco plays in disease and premature death.

Phillips and others have shown that reliable economic analysis underscores the cost of tobacco use on health services and the economy¹⁰. The direct economic effects in countries where tax on tobacco is high, generally do not cover half of the costs of health care. This is the reason why a number of US states are now seeking to recover these costs from an industry which has paid its way only in deceiving and misleading the public. In most Pacific countries the taxes are very low and cigarettes are thus cheap. Peto has shown that long term smoking not only produces ill health, but 50% of long term smokers will die in middle age because of their smoking. "This is not the throw of a dice (a one in six chance), but the toss of a coin (a one in two result)", Peto has said. He shows that 80% of heart attacks in young smokers are related to smoking and thus avoidable, and that smokers in their thirties and forties have five times the risk of heart attack of nonsmokers^{11, 12, 13}.

Before the process of colonisation and missionary expansion the Pacific was smoke-free and nuclear-free. Now it has become a dumping ground for foreign cigarettes. The recent push into Fiji of several new brands at cut price is an example. Offers of gold bars in exchange for smoking is a hollow treachery, which steals the birthright of health particularly from the young. It is time for a concerted effort to implement the Yanuca Declaration¹⁴, which aims at healthy islands, with healthy environments, families and people. This will only happen when health, religious and executive leaders make decisions on tobacco tax, legislation and education which are for the health of their populations and not for economic gain or the pursuit of market driven ideology. The Pacific is a religious region and it is time for religious leaders to take some responsibility for health care by supporting non-smoking initiatives. With limited resources, leaders of governments and ministries of health should implement the most effective strategies. These include increased tax, smoke free policies and educating consumers away from tobacco use. In addition, other features of any comprehensive package aimed to control tobacco use, and enhance health should include adequate health warnings in the languages of the country, and the collection of information on prevalence of

smoking and its effects to provide a foundation for action. Pacific countries have to decide whether or not to choose a community and lifestyle for their children to grow in a society free from the marketing pressures of tobacco. Some thought Chapman may be overstating the case. In reality, this current issue of *Pacific Health Dialog* shows that Chapman was right! Smoking will kill many more in the Pacific than French bombs. Both need to be eliminated!

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