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Promoting the Health of Australians

Case studies of achievements in improving the health of the population

National Health and Medical Research Council

NHMRC
Promoting the Health of Australians

Case studies of achievements in improving the health of the population

December 1996

National Health and Medical Research Council

NHMRC
The strategic intent of the NHMRC is to work with others for the health of all Australians, by promoting informed debate on ethics and policy, providing knowledge based advice, fostering a high quality and internationally recognised research base, and applying research rigour to health issues.

Publication approval number: 2090
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By many measures of premature mortality and morbidity, and by some measures of risk behaviour, the health of much of Australia’s population has improved significantly over the last three decades. There is no doubt that many thousands of Australians are alive today as a result of measures— involving both medical and public health promotion interventions — that have been developed and introduced over the last 30 years.

Australia is recognised internationally as having been one of those nations that has been most successful in its deliberate efforts to improve the health of its population. While there remains much more to be done— particularly to reduce inequalities in the health status of priority population groups, including Aborigines and Torres Strait Islanders— it is important to examine the areas in which there has been some success and to identify factors that have contributed to this success.

Six case studies follow in this monograph, outlining, albeit briefly, the achievements in relation to specific causes of death or behaviour, an analysis of the intermediate outcomes that were achieved, a summary of the strategies that were employed to achieve these outcomes, and an analysis of the infrastructure support that was necessary in order to design and implement the interventions that led to the results. Each case also includes a brief outline of the remaining challenges in relation to each of the issues. In the main, these highlight the significant inequalities that continue to exist in many Australians’ access to the resources they need to achieve and maintain good health.

This monograph highlights successes; it also highlights the distance that remains before all Australians enjoy the benefits of these successes.
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*Promoting the Health of Australians — Case studies of achievements in improving the health of the population*
## Abbreviations used in this report

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<tbody>
<tr>
<td>AACR</td>
<td>Association of Cancer Registries</td>
</tr>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<td>ADRs</td>
<td>Australian Design Rules</td>
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<tr>
<td>AFAO</td>
<td>Australian Federation of AIDS Organisations</td>
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<td>AHMAC</td>
<td>Australian Health Ministers Advisory Council</td>
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<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Disease</td>
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<tr>
<td>AMA</td>
<td>Australian Medical Association</td>
</tr>
<tr>
<td>ANCA</td>
<td>Australian National Council on AIDS</td>
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<tr>
<td>ARRB</td>
<td>Australian Road and Research Board</td>
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<tr>
<td>ASH</td>
<td>Action on Smoking and Health</td>
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<tr>
<td>BAC</td>
<td>Blood Alcohol Concentration</td>
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<td>BMI</td>
<td>Body Mass Index</td>
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<tr>
<td>CARG</td>
<td>Commonwealth AIDS Research Grants Committee</td>
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<tr>
<td>CFC</td>
<td>Chloro Fluoro Carbons</td>
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<tr>
<td>CHD</td>
<td>Coronary Heart Disease</td>
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<tr>
<td>CIN III</td>
<td>Cervical Intraepithelial Neoplasia</td>
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<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
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<td>CSIRO</td>
<td>Commonwealth Scientific and Industrial Research Organisation</td>
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<td>CVD</td>
<td>Cardiovascular Disease</td>
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<tr>
<td>FORS</td>
<td>Federal Office of Road Safety</td>
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<tr>
<td>HIV</td>
<td>Human Immune Deficiency Virus</td>
</tr>
<tr>
<td>HPV</td>
<td>Human Papilloma Virus</td>
</tr>
<tr>
<td>IDU</td>
<td>Injecting Drug Users</td>
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<tr>
<td>IMEA</td>
<td>Institute of Municipal Engineering in Australia</td>
</tr>
<tr>
<td>ISS</td>
<td>Injury Severity Score</td>
</tr>
<tr>
<td>MONICA</td>
<td>The WHO MONICA Project — MONitor trends in CARDiovascular disease</td>
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<td>MRC</td>
<td>Medical Research Council</td>
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<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>MUARC</td>
<td>Monash University Accident Research Centre</td>
</tr>
<tr>
<td>NAC</td>
<td>National Asthma Campaign</td>
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<tr>
<td>NCSCH</td>
<td>National Cancer Statistics Clearing House</td>
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<tr>
<td>NCSP</td>
<td>National Cervical Screening Program</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-government Organisations</td>
</tr>
<tr>
<td>NHF</td>
<td>National Heart Foundation</td>
</tr>
<tr>
<td>NHMRC</td>
<td>National Health and Medical Research Council</td>
</tr>
<tr>
<td>OAPCC</td>
<td>Organised Approach to Preventing Cancer of the Cervix</td>
</tr>
<tr>
<td>PHA</td>
<td>Public Health Association of Australia</td>
</tr>
<tr>
<td>PHRDC</td>
<td>Public Health research and Development Committee</td>
</tr>
<tr>
<td>PLWHA</td>
<td>People Living with HIV/AIDS</td>
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<tr>
<td>PSA</td>
<td>Pharmaceutical Society of Australia</td>
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<tr>
<td>RACGP</td>
<td>Royal Australian College of General Practitioners</td>
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<tr>
<td>RBT</td>
<td>Random Breath Testing</td>
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<tr>
<td>STD</td>
<td>Sexually Transmitted Diseases</td>
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<tr>
<td>TAC</td>
<td>Traffic Accident Commission (Victoria)</td>
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*Promoting the Health of Australians—Case studies of achievements in improving the health of the population*
Introduction

The significant improvements in the health of the Australian population over the past 30 years have largely resulted from improvements in a number of major diseases; these include circulatory diseases, injury (particularly road trauma), infectious diseases, some cancers, cervical cancer and dental health. In 1988 it was estimated that these improvements had resulted in a greater than 30 per cent decrease in all-cause mortality since 1960 which represents more than 56,000 premature deaths that have been delayed over this period. Around half of this improvement can be attributed to prevention of some kind. It has been estimated that this represented a saving in 1988 of almost $8,000 million (1988 dollars) with gross direct health and medical savings accounting for $2,400 million. The latter figure represented 1.2 per cent of the total health budget for that year.

These improvements have accrued from advances in medicine and surgery, from improvements in the delivery of quality health care services, as well as a range of other public health and health promotion programs and actions. In fact, Australia has been among the leading group of nations of the world in developing and implementing population-wide interventions and strategies, which have really made a difference to the health of Australians. This is not to ignore the fact however, that for some groups in the population, with the most glaring example being indigenous Australians, and for some health issues, such as immunisation and diabetes, the Australian performance has lagged behind many other developed countries.

So, what should we learn from our successes in preventing death, reducing morbidity and promoting health? Firstly, we should recognise that the good news stories about health in this country are not just those which involve the latest in medical science and technology, which, in fact, often only benefit a few individuals at a significant economic cost to the community. As a nation we should be proud of our achievements in promoting health and preventing disease and disability, including the many ten of thousands of Australian lives saved as a result of the dramatic reduction in deaths due to cardiovascular disease, and the thousands of lives saved as a result of the reduction in the road toll, over the past 30 years. Secondly, we should understand the factors behind these success stories and why they have occurred, so that these might then be applied to those many health challenges which remain. To date, insufficient attention has been given to understanding what the recent, major success stories in Australian public health have been and what have been the major determinants of success. All too often, the successes remain largely invisible, while attention is focused almost exclusively on the failures.

This monograph draws together information and data from many different sources in order to describe some of the major Australian successes in disease prevention and health promotion that have occurred over the past generation. We focus not so much on the identified and specific health outcomes for each of these issues, as this has been done many times before. Rather, we have examined many available sources of information to help explain why as a nation, we have been so successful in dealing with some health issues, but much less so with others. We identify the impact of different intervention strategies and approaches and how these have been implemented and what infrastructure has been put in place to support and sustain these improvements.

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As identified in *Promoting the health of Australians,* the performance of health promotion and public health should be measured according to its impact both on well accepted health outcomes and on the precursors to such changes in mortality, morbidity and quality of life. These intermediate outcomes include the impact on improvements in relevant environments, positive changes in health-related behaviours, improvements to health services, improvements to health literacy, and public policy. The range and complexity of such outcomes range from policy change and regulatory initiatives, to the direct results of interventions or health promotion campaigns. It is often extremely difficult to identify appropriate measures and indicators for intermediate outcomes. Yet, establishing the linkages between health outcomes, the more intermediate outcomes, and specific health promotion actions and programs is a critical part of the evidence base for preventing disease and promoting health in this country. Unlike clinical medicine, where interventions and clinical trials can demonstrate direct results on outcomes, public health outcomes are mediated through a multi-faceted set of intermediate steps.

In reality, disentangling the many and varied reasons for success is very difficult and these often remain largely invisible to even the most discerning observer. A lot of public health activity is essentially invisible to the community and the dollars spent on it are such a small proportion of the total health budget that it receives relatively little attention. Moreover, as identified in the *Pathways to better health* monograph several years ago, a lot of effective public health and health promotion action occurs at multiple levels delivered through many different communication channels, indeed, often involving sectors other than health? The results of such multiple strategies and programs can take many years to impact on measurable health outcomes such as rates of smoking and/or rates of cardiovascular disease and lung cancer.

The following health issues have been addressed in this *Monograph:*

- cardiovascular disease
- smoking
- trauma due to road and traffic-related accidents
- HIV/AIDS
- cervical cancer
- asthma.

These health issues were chosen for the following reasons:

1. The *preventability* of each of these health issues has been well established. In other words, there is compelling research evidence from the international literature that the health outcomes associated with this issue can be positively influenced.

2. Each of these health issues has been the *target* of significant and organised efforts in Australia within the past 20 years to address all or part of the health issue and to reduce the burden of illness associated with it, using a range of public health strategies and initiatives.

3. There is evidence beyond reasonable doubt and a consensus among Australian health researchers and other experts, that there has been *improvement in the health outcomes* associated with each of these health issues over the past 20 years.

4. There is readily accessible data and information on the Australian experience of dealing with this health issue.

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REFERENCES


Chapter 1
Smoking and tobacco control

1.1  What has been achieved so far?

Smoking is universally recognised as a major cause of heart disease, stroke, several different forms of cancer (particularly lung cancer) and many other health problems. The vast majority of deaths caused by smoking occur through the development of cardiovascular disease (CVD) and cancer of the lung. There are no identified safe levels of tobacco consumption and while people who smoke carry the greatest burden of disease, exposure to second-hand smoke is dangerous to adults and especially children. So-called passive smoking has been linked to an increased risk of respiratory illness, heart disease and lung cancer.'

1.1.1  Changing rates and patterns of smoking

Smoking rates among adult Australian males have declined consistently since the first published smoking rate of 75 per cent in 1945. Since then the proportion of men who smoke has more than halved to 28 per cent in 1992. For women, rates have remained comparatively stable, with an estimated 26 per cent of adult women smoking in 1945 and 33 per cent in 1976; this has since declined slowly to 24 of women in 1992.

Between 1965 and 1993 consumption of tobacco per adult in Australia fell by 48.7 per cent from 3 352 g to 1 719 g.' The number of people who successfully quit smoking increases every year, with the proportion of people who have never smoked or who are ex-smokers having increased every year since 1965 for both sexes. It has been estimated that 5 per cent of people who smoke succeed in quitting every year, that is; approximately, 150 000 individuals.' About 60 per cent of all smokers every year either make an attempt to quit or say that they intend to make an attempt to quit in the next six months, a proportion that has remained fairly constant over the past 10 years.'

During the 1980s there was a significant decline in rates of smoking among 16–24 year old males; and in Victoria at least, there was also a consistent downward trend in young women.' Although during the 1980s there was a trend towards decreased smoking in secondary students, between 1990 and 1993 smoking rates once again increased for both sexes.' It has been suggested that much of the increase is due to experimentation rather than uptake of regular smoking as there are indications that the amount smoked by young people has declined and the average number of cigarettes smoked by teenagers per week has reduced.'

The prevalence of smoking has declined in all age groups and in all social groups. However, the rate of decline has been similar amongst all socioeconomic groups, so there has been no reduction in the gap between the prevalence of smoking in people in the highest and lowest socioeconomic groups. A comparison between those with the lowest

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and highest attained level of education shows that 34 per cent of males and 25 per cent of females in the lowest group smoke, compared to 18 per cent and 14 per cent (respectively) in the highest group.¹

1.1.2 Changing patterns of morbidity and mortality

The decrease in the prevalence of smoking in the Australian population has led to a reduction in premature mortality, in particular, due to lung cancer and cardiovascular disease.¹ Over the last 30 years there has been a 63 per cent decline in the age-standardised mortality rate from cardiovascular disease in Australia. Using the high mortality rates of the late 1960s as a baseline, more than 230 000 lives have been saved.¹ It has been estimated that 75 per cent of the decline in cardiovascular disease in women and 40–50 per cent for men in Australia (aged 40–49 and 50–59) can be attributed to declines in smoking, hypertension, and hypercholesterolemia." Currently, smoking is estimated to be responsible for one in five of all deaths from coronary heart disease."

Lung cancer is still the leading cause of cancer death in males despite significant reductions in the rate of lung cancer from a peak in the early 1980s of 70/100 000 to 56/100 000. It is expected that lung cancer mortality among men will continue to decline in response to the continued decline in male smoking rates through the 1980s and 1990s.¹²

Lung cancer is the third most common cause of cancer death amongst women. Since the 1960s lung cancer mortality has continued to increase, although the rate of increase now appears to be slowing.¹¹

A higher proportion of adults from lower socioeconomic backgrounds die from lung cancer than those with greater financial and educational resources! The Australian Institute of Health and Welfare (AIHW) has estimated that between 1985 and 1987 males of the lowest level occupational prestige experienced 260 per cent more lung cancer than those in the highest bracket? This trend reflects the higher rates of smoking among those in lower socioeconomic groups?

Aboriginal death rates from smoking-related ischaemic heart disease are 3.2 times higher for males and 6.8 times higher for women, than the rates for the non-Indigenous population." It is estimated that lung cancer is 1.4 times higher in Aboriginal males and 1.2 times higher in Aboriginal females than in the non-Aboriginal population."²

1.2 The precursors of reductions in smoking

Over the past thirty years changes in the environments where individuals live and work, improved knowledge about smoking and its health effects, and improved skills and attitudes have played their part in contributing to reductions in the prevalence of smoking and related disease deaths.

1.2.1 The introduction of 'smokefree' workplaces

Most Australian workplaces have either banned smoking or have imposed significant restrictions. Workplace bans on smoking have been effective in reducing the consumption

* See case study on reduction in mortality from cardiovascular disease.
of cigarettes on workdays. By creating a total or partial ban on smoking in the workplace, smoking has become more controlled and exposure to passive smoking has been reduced.

The Commonwealth Department of Health was the first government department to adopt a Smoke-free Policy and by 1988, all Commonwealth departments had implemented the same policy. Workplace smoking bans rapidly became the rule rather than the exception in private industry so that by 1991, 85 per cent of companies in Victoria had introduced some form of smoking restriction, and in April 1994, a similar survey indicated that all the companies surveyed had at least a partial restriction and that 83 per cent had a total smoking ban. Successful law suits prosecuting employers for smoking-related illness among employees have also prompted private industry introducing bans on smoking in workplaces.

1.2.2 The banning of smoking in public places

Smoking is now restricted, if not banned, in the majority of public venues and settings throughout Australia. Smoking is prohibited on all domestic flights, and a rapidly increasing number of international flights. Smoking is also prohibited on all other public transport, including taxis. There is a small but growing proportion of restaurants voluntarily introducing a smoke-free environment, with another, much larger group, providing smoke-free areas. Most hospitals, schools, and residential care for older people have been smoke-free environments for some years, while there is a growing restriction on smoking in entertainment areas and shopping malls.

1.2.3 Implementation of healthy public policy

There have been many initiatives of government over the past 30 years which have led to significantly increased prices for cigarettes, reduced exposure to tobacco smoke, and reduced accessibility to cigarettes.

Federal labelling regulations have been progressively introduced since 1968 when the first voluntary agreement was entered into with the tobacco industry. In 1987 four warnings were introduced to appear on all tobacco products except cigars, and since that time there have been increasingly strong government regulations governing package labelling that states the tar, nicotine and carbon monoxide levels in cigarettes. In addition, Federal Government regulations enacted in 1995 resulted in more explicit and more prominent health warnings being printed on all cigarette, loose tobacco and cigar packaging.

The amount of tar, nicotine and carbon monoxide in Australian cigarettes have all been reduced dramatically since the 1960s. In 1982 a voluntary agreement was struck between the tobacco industry and the Federal Government to control levels of tar, nicotine and carbon monoxide in all Australian manufactured cigarettes. More recently, three new sets of minimum standards have been set to further reduce the levels of by-products from cigarettes.

† The incentive to introduce a smokefree work environment is twofold. Most compelling, is the legal obligation upon the employer to provide a safe work environment free from foreseeable and avoidable risks for their employees and clients. In the wake of a number of important court cases (e.g., the Morling Decision) injury from passive smoking in the workplace may also represent a breach of the duty of care.
In an effort to change the social climate which reinforces smoking there has been a gradual ban placed on all forms of tobacco advertising and sponsorship (except for point of sale promotion). The first restrictions were introduced between 1973 and 1976 when direct advertising on TV and radio was phased out. By the end of 1996 all forms of tobacco sponsorship of sporting and cultural events (with a few significant exceptions) will be banned.9

1.2.4 Mobilising the community to change

Although during the 1960s government ignored the increasing calls from medical authorities to address smoking as a major public health problem, the media began to play an important role in informing the community of the accumulating scientific evidence concerning the health dangers of smoking. Activated by leading medical authorities and non-government organisations such as the cancer councils and the National Heart Foundation, the media contributed significantly not only to the reporting of the issues, but to the debate both preceding and following key legal decisions.

Community views and attitudes have shifted significantly in recent years to support the introduction of smoke-free environments and policies. Recent public opinion about smoking in restaurants has shown overwhelming support for reducing patrons involuntary exposure to tobacco smoke,21,22 and large majorities of people support smoking bans in childcare centres, toy shops, fast food and family restaurants.23 There is now a high level of knowledge in the community about the harmful effects of smoking, including passive smoking.

1.3 The strategies and actions that have made a difference

Although specific programs and action to reduce the incidence and prevalence of cigarette smoking were slow to gain momentum in the years following World War II, Australia’s achievements in tobacco control over the last two decades have been recognised repeatedly as among the most successful in the world.’

1.3.1 Information and education about smoking

Between 1972 and 1975 the Federal Government conducted campaigns (including mass media) designed to reduce smoking. From then until recently, however, it has been federal policy to locate most responsibility for health promotion (including smoking control) with the States and Territories.

Since the 1970s the States and Territories have variously taken action to inform and educate the public about the dangers of smoking (including passive smoking), about ways to reduce the uptake of smoking among children and young people, and about ways to quit smoking. There has been no accurate record of volume or quality of the activity, but all State and Territory health authorities have provided funding and support, in addition to the significant contributions of non-government organisations such as the State/Territory Anti-Cancer Councils.

In Western Australia, New South Wales, Victoria, and South Australia the public information and education activities have been organised through the establishment of

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specific organisations, that is, the so-called Quit campaigns. These campaigns have used a wide range of media-based and other strategies to raise community awareness about the health risks associated with smoking and about ways to give up or avoid smoking, or passive smoking. Each year most Quit campaigns run at least a week of high profile activities ‘Quit Week’ that include telephone hot lines, kits for retail pharmacies and general practitioners to give to smokers wanting to give up smoking, and a range of community-based public relations activities. In recent years there have also been activities directed at the specific needs of particular populations, including Aboriginal people and Torres Strait Islander people and for populations from non-English-speaking backgrounds.

