3 Primary prevention

3.1 Background

Heart, stroke and vascular disease is largely preventable. Prevention and medical treatment have both already played a major part in the advances in cardiovascular health seen in Australia in recent times. Treatment is expected to keep improving and playing a key role, but prevention offers even greater scope. Also, approaches to prevention of heart, stroke and vascular disease will help prevent several other major diseases because they share important risk factors and other causes.

This chapter focuses on primary prevention, namely strategies to reduce the onset of illness in the whole population, population groups or individuals. Secondary prevention, that is strategies to reduce the risk of further cardiovascular events in people with the disease, is covered in Chapter 4. Discussion below outlines the case for preventability, approaches and elements in prevention, and some examples of preventive activities in Australia. The chapter also discusses the evidence for health gains that can be made through risk factor reductions, and the evidence for the effectiveness of current interventions in reducing risk factor levels.

The case for preventability is supported by several lines of evidence. The case is circumstantial but strong.

- Rates of heart, stroke and vascular disease vary substantially across different countries, different population groups within the same country, and over time.
- These differences occur between countries and groups with similar quality of medical care. The differences in rates are so great that even if there are differences in care, they could explain only a very small part.
- Studies of migrant groups show that national rates of coronary heart disease are not genetically determined. The longer a migrant group is in a new country, the closer its rate moves towards the national level, and these changes can be rapid.
- There is evidence that risk factors such as high levels of blood cholesterol, tobacco smoking, high blood pressure and physical inactivity contribute to a large proportion of deaths from heart, stroke and vascular disease.
- It has been observed that some groups and individuals have the capacity to reduce their levels of risk factors, often markedly.
- Evidence from studies of populations and from trials shows that when risk factors are reduced, so are the rates of heart, stroke and vascular disease.

These points suggest that high levels of heart, stroke and vascular disease are not ‘natural’ and that in principle they can be changed considerably, given enough time and effort.

Other important points to be considered are that the cardiovascular risk factors are often linked, and add to each other’s effects if they occur together in the same person. Several are also risk factors for other major diseases. For example, diet affects cholesterol level, blood pressure and weight. Physical activity influences weight and blood pressure. Weight also influences blood pressure. All these factors are important in both coronary heart disease and stroke. Smoking is a risk factor for these conditions as well as being a major risk factor for peripheral vascular disease. Also, these lifestyle factors can play a large part in diseases such as cancer and diabetes.

Theoretically, this widens the scope for prevention even further and shows that a risk factor should not be viewed in isolation. Activities that reduce some risk factors will help reduce others and have benefits that go considerably beyond cardiovascular health.

The great challenge for prevention is to turn this theoretical scope into practice, and assess whether in a country such as Australia:

- risk factors can be avoided or reduced in virtually all people, not just many or most;
- favourable trends in smoking and blood pressure levels can be maintained or even accelerated; and
- Australians can become more physically active and the worsening trends in overweight can be reversed.

A further part of the challenge is to attend to the social, economic and environmental conditions behind people's daily lives. Recent research has examined social inequalities and the risks of death from all causes and heart, stroke and vascular disease. Even after allowing for the traditional risk factors of smoking, overweight and physical inactivity, socio-economic variables (such as income and geography) remain independently associated with the risk of death (Lantz et al 1998).

The actions of governments, businesses and industry can have a large effect on people's opportunities, attitudes and skills. Factors such as education, taxation, housing, urban design and conditions in the workplace can influence the level of risk factors as well as other social and psychological aspects that can affect cardio-vascular health. This is especially relevant to the inequalities seen in health, such as the larger rates of heart, stroke and vascular disease and its risk factors among Indigenous Australians and those of lower socio-economic status (AIHW 1998a).

To be most effective, therefore, prevention needs action on many fronts, not just by the health sector. Many can play a role, including of course the individual, but key groups are governments, non-government organisations and general practitioners.

Broadly speaking, prevention can be aimed at the whole population, at high-risk groups and at high-risk individuals. The approaches are complementary. The first aims to improve risk factor levels and wider factors in the population as a whole. It is based on the knowledge that by far the greatest number of disease cases occurs in that majority of the population who are not seen as 'at risk'; and that small changes in many healthy people can produce much greater community benefit than large changes in a few. The second approach aims at groups known to be at higher risk for socio-economic or other reasons. The third aims to detect individuals at higher risk and then to reduce that risk.

