The rise and fall of smoking in New Zealand

Based on the Charles Burns Oration, given in November 1992 at the Wellington School of Medicine under the auspices of the New Zealand Medical Association, in memory of Sir Charles Burns, KBE, MD, FRCP, FRACP, physician and cardiologist at Wellington Hospital 1940–58, later Director, Clinical Services, National Society on Alcoholism and Drug Dependence.

ABSTRACT—The prevalence of cigarette smoking in New Zealand has fallen over the past 20 years to 27% in both men and women. Rates remain high in women aged 15–24 years (33%) and in the Maori population (52% of men and women over 15 years). Tobacco consumption has fallen by 46% since 1975 and New Zealand now has the second lowest consumption of all OECD countries. Coincident with the reduction in smoking, there has been a 37% decline in age-standardised coronary heart disease mortality rates in men and 34% in women between 1968 and 1989. Since 1976 the incidence of lung cancer in men has fallen by 25% but increased by 38% in women. The decline was highest in non-Maori men aged 45–54 years (46%). Life expectancy has increased by four years in both men and women since 1970. New Zealand legislation against smoking was introduced in 1903 and culminated in the 1990 Smoke-free Environments Act. This provides for smoke-free environments, prohibition of tobacco advertising, restrictions on tobacco sponsorship, and the establishment of a Health Sponsorship Council.

New Zealand’s smoking history goes back to the earliest days of European colonisation. Legend has it that Captain James Cook was smoking a pipe when he landed in the South Island, and was promptly doused with water in case he was a demon [1]. Tobacco was used as a form of currency among Maori and distributed as a gift to the Maori chiefs assembled to sign the Treaty of Waitangi in 1840. Cultivation was encouraged and in 1865 a competition was held for the best tobacco grown in the province of Canterbury.

Tobacco legislation also has a long history dating from the Juvenile Smoking Suppression Act of 1903. This was the result of a process of ‘social sanitation’ led by women of high moral principles who viewed smoking by boys as a ‘step on the slippery path to wicked ways’ [2]. The Act began as a Private Member’s Bill and included a quaint clause specifying that ‘No youth shall be convicted under this Act . . . if he produces a certificate of a legally qualified medical practitioner to the effect that the using or smoking of tobacco, cigars, or cigarettes is beneficial to the health of such youth’. This legislation, with its restrictions on tobacco sales to minors, was later incorporated into the Police Offences Act and remained on the statute books until it was repealed in 1982. It is of some interest that between 1903 and 1908 there were 100 prosecutions under the original Act in contrast to the modern reluctance to enforce recent legislation.

As in most western countries, the modern era of smoking control began with the first report from The Royal College of Physicians, published in 1962 [3], and the 1964 US Surgeon-General’s report [4]. New Zealand led the world in banning tobacco advertising on television and radio from 1963 following recommendations by The New Zealand Branch of the British Medical Association. Tobacco sponsorship of sport did not have such a happy record, as shown by photographs of the original 1905 All Black rugby team promoting British tobacco brands [2].

A voluntary agreement between the Department of Health and New Zealand cigarette-manufacturing companies was first negotiated in 1973 and although it was often criticised, it did from that time proscribe cinema screen and billboard tobacco advertising, something which several countries with well publicised non-smoking legislation have not yet achieved.

The census question

A question on personal smoking habits was included in the New Zealand population census in 1976 and repeated in 1981; New Zealand is the only country to have used a census in this way. The response rate was 98% and information about the smoking behaviour of more than two million persons aged 15 years and over was invaluable for health promotion agencies and for those trying to persuade politicians to take a stronger legislative approach to the control of smoking [5,6]. The question was not retained because other topics were considered to have higher priority and because it was thought that respondents understated their smoking practices.

Ministerial advisory committee

As a result of representations from The National Heart Foundation of New Zealand and the Cancer Society of
New Zealand, the Minister of Health established an advisory committee on smoking and health in 1976. This helped to ensure that smoking control issues remained on the political agenda and that the voluntary agreement was as strong as possible. A comprehensive smoking control policy was developed, and an important landmark was the passing of a new Toxic Substances Act in 1979 which defined tobacco as a ‘toxic substance’. It also provided legislative authority for the Toxic Substances Board to publish its 1989 report on tobacco advertising [7] which ultimately led to the Smoke-free Environments Act.