Mass media campaigns have been effective in creating awareness of the dangers of smoking among all population groups in society. The mass media strategy has been found to be a moderately effective means of reaching population sub-groups from all education and socioeconomic levels.\(^{25}\) In the 1980s, the QUIT mass media campaigns (which included a telephone hot line and a resource kit to assist people to quit smoking) in Sydney and Melbourne led to an immediate drop of 2.6 per cent in the adult smoking rates and a continued 1.5 per cent decline annually among men.\(^ {26}\) This decline was uniform across all education groups.\(^ {27}\)

While much of the mass media has been paid television advertising, considerable use has been made of radio, particularly for people of non-English-speaking backgrounds.

These campaigns, led by mass media, have contributed to the reduction in the prevalence of smoking in Australia, both in terms of persuading people to quit smoking, and in reducing the uptake of smoking among children, particularly children aged less than 15 years.\(^ {27,28}\) Between 1965 and 1993 the consumption of tobacco per adult fell by 48.7 per cent from 3,352 g to 1,719 g. For 11 years of this period (1965–1975), average consumption remained virtually unchanged reflecting the general lack of government action to curtail smoking in the community. However, since 1977, the year following the national ban on direct forms of radio and television advertising, the average annual fall has been 2.5 per cent. When the first large scale mass media quit campaigns commenced in 1983, the fall increased still further to a mean of 3.1 per cent per year.\(^ {29}\)

A wide range of programs and written materials has been produced by and distributed through the Quit campaigns and by a variety of non-government organisations, with two of the more prominent being the National Heart Foundation and the various State cancer councils. There has been information for smokers on smoking, advice on quitting and information about cessation programs available in their localities.

For almost twenty years, therefore, there has been a significant level of public information and education about smoking. The range, quality, and scope of activities has gradually increased over this period.

The high level of community knowledge of the dangers to health associated with smoking has meant that there has been relatively little opposition to the introduction of smoking bans in workplaces and public places. The introduction of bans has been guided by programs that have been developed by State governments and various non-government organisations to encourage the introduction of non-smoking areas. This action has been well supported by excellent resources which have been produced to advise companies on how to introduce a smoke-free workplace such as the National Heart Foundation’s guide ‘Going Smoke Free’.

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Well designed school-based educational programs can delay the onset of smoking among children and adolescents, although there is argument about the length of this delay. There has been considerable effort on the part of the National Heart Foundation in most States, and cancer councils, to introduce anti-smoking education into schools.

General practitioners and other health professionals have been shown to have an important role to play in encouraging people to quit smoking, although surveys of patients also reveal that doctors often fail to warn their patients about smoking and the advice is often not given in a manner which is particularly memorable. Evidence suggests that when general practitioners become involved in delivering a quit smoking program, they can do so in a way which has also been found to result in significant quit rates. Nicotine replacement therapy has been found to be effective and when used in combination with behavioural interventions the effect is greater. Nicotine patches were approved for use in Australia in 1993 and are available on prescription. However, there is no reliable current information about the number or proportion of general practitioners who routinely recognise and offer advice to patients who smoke.

### 1.3.2 Facilitation

Direct cigarette advertising on radio and television in Australia was phased out between 1976 and 1977, with the important exception of ‘accidental’ or ‘incidental’ advertising. These latter forms of advertising have been significantly reduced through sponsorship bans for local events.

Legislation banning advertising in the print media was passed in 1989. And from December 1992, federal legislation, with limited exemptions, banned all remaining forms of tobacco advertising in the print media in Australia — including billboards, illuminated signs — from December 1995.

In 1987, the *Victorian Tobacco Act* levied a wholesale tax on tobacco products sold in Victoria. The tax was used to establish the Victorian Health Promotion Foundation — ‘VicHealth’ with a mandate to promote good health and to prevent disease, accidents, or disability in the Victorian community.

The establishment of VicHealth was followed by that of Foundation SA (in South Australia) in 1988, the Australian Capital Territory (ACT) Health Promotion Fund in 1989, and Healthway in Western Australia in 1991.

The Acts of Parliament that established these organisations committed them to replacement of tobacco company sponsorship of sports and arts activities, in addition to working with sports, arts and community organisations to promote health (with an initial focus on smoking).

Within the first two years of the program, the sponsorship of Victorian sport became almost tobacco free. In Western Australia and Victoria, replacement of sponsorship has extended to include the racing (including horse and greyhound) industry, in addition to sports (including motor sports) and arts. Major football codes have now adopted smoke-free policies at their venues in both States and there has been growing support in the community for restrictions on smoking at sports, racing, arts, and cultural venues.
1.3.3 Advocacy

The Anti-Cancer Council of Victoria has been a major advocate for changes in government policy in relation to smoking for 35 years, providing information about smoking to the public, closely collaborating with the Quit campaigns and funding research. In the 1960s the Council was directly responsible for adverse publicity about the tar content of popular brands of cigarettes, as a result of which tobacco companies reduced the levels of tar in their cigarettes.

In 1984 some State cancer councils, the National Heart Foundation and the medical colleges established the organisation ASH (Action on Smoking and Health) to undertake public health advocacy in relation to smoking. External advocacy was an essential tool in combating the power of the tobacco industry.

The medical colleges and societies, the Public Health Association of Australia (PHA), the State/Territory anti-cancer councils and other organisations produced policies and statements recommending action to reduce the prevalence of smoking and/or to raise awareness of its dangers. The Australian Medical Association (AMA), the PHA and the National Heart Foundation continue to actively advocate against smoking with regular press releases.

In addition to the action of official organisations, a series of small activist groups played an early part in raising public and political awareness of the dangers of smoking and of the role of advertising in encouraging young people, particularly, to take up smoking. The activities of the BUGA UP group and MOPUP were effective in drawing attention to the issue, raising community and political concern, and provoking political action.

1.4 Infrastructural supports

1.4.1 Political commitment and funding

Since the late 1960s, in response to the leadership provided by key non-government organisations, professional associations and individuals, there has been continuous federal and State/Territory Government action and support to reduce the prevalence of smoking in Australia. Tobacco control was included in the National Campaign Against Drug Abuse, later, renamed the National Drug Strategy. These have acknowledged tobacco smoking as the major drug killer in Australian society, and thus, ensured that the need to control tobacco smoking has remained high on the political, health professional’s and public agendas.

Significant funding for medical research into tobacco-related disease has been provided through competitive grants from NHMRC and other funding agencies, including the National Heart Foundation. Some funding for State-run programs is raised by the Commonwealth and revenue from State tobacco licensing fees has provided funding for a whole range of State-based programs and smoking-related research. Most recently, the State health promotion foundations have provided a key focus for anti-smoking and related research and programmatic activities.
1.4.2 Research

The effectiveness of the tobacco control program in Australia has been underwritten by appropriate and timely information and research about smoking in Australia provided by a number of agencies, such as the Centre for Behavioural Research in Cancer in Victoria, established in 1986. Funded by the Anti-Cancer Council of Victoria, the Centre has worked closely with the Quit campaign in Victoria and the Anti-Cancer Council on formative research and program evaluation. The Centre for Health Promotion and Cancer Prevention in Brisbane has also been established to provide research information and the NSW Cancer Council’s Cancer Education Research Program in Newcastle has undertaken much valuable research on tobacco. This steady supply of up to date research information has provided a constant, powerful backdrop to health promotion activity.

The National Health and Medical Research Council (NHMRC) adopted recommendations on the Effects of Passive Smoking on Health in 1986 and is currently considering a further, updated report.

Considerable funding for research has been made available by bodies such as the State cancer councils, National Heart Foundation, health promotion foundations and alcohol and drug foundations. Through their efforts, the effectiveness of anti-smoking interventions has been evaluated, particularly the effects of workplace smoking restrictions, nicotine replacement therapy, passive smoking and smoking cessation patterns.

1.4.3 Monitoring and surveillance

The Centre for Behavioural Research in Cancer in Victoria among others, has played a key role in providing current information on the prevalence of smoking in the population, conducting surveys approximately every three years, often in collaboration with other research institutions or government agencies. The National Secondary School Survey, repeated every three years since 1984, similarly the National Survey of Smoking Prevalence repeated periodically since 1974 have allowed accurate monitoring of smoking rates.

The National Heart Foundation’s Risk Factor Prevalence Surveys, which have collected information on key health behaviours such as smoking, have provided regular updates on the prevalence of smoking in urban populations, while in New South Wales, Western Australia and Victoria, surveys of drug and alcohol use by schoolchildren provided regular information on trends in smoking amongst adolescents.

1.5 What have the lessons been so far?

The impressive and continuing falls in per capita consumption of tobacco and also in male smoking prevalence reflect the dynamic interplay of many actions and strategies which have been put in place over the past 30 years. Australia’s success in reducing the prevalence of smoking across the population has been based upon the simultaneous implementation of a range of strategies over a significant period of time. While the precise impact of any one of these strategies is difficult to assess, the overall effect has been significant.

This case study has demonstrated that single well planned strategies can be attributed to small reductions in smoking prevalence. However, the large reductions in tobacco smoking in Australia can only be the result of more than one strategy. The evidence used in
individuals taking up smoking and continuing to smoke.

1.51 The use of multiple strategies

Mass media campaigns, political and community advocacy, education for children in schools, small-group and individual counselling, legislation, tobacco tax increases, packaging and labelling requirements, voluntary regulation, competitions, and more have all contributed to the overall success. This rich combination of strategies recognises the complex causes of the problem, and our scientific understanding of effective methods for preventing uptake and reducing the prevalence of smoking among many different groups and populations in the community.

1.52 Continuous action for at least two decades

The development of Australia’s response to reducing tobacco consumption has been long term and evolved over many years. The National Drug Strategy, implemented in the mid-1980s, has helped tobacco maintain a high profile as a public health issue, but it has not been the main impetus for the legislative and regulatory interventions introduced in the last 20 years. Most of the campaigns have been initiated at the State level. While sections of the health sector have acted as lead agents for smoking as an issue, the responsibility has never rested with one government department or non-government organisation. A wide range of organisations — government, non-government, and other organisations in the community — has been engaged in action, ensuring that activities have occurred at every level — national, State and local.

While action on smoking in Australia has generally not been particularly well coordinated, smoking has nevertheless remained one of the nation’s major public health priorities over the last two decades.

1.53 Intersectoral collaboration

The education, health, taxation and transport departments have played pivotal roles in the initiation, implementation and management of anti-smoking interventions. The collection of national data about smoking behaviour has only been possible with the cooperation of various research institutions and funding bodies. The widespread application of non-smoking policies in places of work has been a combined effort of the private sector with occupational health and safety groups.

Within the health sector itself, clinicians have acted as public health advocates and have been an essential component of the successful action to reduce the prevalence of smoking.

1S.4 Clear goals

National goals and targets, first prepared in 1988 (Chapman et al), continuously identified the reduction of smoking as a priority in addition to its importance in the prevention of premature death from lung cancer and cardiovascular disease. Currently, national goals are to;

a) reduce the prevalence of smoking amongst Australians; and
b) reduce exposure to environmental tobacco smoke (passive smoking) throughout the community?

In addition to the goals and targets, the National Drug Strategy and the National Drug Strategic Plan (1993–1997) has recently provided a framework for Commonwealth activities. It outlines smoking-related goals, key national indicators and priority programs.

### 1.5.5 Dissemination and diffusion

Work published by a number of key people in Australia linking lung cancer with smoking, the NHMRC’s report on passive smoking and the United States of America Surgeon General’s Report on smoking and health have led to action in the past. There now exists a large body of knowledge about best practice in anti-smoking strategies. A wide degree of cooperation exists between the working bodies across Australia with materials being shared or adapted where possible. This has helped to ensure efficient use of funding and expertise. More importantly, through the really excellent work of the State-based cancer research groups, such as the Centre for Behavioural Research in Cancer in Victoria, the link between research and practice is a very strong one.

### 1.6 Challenges for the future

#### 1.6.1 Morbidity and mortality

Despite the obvious success in reducing the prevalence of smoking in the Australian population there is a considerable progress still to be made.

Tobacco smoking remains the largest preventable cause of death in Australia. In 1992 it was estimated that smoking still caused 18 920 deaths in Australia which is equivalent to nine times the number of road crash fatalities. In the same year, premature tobacco-related death before the age of 70 claimed 88 266 person-years of life lost, led to 98 373 hospital episodes and the use of 812 866 hospital bed days.

There are also continuing and major inequalities in the proportion of different population groups who smoke. Amongst Aboriginal and Torres Strait Islander populations, 59 per cent of males and 42 per cent of females smoke, while surveys in the Northern Territory indicate that a much higher rate of smoking exists within the Territory’s Aboriginal communities with 71 per cent of males and 43 per cent of females who are smokers. Indigenous Aboriginal Australians are more likely to be hospitalised for tobacco-related illnesses such as chronic bronchitis, ischaemic heart disease and respiratory problems than non-Indigenous Australians.

Despite the significant reductions in the proportion of people who smoke across the socioeconomic spectrum, there remains a discrepancy between those with high and low levels of education. This is reflected in the levels of morbidity between the different groups within society. Poorly educated males and females experience 70 per cent and 50 per cent (respectively) more bronchitis and emphysema than the most highly educated in the community.

Young adults have the highest rates of smoking prevalence in the community. Peak prevalence occurs in the 20–24 year age group, when 37 per cent of males and 36 per cent of females smoke (1992).


1.6.2 Lack of leadership and coordination

There has not been a properly coordinated and sustained comprehensive national approach to reduce cigarette smoking in Australia. While the Federal policy of locating responsibility for action with the State and Territories has resulted in a seemingly strong, diverse range of activities in the States and Territories, a more integrated, national approach is now required.

For example, anomalies in the wholesale tax on cigarettes means that there are wide variations in the price of cigarettes in different States (Queensland and New South Wales, in particular).

As well, although there is a growing body of evidence of ‘good practice’ for intervening to reduce the prevalence of smoking, this information and relevant training is not disseminated in any organised fashion. The next phase of development of Australia’s anti-smoking initiative must focus on disseminating this evidence and on implementing action based on the evidence. A national approach is likely to lead to greater effectiveness.

There are significant research questions which remain to be addressed concerning the reach and impact of smoking cessation strategies being implemented by general practitioners and others. More particularly, reducing the inequalities in the prevalence of smoking will require a nationally coordinated and sustained effort, in addition to State/Territory and local initiatives. Developing principles of ‘good practice’ for work with Aboriginal people, Torres Strait Islander people, and people of non-English-speaking background will require significant investment of resources in research and demonstration projects, in addition to specific funding for local initiatives.

1.6.3 Structural barriers

Finally, at the structural level, it is important to remember that the federal and State/Territory governments collect a considerable amount of income from the sale of tobacco products. Around a quarter of the retail price of a packet of cigarettes is accounted for by federal excise and about a third is added by State/Territory license fees. These taxes and fees have increased dramatically over the last 20 years.

Several factors have undermined the effectiveness of increasing the price of tobacco. Excise duties on tobacco has been linked to CPI to overcome the decline in income in real terms. Despite the enormous increases to retail price over the last 15 years, the cost of a cigarette in 1990 was cheaper in real terms than it was in 1973. The relatively cheap cigarette is a product of a discount war, in which the tobacco companies have packaged cigarettes in larger packs and reduced the amount of tobacco per cigarette. The Victorian Office of Prices have argued that cigarette companies are using their heavily discounted large packs to attract new customers and encourage the price sensitive smoker to continue smoking and thereby undermining the effect of increased tax. ¹

Much remains to be done. In terms of funded activity, the tobacco industry is still likely to be spending far greater amounts than public health groups on advertising and sponsorship, ensuring their product remains in the marketplace.

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¹ Promoting the Health of Australians—Case studies of achievements in improving the health of the population
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Chapter 2
Reduction in morbidity and mortality due to road injury and trauma

2.1 What has been achieved so far?

In Australia, the death rate from road traffic crashes declined from a peak of 30.4 per 100,000 people in 1970 to 11.1 per 100,000 in 1994. This decline has been achieved despite the fact that the amount of road travel has almost doubled in this time. In the early 1990s, there was a rapid improvement with a reduction of 31 per cent in road traffic deaths between 1989 and 1994. This decline occurred across all age groups and both sexes.

In Victoria, in the second year following the introduction of the law requiring children and adults to wear bicycle helmets there was a 70 per cent decrease in the number of cyclists either killed or admitted with a head injury when compared to the year prior to the law’s introduction. In fact, with successive and sustained interventions over the last 15 years, there has been dramatic reduction in Australia’s fatality rate per unit population which is now among the lowest in the world. Despite the overall improvements, it is also the case that fatality and casualty rates vary significantly between Australian States and Territories.

The reduction in road fatalities has been mirrored by reductions in hospital admissions due to road injury. For example an analysis of road injury hospital separations between 1988 and 1991 indicated a decline in all ISS (injury severity scores) injury severity categories over the period. The extent of the reduction increased with increasing injury severity with the greatest reduction in road injury admissions occurring in the ‘critical’ severity categories. What this information indicates is there has been an overall reduction in road trauma and not just a substitution of serious injuries for deaths.

Australia’s good standing in international comparisons has been achieved in the face of inherent barriers. Australia is a large country which is highly reliant upon road transport. There is a large road system which is supported by relatively few taxpayers and there is a culture which condones the consumption of alcohol. The period over which the reductions in road deaths and associated injuries occurred has included periods of both recession and economic growth. It is clear that the reduction in road trauma which has been achieved is attributable to the combined efforts of the Commonwealth and the States and is not primarily a consequence of reduced travel or economic activity.
2.2 **Precursors of improvements in road injury and trauma**

Interventions to improve road safety have been multifaceted improvements in the safety of motor vehicles, and in the road transport system to reduce the risks inherent within the transport environment. Behaviour-focused approaches such as education, publicity and law enforcement have aimed to change driver behaviour, knowledge and skills.

### 2.2.1 Changes to the environment

Urban design, black-spot eradication, and improvements in road engineering have played a significant part in reducing road traffic injuries and deaths. Effective improvements to the road system include: construction of high standard roads, skid resistant pavement, road delineation, staggered T intersections, roundabouts, traffic signal installations, removal of roadside hazards, audio tactile edgelines, and other blackspot treatments.

Programs to improve areas with a bad accident record or black spots’ have been highly effective. Victoria allocated an additional $75 million in 1992 to remove black spots over two years. It was estimated that a 4.8 per cent reduction in serious casualty crashes was attributable to this black-spot treatment.

### 2.2.2 Safer motor vehicles

The design of Australian built and imported motor vehicles is regulated by the Australian Design Rules (ADRs). These are a comprehensive set of vehicle safety standards which are introduced to improve primary safety (crash reduction) and secondary safety (occupant protection in a crash). Safety features in road vehicles have improved significantly over the last 25 years beginning with the introduction of compulsory seat belt installation.

Legislation requiring seat belts to be worn where fitted was introduced in December 1970 and resulted in an immediate increase in seat belt wearing from 25 per cent to nearly 50 per cent (in Victoria). This was accompanied by an 18 per cent reduction in vehicle occupant fatalities and reported injuries during the first year. Other ADRs which have been effectively introduced include anti-burst door latches and hinges, energy absorbing steering columns, minimum head restraint heights on front seats and minimum side door strength.

Consumer’s willingness to pay for extra safety features and technological advances has facilitated the improvement of vehicle safety beyond ADR minimum standard so that safety features such as air bags, anti-lock brakes and ergometrically designed interiors are becoming standard in new vehicles.