The methods of prevention are collectively known as health promotion. The main features of health promotion are its broad approach and its emphasis on setting up conditions that make healthy choices, healthier environments and health behaviours easier for individuals and communities.

Primary prevention can include a wide range of methods aimed at groups or individuals:

- general education of the public and of health professionals;
- 'healthy public policy' across sectors, where government decisions are set in the context of prevention and health promotion, and the health sector works with other agencies to promote health;
- regulation, such as controls on tobacco advertising and on food composition;
- incentives and disincentives, such as taxation to make less healthy products more expensive and initiatives to offer a broader, cheaper and widely available range of healthy foods;
- environments that encourage healthy behaviour, such as smoke-free restaurants and public spaces, parks, walkways and bicycle paths;
- identification of those at high risk, eg from family history or preventable risk factors;
- counselling and education of individuals at higher risk; and
- drug therapy for risk factors in some cases, eg for high levels of blood pressure or cholesterol.

It is clear that some of these methods rely most on health professionals such as general practitioners, whereas the other methods rely most on government at its various levels, and on changing the conditions that lead to ill health.

There are a number of Australian examples of the beginnings of success in health promotion, such as the reduction in tobacco smoking, which have been brought about by a combination of the legislative, educational and economic approaches listed above. However, there are numerous opportunities available to decrease smoking further and to promote physical activity, good nutrition, the reduction of overweight and obesity, and successful management of risk factors.

Examples of primary prevention activities by community and non-government organisations, general practitioners, States and Territories and the Commonwealth are given in Section 3.4.

3.2 Inter-relationships in health promotion

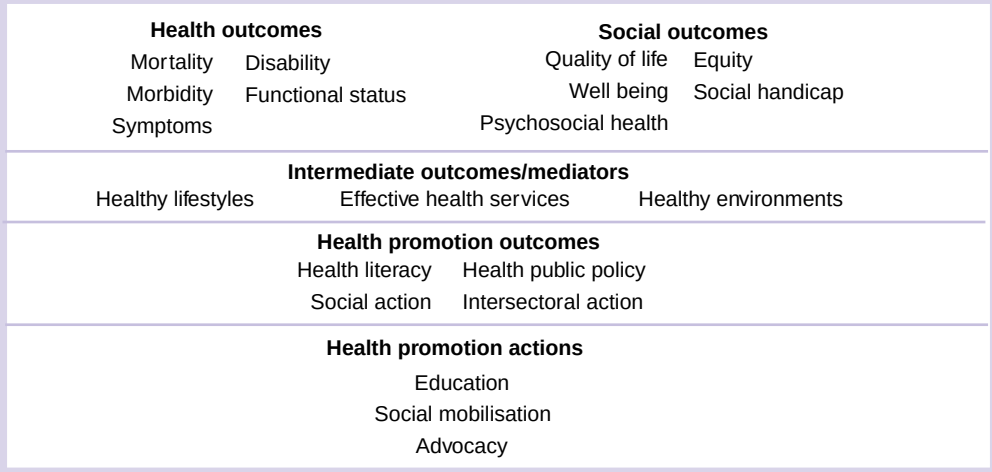
Health promotion and health outcomes

Health promotion can be viewed in terms of the methods (interventions) it uses and the results (outcomes) it achieves. These outcomes include:

- *health and social outcomes* such as mortality, morbidity, symptoms of disease or quality of life;
- *intermediate outcomes* such as biomedical risk factors or health behaviours that lie along the pathway between health and disease; and
- *health promotion outcomes* such as a favourable change in policy, environment, knowledge or behaviour that can work against a risk factor or disease.

These interventions and outcomes can be used as indicators of progress in prevention. In addition, a complex range of underlying social conditions put individuals or even populations at higher risk of heart, stroke and vascular disease. Figure 3.1 illustrates some of the linkages between health promotion practice and health outcomes.

Figure 3.1: Inter-relationships in health promotion



Source: Adapted from Nutbeam (1996).

Intermediate outcomes that contribute to improved health are: healthy lifestyles, including lifestyle-related risk factors for heart, stroke and vascular disease; health services, that are evidence-based and accessible to all population groups; and healthy environments that aim to make healthy choices easier.

The lower two rungs of the figure reflect health promotion practice, and the immediate outcomes of such actions. Outcomes such as intersectoral action and strategic planning, the development of healthy public policy, and a community level of health understanding and health literacy are necessary for the development and adoption of intermediate outcomes, health outcomes and social outcomes. The lowest rung, health promotion actions, describes some of the activities of practitioners that include facilitatory roles as well as the conduct of health promotion programs.