The Smoke-free Environments Act, 1990

The credit for this legislation belongs to the Rt Hon Helen Clark, Minister of Health and Deputy Prime Minister at the time. The Department of Health provided strong leadership and produced an influential discussion paper entitled ‘Creating Smoke-free Indoor Environments’ [8] which received over 3,000 submissions. Pressure groups played a very important role in the campaign, with Action on Smoking and Health (ASH) taking the aggressive role. A Coalition against Tobacco Advertising and Promotion was a more conservative initiative and attracted the support of over 200 organisations, including most Royal Colleges, the New Zealand Medical Association, Maori Women’s Welfare League, Consumers’ Institute, National Council of Women, and even the Girls’ Brigade and Airline Pilots’ Guild. Other groups were set up to encourage support for the smoke-free aspects of the Bill, while an enterprising athlete formed a group called ‘Athletes for Tobacco-free Sport’. On the negative side, the tobacco industry financed a movement known as ‘New Zealanders for the Right to Decide’, fronted by two leading sportsmen.

The Act became law in August 1990, two months before a general election ended in a landslide victory for the conservative opposition party.

The Smoke-free Environments Act is unique in addressing three major subjects: smoke-free environments, tobacco advertising and promotion, as well as an alternative to the latter.

The smoke-free indoor environments section requires that all employers must have a written policy on smoking, agreed after consultation with employees. Under the Act smoking is not permitted in offices where more than one person works or within two metres of the work area of an employee who objects to smoking. Half the total area of workplace cafeterias and of all restaurants must be smoke-free. Areas for smoking may be designated if all employees agree. Smoking is prohibited on domestic passenger aircraft and passenger service vehicles, and is restricted in passenger lounges and trains. Penalties include fines of up to $4,000 for employers and $400 for individuals.

Section 2 of the Act prohibits the publication (defined to cover print, film and electronic media) of any tobacco product advertisement in New Zealand. Exceptions are made for magazines and other publications produced outside New Zealand, unless intended primarily for a New Zealand audience.

Regulations provide for health warnings, information leaflets, and lists of constituents to be included in tobacco packages. Sale of cigarettes to minors is prohibited and no free samples may be given. Penalties for manufacturers, importers, and distributors can be as high as $50,000, and for other persons up to $10,000.

The third section sets up a Health Sponsorship Council with funding to sponsor organisations which previously received tobacco sponsorship. In addition, the Council may promote health and encourage healthy lifestyles by other sponsorship grants.

The Act has worked well and is accepted by the community. After the change of government an amendment was passed to permit tobacco sponsorship of international events such as the World Cricket Cup. In keeping with an election promise, another amendment was introduced to repeal the sponsorship section entirely and again permit tobacco sponsorship subject to conditions similar to those of the old voluntary agreement. This was debated by a parliamentary select committee for more than a year before a compromise was reached, retaining the original sponsorship restrictions but permitting existing arrangements to continue until 1995.

The funding for the Health Sponsorship Council has been reduced, but it has been used to sponsor 400 different events and the Council has achieved a high profile as a sponsor of sporting, cultural, and health promotion activities.

Prevalence of smoking

Accurate smoking prevalence data in New Zealand have been available since the population censuses in 1976 and 1981, and from regular household surveys of 10,000 persons since 1983. In the 1950s, over 50% of

Fig 1. Prevalence (%) of cigarette smoking in New Zealand. Figures from 1976 and 1981 are from census data. The figures for 1983 to 1992 are from Department of Health household surveys
men and 35% of women were smokers [9], a proportion similar to that in the UK. Smoking by male doctors fell from 37% in 1963 to 15% in 1981 [10].

Figure 1 shows that cigarette smoking in men aged 15 years and over has declined from 40% in 1976 to 27% in 1992, and in women from 32% to 27%. Health Department interview surveys using the same methods have shown a decline in smoking by men aged 15–24 years from 34% in 1983 to 26% in 1992. In young women of the same age, rates fell from 39% in 1983 to 33% in 1991, but have increased since then, a trend shown even more strongly in women aged 25 to 34 years (37% smokers in 1992).

Maori people have always been heavy smokers and more than half of all adults continue to smoke (58% in 1976, 52% in 1992). Younger Maori men appear to be smoking less (44% of those aged 15–34 years in 1989), but the rates in women of the same age remain disturbingly high (61% in 1989).

New Zealand has a large population of Pacific Islanders among whom the prevalence of smoking lies between that of Europeans and of Maori. In 1992, 33% of males and females over 15 years were smokers.

Tobacco consumption

Tobacco consumption data confirm the decline of smoking since the 1970s (Fig 2) [11]. There has been a 46% fall in consumption since 1975 and New Zealand now has the second lowest tobacco consumption of all OECD countries. There has been a recent increase in the amount of loose tobacco available for consumption, resulting in a reduction in manufactured cigarettes as a proportion of all tobacco products from 92% in 1985 to 82% in 1992.

Laugesen and Meads [12,13] have demonstrated the major influence of the real price of cigarettes on consumption. It has also been estimated that the 1990 legislation, with its ban on advertising, may have contributed to a reduction of consumption by approximately 5.5% [14].