### 2.2.3 Changes to driving and other behaviours

Following the introduction of legislation making it mandatory to wear seat belts, there was an immediate increase in front seat belt wearing rate from approximately 25 per cent to nearly 50 per cent (in Victoria).
Currently self-reported rates of wearing seat belts are estimated at 96 per cent for front seats and 86 per cent for the back seats, and these figures concur with data from observational surveys.\textsuperscript{12}

Legislation to make it mandatory to wear bicycle helmets was introduced gradually from 1990 to 1992. Before 1990 it was voluntary to wear bicycle helmets although it was encouraged in extensive publicity campaigns. In Victoria, there were significant post-law increases in helmet wearing rates in all age groups. In children, wearing rates rose from 65 per cent pre-law to a post-law level of 78 per cent in 1991 (77 per cent in 1992). Adults rates rose from 36 per cent in 1990 to 74 per cent in 1991 (84 per cent in 1992).\textsuperscript{13}

In Australia, the overall proportion of fatally injured drivers and motor cyclists with a blood alcohol concentration (BAC) of 0.05 or more reduced from 44 per cent in 1981 to 30 per cent in 1995. However, this reduction has not been uniform across the States and Territories. In the Northern Territory the percentage of fatally injured drivers tested above the legal limit fluctuated from 77 per cent in 1981 to around 33 per cent in 1988 and up to 77 per cent in 1993.\textsuperscript{9}

Changes in speed behaviour are harder to quantify, but have probably also contributed significantly to road trauma reduction.

\subsection*{2.2.4 Health literacy and skills}

Federal and State agencies funded extensive mass media campaigns over the period 1990–1994 that aimed to raise community awareness of the dangers associated with drink driving. This was combined with increased levels of random breath testing and reduced alcohol limits in some jurisdictions. A series of evaluations between 1992 and 1994 found a 10 per cent increase in the proportion of people who intended to change their drinking and driving behaviour in response to the campaign.\textsuperscript{11}

More recently, community surveys have found that fewer people are choosing to drink and drive and more people are reporting a greater awareness of the recommended consumption guidelines. Public opinion surveys have shown extremely strong support (96 per cent) for random breath testing and publicity campaigns aimed at reducing drink driving have been associated with a reduction in road trauma.\textsuperscript{14,11}

A survey conducted in 1995 found that community members identified speed and alcohol as the primary issues affecting road safety. There is strong support for strict enforcement of urban speed limits (71 per cent thought that drivers should be booked if they exceed a 60 km/hr limit by more than 5 km/hr). However, many drivers admitted to exceeding the limits. Despite speed being nominated as a major contributor to road crashes, a majority (78 per cent) of the people surveyed admitted to violating the speed laws (by 10 km/hr or more, occasionally).\textsuperscript{12}

Driver fatigue is also gaining greater public recognition with one in four people mentioning tiredness as a major cause of road crashes."
2.3 The strategies and actions that have made a difference

2.3.1 Legislation

The most notable traffic law to be introduced was in 1970, when it became compulsory to wear seat belts in the front seat of a motor vehicle. Similarly the threshold for illegal blood alcohol concentration limits have been uniformly set at 0.05mV/100ml throughout Australia to reduce the incidence of drink driving.

In 1976, laws were introduced to enforce the effective restraint of children and babies in motor vehicles. Standard baby capsules which can be clipped into a car seat must now be used and modified seat belts/car seats must be used to buckle small children into adult sized seats.

2.3.2 Road safety programs based on intersectoral collaboration

Each State and Territory now has its own State road safety strategy most of which were developed after the 1992 National Road Safety Plan. There is much commonality amongst the States’ key priority areas, most of which have been defined in the National Road Safety Plan. All States recognise random breath testing (RBT), speeding and mass media publicity campaigns as priority program areas in road safety. However, there are differences in the approaches taken by the different States in operating these programs, and in the level of resources committed to program activities.

2.3.3 Enforcement

An effective deterrent for high risk behaviour has traditionally been to apply a severe penalty to the behaviour and enforce the law with a program designed to detect large numbers of offenders. Random breath testing (RBT) and other forms of speed detection cameras have been used extensively in Australia as a means to deter drivers from behaviour which may put themselves or others at risk.

Mobile units are used in conjunction with high profile “booze” buses in most States and Territories to increase the perceived risk of detection. In addition to police activities, RBT programs are usually supported by high levels of publicity and severe penalties. It is thought that RBT deters drink driving at a community level through the high visibility of police RBT activities and the long-term risk of being caught through ongoing enforcement.

The most intensive random breath testing (RBT) campaigns have been operating in Victoria and New South Wales (NSW) where approximately one in two people are random breath tested annually compared to one in three in Queensland and Western Australia, and one in five in South Australia (SA) and the Northern Territory. In 1993/94 the percentage of positive RBTs was lowest in Victoria where 0.15 per cent were positive (about 1 in 650 people tested positive). In NSW and SA, 0.66 per cent and 0.62 per cent respectively and in Queensland 2 per cent of drivers were found to be positive.
Speed cameras have been introduced progressively around Australia as an integral part of speed enforcement programs. As with RBT, speed enforcement has been found to lead to a reduction in road trauma. Traditionally, a non-visible means of enforcement has been used to detect drivers who are already speeding. Speed cameras are now placed in highly visible locations to integrate the functions of both deterrence and detection. The introduction of speed cameras however has not met with broad community approval, with 54 per cent of respondents in a national survey thinking that ‘speed fines are mainly intended to raise revenue’.

Penalties for driving offences have increased dramatically throughout Australia as part of a determination to change driver behaviour. In all Australian States and Territories, a drink driving offence in the ‘middle range’ (0.08–0.149 g/100ml) incurs a loss of licence, and in many States this applies to first offenders in the lowest range (0.05–0.08 g/100ml). A combination of licence action and fines have been effective in deterring drink driving.16

### 2.3.4 Public education using mass media

Since the late 1980s there have been continuous mass media campaigns to improve road safety and highlight the risks associated with speeding, not wearing a seatbelt and drinking alcohol and driving. Public education activity and mass media campaigns aim to provide information, raise awareness and to improve the acceptance of road regulations which makes legislation both possible and effective.

The publicity campaigns on their own, are unlikely to have resulted in behaviour change across the population. They have been used in isolation based on the assumption that advertising is a powerful and persuasive tool. However, it has been found that mass media campaigns produce only limited effects on their own, but they play a key role when used in concert with other countermeasures such as enforcement. A meta-analysis of road safety mass media campaigns concluded that campaigns with a persuasive intent are more effective than campaigns with a purely rational/informative intent.16

### 2.3.5 Changes in health care services

Once a crash occurs, the focus of a comprehensive road safety strategy is to implement strategies that will reduce the effects of injury. A national committee organised by the Federal Office of Road Safety (FORS) has been responsible for devising strategies to improve the timing and quality of care offered to road trauma victims. By developing an effective triage system for use by ambulance officers and a graded system of hospital services it has been possible to ensure that the survivors of road traffic crashes receive appropriate, high quality care more quickly.

### 2.3.6 Road systems

Urban design, black-spot eradication and improvements in road engineering have played a significant part in reducing road traffic injuries and deaths. Enormous funds are invested annually in maintaining and improving roads in projects such as road widening, intersection changes and construction of new roads to reduce traffic accidents and increase road efficiency. In many suburban areas, traffic calming devices have been introduced to reduce the speed and volume of traffic to protect pedestrians and young children.
2.3.7 Advocacy

The Royal Australasian College of Surgeons was one of the earliest groups to advocate for action to reduce road crashes and the resulting deaths and injuries. Their public statements were instrumental in raising public awareness of the nature and extent of the problem. That concern has continued and has flowed on to the actions taken to improve the care offered to those who survive traffic crashes.

The Institute of Municipal Engineering in Australia (IMEA) has been involved in the development of a program of road safety activities in local government during recent years. The aim of this activity was to assist in the development and implementation of a variety of community road safety projects and road safety plans.

2.4 Infrastructural support

2.4.1 Political commitment and funding

A high level of sustained commitment has characterised the State, Territory and federal commitment to road safety funding for more than 20 years. The Commonwealth’s road safety activities were aggregated in 1986 when a new road safety initiative was released by FORS. This plan comprised four main components: a ten point road safety package; $110 million over three years for highway ‘black spot’ elimination; $10 million over three years for research and public education and the establishment of a national Road Trauma Advisory Council.14

Expenditure on road building and road safety programs differs greatly between States/Territories. Population distribution and geographical differences can account for much of the variation. The States with the greatest population densities and well developed road safety infrastructure have invested most intensively in road safety expenditure.

2.4.2 Research, evaluation and ongoing monitoring

There have been continuing improvements in the data available to identify the nature and extent of the problems caused by road traffic crashes. Through the cooperation of the police, hospitals and other emergency services, a national road statistics database has been developed and maintained by FORS. At a more local level, some State governments have maintained their own road accident database. There has been considerable investment by all levels of government into research to identify factors that cause road accidents, and that measure the effectiveness and efficiency of road safety programs. Information on the frequency and severity of the consequences of motor vehicle accidents continues to play a pivotal role in the maintenance of an effective road safety program.

Between 1990 and 1994 the Commonwealth, through FORS, invested $9.99 million in road safety research. This research program supports the development of new-vehicle safety standards, maintains national databases and includes research on behavioural and road engineering issues.15

A number of accident research centres exist around the country and these have contributed significantly to our knowledge about the effectiveness of road safety campaigns and best practice principles for future program planning. In Victoria, the Monash University...
Accident Research Centre (MUARC) was established in 1987 primarily as a road safety research centre. The evaluation of Victorian road safety interventions has become a prime source of evidence-based practice and the work is used as a model for road safety in other States. At the University of Western Australia, the Road Accident Prevention Research Centre, established in 1989, is funded by the Western Australian Department of Health, and in South Australia the NHMRC Road Accident Research Unit is located at the University of Adelaide. Australian Road and Research Board (ARRB), located in Victoria, conducts road research programs including safety issues, funded by the Federal and State Governments.

2.5 What have the lessons been so far?

2.5.1 The use of multiple strategies

Effective targeting of both speeding and drink driving has been a major factor in achieving improved road safety outcomes in the 1990s. For each issue, an integrated program of legislation, enforcement and publicity has proven to be a potent success in road safety campaigns particularly in Victoria and NSW. In Victoria the high-exposure publicity campaign “Don’t fool yourself — speed kills” was used in conjunction with the speed camera program from April to June 1990. During this period, a 20–30 per cent reduction in casualty crashes was recorded in Melbourne. Similarly, a clear linear relationship between increased RBT enforcement and reduced accidents exists in NSW. From the evaluations of the NSW and Victorian programs, best practice guidelines for RBT have been established. These include recommendations that RBT operations be highly visible, well publicised, rigorously enforced, and sustained and involve high levels of testing.

Community adoption of the legislated changes in seat belt use, bicycle helmets and drink driving has been high, motivated by prior education about the nature of the problem and an awareness raising campaign about the effectiveness of the new safety measures. An effective combination of publicity, legislation and enforcement has increased the use of bicycle helmets. In Victoria, the introduction of the bicycle helmet laws were preceded by an extensive publicity campaign dating back to 1981. Public education, subsidies for bicycle helmets, together with school-based bicycle safety education programs led to the voluntary wearing of bicycle helmets by 60 per cent of children in Victoria before the introduction of legislation. Such voluntary compliance was sufficient to permit the introduction of legislated compulsory cycle helmet wearing without massive public opposition and compliance increased to around 70–80 per cent. There are indications these results have been mirrored in some other States, however comprehensive program evaluations have not been forthcoming.

2.5.2 Cost efficient programs

The road safety field has been subject to cost benefit studies, particularly of discrete programs, but also of whole approaches (such as RBT and speed cameras) and public education programs. Such is the cost of road accidents that any lives saved as a direct result of prevention countermeasures will almost certainly justify the expenditure on preventive measures. The average cost of a road accident requiring hospitalisation is estimated at $113 000 and for fatal accidents this cost rises to more than $750 000.
The Transport Accident Commission (TAC) in Victoria provides a clear example of the cost-effectiveness of road safety interventions. The TAC administers the no-fault accident compensation scheme and provides funds for specific enforcement activities, intensive media campaigns, accident black-spot treatment, school and traffic safety education and research. They fund activities which achieve benefit-cost ratios of at least 3:1 valued in terms of reduced TAC payments. An evaluation of Victorian black-spot interventions over a five year period revealed a cost/benefit ratio of more than 8:1 for a range of treatments of intersections. 

In Queensland, an extensive study of the cost effectiveness of a wide range of road safety measures found that most were cost effective in reducing road trauma, with cost/benefit ratios ranging from 2:1 to 26:1. 

2.5.3 Coordinated and structured approach

The last 20 years have produced sustained action to reduce the road toll. In the 1990s a national coordinated approach to road safety and the inclusion of road injury reduction targets have focused efforts to reduce road fatalities further. The 1989 ten-point road safety plan initiated the coordinated approach by attempting to focus the nation’s efforts to reduce the road toll and standardise State road safety regulations. In 1992 a National Road Safety Strategy was agreed to by all State and Territory transport ministers. The main purpose of the plan was to obtain a concrete commitment to road safety from the political and administrative levels of government. It encouraged the establishment of a control agency in each State responsible for road safety and for the coordination with other agencies involved. During 1991–92, both NSW and Victoria issued Road Safety Strategic Plans, and from 1993 onwards the other States have also developed similar plans.

The adoption of the coordinated approach to road safety has contributed to the increased performance in a wide range of road safety countermeasures and contributed to the overall reduction of risk on the roads. Central to this approach were the formal strategic road safety plans at a national, State, local government and industry levels implemented in the early 1990s. These obtained political commitment and created an organisational framework for road safety activity.

At a State level, road safety is the responsibility of a nominated lead agency which is generally the Department of Transport (except Victoria). Organisational frameworks have been established to coordinate inter-agency activities including a central coordinating group usually comprised of representatives from the State police, education, health, local government and transport departments. In addition, some States have developed wider consultative groups that provide forums for other groups with an interest in road safety to exchange ideas and information.

2.5.4 Intra and intersectoral collaboration

There is ample evidence of joint research and public education activities between the States’ and Territories’ Road Traffic Authorities and FORS. For example, some of the television commercials highlighting the problems associated between drink driving and speeding have been used around Australia for local campaigns. It appears, however, that this collaboration occurs more on an adhoc basis than through an organised system of information sharing. In an evaluation of the FORS research and public education programs, it was suggested that FORS take a lead role to enhance inter-jurisdictional cooperation and

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communication to gather information about best practice in public education programs and maximise program impact.14

Partnerships among the agencies responsible for road building, urban design, motor vehicle design, law enforcement and road policy implementation have enabled effective and multi-levelled interventions to be developed. Historically, this collaboration has largely occurred outside the health sector, however with the inclusion of road injury targets within the national goals and targets, the health sector is committed to contributing to reducing the road toll.

2.6 Challenges for the future

The overall performance in road safety in Australia has been directly related to the investment made to develop and implement a comprehensive road safety strategy consisting of activities in enforcement, public education and improved environmental safety. Prior to the introduction of this strategy, there was a lot of activity going on in the various States and Territories, but little of this was coordinated. This is not to say that improved coordination has eliminated much of the non-uniformity which still exists between the States and Territories, with respect to road regulations, and a range of laws and penalties.

A number of target groups still require significant attention. These include people living in rural and remote Australia, indigenous Australians, and young males. Males between 15 and 29 years experience very high rates of injury mortality compared to females in the same age range and all other males. Although the road fatality rate among young men has fallen at approximately the same rate as that for other groups, it is still inordinately high and a source of great concern. Young males need a significant amount of attention in their own right and injury countermeasures need to be planned which assist them with the development of competence, at the same time as minimising the frequency and severity of injury during their formative and early adult years. These measures will need to include environmental measures, and educational and training strategies which will focus on skills development, as well as the consistent application of other measures.

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Chapter 3
Reduction in mortality due to cervical cancer

3.1 What has been achieved so far?
There has been a 30 per cent reduction in mortality due to cancer of the cervix in Australia since 1950. Age-standardised trends show a gradual decline in the death rate from around 5.9 per 100,000 women in 1960 to 3.0 per 100,000 in 1990. Between 1980 and 1992 there was an average annual decline of 2.2 per cent.1

The age-standardised incidence rate for cervical cancer declined from around 12.3 in 1971 to 9.6 per 100,000 in 1987.2 Since 1992, there has been a decrease in incidence of cervical cancer over 50 years of age.3

The five-year survival rate for cervical cancer did not change significantly between 1977 and 1990, remaining at approximately 65 per cent.4

3.2 The precursors of improvements in cervical cancer
Current evidence about risk factors for cervical cancer are equivocal, indicating that strategies directed at screening, early detection and secondary prevention remain the major means for preventing the progression of the disease and reducing mortality. Widespread screening particularly of high-risk groups has been shown to be a cost-effective method of detecting precursors to cervical cancer.5 The cost per life saved, if screening is carried out biennially, is approximately $30,000 (1980 dollars).6 If detected early, particularly at precursor stages, the cost of treatment is minimal, compared to the costs of treatment and palliative care for late stage disease.

A reduction in cervical cancer mortality has been achieved with better detection (screening), better diagnosis and treatment services, combined with health promotion strategies to increase the utilisation of these services.

3.2.1 Secondary prevention—screening
Since the 1960s, most States have implemented public education programs to encourage women to attend regular screening. These were carried out alone by State Cancer Councils or in collaboration with government health authorities.4 Despite growing awareness of the need for Pap smears, much of the screening remained opportunistic and usually occurred when women visited their general practitioner. Up until the 1990s therefore, much of the effort in cervical cancer screening was poorly directed and cost-inefficient.7
Nevertheless over the past 30 years, the proportion of women having regular Pap tests has increased steadily. Dankiw’s analysis of Medicare data showed that the proportion of women aged 15 and above having Pap smears increased from 16.9 per cent in 1984–85 to 27.5 per cent in 1992–93. This does not include the significant numbers of tests which are processed through private laboratories (hence not subject to Medicare), which for example, has been estimated to account for 10 per cent of all smears in Queensland. In another evaluation of screening uptake, Straton found a 44 per cent increase in the rate of Pap smear tests for Western Australian women (aged 15 years and above) between 1983 and 1992. They found that the greatest increase in smear rates occurred in women aged above 50 years old, but despite this, their rate was still well below those in the younger age groups and below the recommended two-yearly screening interval. This age disparity is common across all States/Territories of Australia.

In general, selective screening of high risk populations on the basis of most risk factors is inappropriate. High risk groups are difficult to identify and those identifiable are either too large or have too low a level of increased risk. For these reasons it has been decided to use age to identify risk when formulating screening policies.

The Organised Approach to Preventing Cancer of the Cervix (OAPCC) known as the National Cervical Screening Program was developed in 1991/92 based on recommendations from the Cervical Cancer Screening Evaluation Steering Committee and pilot projects developed in all States and Territories between 1987 and 1989. An organised approach encompasses systematic and coordinated methods of ensuring women regularly attend screening and are notified of their results; outcome measures which monitor the technical quality of screening; mechanisms to ensure women receive appropriate assessment, counselling and treatment where necessary; and ongoing evaluation, monitoring and adjustment of screening and related services.

### 3.2.2 Risk factors

Most of the risk factors associated with cervical cancer such as age, ethnicity and geographical distribution are not modifiable. Modifiable risk factors such as usage of oral contraception and sexual behaviour are complex behaviours which are difficult to alter for the prevention of cervical cancer alone.