The pathways described here are not unique, but reflect mechanisms for how health promotion might contribute to better health and social outcomes for heart, stroke and vascular disease.

Partnerships and alliances with other sectors

The complex links in Figure 3.1 suggest great scope for coordination among the main agencies that contribute to improving health. While the health sector should take the lead in preventive actions, it will ensure more lasting effects and better serve the community if it forms long-term partnerships and alliances with other sectors. This would amount to a 'new system' for prevention that crosses normal boundaries between major agencies. It would include sectors such as education, planning, transport, agriculture and local government.

For example:

For smoke-free environments —	partnership between health, employer, employee and unions for provision of clean air in workplaces, sports grounds, restaurants and all public places.
For physical activity —	collaboration of the health, local government, education, sport and recreation, transport and sustainable development sectors for provision of environments, facilities and services conducive to physical activity.
For improved nutrition —	collaboration of health and food industries, education sector, employers and local government to promote healthy eating and consumer education, food labelling and the availability of healthier fast foods and processed foods.

Infrastructure for primary prevention

Increasing the emphasis on primary prevention will require an infrastructure for health promotion across the system (NHMRC 1997b). The components of an optimal health-promoting infrastructure include policy changes, the creation of health-promoting environments, increasing community involvement, personal risk factor change and influencing the health system to focus on preventive actions.

Infrastructure refers to systems for:

Development of public policy —	a policy framework that recognises the role of health promotion and primary prevention and facilitates development of partnerships and best practice.
Monitoring and surveillance —	information and intelligence about patterns of illness, risk conditions, community concerns and health.
Research and evaluation —	targeted to primary prevention issues, and changes to behaviour, environments, policies and systems.
Workforce development —	training, education and development of the primary prevention workforce and enhancing the preventive role of all health professionals.
Program delivery —	structures for planning and delivery of programs across the community, including government, non-government, community and private sector organisations.
Re-orienting the health system —	increase the capacity for primary preventive activity across the system.

Work is in progress to establish such partnerships and infrastructure at the Commonwealth, State and Territory and regional levels. Mechanisms include the National Public Health Partnership (NPHP) Group's Strategies Coordination Working Party and the currently evolving framework for a Primary Prevention Strategy (discussed further in Section 3.4).

3.3 Scope for further gains from prevention

Although the risk factor approach is only one of the ways to view health, it still offers an important guide to past and potential prevention. The scope for prevention can partly be gauged by considering the current levels of risk factors in Australia, and the falls in those risk factors that ought to be achieved if known strategies are fully applied.

This section considers coronary heart disease and stroke separately. However, since heart, stroke and other vascular diseases have basically the same risk factors, strategies to reduce one disease should help to reduce another.

There is too little information to assess potential gains for less common cardio-vascular conditions such as peripheral vascular disease and heart failure. However, it is important to note that these are significant diseases among older people, and that people with these diseases are likely to have other vascular conditions as well.

Coronary heart disease

Chapter 5 (see Table 5.1 on page 102) presents falls in the prevalence of major risk factors and the resulting reduction in risk of a 'major coronary event' such as a heart attack or sudden death, based on evidence from population studies and clinical trials.

As well as the individual effects of risk factors, some studies have looked at their combined effect in community-wide studies, especially in the United States, but also in Wales and in Finland (Tudor-Smith et al 1998; Puska 1995). These studies typically demonstrate significant changes in both intervention and control communities, especially for cholesterol, blood pressure and smoking (Luepker et al 1996; Winkelby et al 1997). The North Karelia project in Finland has shown that community-based programs can reduce risk factor levels and coronary heart disease risk in the general population and among higher-risk groups (Jousilahti et al 1995).

Until recently, there have been no estimates of the effects of combined risk factor reduction on coronary heart disease among Australians. Such estimates are now being made by the University of Newcastle, along with estimates of the effects of secondary prevention, and of treatment during an acute event. A summary of these estimates is given in Chapter 5.

According to this research, there is considerable potential to lower coronary risk further by lowering high cholesterol and high blood pressure through lifestyle modifications and/or drug treatment, reducing smoking and increasing physical activity. However, as discussed below under 'Effective interventions', the estimated degree of change may not be possible unless more becomes known about how to increase levels of physical activity or decrease overweight on a population basis.