Trends in lung cancer incidence and mortality

A decline in smoking should eventually be followed by a fall in the incidence of lung cancer. There are signs that this trend has started in New Zealand, although the full effect is unlikely to be seen for some years.

Figure 3 shows that from 1948 to the peak period about 1976 there was a fivefold increase in the number of registered new cases of lung cancer in men. Since then the rate has decreased by 25%, while mortality rates have fallen by 15% during the same period. In contrast, incidence rates in women have steadily increased and rose by 38% between 1976 and 1990. Mortality rates for women have increased by 74% in the past 15 years and may equal those of men in about 20 years.

Similar trends have occurred in the Maori population with incidence rates in men falling by 14% since 1976 and increasing in women by 38%. Mortality rates for lung cancer in Maori women are three times higher than in non-Maori women and have now overtaken those of Maori men.
The decline in lung cancer in men is greatest in the younger age groups because these cohorts are from a time when smoking was less prevalent. New registrations for non-Maori men aged 45–54 years declined by 46% between 1976 and 1990 (Fig 4) and by 23% in those aged 55–64, whereas they increased by 1% in those aged over 75 years. For women, the age-specific trends are mostly upwards although incidence rates for non-Maori aged 45–54 have fallen by 16% in the past 15 years.

**Trends in coronary heart disease mortality**

Mortality rates for coronary heart disease have fallen in New Zealand as in Australia, the US, and other countries. Since the peak year in 1968, age-standardised rates for the total population aged 35 years and over have declined by 37% in men and 34% in women (Fig 5). The fall has occurred in all age groups but has been greatest in those aged 24–44 years (56% in men and 52% in women). Mortality rates in the Maori population show greater fluctuations but have also shown a decline.

Age-standardised death rates from cerebrovascular disease have also fallen significantly between 1970 and 1989, by 44% in men and 49% in women.

The reason for these trends is being studied as part of the MONICA project [15] which will also address non-fatal cardiovascular disease. The results presently available indicate that the changes in smoking behaviour have been much greater than reductions in dietary fat intake, blood lipids, body mass index, or blood pressure [16].

**Life expectancy**

West [17] has recently observed that the single most important effect of smoking is shortening life, and that the most significant benefit of quitting is likely to be lengthening life. Death rates from all causes in New Zealand have fallen by 23.7% in men and 24.7% in women over the past 20 years. As a result, life expectancy has increased by nearly four years between 1970 and 1991, to 72.4 in men and 78.3 years in women (total population). This increase has resulted largely from extra years gained after middle age. The contribution of reduced smoking to these changes remains a matter for debate.

**Discussion**

Progress made in controlling smoking in New Zealand has contributed towards favourable health trends for
its population of 3.5 million people. The prevalence of smoking in New Zealand is among the lowest of all developed countries and this is supported by tobacco consumption figures. In European Community countries, the overall smoking prevalence rate for men and women was 36%, and among those aged 25 to 39 years more than half the men were smokers, as were 40% of women [18].

The observed changes have not been the result of a structured smoking-control policy but represent the effect of uncoordinated initiatives from various professional, voluntary and governmental organisations. They may have occurred because so many different groups and individuals have been involved, particularly in recent years, or because health education has a greater chance of success in a small and isolated country. For a large proportion of the New Zealand community smoking has become socially unacceptable, and this has made strong and innovative legislation easier to accept. Whereas the first New Zealand non-smoking legislation was initiated by women's organisations and prompted by moral concerns, the 1990 Act was led by health groups and succeeded because of the strength of the health evidence. The original Bill was voted on party lines but a free conscience vote was allowed with the recent amendment. It had been expected that Government members would be persuaded by the tobacco industry's arguments in support of the freedom to advertise a legal product, but the health issue prevailed and a compromise was reached which should ensure the end of tobacco sponsorship by 1995.

The tobacco battle is not yet won and health campaigners are aware of the risks of complacency. The struggle for legislation in 1990 sapped the energy and financial resources of the health groups and it was much more difficult to mobilise opposition against the recent amendment. Smoking has continued to increase among young women, while the excessive smoking by Maori people is a national disgrace and probably related to their low self-esteem, social alienation, unemployment, and lack of educational achievement. Restricting the target to the issue of smoking is unlikely to succeed, nor will health promotion measures unless they are initiated by Maori health workers for Maori people.

As in many other countries, smoking in New Zealand has shown a rise and fall. The latter has not applied to all ethnic and social groups and there is a risk that successful campaigning by middle-class health workers among mainly middle-class people may inhibit appropriate action being taken where the need is now greatest. The rise and fall must not be allowed to become a recurring cycle.

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