The transmission of herpes simplex virus and human papilloma virus (HPV) are the likely sexually related cofactors associated with the development of cervical cancer. Human Papilloma Virus types 16, 18 and 31 are commonly associated with high-grade Cervical Intraepithelial Neoplasia (CIN III) lesions, whereas types 7 and 11 are usually found in low-grade lesions.

The risk of cervical cancer and CIN increases with the amount and duration of tobacco consumption and the age at which smoking commenced. Smoking prevalence is beginning to decrease slowly amongst women, with the proportion of women who smoke having declined from a peak of around 33 per cent in the 1960s to 22 per cent at present, although smoking uptake among young women remains a major public health concern.

Women exposed to passive smoke for three or four hours per day have a risk of nearly three times that of non-exposed women, with the risk of cervical cancer for passive smokers being greatest in women aged less than 30 years and in women who had one or no sexual partners. Due to a range of measures including widespread bans on smoking at work, exposure to passive smoking is reducing in the community.

*Promoting the Health of Australians — Casestudies of achievements in improving the health of the population*
3.3. The strategies and actions that have made a difference

3.3.1 Facilitation, education and organisation of services

For population-based screening to provide the full benefits of early detection of ‘cases’ all members of the population of concern (in this case, women aged 18 years or more) should be screened regularly. The need for an organised screening program led to the development of a joint Commonwealth and State/Territory program in 1991—the Organised Approach to Preventing Cancer of the Cervix (OAPCC). OAPCC (now the National Cervical Screening Program) aims to reduce avoidable deaths from cervical cancer by increasing the number of women who have a Pap smear every two years. Strategies to encourage ‘at risk’ women include:

1. The installation of a comprehensive reminder system to ‘call’ and ‘recall’ women.
2. The development of special screening services, such as mobile screening teams and special women’s health clinics which have been used to increase access particularly to rural and indigenous women. These special services have also aimed to increase the acceptability of the Pap smears by improving service delivery.
3. A communication strategy has targeted both women and general practitioners. As part of the campaign, television advertisements (for example, the ‘Excuse me’ advertisement in Queensland) have been used to increase the awareness of the need for women, particularly those ‘at risk’ to have regular Pap smears. While most television campaigns have had a modest effect in increasing screening uptake, the effect has usually continued only through the campaign or for a short time afterwards. Research suggests that media campaigns function mostly as cues to action rather than for the achievement of long-term change”.

General practitioners are ideally placed to recruit most women for Pap smear screening; they presently perform about 80 per cent of all Pap smear tests. General practitioners are increasingly seeing prevention as a legitimate part of their practice, so it fits well with their perception of themselves and the general community to actively promote Pap smears. This has provided the opportunity to improve the consistency of opportunistic screening through strategies directed specifically at general practitioners, such as Pap smear audits, resource development and specific training.

The State and Territory Anti-Cancer Councils and the Australian Cancer Society have advocated for improved screening and treatment for cervical cancer. These organisations continue to take a lead role in cancer prevention; they provide an important source of information and education about screening and cervical cancer for both the community and health professionals and they also provide a link to a network of services in their State.
3.4 Infrastructural supports that have made a difference

3.4.1 Research capacity

Ongoing research is essential in order to develop improved ways of providing screening and recruitment (especially intervention trials of recruitment methods) and managing screening detected abnormalities. Funds specifically for cancer research are made available by the Commonwealth government through the National Health and Medical Research Council (NHMRC), State/Territory Health Departments and non-government associations such as the Cancer Councils, the Royal Australian College of General Practitioners (RACGP) and the Cancer Foundation for Medical Research. Each year the NHMRC allocates approximately $6 million to cancer research (it is not known how much of this is secured by cervical cancer research proposals) through the three committees (1994 to 1996 NHMRC triennium): the Medical Research Committee (MRC), the Public Health Research and Development Committee (PHRDC) and the Research and Development Grants Advisory Committee (RADGAC). State cancer councils distribute about $12 million annually in project and program grants.

There is at least a nucleus of cancer epidemiology research in each State capital. Research groups focusing on the behavioural aspects of cancer risk reduction are located in Victoria, New South Wales and Queensland. In particular, a NHMRC five year $1 million grant has been awarded in NSW to examine the ability of local communities to empower themselves to take responsibility for lowering their own cancer risk.

In Australia, approximately $2.5 million was spent between 1987 and 1991 on pilot projects to evaluate new initiatives to enhance cervical cancer screening in all States and Territories from the ‘New Initiatives for Women’ budget. Of this, $0.5 million was spent on central evaluation.

Evaluations of OAPCC screening programs have resulted in the publication of guidelines for general practitioners. These include:

- Screening for the Prevention of Cervical Cancer (Policy document);
- Making the Pap Smear Better;
- Guidelines for the Management of Women with Screen Detected Abnormalities.

3.4.2 Monitoring and surveillance

National data on cancer deaths has been available for a number of years. The Australian Bureau of Statistics uses this data to compile national annual death statistics. Since 1982, cancer registries have been the primary source of information about the incidence of cervical cancer. Each State and Territory with the exception of the ACT operates its own registry. Dissemination of national cancer statistics has been improved by the establishment of the National Cancer Statistics Clearing House (NCSCH) under the supervision of the Australian Association of Cancer Registries (AACR). Despite improved data management systems, the cancer registries are a limited source of data, confined by inconsistencies and lack of detail. More specifically, effective targeting of recruitment for screening and program monitoring is restrained by the absence of national data analysis of the screening program.
Cervical cytology registries have a role in providing data on screening participation, incidence, mortality, stage of detection and in conjunction with cancer registries will provide a clear picture of the impact of this disease. Cervical cytology registries are operating in all States/Territories with the Queensland Registry expected to be operational in late 1997.

Evidence from State and Territory pilot projects in the late 1980s and early 1990s revealed that the lack of a comprehensive monitoring system was a serious limitation on the capacity of most pilot projects to maximally target ‘hard to reach’ populations. The lack of data identifying previous screening levels for women hindered the ability of new programs to assess changes to participation rates of women recruited in response to new strategies.

3.4.3 Workforce development and skills

The success of the program relies primarily on service providers (including general practitioners, nurses and Aboriginal health workers) recruiting women and taking satisfactory Pap smears, therefore educational and training efforts have been directed towards service providers and women. This has involved the development of resources for training of specialist screeners with particular attention given to rural health workers.

Training programs have also focused on physicians to advise and support women when abnormalities are detected. In 1992, all general practitioners received a handbook called ‘Screening for the prevention of cervical cancer’, informing them of the policy, providing up-to-date information on cervical cancer prevention and explaining correct Pap smear technique.

The OAPCC has resulted in programs that focus on procedures and training programs to improve the quality of Pap smears, their processing and interpretation. A Quality Assurance Steering group produced a report in 1993 entitled ‘Making the Pap Smear Better’ including recommendations to address training, minimum qualifications, continuing education and accreditation of laboratories.

3.4.4 Political Commitment and Funding

A commitment to the national screening policy has continued at the Commonwealth and State and Territory levels since 1992. Australian governments spend nearly $150 million a year on preventing cervical cancer. Half of this expenditure goes to early detection by provision of the Pap test for women, and half is spent on treating women with detected abnormalities and overt cancers. Each State/Territory provides funds to the National Cervical Screening Program, and Coordination Units have been established in each State/Territory. In addition, State/Territories contribute to the development of collaborative recruitment and screening strategies with key stakeholders including cancer councils, universities and relevant professional colleges.

3.5 What have the lessons been so far?

While there was a wide range of groups and health professionals promoting and performing cervical cancer screening up until the early 1990s, no single group or organisation was responsible for a screening program. However, work up to 1990, prior to the introduction of the OAPPC, allowed the development of best practice principles in the
prevention of mortality due to cervical cancer. Reductions in cervical cancer up to 1991 were partially due to uncoordinated but effective implementation of strategies to increase the rate of cervical screening. The presence of baseline cancer mortality surveillance data, ongoing research into the efficacy of Pap smears and preliminary research into the effectiveness of recruitment strategies has allowed the development of recommendations in a 1991 AHMAC report on cervical cancer screening in Australia. What followed was a more coordinated and focused campaign to further reduce cervical cancer mortality.

The development of the OAPCC was based upon a review of effective cervical cancer screening which recommended a comprehensive approach to screening focusing on all aspects of the screening pathway. However, the program has been most successful in recruiting women under 35 years who are relatively well screened. Greater effort needs to be directed at recruiting priority groups. Older women, women of lower socioeconomic status, women of non-English-speaking background and women in remote areas, particularly Aboriginal and Torres Strait Islander women, are not actively seeking screening at the recommended rate.

3.5.1 Multiple strategies

A number of avenues have been pursued to increase the uptake of cervical screening. These include improving opportunistic screening by medical practitioners, mass media campaigns including a combination of education strategies, individualised invitations to women and the provision of special screening services."

A personal approach to increasing recruitment has successfully utilised community networks in rural areas and workplaces. This was particularly successful in Aboriginal communities where Aboriginal health workers were used to educate, inform and recruit women to screening in Queensland, Northern Territory, Western Australia and South Australia. Difficulty was experienced in accessing particularly older Aboriginal women for screening. In rural and semi-traditional communities recruitment is recognised as being time and labour intensive.'

3.5.2 Coordinated and structured approach

Prior to 1990, reductions in mortality and morbidity occurred despite there being only limited coordination and infrastructure for early detection and treatment. Activity was based around individual components of the infrastructure working independently, such as, general practice, pathology, recruitment, advocacy etc. It was not until 1991 that an organised approach developed. This national screening approach focused on systematic and coordinated efforts to ensure women regularly attend screening.

3.5.3 Clear goals

The National Health Goals and Targets Cancer Implementation Committee proposed a target be set which stabilises the incidence of cervical cancer in the 20–70 year age group at the 1988 level of 17.2 cases per 100,000 until the year 2000. The target takes into account increasing participation in the screening program and the associated detection of prevalent cancers. A second target is to reduce the mortality rate from the 1991 estimate of 3.9 to 3.3 deaths per 100,000 by 2000. A goal to ensure high levels of screening for early detection of cervical cancers was also agreed. The aims of the OAPCC reflect these
national targets and together they have provided strong guidance for cervical cancer prevention initiatives.”

### 3.5.4 Dissemination and diffusion

Evidence based on research is critical to the planning of education and information resources and campaigns. The program to increase the number and proportion of women screened and to increase the regularity of cervical cancer screening has been informed by a number of key documents which have evaluated screening practices and made recommendations for reform. In 1991 a review by AHAMC of cervical cancer screening in Australia highlighted deficiencies in the opportunistic screening system and recommended changes to all parts of the screening pathway. An interim evaluation of the OAPCC (The Organised Approach), was commissioned by the Commonwealth, in consultation with the States and Territories. The evaluation focused on the formative aspects of the program and will inform future activities to reduce the inefficiencies in the present system.

### 3.6 Challenges for the future

The National Cervical Screening Program (NCSP) aimed to raise the level of awareness of and participation in cervical cancer screening, particularly in those groups who were underscreened. The interim evaluation of phase I of the Program has found an increase in women’s total participation in screening as a result of opportunistic or organised screening. However, two barriers to further significant reductions in mortality from cervical cancer remain. The overall level of screening is below the recommended level in terms of participation and interval. An optimal screening level is assumed to be 85 per cent of women within the target population. Older women, women of lower socioeconomic status, women of non-English-speaking background and women in remote areas, particularly Aboriginal and Torres Strait Islander women, are not actively seeking screening at the recommended rate. The NCSP has been most successful in recruiting women under 35 years of age, who are at a lower risk of developing cervical cancer than are women over 35 years. It has been less successful in retaining women between 35 and 54 years old and recruiting women over 60 years of age.

The Evaluation Steering Committee recommended more effective targeting of women over 35 years of age and more effective targeting of Aboriginal and Torres Strait Islander women, and other groups who are under-screened or unscreened, as a means to reduce overall morbidity and mortality. The most urgent priority should be targeting women over 50 years of age, particularly if they have been unscreened or under-screened, where participation rates are still unacceptably low. In a number of States and Territories, Aboriginal and Torres Strait Islander women are also a major priority for the program.

The public’s perception of the efficiency of the Pap smear has been undermined by recent medico-legal activity. Confidence in cervical screening must be assured if women are to embrace the NCSP’s recommendations. It is important that factual and accurate information about the limitations of the Pap smear is widely available so women are able to make an informed choice. The Commonwealth has recognised the importance of quality assured systems within cervical cytology laboratories, to improve the accuracy of Pap smear reporting. The Commonwealth has set performance standards for laboratories reporting cervical cytology which are due to be released in 1997.
The NCSP has focused efforts to recruit at-risk women to cervical cancer screening and introduced a range of systems to support the screening programs. The interim phase I evaluation report noted that there had only been modest progress to date in redressing the inefficiencies in the previous opportunistic system including: implementing registries, introducing improvements in smear taking, enhancing laboratory quality assurance, and improving the management of abnormalities. The next phase needs to be more discriminating in respect of optimising participation of the target population group in screening and the performance of the screening program. More detailed work is also needed to develop and implement a total quality management program. Cytology registries should be developed in all States and Territories and priority given to the establishment of a national data analysis capacity for more effective targeting of recruitment and program management.

An outcome evaluation of the NCSP in five years has been recommended, based on a combination of mortality/morbidity, screening participation/interval, effectiveness of recall and follow-up protocols, clinical studies and assessment of recruitment campaigns. Coordinated communication and recruitment strategies should be developed with a commitment to evaluation of their outcomes.

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Chapter 4
Prevention and improved management of cardiovascular disease

4.1 Cardiovascular disease (CVD)

Cardiovascular disease (CVD) which includes all diseases of the heart and the circulatory system remains the leading cause of death in Australia. In 1994, CVD accounted for 54,888 deaths or 43.3 per cent of deaths from all causes. Coronary heart disease alone accounted for 24.1 per cent of deaths from all causes, stroke attributed for 10.1 per cent of all causes and heart failure for 2.3 per cent of all deaths. It is estimated that in 1992, 289,500 people in Australia were discharged from hospital after an admission for CVD.

Death rates from cardiovascular disease have fallen substantially in the last 25 years. There has been a 70 per cent decline in age-standardised mortality from CVD since the rate peaked in 1967. Since the late 1960s it is estimated that the decline in coronary heart disease (CHD) has resulted in approximately 230,000 fewer deaths. Currently, the annual decrease in mortality for CHD is about 3.8 per cent for males and 3.3 per cent in females; for stroke it is 4.6 per cent for males and 4.7 per cent amongst females. The decrease has occurred among Australians of all ages, including people aged more than 65 years, in all regions of Australia and in all major groups, although to varying degrees. However, the gaps between rates of mortality experienced by high and low socioeconomic groups and by indigenous and non-indigenous Australians is widening.

There has been a reduction in the number of stays in hospital due to CVD and the survival rates for people who have suffered an acute episode or a chronic condition have also improved. There has also been a 30 per cent reduction in case fatality rates.

Considerable societal resources are invested in the prevention, treatment and rehabilitation of CVD every year in Australia. It has been estimated that the annual indirect and direct cost of CHD and stroke is approximately $3.8 billion, and this estimate does not take into account the other costs borne by the community in caring for the ill. CVD is responsible for a higher proportion of hospital costs than any other major category of diseases.

CVD is largely preventable. Smoking, high blood pressure, elevated blood lipids and physical inactivity are the major alterable risk factors for CVD and stroke. CVD risk factors act both independently and synergistically so that the total risk multiplies if there is more than one risk factor present.
4.2 The precursors of reductions in mortality from cardiovascular disease

Population trends in the levels of at least some risk factors have been consistent with falling mortality rates and improved morbidity. Declines have been especially marked for cigarette smoking and high blood pressure, however, changes to the prevalence of overweight and obesity and blood lipids have not been as favourable.

4.2.1 Changes in the prevalence of cardiovascular risk factors

High Blood Pressure (or Hypertension)

Between 1980 and 1989 there was a 4 mmHg and 3 mmHg reduction in the average systolic and diastolic blood pressures respectively. This decrease was observed in males and females and in all age groups to varying degrees. The prevalence of hypertension also fell, due to decreases in the prevalence of undetected hypertension and hypertension that was being treated, but not controlled. The proportion of people whose blood pressure was being controlled satisfactorily increased from 26 to 40 per cent in men and 38 to 60 per cent in women.

Physical inactivity

There has been a modest increase in participation in regular, moderate exercise, due primarily to an increase in the popularity of walking. While walking for recreation has become more popular in the 1980s and 1990s, the popularity of vigorous activity has remained unchanged. In 1989–90, 41 per cent of men and 49 per cent of women reported walking for exercise or recreation and in 1994–95 the proportion of people who walked had increased to 53 per cent and 59 per cent for men and women respectively.

Smoking

Smoking is estimated to be responsible for one in five of all deaths from CHD. Over the last 50 years the prevalence of smoking in men declined from over 70 per cent to 28 per cent, while in females it decreased from 33 per cent to 22 per cent.

Dietary fat intake

Positive trends in self-reported dietary behaviour suggest that dietary fat intake may be reducing. Surveys by the CSIRO Division of Human Nutrition between 1985 and 1990 found that the percentage of energy derived from saturated fat in the diet fell. These results were primarily due to small shifts in the proportion of people reporting to cut the fat off meat, or not adding salt to food and/or using low-fat or low-salt varieties of foods. Similarly, fewer people reported eating the fat on meat in the NHF Risk Factor Prevalence Survey.

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* Recent evidence suggests that substantial health gains can be achieved through a moderate levels of activity.

A moderate level of physical activity refers to an accumulation of 30 minutes of moderate physical activity per day (e.g. three, 10 minute walks at a moderate pace).


§ See chapter 1 for more detail on smoking.
surveys.\textsuperscript{9} Consumption of low-fat milk increased by 120 per cent and that of full-fat milk decreased by 20 per cent.\textsuperscript{10} However, no clear trends in the lipid profile of Australian men and women have been observed since 1980, with the proportion of people rated in the high risk category for plasma cholesterol not changing from an estimated 20 per cent.\textsuperscript{10}

**Overweight and obesity**

There has been a regular and consistent increase in Body Mass Index (BMI) for both men and women in Australia since 1980. By 1989, 48 per cent of adult males and 34 per cent of females were overweight or obese.\textsuperscript{9} The increase in weight appeared to occur in the middle age (40s) for males and slightly later (50s) for females. These findings were replicated in the Australian Bureau of Statistics Population Survey Monitors conducted in 1994 and 1995.\textsuperscript{9}

**Alcohol intake**

There are some recent indications that Australians have started to reduce their consumption of alcohol.\textsuperscript{9} During the 1980s, the NHF Risk Factor Prevalence Study found that the prevalence of moderate to heavy drinking had decreased significantly for both men and women.\textsuperscript{9} This is consistent with information from the Australian Bureau of Statistics apparent consumption of foods and nutrient data which indicates a downward trend in the apparent per capita consumption of alcohol for seven consecutive years.\textsuperscript{9}

4.2.2 **Improvements in cardiovascular related literacy and skills**

Levels of knowledge and skill relating to the prevention and risk factors of cardiovascular disease have been improved through public education over a long period of time. This general increase in health-related literacy and skills has not been uniform across the population.

Difference in rates of mortality and morbidity among different population sub-groups are not fully explained by the difference in the prevalence of risk factors. Health literacy is likely to be another contributing factor; people whose education levels are low, who are from a non-English-speaking backgrounds or whose socioeconomic status is low, tend to have fewer skills and personal resources to achieve lifestyle change or a change in personal circumstances conducive to health.\textsuperscript{9}

A person's ability to recognise and act appropriately when someone is experiencing a heart attack will determine the victim's chance of survival and their rehabilitation following the heart attack. Surveys have found that 40 per cent of people were not confident they could get a person with a suspected heart attack to hospital.\textsuperscript{9}

4.2.3 **Improved detection and management**

**Hypertension**

Case finding for hypertension by measuring blood pressure has become routine in general practice.\textsuperscript{9} This has led to improved early detection, diagnosis and treatment of high blood pressure. National data from the 1980s indicate falling average levels of blood pressure and increasing intensity and success of treatment for hypertension.\textsuperscript{9}
4.3 The strategies and actions that have made a difference

A combination of primary preventive and health promotion measures and advances in medical, treatment and rehabilitation have all combined to reduce the prevalence of some of the major risk factors and the number of deaths due to CVD.

4.3.1 Public education and skills development aimed at preventing heart disease

Over the last 20 years, a wide variety of public health initiatives have been undertaken to reduce premature mortality from cardiovascular disease in Australia. Public education campaigns using paid and unpaid television and radio advertising have promoted non-smoking, regular exercise, a healthy diet, control of blood cholesterol levels, regular blood pressure check-ups, screening for diabetes, weight control and alcohol consumption.

The National Heart Foundation (NHF) has played a long and significant role in informing the community and health professionals about the prevention, treatment and management of heart disease. Through the Foundation’s schools, workplace and nutrition programs, information has been disseminated nationally. The NHF produces a wide range of resources to support health promotion and education in a variety of community settings.

The annual Heart Week has provided a focus for a variety of activities aimed each year at increasing the community’s awareness of a particular aspect of cardiovascular disease prevention or its treatment.

To inform the public about healthy food choices, a myriad of information-based strategies have been used to influence the public to change their behaviour and eating habits. Point-of-sale promotions have been used to encourage shoppers to buy fruit and vegetables (e.g. NSW Fruit and Vegetable campaign targeting young adults). One of the most well known point-of-sale programs has been the NHF’s long running Pick the Tick campaign.

New opportunities for the promotion of healthy messages through the sponsorship of sporting and cultural events have been created with the establishment of the Health Promotion Foundations. Sponsorship of major community, sporting and cultural events has provided a vehicle for the promotion of health.

Health professionals and community health centres have conveyed information to their clients. Educational resource kits are provided to schools for teachers to use in regular classes (e.g. Victorian Primary School Health and Fitness).

4.3.2 Environmental change

As already noted in chapter 1 of this monograph, progress has been made with respect to smoking since the 1960s. The amount of tar, nicotine and carbon monoxide in Australian cigarettes has been progressively reduced since the 1960s. Workplace bans on smoking have progressively been introduced into all public service departments and most of the private sector. Smoking bans have also been applied to all forms of public transport including domestic and Australian-based international flights, trains and buses.
There has been a gradual ban on all forms of tobacco advertising and sponsorship (except point-of-sale promotion). By 1996 there will be a nationally uniform ban on all forms of tobacco advertising including all TV, cinema and print media promotion and promotion through sponsorship (excluding some sporting events).

There has been a shift in the Australia’s food production and distribution systems away from foods high in saturated fat and salt and towards products such as lean meats, margarine and skim milk. The level of information available about the nutritional content of food is also increasing. Food labels are required to list the food ingredients in order of composition and most provide a breakdown of nutrient content, this has allowed customers to make more informed decisions about the food they eat.

4.3.3 Early detection of heart disease and intervention in risk factors

Early identification of ‘at-risk’ individuals and target groups was an important thrust of many prevention programs during the 1970s and 1980s. For example in New South Wales the Worksite Prevention and Detection Program targeted blue collar workers for screening of high blood pressure and other risk factors. This program was supported by follow-up counselling, education and environmental changes. There have been many such programs conducted in the workplace setting and in other community settings.

General practice as a setting and general practitioners in particular, have also been the target of much research in this regard and many different kinds of materials and programs have been developed for their use. For example, guidelines for preventive activities in general practice have been produced by the Royal Australian College of General Practitioners. Programs have also been effectively implemented within general practice to provide advice on nutrition and diet, physical activity and smoking cessation. General practitioners have been encouraged to identify and more actively manage hypertension and elevated blood lipids. Consequently, there has been a very significant increase in the prescribing of anti-hypertensive drugs and of cholesterol lowering drugs by general practitioners over the past 20 years.

4.3.4 Improved health services and coronary care

Although improved early management of CVD risk factors and reduction in the prevalence of CVD risk factors and reductions in prevalence of risk factors such as smoking have made a significant contribution to the reduction in CVD mortality, early diagnosis and improved medical and surgical management of coronary disease, particularly during the acute phase of myocardial infarction, have also been very significant.

Emergency services have improved the delivery of pre-hospital care, the transport of the patient and the effectiveness of emergency treatment.

Rehabilitation programs are associated with improved risk factor profiles, better psychosocial and marital adjustments, continuation in work, and significant delay in death from CVD as compared with usual medical care alone. There has been a marked increase in the number of cardiac rehabilitation and educational programs throughout Australia over the past 20 years, and most hospitals deliver at least some kind of educational program to patients following heart attack or coronary artery by-pass surgery.
4.3.5 Advocacy

The NHF has been a major advocate for activities in education, research and prevention of cardiovascular disease within the community and among health professionals for almost 40 years.

The NHF and several community advocacy organisations (e.g. ASH) have played key roles in engaging political and community support for action to reduce premature deaths from cardiovascular disease. The high profile activities of groups such as MOP UP and BUGA UP were instrumental in drawing attention to the need to act to reduce the prevalence of smoking in Australia and suggesting solutions.

4.4 Infrastructural supports

4.4.1 Information surveillance

The availability of good surveillance and research information has been a critical factor in ensuring the success of interventions to reduce mortality from cardiovascular disease. CVD was first identified as a major problem from the collation of mortality data. Australia was one of many western countries that found its death rates from CVD (compared with the rates from Southern Europe, and Japan, in particular), unacceptably high. The comparative data demonstrated that it would be possible to reduce these rates, and provided some early information on differences in risk factors among those populations (comparison of countries with low and high rates of premature death from CVD).

Within Australia, the NHF’s series of three Risk Factor Prevalence Studies in 1980, 1983 and 1989 were important identifiers of behavioural risk factors and added weight to the range of efforts that were being made to reduce CVD-related premature mortality.

4.4.2 Research knowledge and activity

There have been dramatic advances in medical technology and scientific understanding about primary and secondary prevention and rehabilitation from CVD. Australian research in the area of CVD as judged by the quantity of Australian research presented in international forums is considered to be strong. In the biomedical research field, Australia’s areas of strength include hypertension, cardiac rehabilitation, nutrition and CVD, lipid metabolism, cardiovascular epidemiology and mechanisms of atherosclerosis.

Australian research teams have also been involved in several international and multi-centre studies such as MONICA, ISIS, the LIPID study and an international stroke trial, to name a few. Australia’s participation in multi-national clinical trials has been important in building our research strengths.

Considerable funds have also been allocated to health promotion research or the primary prevention of risk factors by the Health Promotion Foundations, government public health agencies and other non-government organisations. As an example, between 1990–94, Western Australia’s Healthway distributed over 25 per cent of its research funds to CVD prevention, physical activity and nutrition promotion. In the prevention of risk factors there have been advances in knowledge about the detection and modification of risk factors, particularly the management of high blood pressure, high blood cholesterol and diabetes.
There has been a major commitment to funding for research and for intervention (particularly in the areas of smoking and control of hypertension) over the last two decades. Both the research and the interventions have been funded by and conducted by a wide range of organisations and individuals working in both the public and private sectors. Considerable funds have been made available from the Commonwealth through the NHMRC and from non-government organisations, such as the NHF and State cancer councils.

4.4.3 Research capacity

Considerable resources available in Australia for cardiovascular-related health research has allowed the development of a strong network of research centres. These include the Baker Institute in Victoria, the Australian Institute of Health and Welfare, the National Centre for Epidemiology and Population Health, Centres for Behavioural Research in Cancer and the Heart Research Institute in NSW.

4.4.4 Workforce development and skill

The implementation of effective preventive activities both in the community and in a medical setting have been made possible by the education and training of health professionals. Universities and professional colleges have made a significant contribution in this area. The professional colleges and the Australian Medical Association are responsible for postgraduate training and standards. For example, the Royal Australasian College of Physicians is responsible for training of cardiologists and the Royal Australian College of General Practitioners sets guidelines for preventive practice in the general practitioner setting.

A range of undergraduate and graduate courses for health professionals now include health promotion planning, community medicine and public health components. Other non-government organisations, such as the Australian Association of Cardiac Rehabilitation and the NHF, hold workshops and seminars for health professionals for inservice purposes.

4.4.5 Political commitment and funding

The decline in CVD mortality has been achieved over three decades. There has been major commitment of funding for research and for intervention (particularly in the areas of smoking and control of hypertension) over most of that period. In the late 1980s, the Better Health Commission established CVD as a national priority and all the risk factors associated with the disease were highlighted as priorities for health promotion. Both the research and the interventions have been funded by and conducted by a wide range of organisations and individuals working in both the public and private sectors.

The Commonwealth Department of Health and Family Services has committed substantial funds specifically to cardiovascular research and intervention programs, policy development and implementation. In 1992, funding relating to CVD totalled an estimated S$3,600,000.*

The Commonwealth funds have been allocated through the funding bodies such as the NHMRC to basic scientific research and biomedical investigations into the treatment and rehabilitation of CVD. In 1992, the NHMRC allocated approximately S$7 million to cardiovascular disease.

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The States and Territories have supported the prevention of CVD through funding for program development and implementation, policy and planning and direct services. A proportion of the State tobacco licensing fees have been distributed to the State Health Promotion Foundations in WA, SA, ACT and Victoria. In other States, considerable funding has been allocated towards program implementation. In 1993 the Queensland Health Promotion Council was established to fund health promotion programs and research and in Tasmania a Health Promotion Council was established along similar lines in the same year. In the Northern Territory, the Health Promotion Services section of the Department of Health and Community Services has identified CVD as a major priority for Aboriginal health. Similarly, the other States have nominated cardiovascular health as a priority. In 1994/95, the Western Australian and Victorian Health Promotion Foundations allocated approximately 20 per cent of funds to cardiovascular-related sponsorships, health program implementation and research."

4.5 What have the lessons been so far?

4.5.1 Cost effectiveness of strategies for prevention

In an Australian study of cost effectiveness, five different strategies for prevention of heart disease were compared. These included the 'whole population' approach, identification of high risk individuals, a combined high risk/population approach, the identification of a group likely to be at high risk and the identification of those who already have ischaemic heart disease. It was concluded that in terms of cost effectiveness the population-based approach prevented a greater number of myocardial infarctions. However, in terms of the total number of myocardial infarctions prevented this still represented only a small percentage."

4.5.2 Multiple Strategies

Overall, no single strategy has been instrumental alone in achieving the decline of CVD mortality. All strategies recommended in the Ottawa Charter for Health Promotion have been applied to prevent the incidence of CVD. A full range of primary, secondary and tertiary medical interventions have been applied, from effective early diagnosis to the management and rehabilitation of people with CVD. In particular, the reorientation of clinical health services towards preventive cardiology has been crucial to the decline in cardiovascular morbidity.

4.5.3 Coordinated and structured approach

In 1990 (as a joint AHMAC/ NHMRC initiative) a CVD working group was established. The results of this process have been published in Better Health Outcomes for Australians (1994) which provides a review of the national goals and targets and suggested development of strategies to improve health outcomes through coordination of health promotion efforts and medical advances in the diagnosis and treatment of CVD. It is hoped these will help to focus the health system on improving health outcomes.
4.5.4 **Inter and intra-sectoral collaboration**

It is clear that the combined efforts of clinicians working to improve the diagnosis, treatment and rehabilitation of high risk groups, and of primary preventive initiatives working to reduce the prevalence of risk factors across the whole population have been a key to the reduction of premature mortality due to CVD.

Engaging ways for sectors outside of health in promoting health is an important issue which has been addressed particularly at the programatic level by various non-government and government organisations. For example, to conduct the long running QUIT campaign the Anti-Cancer Council of Victoria has closely collaborated with schools, professional health organisations, research institutions and government agencies. In Queensland’s far north region, cooperation with private transport businesses and related State and local government agencies has been sought to improve the distribution of fresh fruit and vegetables amongst Torres Strait residents.

The State Health Promotion Foundations have publicly highlighted the value of sponsorship and promotion of health messages at community events and sporting activities.

4.5.5 **Sustainable changes to health**

Workplace bans on smoking, increased tax on tobacco and a ban on tobacco advertising have reduced the community’s exposure to cigarette smoke and supported a cultural shift in the attitude to smoking. An increase in the production of foods with low-fat and low-salt options has improved the population’s access to health-promoting foods.

4.6 **Challenges for the future**

Our understanding of all aspects of the development of CVD and its management has increased exponentially over the past 30 years. This growth in knowledge notwithstanding, there has often been a lack of consensus on many different aspects of the management of the primary, secondary and tertiary prevention phases of the disease. This lack of consensus has certainly reduced the focus of efforts to prevent the disease. Unlike smoking, where there is now general consensus about how best to reduce the number of people smoking and how to implement such strategies through a variety of settings and environments, the degree of certainty is much less so for most aspects of CVD. A lack of consensus in the interpretation of research findings and results, and the disappointing results achieved by many the large community-based prevention trials over the past 15 years, has served to reduce further, the degree of certainty. How to translate, for example, very complex research findings in relation to the relationship between nutrition and diet, into a health promotion message that can be communicated to the whole population, is a major challenge.

The broad range of risk factors associated with CVD has contributed to a very ad hoc approach to prevention. Considerable resources have been invested and abundant activity has resulted to prevent and minimise the sequelae of CVD, yet the energy of all interested parties has never been harnessed or focused effectively.

The role of general practitioners has already been very significant with respect to the improved detection and management of hypertension and some other risk factors for CVD. With the continued development and expansion of the role of Divisions of General

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Practice, there is an ideal structure which provides excellent opportunities for continuing
education and training of general practitioners and for implementing evidence-based
practice and appropriate clinical guidelines throughout the primary care setting.

There is now very compelling Australian and overseas evidence concerning the secondary
preventive value of cardiac rehabilitation programs, yet most programs that are currently
available in Australia are operated as a part of an in-patient program, or less frequently, as
an out-patient service. There is an urgent need to develop more community-based
approaches appropriate to the needs of individuals following myocardial infarction and
coronary artery bypass surgery. There are already some good examples in Australia of such
programs being conducted by general practitioners and a range of other health
professionals in the community.

The overlap that exists between risk factors which exist for CVD and a range of other
health issues, make it necessary not only to draw on the lessons from other related areas
such as cancer prevention and nutrition, but also to create linkages and improved
communication between the many different organisations, associations and levels of
government that are involved.

Finally, while the community-wide efforts which have been used to date to promote
cardiovascular health and prevent CVD have been useful, much greater attention must be
given over the next period to those population groups for whom socioeconomic
disadvantage remains a major determinant for their very poor cardiovascular health. This
will require both commitment and leadership, and also a very sustained research and
intervention effort over a period of many years.

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Chapter 5
Control of HIV/AIDS

5.1 What has been achieved so far?

5.1.1 HIV/AIDS Cases

The first reported cases of acquired immune deficiency syndrome (AIDS) in Australia occurred in 1982. Among the 5,567 cases of AIDS that have been identified since 1982 there were 4,723 recorded deaths up to the end of 1995. The annual number of reported AIDS cases rapidly increased until 1991, when the rate of increase began to slow. The number of cases varied little between 1991 and 1993, but increased again in 1994. Present rates of AIDS incidence reflect the incidence of human immune deficiency virus (HIV) seven to ten years ago and do not represent the present rate of HIV infection. Based on the incidence of AIDS diagnosis in the late 1980s and early 1990s, it is possible to estimate the rate of HIV infection during the earlier stages of the epidemic. Using a method of back projection based on AIDS cases to the end of 1994, there was a rapid increase in HIV incidence in the early 1980s, peaking around the mid-1980s at more than 3,000 cases per year. This was followed by a sharp decline between 1985 and 1990. In 1995 there was an estimated 816 new diagnoses of HIV. The numbers of people living with AIDS as a consequence, peaked in the early 1990s and the rate of incidence is now levelling out.

By the end of 1995, it was estimated there had been 15,700 cases of HIV diagnosed in Australia. While for most cases the transmission of the virus resulted from sexual contact, in a smaller number of cases the virus was contracted through blood products, through the sharing of infected needles or medical equipment.

5.1.2 Patterns of infection

Since the beginning of the AIDS epidemic, more than 85 per cent of the cases of people diagnosed with HIV have been attributed to homosexual contact between men. However, there has been a considerable decline in the absolute number of new diagnoses of HIV in homosexual men from a peak of 2,284 in 1987 to 772 in 1994. The latest indications reveal no clear change in the levels of new infections amongst homosexual men in the last three to four years.

Although it is difficult to estimate rates of new HIV infection amongst injecting drug users (IDU), indications are that the infection rate has been contained. Of the total number of people diagnosed with HIV up to December 1994, it is estimated that 8.1 per cent acquired the virus through injecting drug use. This prevalence is low compared with IDU populations in other countries.

Prior to the introduction of universal antibody screening of blood in 1984 the prevalence of HIV amongst people with haemophilia was estimated at 30 per cent. Since 1984 the risk of HIV infection via donated blood or tissue has been very small.

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In New South Wales where per capita rates of infection have been substantially higher than in the rest of Australia, there has been a slight decline in the number of people living with HIV since 1987. In the other States, however, the numbers have remained constant.

### 5.1.3 Survival rates

The median survival following AIDS diagnoses increased from 7.7 to 15.3 months between 1986 and 1987. However, survival following AIDS diagnosis has stayed relatively stable since 1987. This apparent lack of improved survival does not reflect the important advances made in the management of HIV infection; it has been postulated that the improved prophylactic and antiretroviral treatment has delayed the diagnosis of AIDS to later in the course of HIV infection. While it is clear that improved survival does not translate, necessarily into quality of life, it is possible to say that, based on virological and immunological markers, some treatment strategies are likely to lead to improvements in survival.

### 5.2 The precursors of improved control of HIV/AIDS

#### 5.2.1 Changes to risk-taking behaviour

From its inception Australian policy towards AIDS recognised that the only effective way to slow the spread of HIV was to encourage behaviour change. This necessitated interventions in behaviours which were both personal and often difficult to discuss and it also required outreach to groups (homosexual men, injecting drug users and sex workers) who were stigmatised and whose behaviour in many cases was illegal.

An important indicator of susceptibility to HIV infection and the incidence of high-risk sexual behaviour is the rate of sexually transmitted disease (STD) infection. Overall there has been a substantial decrease in the rate of STD infection since the beginning of the AIDS epidemic. The prevalence of STDs such as gonorrhoea and syphilis in female sex workers who work in organised agencies has decreased substantially, and indications are that infection rates remain low. This may be due in part to a significant increase in condom use in the regulated portion of the sex industry. However, there is limited information about condom usage in the less regulated section of the industry, that is sex workers who work on the streets or from home.

Between 1986 and 1995 there was an overall increase of two to three times in the proportion of single sexually active people who reported always using condoms. A survey of 16–24 year old males and females in 1986–87 found that 26 per cent and 17 per cent (respectively) reported changing their sexual behaviour in response to the epidemic; in 1995 comparable figures indicate that 35 per cent and 38 per cent had changed their behaviour. The increased rate of self-reported condom use in these population studies is corroborated by market research concerning retail sales of condoms. Sales reported by a market leader indicate that retail sales of condoms have increased 2.3 fold between 1985–86 and 1994–95.

There has been a decline in the proportion of men who reported unprotected anal intercourse between 1986 and 1990. In 1986 around 50–60 per cent of homosexual men reported engaging in unprotected anal intercourse; in 1990 this proportion had declined to 30 per cent of homosexual or bisexual men.

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Although information about needle sharing and cleaning practices in injecting drug users is difficult to collate and interpret, it is apparent there has been a decline in unsafe injecting behaviours. Fewer people are sharing needles and syringes and a majority of users are cleaning their equipment before reuse.

5.2.2 Increased community awareness

Feacham reported that 'it is clear the sexual culture of Australia has changed significantly since the advent of HIV, although the majority of data sources that allow that conclusion to be made remain silent on the reasons why the change has occurred'. In addition to this change, there has also been a very significant community-wide reduction in the stigma associated with HIV/AIDS. Surveys between 1992 and 1994 found positive indications of a change in the discriminatory attitudes towards people who are living with HIV/AIDS; there had also been a reduction in discriminatory attitudes towards homosexual and bisexual men.

5.2.3 Community action and advocacy

Much of the success in containing the epidemic must be firmly attributed to the willingness and commitment of the gay community to fight the epidemic. The earliest and continuing efforts to promote safer sex among homosexual and bisexual men were the result of community action. The decline in the rate of HIV transmission through sex between men after the mid 1980s began before government funded programs started in a serious way.

Strong social networks within the homosexual community and among sex workers have facilitated the development of effective community action and the establishment of a range of community organisations set up to advocate for the needs of their members. In reaction to their voices, access to services and information about legal and political matters has increased. There is still a high level of community involvement in many, if not most, of the actions taken to reduce the spread of HIV and AIDS in Australia.

5.2.4 Policy and environmental changes

Significant changes in policy and the introduction of new services by the Federal Government have provided an important backdrop for programs operating within the community to prevent HIV infection or care for those with HIV. Needle exchange programs have been established to encourage safe needle use and condoms have become freely available. Safer sex policies are now standard in the sex industry. Increased access to HIV testing through a variety of community and clinical health settings, and a testing procedure which protects confidentiality has facilitated early intervention for those with HIV and potentially reduced further transmission. Similarly, access to palliative care, sexual health services, HIV ambulatory care and hospital facilities has improved treatment for people who have AIDS.

5.2.5 Health literacy

Recent evaluations have indicated that there has been a significant increase in awareness of some HIV/AIDS issues across the population. Surveys of Sydney and Melbourne university students, Australian high school children and the Australian population indicated high levels of knowledge about HIV transmission. The homosexual male community.
has made concerted efforts to educate its members about their own risk of infection. Basic knowledge about the transmission of HIV, particularly in relation to high risk practices, appears to be widespread and to have increased over time.

5.3 The strategies and actions that have made a difference

As soon as it was recognised that HIV/AIDS was a very significant epidemic requiring immediate intervention, the Commonwealth under the direction of the Minister for Health established a framework for action. The National Health Strategy for AIDS Control was endorsed in 1985 and the Commonwealth began to fund directly, community-based organisations and provide grants to State and Territory governments.

In 1985, following the development of a suitable test, Australia became one of the first countries in the world to have a universal blood donor screening system and accessible testing sites were made available free of charge to encourage large scale HIV testing. Since the mid-1980s, a set of principles have guided the development of a testing infrastructure which supports confidentiality and the provision of pre- and post-counselling. High quality testing has been monitored by limiting the number of laboratories licensed to test for HIV.

In 1989, the first of three National HIV/AIDS Strategies were developed. This strategy consisted of four programs to guide implementation of action to address the HIV/AIDS epidemic: the Education and Prevention Program, the Treatment and Care Program, the Research Program, and the International Assistance and Cooperation program. The Education and Prevention Program has been the cornerstone of the effort to limit the spread and impact of HIV/AIDS in Australia. The program identified five priority population sub-groups, these being homosexually active men, injecting drug users and their sexual partners, Aboriginal people and Torres Strait people, people living with HIV/AIDS (PLWHA), and some groups, including sexually active young people, prisoners, sex workers, women who have sex with high risk individuals.

5.3.1 Education and community development

Mass media campaigns have been used as a medium to provide basic knowledge of HIV/AIDS in both the general population and among those groups most at risk of infection. A number of general campaigns such as the ‘Grim Reaper’ were controversial and aimed to raise community awareness of and concern about the virus in a dramatic fashion.

School-based programs have been conducted in all States and Territories mostly within government schools to increase the knowledge of young people. These programs have generally consisted of workshops, seminars and information sessions for high school students and consultancy advice and resources for teachers.

Community development and peer education programs have been used extensively in the gay men’s community. Within the gay community such education interventions have taken advantage of already existing networks, institutions, venues and publications. Educational material has been made available through the gay press and through gay sex venues, allowing for explicit information and messages. While gay identifying males are relatively
easy to reach, it has been necessary to develop specific strategies to access homosexuals who for a variety of reasons, do not identify with the established gay community.

Considerable funds have been invested in needle and syringe exchange programs, allowing for the distribution of 10.3 million needles and syringes in 1993/94. Established in every State and Territory, these programs are often accompanied with innovative forms of education operated by IDU groups and AIDS councils, to reach a wide group of IDUs. It is highly likely that these measures have contributed significantly to the relatively low prevalence of HIV in this group in Australia.

Sex workers mobilised their collective resources, conducting education programs to reduce HIV transmission very early in the course of the epidemic. The sex worker organisations have created a network for all parts of the industry. These have been critical for the distribution of educational material, resources and free condoms. Sexual health clinics have conducted specific education programs for sex workers, increasing the access of sex workers and their clients to HIV/AIDS testing, counselling and education.

The range of programs for Aboriginal people and Torres Strait Islander people is wide as most of the programs are developed and designed for use in specific geographical areas and cultural groups. Posters, videos, paintings, radio programs and pamphlets have been used in conjunction with other primary health care programs. Although there has been some activity within Indigenous populations to prevent HIV infection, the effectiveness of these programs is questionable and little progress has been made.'

Similarly, culturally appropriate resources have been developed to target people from non-English-speaking backgrounds. The ethnic media network has been used to promote resources, services and promotional messages and in some States, ethnic health workers and bilingual community workers have implemented HIV/AIDS education programs which are culturally specific.

5.3.2 Advocacy

Australia’s response to the HIV/AIDS epidemic has been characterised by the high level of community participation where community groups have taken a leading role. The groups have been well organised and coordinated. They have brought about social and cultural changes, achieved structural change in areas of welfare, housing and medical and nursing care. They have also challenged States and Territories to revise their public health and discrimination legislation, and have reoriented some social and behavioural research priorities.”

There has been unprecedented political pressure by gay activists for the allocation of resources and the modification of services to prevent and control the infection. The Haemophilia Foundation of Australia raised the community’s awareness of the urgent need for blood donor screening. Sex worker organisations formed the Scarlet Alliance, becoming more vocal in active lobbying for better laws to protect their workers against risk of HIV infection, amongst a number of other issues.

Formal input by community groups has been facilitated under the umbrella of the Australian Federation of AIDS Organisations (AFAO). From time to time coalitions have formed with professional groups, such as medical practitioners and lawyers, but their outstanding successes have been due to their enthusiasm for working at numerous sites and the support they enlisted at every level of decision making.’
5.4 Infrastructure support

5.4.1 Research, research capacity and dissemination

Australia has made a significant contribution to the international body of literature about HIV/AIDS. Priority was placed by the Federal Government on social and behavioural research of groups most at risk of HIV infection. In particular, research has revealed important information about high risk behaviours within the gay community and hard to reach, understudied groups such as intravenous drug users.

Australia has been involved in many multi-national clinical trials for new AIDS treatments. In purely scientific research, Australian scientists have contributed to knowledge about the biological progression of the disease and the behavioural characteristics of the virus. In the National HIV/AIDS Strategy Research Program there has been a deliberate priority placed upon research which has a practical purpose. Research findings have been constantly fed into policy making and community-based education campaigns through a series of consultations, meetings and ongoing liaison between researchers and educators.

Australian HIV/AIDS research has involved a multidisciplinary response to the breadth and complexity of the problems and challenges raised by HIV/AIDS. The rapid development of Australia’s research capacity in HIV/AIDS has been due in part to the considerable financial resources allocated for research in the early stages of the epidemic. The National Strategy’s Research Program now provides direction to the research agenda and directs the allocation of funds. The Research program provides funds for project grants, training awards, three National Centres (the National Centre in HIV Virology Research, the National Centre in HIV Epidemiology and Clinical Research, and the National Centre in HIV Social Research), the Community HIV/AIDS Research Network, the Clinical Trials and Treatments Advisory Committee, and the National HIV Reference Laboratory. These three National Centres represent the core of the HIV/AIDS research effort and they perform functions which are essential to the successful management of the HIV/AIDS epidemic in Australia.

Beginning in 1985/86, the majority of HIV/AIDS research has been funded under the auspices of the Commonwealth AIDS Research Grants Committee (CARG). CARG has provided a mechanism for reviewing the spectrum of research on HIV/AIDS, identifying areas needing extra attention or increased cooperation, and making recommendations to attend to those deficiencies.

5.4.2 Information surveillance

Australia’s HIV Surveillance Strategy was first endorsed nationally in 1990, and this was revised and substantially expanded in 1994. This comprehensive approach to surveillance forms the basis for the monitoring and evaluation of the National HIV/AIDS Strategy. Development of innovative approaches to monitoring the course of the epidemic and evaluating the effectiveness of the response have been facilitated by the structure and organisation of the database.

The National Centre in HIV Epidemiology and Clinical Research is the national collection point for all information about HIV and AIDS. Information from State and Territory health departments, HIV Reference Laboratories, sentinel STD clinics, public health laboratories...
and blood transfusion services are collated into the National AIDS Registry and the National HIV database. The quarterly publication of the Australian HIV Surveillance Report, disseminates the information from these databases to the wider community.

5.4.3 Political commitment and funding

An early and sustained strong commitment by the Federal and State and Territory governments has contributed significantly to the containment of the epidemic. An analysis of the funds provided through the Matched Funding Program found that there has been substantial increases in the allocation of funds to this program in real terms since 1984. In the first funding period, 1984–85 to 1988–89, the average yearly expenditure increased from almost $20 million to $73 million in the second National HIV/AIDS Strategy (1993–94 to 1995–96). The development and refinement of the National HIV/AIDS Strategy, the comprehensive integration of HIV/AIDS activities into a coordinated approach and the bipartisan support for the Strategy are also indicators of government commitment to the cause.

5.4.4 National integrated program

The National HIV/AIDS Strategy and its four main program areas have formed the basis of a coordinated approach to reducing the effects of HIV/AIDS in the community. The roles and responsibilities of the Federal Government and the State and Territory Governments have been clearly defined and for the most part have complemented each other. Arrangements for program administration and coordination of services have reduced duplicity and increased effectiveness through managed allocation of resources.

The organisation infrastructure of the Strategy has developed a partnership between a broad range of organisations and communities. There has been general consensus that this has worked well to coordinate the overall response to HIV/AIDS.

5.4.5 Workforce development and skill

The sensitive and emotive nature of behaviour change in relation to HIV/AIDS prevention has presented a challenge for educators and health professionals. Specific training for health care workers and members of community organisations has been fundamental to the effectiveness of all prevention and treatment programs. Funding for training is provided in the Education and Prevention Program. Some training is conducted in association with professional medical bodies and there have been specialised training programs for Indigenous health educators and for dentists. The training has ranged from basic to specialised.

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A. The Matched Funding Program generally funds activities aimed at education and prevention, treatment and care outside hospitals, and research. As the name suggests, the Program requires the States and Territories to at least match the Commonwealth funding on a dollar-for-dollar basis.

B. The estimates reported are 1994–95 price estimates. A conversion to a constant price series has been calculated using the Consumer Price Index to eliminate the influence of price changes during the period.

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Educational activities about HIV/AIDS are now being mainstreamed into pre-service training courses for health care workers and postgraduate education is being undertaken by professional bodies. In the evaluation of the second National Strategy, it was concluded that training initiatives for health care workers had been well implemented. The exception to this was training for Indigenous health workers a matter that was repeatedly mentioned in the consultation process for the report. Inadequate training for and support for Aboriginal health workers has reduced the impact of funds directed for education and prevention.

5.4.6 Legislative support and structure

The importance of a supportive legal environment to the success of the national Strategy cannot be understated. HIV/AIDS presents a challenge to existing laws and the widespread legal, social, ethical and political ramifications of the HIV/AIDS epidemic have made it necessary to review some laws. In 1990 a Legal Working Party (LWP) was established to review legislation impinging on HIV/AIDS and make recommendations and encourage law reform. Although the response across the States and Territories has been mixed there has been progress with the introduction of anti-discrimination legislation, privacy guidelines, legislation of homosexuality, protection of users of needle exchange programs and regulation of the sex industry.

5.5 What have the lessons been so far?

Without a vaccine the only way available to effectively contain the spread of HIV/AIDS has been through changes in environments, policies, and structures that influence voluntary changes in behaviour. Ensuring a safe blood supply and the appropriate sterilisation of reusable equipment were all important, as was providing health care services which would minimise the psychological and social sequelae of HIV/AIDS, but ultimately, the greatest gains have accrued from changes in behaviour and lifestyle.

Given that the two major causes of HIV transmission in Australia were sexual contact and the sharing of infected needles by injecting drug users, the interventions to change these needed to be multi-factorial and sensitively implemented. A comprehensive approach was needed which not only addressed cultural attitudes but also redefined our whole approach to public health.

A unique characteristic of the response to AIDS has been the close relationship which has developed between specialist HIV/AIDS research centres, the health sector and the communities most affected by the epidemic. Cooperation and direct collaboration has benefited both parties facilitating access to the community for research and dissemination of research findings for community based interventions and treatment.

5.5.1 Monitoring and surveillance

Since 1991 a national reporting system for new HIV infections combined with information from longitudinal studies have been used to monitor the incidence of HIV. Although the system cannot detect cases of HIV infection that have not been tested, cases that have progressed to AIDS or recently acquired cases, the establishment of the National Centre in HIV Epidemiology and Clinical Research provided good information about the spread of the disease from a relatively early point in the development of the epidemic in Australia.
5.5.2 Cost-effective prevention

A comprehensive economic evaluation of aspects of the National HIV/AIDS Strategy was undertaken as part of an evaluation of the Strategy’s overall effectiveness from 1993–94 to 1995–96. The Education and Prevention Program was assessed as efficient and effective. In particular, programs which aimed at men who have sex with men and needle exchange programs were associated with the prevention of HIV transmission. It has been estimated that 25 per cent of the reduction in transmission rate of HIV in the homosexual community was due to the reduction in high risk behaviour. How much of this change in behaviour was due to the Education and Prevention Program can only be speculated, however epidemic modelling suggests that between 1985 and 1988, a minimum of 300 and up to a maximum of 3,800 infections were prevented by the program. It is estimated these programs resulted in total estimated savings of between $78-$414 million. Between 1989 and 1993, fewer infections were prevented and the net total cost ranged from a saving of $89 million to a cost of $48 million. The prevention program in the first HIV/AIDS Strategy was most effective.

The needle and syringe exchange program was estimated to have prevented between 300 and over 10,000 infections resulting in a direct cost savings of between $11 and $984 million (after offsetting treatment cost savings).

5.5.3 The use of multiple strategies

The National HIV/AIDS Strategy has recognised the need for a diversity of educational and preventive activity by subdividing the population into multiple target groups. Incorporated into the Education and Prevention Program is the principle that the design and delivery of prevention programs is best done at the community level by members of the targeted groups themselves. This has resulted in a diverse range of programs and strategies. Funds from the States and Territories and the Commonwealth are distributed directly to community organisations for specifically targeted programs while the more general initiatives are developed by the Commonwealth. This system has produced a multitude of innovative programs which have taken a very broad definition of health. Interventions to change the structures within society which support preventive behaviour have been combined successfully with educational programs. Programs to improve access to clean needles and syringes have been coupled with peer education initiatives, legislation to protect privacy has contributed to an effective HIV testing system and the development of sex worker health code has supported the mandatory use of condoms.

5.5.4 Coordinated approach with leadership

Australia’s response to the AIDS epidemic has been described as ‘cooperative, pragmatic and rapid’ and represents an exemplary model of public health in action. The beginnings of this response started in 1984 when a National AIDS Task Force reporting to AHMAC was established. This group focused primarily on guiding the medical and scientific community’s response to the epidemic. Later, representation from the community was included on a Ministerial Advisory Committee, this committee named the National Advisory Committee on AIDS (later the Australian National Council on AIDS—ANCA), provided advice on educational, social and legal issues. A National Health Strategy on AIDS Control was endorsed in 1985 and provided national leadership on HIV/AIDS matters. After the
release in 1988 of a policy discussion paper ‘AIDS: A time to cure a time to act’, the first National HIV/AIDS Strategy was formed. The strategy framework has provided for an integrated response to the epidemic and a plan for action across a range of policy and program areas. Four program areas guided implementation and a comprehensive funding scheme allowed an appropriate mix of locally, State and Territory and nationally led initiatives.

An overall set of objectives guides each program and an underlying philosophy of community development and participation gives the strategy the ability to respond appropriately to meet those objectives. An evaluation and review of each strategy (1989 to 1992 and 1993/94 to 1995/96) has allowed the strategy to be fine-tuned and to respond to emerging needs and trends.

### 5.5.5 Inter and Intra-sectoral collaboration

The partnership between the affected communities, governments at all levels, and medical, scientific and health care professionals has been the cornerstone of Australia’s response to HIV/AIDS. A significant proportion of funding has been allocated to non-government organisations for the provision of treatment and self-help groups.

This partnership was forged in the early days of epidemic with the formation of ANCA in 1985. Each member in the partnership has distinct roles and responsibilities. The Commonwealth government’s role is to provide leadership in matters of national importance, manage public education programs and the National HIV/AIDS Research Program and to coordinate and monitor programs on a national basis. The States and Territories are responsible for the planning, funding, delivery and monitoring and evaluation of every aspect of the strategy provided through the health system. Non-government agencies and volunteers are at the ‘coal face’ providing services to people in their communities. They also have an important role in advocacy and in the development of policy and programs. The medical and scientific professionals conduct research, deliver health services and policy advice. Each groups advisory role is facilitated through various committees and councils such as the AFAO and the ANCA.

Unfortunately, there has been little consistency in the way the Aboriginal and Torres Strait Islanders have been included in the partnership with the Federal and State and Territory Governments. Recently there has been a proposal to establish an ANCA Working Party on Aboriginal Sexual Health which will help to address the growing concern about HIV infection within the indigenous population.

### 5.5.6 Sustainability

Mainstreaming HIV/AIDS activities is a priority in the national strategy. Through strategic reform the disease specific HIV/AIDS policy framework will become redundant and eventually integrated into policies for communicable disease control. In the naming of the Commonwealth management and administrative unit for the National Strategy, the AIDS/Communicable Diseases Branch, the intention to incorporate the AIDS with communicable diseases is clear.

The Commonwealth’s role as a leader and a direct service provider will be gradually reduced and greater responsibility will be given to the States and Territories to manage and provide services. It is envisaged that the Commonwealth will have a more strategic role in the future.
The cultural shift towards greater acceptance of homosexuals and people living with HIV/AIDS and more open discussion about sexual matters has been the cumulative result of all the initiatives to prevent AIDS. A social environment willing to support the efforts of minority populations to protect themselves and accept changes to sexual behaviour will help to sustain the efforts of present and future preventive initiatives.

5.6 Challenges for the future

There are major concerns about two population subgroups in Australia which remain vulnerable to HIV infection—indigenous Australians and homosexual males. The prediction of an epidemic in the Aboriginal and Torres Strait Islander population is based on the detection of very high rates of STDs and the current failure of programs to make any significant impact on these levels. The possibility of an outbreak of AIDS amongst the Aboriginal population is a very serious threat. There is an indication that the rate of HIV infection through heterosexual contact is increasing and newly diagnosed HIV infections show a higher proportion of heterosexually acquired cases of HIV compared to the wider Australian community.

With respect to homosexual males, the success to date in controlling HIV/AIDS in Australia will only be maintained with vigilance and if risk reducing behavioural practices are adopted by a new cohort of adolescents. However, complacency, burnout of HIV/AIDS workers, and the difficulty of maintaining safe-sex practices over a long period of time, may all impact detrimentally on current infection levels. AIDS prevention programs targeted to those groups most at risk need to remain a high priority for funding. The current rates of infection are still too high, and current educational and prevention programs are not as efficient as they once were. New approaches to the delivery of preventive programs must be developed in order to further decrease the practice of high-risk behaviours, in a manner which is both appropriate and cost effective. Such initiatives need to be conducted in a community context where there is emphasis and support given to the practice of safe sex.

The rapid increase of the AIDS problem in almost all developing countries, is an international health issue of huge proportions which Australia has to confront. The spread of HIV infection through the Asia-Pacific region is continuing at very high levels. For example, according to best estimates, the HIV prevalence rate in PNG has recently overtaken that in Australia for the first time. Like most African countries, the majority of infections in PNG have resulted from heterosexual contact, primarily affecting a young, sexually and economically active group between 15 and 45 years of age. Australia clearly has a responsibility to contribute to the development and evaluation of effective prevention programs in Asian and Pacific countries. However, cultural and ethnic differences demand that such programs must be adapted to local circumstances and be sensitive to local needs and issues.
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Promoting the Health of Australians—Case studies of achievements in improving the health of the population
Chapter 6
Improved management of asthma

6.1 What has been achieved so far?

Australia and New Zealand have experienced the highest rates of asthma in the world, with continuing high morbidity and mortality rates from the condition. Its prevalence and recent epidemic of mortality have made it a public health problem, described in 1988 by the NHMRC as ‘one of the most neglected problems in community health’.

Asthma is a difficult condition to define, in both clinical and public health contexts. Its manifestations are different for different individuals, and at differing ages, and expert opinion is divided over exact definitions.

Asthma mortality rates have shown several peaks during this century in Australia, especially the mid 1960s ‘epidemic’, which had resolved by 1970. More recently, asthma deaths increased during the 1980s, peaking in Australia in 1989/90. Since then, there has been a decline from 900 deaths/year in 1990 to 750 in 1993. The decline has been most noteworthy for those aged 5–34 years old, as that group has the most reliable asthma mortality recording, suggesting that the observed decline was a real phenomenon. The most recent data suggests that the decline in asthma deaths has continued through to 1995.

Data during the 1980s suggested an increase in hospital admissions for asthma, but these have declined since 1992/3. The reasons for this decline may include health service rationing, and hence this is not widely used as an index of improved asthma management. Hospital re-attendance rates within a month are thought to be a better index, but only limited data are available.

There is as yet no evidence that primary preventive measures have contributed to these achievements. Primary causal agents are imperfectly understood — there are components which are genetic; the remaining risk is attributed to a range of factors including house dust mite exposure, other biological agents including mould and fungi, antenatal exposure to tobacco smoking and respiratory tract infections, among others. Primary prevention interventions, which use environmental change approaches, such as low allergen housing designs, and allergen reduction approaches, are increasingly being developed, but are in the trial phase at present. These primary prevention trials may ultimately contribute to a reduction in overall asthma incidence, and therefore the burden of morbidity, in the community. At present, the major public health concern is with secondary and tertiary prevention. Those with asthma should be recognised early and appropriately, and be involved in the care and management of their asthma. Optimal management, including preventing asthma symptoms, may reduce morbidity for children and adults.
An explanation for the high rates of asthma in Australia has not been forthcoming, as the management practice, therapy, and susceptible populations appear similar to many other developed countries. Differences in biological and environmental characteristics may point to causal explanations for the high prevalence, but this requires ongoing investigation. In developed countries, asthma prevalence appears to be increasing, and investigations of trends in Australia have identified the same phenomenon over the past two decades. Increases in population prevalence in Australia have been confirmed irrespective of the definitions of asthma used in research, and there are suggestions that asthma severity may also be increasing, posing an additional public health burden from the condition in the future.

Asthma currently affects approximately 1 in 5 primary school age children, and 10 per cent of all adults in Australia, with a total of approximately 1.4 million Australians reporting the condition. Asthma is more common among boys than girls before the age of about 12, but more prevalent among females after that age. Asthma prevalence is strongly related to urbanisation and industrialisation, with low rates found in indigenous Aboriginal communities, but much higher rates in coastal town dwelling Aboriginal populations. The prevalence of asthma among migrant populations is generally lower, and is especially low among Asian migrants, although there is a suggestion that their Australian born children develop asthma at rates which are similar to their Caucasian counterparts.

In addition to the issues of prevalence and mortality, asthma also contributes to substantial morbidity in the community. This includes time off work or school, reduced activities, and reduced quality of life.

Asthma deaths are the most observable and often quoted indicator of asthma morbidity. Over the past decade, research evidence has suggested that the symptoms and morbidity attributable to asthma, as well as over a third of asthma deaths, are likely to be preventable.

Asthma is thought to contribute to a substantial proportion of school absenteeism and some adult work absenteeism. Asthma morbidity is also measured in terms of quality of life and reduced restrictions on activities, but population measures of these phenomena are not routinely collected.

### 6.2 The precursors of improvements

#### 6.2.1 Developing 'best practice' standards for asthma management

In response to the 1988 NHMRC report, the Thoracic Society of Australia and New Zealand developed a six point asthma management plan which provided a blueprint for doctors to optimise asthma management. This included patient participation in care, shared responsibility for management, and a clear need for patient education and regular review. The plan also focused on preventive medication, the measurement of lung function (as an index of asthma severity) by both physician and the person with asthma, and the development of written (behavioural) action plans for managing worsening asthma. This plan focused on secondary and tertiary levels of prevention, to maximise the quality of life.

*The prevention strategies required are better patient involvement in management, including crisis recognition, optimal therapy including preventive medication, and regular clinical review.*

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and minimise morbidity for people with asthma. These levels of prevention include the use of preventer medication, as well as regular medical and educational review.

The process of disseminating these new management principles for asthma, and their impact on asthma morbidity and mortality, is central to the process of change observed for asthma. Since 1990, programs and interventions to facilitate better asthma management have proliferated at the national and local level. Other aspects of change relate to increasing interest in the primary prevention of asthma (environmental change), and some structural and policy issues relating to consistent asthma care.

### 6.2.2 Changes to health-related behaviours

The 1989 Asthma management plan promoted behaviour change for both physicians and for people with asthma. Doctors were encouraged to use a standardised, consensus-based approach to asthma management. There is evidence that general practitioners improved their understanding of asthma between 1990 and 1992, and that this has continued to improve, consistent with the recommended principles of asthma management. Appropriate prescribing of asthma medications by doctors has also increased. Epidemiological surveys of people with asthma demonstrate indirect evidence of this change in medical practitioners, as people with asthma report that their doctor more often measured their lung function, explained their asthma to them, and provided them with a written behavioural asthma management plan.

Changes to health behaviours and health-related knowledge have occurred among those with asthma. Increased awareness of asthma symptoms has occurred in the community, as well as an understanding of asthma prevention (Antic 1996 TSANZ abstract). Among adults and children with asthma, there has been an increase in asthma self-management, with increased use of written asthma plans during severe asthma episodes. There has been a marked increase in the usage of peak flow meters (to measure their own asthma) among people with asthma, with rates doubling between 1990 and 1993. In addition, there has been a shift in asthma medication use, towards increased regular preventer medication use, and reduced regular use of reliever asthma medications, consistent with recent messages about optimal asthma management.

### 6.2.3 Health literacy and skills

Between 1988 and 1993 there was a general increase in community recognition of asthma symptoms, and in the proportion who visited a health professional when they (or their children) experienced asthma-like symptoms. Community understanding increased about asthma, and the stigma surrounding the condition was reduced (compared to earlier levels).

Health literacy and skills have been improved through health professional education and training, as well as via mass media and public education campaigns (see below).

Not all messages about asthma have successfully been disseminated to the community. It has been noted that adolescents with asthma smoke more often than adolescents without asthma, although tobacco smoke is a known provoking irritant for asthma. Adolescents may have the message, and may be ignoring it, or may be unaware of the effects of tobacco smoke upon their asthma. Similarly, adults with asthma may be more likely to smoke than those without asthma, with one South Australian study showing that adults with asthma were 50 per cent more likely to smoke.
6.2.4 Effective health services

Health services have optimised and standardised emergency and non-acute management of asthma. This institutionalisation of asthma care has occurred across the tertiary and primary health care settings. Information technology has been introduced across the spectrum of health care settings to facilitate communication between tertiary services.

6.3 The strategies and actions that have made a difference

6.3.1 The National Asthma Campaign

In 1990 a coalition of key stakeholders in asthma care developed the National Asthma Campaign (NAC). Its principal participants were the Thoracic Society of Australian and NZ (medical asthma specialists and paediatricians), the Royal Australian College of General Practitioners (RACGP), the Pharmaceutical Society of Australia (PSA, representing pharmacists), and the State Asthma Foundations, representing asthma consumers, lay asthma groups, and those who care for people with asthma.

The objectives of the NAC are to reduce asthma mortality and morbidity, through dissemination of recommended guidelines for asthma management, and to promote the general health of those with asthma in Australia. It is a national body, with State level committees which replicates its activities, particularly through PSA and RACGP networks.

The aim of the coalition is to involve stakeholders in the planning and development of a range of interventions, including health professional education and training, and health promoting programs for people with asthma in Australia. The NAC has acted as a national facilitator, developing its own programs and strategies, but also increasing interest in asthma-related policy, and the acceptance of asthma management guidelines across the health system, and forging links into intersectoral areas, such as school health.

Other interventions for reducing asthma morbidity proliferated during the period 1990–1995. There was a particular increase in asthma education programs, in clinical and community settings, to provide in-depth skills development to individuals and families with asthma. Local asthma groups and self-help organisations provided support to families and children with asthma, often linked to State Asthma Foundations. General practices became an important setting for asthma education, delivered by general practitioners, and by visiting educators or practice nurses.

Local level interventions have flourished in the past five years. These include schools policy oriented programs (Greater Newcastle Asthma Program), local initiatives (such as the ‘Bendigo Wheezers’ in Victoria, and various local school-based programs in NSW rural and urban areas). There has been an increase in community-wide programs at the local level, including programs in Byron Bay, NSW in 1992, Campbelltown in NSW 1990–92, Auburn (Western Sydney), Wollongong, Altona in Melbourne in 1993, and Albury in rural NSW 1993–96, among others. This level of local activity provides some evidence of increased community organisation and action in the area of asthma over recent years.

State level initiatives have developed as a consequence of local conditions; for example, reliever asthma inhaler medication was available over the counter without a prescription in...
although this is not always found. Nonetheless, the NSW Pharmacy Society developed a recordable asthma card, piloted in 1994/5, for state-wide use by pharmacists, to encourage them to provide advice to those with asthma who are purchasing medication in this way.

### 6.3.2 The role of the mass media

The NAC initiated new approaches to disseminating asthma management strategies, using public and professional mass reach campaigns. This was the first such use of these approaches for asthma in the world, and antedated the United Kingdom’s NAC, or North American National Asthma Education program by several years. The first NAC initiative focused upon general practitioner training, using several national strategies, focusing on improving general practitioner understanding and management of asthma. This was largely achieved by 1991, as evidenced by changes in knowledge as well as in prescribing practices. Similar initiatives were subsequently developed for pharmacists and other health professional groups.

From 1991, the NAC organised national public education campaigns about asthma, using the mass media. A combination of strategies, including social marketing was used. Media campaigns used credible role models, such as sporting heroes, who had asthma, to promote the idea that asthma did not need to cause lifestyle restrictions, and was consistent with a normal and successful life. Asthma prevention and management messages were central to each media campaign, which were conducted in 1991, 1992, 1993 and 1995. Adjunctive support, at the local and community level was provided by State Asthma Foundations, and other organisations with an interest in asthma care. Additional support emanated from the private sector; for example, in 1992, McDonald’s sponsored a hamburger tray mat (for a month, nationally) which featured Samantha Riley (an Olympic swimmer with asthma), with a message about asthma prevention, and an example of a written asthma action plan. Other organisations, including the State Asthma Foundations are also engaged in similar supportive activities, as well as local initiatives through ‘asthma week’ each October.

### 6.3.3 Advocacy

The NAC, the State Asthma Foundations, other lead agencies and their constituents, have become more effective at lobbying for Governmental interest and involvement in public health aspects of the problem of asthma. For example, the NAC released a significant report on the costs of asthma in 1992, which had an important role in agenda setting. Governments contributed to national initiatives, as did the pharmaceutical industry. In 1994, the NHMRC convened an Asthma Committee to report on methods of reducing asthma morbidity. The Committee reported in December 1995. Within professional and medical organisations, the profile of asthma was generally increased. Professional asthma educator associations were launched in 1992 and 1993 in NSW and Victoria, which set standards for asthma educator training, and provided inservice training to those in the field.

In 1995, the NAC published an Asthma goals and targets document, launched by the Federal Minister for Health, to set nationally agreed asthma priorities for Australia. This was followed by a companion Asthma Strategies document, which was launched in late 1996.
6.4 Infrastructural supports

6.4.1 Dissemination and diffusion

Favourable changes to patient and doctor behaviour is evidence that the messages contained in the six point asthma management plan is reaching the target groups. Doctors are demonstrating improved knowledge about asthma through improved patient care and asthma management." Surveys of people with asthma indicate that personal asthma management practiced by more asthma sufferers is consistent with the recommended principles of asthma management.  

Asthma messages have permeated most socioeconomic sub-groups, although Aboriginal people, Torres Strait Islander people and ethnic populations have not been widely studied in this regard. In addition, diffusion into the health system and practice has been widespread.

International diffusion is less transparent, but the Australian initiatives are seen as an innovative and integrated approach by the UK NAC, and elements are to be adapted and adopted in that setting.

6.4.2 Research effort

Since 1990, there has been a substantial increase in asthma-related research in Australia, especially at the levels of primary care practice and in health services evaluation. The NAC catalysed interest in asthma, by the health system, and by government, and this interest contributed to asthma receiving NHMRC priority funding status for several years. Much of this increase in research was population-based, or focused on achieving and measuring asthma health outcomes. An increase occurred in the number of evaluation studies which measured the effects of asthma education. There was also an increase in environmental studies of asthma, including a number of projects in the area of exploring the relationship between asthma morbidity and air quality. New research is beginning to identify dietary and genetic factors for asthma in more precise ways.

Research has demonstrated changes in practice among a range of health professionals, at both the practice and training levels.

6.4.3 Information surveillance

The NAC conducts regular surveys of random samples of general practitioners across Australia, and less frequently, of pharmacists and other professionals, to monitor asthma awareness and reported practice. The NAC conducts triennial epidemiological surveys of the general community, to monitor the uptake and adoption of asthma management protocols. Epidemiological studies of asthma deaths abound, but few attempts have been made to collect or organise routine data on other aspects of asthma morbidity.

6.4.4 Workforce development and skill

This is evidenced by changes in the practice of health professionals, and by development of asthma educator organisations to provide quality control. It appears that increasing numbers of emergency departments and schools have asthma protocols, but quantification of this diffusion process has not been carried out.

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6.4.5 Political commitment and funding

The political context of any health condition is subject to a range of factors and influences. Initially support and recognition of asthma as a serious health issue was difficult to obtain at all levels of government. Professional medical associations provided leadership for the issue and were the first to take action at a national level. With the realisation of the burden asthma places on the health and well-being of the community, support has been gained from national and State governments. With the recent launch of the National Asthma Strategies document,” the Federal Government indicated that asthma was an important health priority, and restated the need to reduce the burden of illness and health costs associated with the condition.

6.4.6 National program

The NAC gave some national coherence to action to reduce the effects of asthma on the health and well-being of the community during the period 1990–1996. No other ongoing, public sector funded program of activity exists, but may be developed following the release of the asthma strategies and framework documents in November 1996.

6.4.7 Legislative changes

There has been little legislative activity. Some work has been undertaken as part of national schools policies, but implementation of these has not been monitored. In New Zealand, peak flow meters and some asthma devices are subsidised via the public sector health system, but this is not routine in Australia. Some work has also been undertaken regarding standards for indoor and outdoor air quality guidelines (Federal and state environmental protection agencies and similar organisations).

Increased awareness of effective asthma management has initiated more recent changes to the regulation of asthma devices and therapy. In 1996, CFC free inhalers were launched, and reflect a combination of industry self-regulation and international frameworks for CFC emissions. Recently, the Australian Therapeutic Goods Administration has promoted standards for asthma devices, such as peak flow meters and medication administration devices including spacers and nebulisers. There has also been some interest in reviewing alternative or complementary therapies for asthma, including the Buteyko method and other non-pharmacological treatments.

6.5 What have been the lessons so far?

6.5.1 Multiple Strategies and Coordination

One of the major advances in the 1990s has been the coordinated use of a broad range of strategies at multiple levels of the health system, and the developing intersectoral links with other agencies. The multiplicity of health and professional education, public education, and patient education via different channels provided a diverse and needed infrastructure for asthma education across Australia. Part of this success was achieved through coalition building among asthma interested stakeholders, to integrate program development and delivery, which included the health sector, consumer groups, asthma foundations, and schools.

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Coordination has been achieved through improved communication, more integration, and clear leadership by lead agencies and coalitions. For example, State Asthma Foundations worked towards more integrated asthma resource materials, with development and production occurring in one centre, rather than in each State. Overall program reach was better organised, with national initiatives addressing whole populations, hospital sector initiatives and guidelines addressing inpatient care, and general practitioner, pharmacy and other initiatives addressing community care.

### 6.5.2 Intra and Intersectoral activity

Intersectoral activity has included working with the private sector, with schools towards a national asthma in schools policy," with sporting bodies (scuba diving, skiing organisations), and working with the Environmental Protection Agencies on air quality studies. Further work is required for early childhood centres in this regard.

Within the health sector, asthma fits well into an integrated care model, linking primary and secondary sources of care. Living Health (formerly known as Foundation South Australia) 'asthma plus' project is attempting to integrate asthma care in that state. Interprofessional links in defining and developing guidelines has been a useful way to ensure that this process is being widely disseminated.

### 6.5.3 Clear goals

Clear approaches were articulated by the consensus-based asthma management plan, articulated in 1989. The dissemination of this approach was made more straightforward by national dissemination strategies, and by their development into asthma goals and targets in 1995. The behaviours to be influenced and adopted were relatively straightforward, and easily trialed by people with asthma, with short-term reinforcement (by reduced morbidity). The challenge will be to maintain these changes, as adherence with asthma preventer medication, and with asthma self-management, is difficult, given the generally intermittent nature of the condition.

The existence of goals and targets, as well as research goals, and asthma strategies documents, provides a framework for sustainability of asthma initiatives. Achieving a greater political profile, as well as an increased community understanding, has led to an improved positioning for asthma as a chronic health problem. Goals and targets in a health outcomes framework will ensure that cost effectiveness is considered in current and future asthma interventions. Sustainability for health professionals is easier if procedures are integrated into routine care, and this appears likely for asthma. Concerns may be raised in the asthma education arena, and funding for this activity is not currently scheduled in primary medical care, nor provided routinely by community health. The existence of asthma educator professional bodies, with a national conference and presence, will ensure ongoing professional development among this group. Schools-based asthma policies may also have some degree of sustainability, although their implementation remains variable.

### 6.6 Challenges for the future

In summary, asthma is a chronic condition affecting 1.4 million Australians. It is a condition where public health and health-promoting strategies have contributed to improvements in care, better patient and health outcomes, and reduced mortality from the...
condition. The roles of other sectors, multidisciplinary approaches, and client centred
management were initiatives over the past decade that have contributed to this health gain.
Medical research and clinical practice have developed new insights into the condition,
resulting in better and more organised approaches to best practice and optimal
management. These approaches have been disseminated by the NAC and others, and begun
to be integrated into the health system. Public education and mass media have
complemented the individual-based approaches to asthma education, and added population
awareness (health literacy) to the community with asthma. No single intervention or
program can claim credit for these changes, but their combined efforts, using an extended
health promotion framework, appear to have been successful in the secondary and tertiary
prevention of asthma morbidity in Australia.

Despite these improvements to the care of asthma sufferers and moves towards the
standardisation of asthma management, there are some issues which should not be
overlooked. As advances are made in our knowledge the asthma guidelines consensus
guidelines should be refined using evidence-based approaches. To aid this process,
improved coordination of data collection is needed. At present this clearinghouse and
monitoring function remains to be developed at the national level.

Health professionals need to be vigilant as new approaches to optimal management change
over time. Approaches to professional education will need to put in place mechanisms to
allow for continual updating.

A number of target groups still require significant attention. Focus upon the difficult to
reach groups such as the Indigenous and non-English-speaking background population
needs to be intensified where asthma is less likely to be recognised.

In the next decade, a priority for asthma research will be the primary prevention of asthma.
This may occur in a number of ways. Technical advances in genetic epidemiology and therapy
may ultimately provide biomedical approaches to the problem. At present, primary prevention
involves environmental manipulation to reduce exposure to factors thought to cause asthma.

Environmental manipulation as a method of primary prevention, is currently the subject of
clinical trials. For example, allergen free housing (to reduce exposure to dust mites which
have a causal role in asthma), is under study. This has implications for intersectoral
collaboration, such as with urban planning and housing design (Warner). Other primary
preventive approaches include identification and modification of dietary factors thought to
have a causal role in asthma.24

For some areas of environmental change for primary and secondary prevention, less clear
evidence of progress is apparent. There have been few attempts to influence air quality.
Some attempts have been successful to reduce exposure to passive smoking, especially in
the workplace. One area of limited success is smoking during pregnancy, thought to have a
causal role in asthma.25 Rates of smoking in pregnancy are still high (21 per cent among
NSW mothers, with rates exceeding 40 per cent among all teenage mothers.26) Other
environmental exposures, such as to early childhood infections, are more difficult to
control, although vaccination programs may assist with this approach.

The principles of asthma education and management are successfully reaching the
population and this is evidenced by declines in hospital morbidity and mortality data. The
present strategies should be supported and maintained until the present asthma goals and
targets are reached.

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Chapter 7
Conclusions and lessons for the future

“If the nation is to achieve its full potential for better health, public policy must focus directly and actively on those factors that represent the root determinants of death and disability.” Analysis of all determinants of causes of death in the USA in 1990 found that 50 per cent of all causes of death which were identified as preventable, the primary actual causes of death, were tobacco use (38 per cent), poor diet and physical inactivity (28 per cent), and alcohol (10 per cent). Motor vehicle driving, sexual behaviour and use of illicit drugs accounted for the remaining 24 per cent of deaths. There is no reason to believe that the actual causes of death in Australia are different. Moreover, social disadvantage has been found to be independently associated with premature death from all causes.

Action to address these actual causes of death (public health problems), particularly among disadvantaged populations, remains a major challenge for the future.

Nevertheless, the case studies presented in this Monograph demonstrate that it is possible to effectively address public health problems, in Australia. Over the last 20 years Australia has been remarkably successful in improving the health of the population, in reducing premature deaths from some causes, in reducing morbidity, in reducing the prevalence of risk behaviours, in improving health literacy and skills, and in changing the policies and environments that determine people’s access to healthy choices. There have been changes, too, in the health care system, including both improvements in treatment and care, and in the extent to which the system is turning its attention to improving population health outcomes in addition to diagnosing, treating, and caring for the health of individuals.

7.1 Lessons learned from Australia’s experience in promoting the health of the population

The case studies demonstrate that it is possible to improve the health of the population. Although it is impossible to directly link specific health promotion action and strategies to defined health outcomes (particularly outcomes measured in terms of reductions in mortality), it is possible to argue that the comprehensive range of interventions illustrated in these case studies have resulted in improvements in health. It is certainly possible to match specific reductions in the prevalence of smoking to the introduction of specific interventions; however it is not possible to link such changes, directly, with reductions in mortality from lung cancer.

The successes outlined in these case studies have been achieved following sustained action over at least twenty years. A comprehensive range of actions has been taken, using each of the strategies of the Ottawa Charter for health promotion—although much of the action pre-dated the publication of the Charter. In each ‘case’ it is possible to identify a series of

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‘intermediate’ and ‘health promotion outcomes’ (Nutbeam 1996)’ that were achieved prior to the achievement of reduced mortality, or reduced morbidity — health outcomes. Indeed, the cases highlight the fact that these intermediate and health promotion outcomes are essential pre-requisites for achieving improvements in the health of populations.

In addition, the analysis of the cases highlights the extent to which well-developed infrastructure supports (capacity) are necessary in order to achieve the outcomes. The components of infrastructure support have been identified in the companion report published with this document.”

**Moving toward ‘best’ practice: factors that have contributed to successful action to promote health**

**Comprehensive range of strategies that address ‘causes’ and determinants of problems**

Each of these case studies highlights the need for interventions to comprise a comprehensive range of strategies employed over time – in most cases, at least a decade. In each case, mass media, public health advocacy, health and public policy, education, and community action have been employed to bring about the changes in environments, health services, and community and individual knowledge and skills that have been necessary precursors to reductions in risk behaviours, in morbidity or mortality, and/or to improvements in people’s quality of life. Above all, each demonstrates that it is necessary to address the environmental and organisational determinants of health — that it is necessary, but not sufficient to simply educate people. On the other hand, it is important to recognise that it is also not sufficient to simply change environments. It is clear that changing policy (or legislation) in the absence of widespread community support and measures to enforce or reinforce the desired changes, is not effective.

**Work with and by other sectors**

These cases also highlight the central role of sectors other than health in action to solve public health problems. The role of the police in enforcing random breath testing laws, the role of employers in introducing and enforcing smoking bans in the workplace, the role of gay men’s community organisations and the Haemophilia Foundation in raising community awareness of HIV/AIDS, and the role of the Department of School Education in developing asthma in schools policy all reinforce the need for effective action with and by sectors other than health.

In many of the cases, too, partnerships with the private sector have made significant contributions.

**Active contribution by the health sector**

In addition, however, the case studies highlight the contributions of the health care system both through the active involvement of health professionals (e.g. surgeons in relation to road deaths; cardiologists in relation to smoking and heart disease; oncologists in relation to breast and cervical cancer) and through changes in diagnosis, treatment, and care (e.g. regular measurement of blood pressure; changes in triage system for victims of road trauma; improvements in drug therapy for victims of heart attack; improvements in cardiac rehabilitation).
The formation of partnerships within the health sector has also been a key element in the successful ‘cases’—linking clinical services with community-based and public health services to develop and deliver programs, to advocate for issues to be placed on the public agenda, to advocate for and contribute to the development of policies and legislation, to provide technical advice on the causes of problems and on solutions, and to review progress.

**Developing capacity to promote health**

Analysis of the cases provides evidence of the actions that are needed in order to solve public health problems in Australia. In addition, however, analysis of the cases helps to identify the elements of the ‘capacity’ that is needed by the health sector to achieve successful results. These are the structures of the health sector that are responsible for directing and managing action to promote health at national, State, and local levels.

**Political commitment and clear directions**

The cases demonstrate the need for political commitment to action. Such support appears to provide the mandate for action that is needed and the commitment of resources over time. While political commitment in each of the cases above has varied, it has had a major role in each case. Sometimes the commitment has led to action (as in the case of HIV/AIDS), while in others, it tends to have followed (as in the case of smoking).

In addition to the mandate and resources, political commitment has been necessary to enable the passage of legislation (such as banning the advertising of cigarettes), or the development of a coordinated policy approach (such as the Organised Approach to Cervical Cancer).

The cases also illustrate that leadership on an issue can be taken by government, by community, or by non-government or professional organisations. What is important is that there is active leadership that provides direction for activities, that advocates for the issue to be placed on the public agenda and for action to be taken, and that brings together major ‘players’. On the other hand, it is misleading to think that leadership means that, in every case, action has been well-coordinated, planned, and based on evidence of effectiveness. In this respect it is possible to contrast the experience in the area of tobacco control with that in the area of HIV/AIDS prevention. Formal structures and mechanisms were established early in relation to HIV/AIDS with the involvement of key stakeholders. This has resulted in a nationally-coordinated set of responses. On the other hand, in the case of tobacco control, much of the leadership has been provided by non-government and professional organisations and national coordination has been difficult to achieve.

In both cases, however, there have been clear goals to be achieved, and there has been sufficient political commitment and community support to sustain action over a period sufficiently long to enable change to occur.

**Information about the nature and extent of the problem**

The availability of information about the extent of the problem was a key feature in each of the issues identified in this Monograph. In some cases the information arose from effective data collection systems that identified the problem; in others (particularly HIV/AIDS), the information was more anecdotal and not based on high quality population-based information systems. With the exception of HIV/AIDS which was brought to public

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and political attention largely through the actions of the gay community, health professionals were then largely responsible for drawing attention to the public health problem presented by the specific issue.

Throughout the course of action taken over the subsequent years the availability of good systems of monitoring and surveillance to identify problems and measure progress appears to have been critical to the successful action. In each case, significant resources were devoted not only to intervention, directly, but also to the development of effective data collection and reporting systems (either at State or national levels). There was no national health information agreement until the mid-1990s and hence, a variety of data collection and reporting systems throughout the country. Nonetheless, there was sufficient information available to inform the public and politicians both of the extent of the problem and of progress and this appears to have been an important component of success.

Quality research effort
The research effort is critically important. There is much that we still do not know about influencing and changing the health of populations and how to put in place state-of-the-art intervention strategies. While overseas evidence and research are important, the effectiveness of public health intervention strategies will always be critically determined by local factors and influences which need to be identified, researched and understood. The coordinated and organised research efforts with respect to cancer control and road safety in this country, are very impressive by international standards, and should serve as a model for other health issues. Well developed linkage systems between investigators, policy makers, funders and implementers are all extremely important. Such linkages then ensure that appropriate and achievable goals and targets are set, that best practice is developed, identified and disseminated appropriately, and that progress is then tracked and monitored appropriately.

Workforce development and training
The success or otherwise of the national investment in improving the health outcomes associated with a specific health issue, relies on the knowledge and skills of the individuals in the workforce who are responsible for directing, planning and delivering programs and various types of services. For highly organised programs with many different complex components, well-trained individuals with specialised skills will also be required. This is not only true of those individuals who are working within health services and in other community settings, but also for those who are responsible for overseeing policy development and implementation at a higher level in the system.

Evaluation and health outcomes
The case studies have also highlighted the importance evaluating progress using a range of measures of outcome, and the danger of measuring the success of interventions only in terms of impact on mortality and morbidity. The analysis of these cases has shown, clearly, that, a high level of community support is necessary if policy or organisational strategies are to succeed in influencing the health of populations. Community support is, itself, dependent upon people and communities having appropriate knowledge and skills (not only in relation to specific health issues, but also in advocating for and bringing about changes in their own environments). Changes in the risk behaviours of individuals and populations are dependent upon their access to environments that support ‘healthy’ choices, and to effective health care services.

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The case studies have shown the need to evaluate the effectiveness of specific interventions in relation to outcomes at a range of levels. It is simply not possible to achieve reductions in mortality, let alone improvements in the quality of life of individuals and communities, unless intermediate health outcomes and health promotion outcomes have also been achieved.18

7.2 Challenges for the future

The focus for action: reducing inequalities

The cases presented in this Monograph confirm that it is possible to improve the health of the population using a public health approach. Nonetheless, the successes should not be allowed to obscure significant issues that require urgent action. In particular, Australia (and other countries) has not succeeded in reducing the unequal gap in health status between our most and least socioeconomically disadvantaged populations. This issue will become increasingly urgent if the current inequality with which income is distributed in Australia continues in its present direction, following the experience of other nations."This will mean applying the principles learned in relation to the case studies in this Monograph to action to improve the health of specific population groups (rather than to specific health issues).

In addition, however, there are still a range of specific health issues which require the comprehensive, sustained approach outlined in the case studies if further progress is to be achieved—overweight, diabetes, and mental health problems and disorders to name a few.

Improving the quality of interventions

The case studies have been prepared using the best available information. The preparation of this document has shown that there is still a paucity of high quality information available to guide action to solve public health problems. There is almost no systematically-collected information about the ‘inputs’ that have led to the achievements outlined in these case studies, and there is only limited national (or even State or local) data on the ‘intermediate’ and health promotion outcomes that are the necessary precursors to improvements in health outcomes.

Further, although the case studies show that it has been possible to bring about changes in health status as a result of a range of interventions, it is not possible to ascertain the specific contribution of any one of the many strategies employed to the overall result. Such information will be necessary in order to ensure that we invest in the strategies that are the best ‘value for money’.

Finally, the lessons learned from the experience of achieving the outcomes represented in this monograph must now be applied and tested in relation to other health issues and, particularly, in relation to disadvantaged populations.

Sustaining the infrastructure support

The case studies in this document highlight the extent to which successful intervention to promote health depends upon considerable infrastructure support – to identify public health problems and their causes, to ensure that there is a mandate (and hence, resources) for
action to solve the problems, to identify and implement effective interventions, to evaluate outcomes (at a range of levels), and to monitor and report on progress across the population.

The review which generated the study of the cases reported in this volume found that, over the last two decades, Australia has built a strong public health infrastructure. New initiatives to strengthen this further are being undertaken through the National Public Health Partnership, the National Aboriginal and Torres Strait Islander Health Council, and the National Health Priority Areas, for example.

However, that review also pointed to the fact that the quality and effectiveness of interventions to promote health depends upon there being systems capable of designing and delivering programs at national, State/Territory, and local levels. The separation of funding, purchasing and providing functions within the health sector, while offering the opportunity to link the allocation of resources more closely to identified need, can lead to the erosion of infrastructure if neither funders, nor purchasers, nor providers are responsible for investing in the components of the stable and active infrastructure that is necessary to ensure effective, high quality programs.

A challenge for the future, then, will be to sustain the infrastructure that identifies the need for, directs and supports action to solve public health problems. These cases demonstrate that, without such an infrastructure, it will be impossible to continue to build on the successes already achieved, and to address the major challenge presented by the need for all Australians to have access to the resources we need to become and stay healthy.

While case studies can teach a lot about the reasons that Australia has succeeded in improving the health of the population (at least as measured in terms of reductions in mortality and morbidity), much can also be learned by looking at what has not worked as well. One such example in this regard is that of immunisation, where Australia is widely recognised as having a poor record by international standards. Only a little more than half of Australia's children aged 3-6 years are fully immunised. Relatively poor immunisation rates in Australia have resulted in an increase in the incidence of at least some life-threatening diseases, for example whooping cough.

There is clear evidence that immunisation is an effective response to a major public health problem. Moreover, mass immunisation is relatively inexpensive and cost-effective, particularly when compared with the costs of morbidity and mortality caused by vaccine-preventable diseases. It is safe, accessible (to most population groups) and easy to administer. It does not require major capital investment, nor a particularly complex delivery infrastructure (particularly when compared with, for example, the infrastructure that is required for breast cancer screening).

Australia has invested considerable resources in attempting to raise rates of immunisation, using a range of strategies – mass media, surveillance and reminder systems, and providing assistance for general practitioners (in particular) to increase the proportion of children immunised. The Public Health Association, the Australian Medical Association, and various groups of paediatricians have played important roles in advocating the need to improve Australia's immunisation rates. And a National Immunisation Strategy has been established in an effort to develop a national approach to the addressing the problem and more recently, the Government has announced the 'Immunise Australia’ seven point plan initiatives.
However, for all this activity, the delivery of immunisation has been somewhat fragmented until recently. There have been differences in service provision, not only between States and Territories, but also within States and Territories. Limited coordination occurred in promotion, surveillance and vaccine distribution. Services were often not particularly accessible and not universally free. Generally speaking, record keeping, monitoring and recall systems have been poor. Funding arrangements for immunisation have been fragmented between the levels of government and the private health sector; leading to a lack of accountability and poor data on expenditure. While the various levels of government have conducted large-scale campaigns from time to time, there has been no on-going commitment to the continuity and sustainability of service provision. Rather surprisingly, given the long-standing public health programs related to immunisation, the population is generally ill-informed about the dangers and costs of vaccine-preventable diseases. Health care providers, and GPs in particular, have also been found to have serious limitations in their knowledge and practice”.

Such concerns, however, have been acted upon in recent years, with the development of a number of new initiatives relating to immunisation. For example, the population is being better educated about the dangers of vaccine-preventable diseases, through the ‘Imunise Australia’ campaign. The Australian Childhood Immunisation Register was established in early 1996 to assist with record keeping, monitoring and recall systems and will see reminders and follow-ups sent to parents. A new GP Strategy will ensure that standards for immunisation delivery systems are more consistent across the country, as well as improving health professionals’ knowledge relating to immunisation. Further, a separate Immunisation Unit has been established in the National Centre for Disease Control within the Commonwealth Department of Health and Family Services, and is working with the States and Territories and the Health Insurance Commission to establish regular reports on State and Commonwealth management of immunisation. As part of this, a specific surveillance strategy is being developed for vaccine preventable diseases.

In summary, it seems clear that the achievement of quality delivery of immunisation relies upon such real and ongoing commitment by all levels of government, and application of the knowledge gained from Australia’s successful national public health strategies and programs, as outlined in this Monograph.

REFERENCES


Promoting the Health of Australians—Case studies of achievements in improving the health of the population
Promoting the Health of Australians—Case studies of achievements in improving the health of the population
The National Health and Medical Research Council

The National Health and Medical Research Council (NHMRC) is a statutory authority within the portfolio of the Commonwealth Minister for Health, established by the National Health and Medical Research Council Act 1992. The NHMRC advises the Australian community and Commonwealth, State and Territory Governments on standards of individual and public health, and supports research to improve those standards. The NHMRC advises the Commonwealth Government on the funding of medical and public health research and training in Australia and supports many of the medical advances made by Australians.

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