Stroke

Table 3.1 shows the percentage of ischaemic strokes (which comprise 85 per cent of all strokes) attributable to risk factors.

Table 3.1: Percentage of ischaemic strokes attributable to risk factors or conditions

Risk factor/condition	Percentage	95% confidence interval
High blood pressure	26	12–41
Transient ischaemic attacks of the brain	14	11–17
Tobacco smoking	12	8–16
Coronary heart disease	12	7–17
Atrial fibrillation	8	4–12
Diabetes	5	2–9

Source: Whisnant (1997).

There is also evidence that up to 15 per cent of stroke events may be attributed to physical inactivity (Shinton 1997).

Chapter 5 summarises the evidence for estimated reductions in risk of a stroke associated with a reduction in each major risk factor, showing that the risk of stroke can be lowered by reducing the mean level of risk factors in people with no history of stroke, with or without risk factors present (see Table 5.2, page 104).

In the primary prevention of stroke, the population approach has the potential to be most effective as well as cost-effective. A strategy aimed at high-risk groups, such as identification and treatment of all people in the population with hypertension, may reduce stroke incidence by up to 15 per cent (Law et al 1991) but would require considerable resources, particularly in primary practice, and many individuals may not benefit (Rose 1992). However, identification and treatment with either warfarin or aspirin of those with atrial fibrillation is likely to be of benefit, as atrial fibrillation is often not recognised as a risk factor for stroke, and about 10 per cent of those over 75 may have atrial fibrillation. NHMRC clinical practice guidelines on stroke describe an appropriate approach to routine screening for stroke that can be used in general practice (NHMRC 1997a).

Effective interventions

There is considerable potential for further reductions in heart, stroke and vascular disease with the best use of existing information. This section outlines current evidence for the effectiveness of interventions to reduce the prevalence of these risk factors. Primary prevention of behavioural risk factors should include environmentally based strategies that address major societal influences on smoking, overconsumption of certain foods and calories, and inadequate physical activity.

Tobacco smoking

As smoking is an important risk factor for morbidity and mortality from a number of causes, reducing the proportion of smokers would bring widespread benefits.

Primary prevention

There is good evidence that interventions with individual smokers (advice from doctors, nicotine replacement therapy) and via regulatory mechanisms (taxes on tobacco products, adoption of smoke-free policies) result in significant reductions in smoking (Jamrozik et al 1984; Warner 1984; Borland et al 1991). Nicotine patches have been shown to aid 'quitting', although the cost to patients is substantial (Gourlay & McNeil 1990).

Other measures include structural changes such as price increases, ending all promotion of tobacco products including that at the point of sale, and legislation for smoke-free areas, reducing nicotine levels in cigarettes, and rigorous enforcement of laws covering the sale of cigarettes to minors. Educational initiatives include public education campaigns, universal health education in schools and greater involvement of general practitioners. Specific interventions targeting high-risk groups should be developed — these may include campaigns targeting Indigenous populations, males from some cultural and linguistic backgrounds, women who smoke during pregnancy and other high prevalence groups. Adolescents should be a specific target as they receive pro-smoking messages from a range of sources including the internet.

Physical inactivity

The potential for heart, stroke and vascular mortality and morbidity reduction through increased levels of physical activity at all levels of risk is significant, partly because of its effects on other risk factors such as overweight, high blood pressure and cholesterol.

There has been comparatively little research on the effectiveness of interventions designed to increase levels of physical activity, although several studies have shown that public education campaigns can result in short-term increases in participation in physical activity (Booth et al 1992). More recent studies have shown that general practitioners advising patients to be more physically active can help achieve substantial increases in weekly minutes of physical activity (Bull & Jamrozik 1998; Dunn et al 1997; Calfas et al 1996).

However, long-term behaviour is unlikely to change unless there are structural, policy and environmental changes that facilitate physical activity becoming an integral part of people's lives.

Diet

Diet is an important factor in heart, stroke and vascular disease. However, the issue of diet and nutrition is complex, as it is influenced by a range of social, cultural, economic and physiological factors, including the available food supply and its cost (Nutbeam et al 1993). Like physical activity, diet can affect the prevalence of other biological risk factors.

The role of fat intake in heart, stroke and vascular disease is now fairly clearly established. The direct protective effect of specific diets or dietary changes is less clear but there are general health benefits in promoting healthy eating.

Overweight and obesity are established risk factors for heart, stroke and vascular disease. National and international data suggest that environmental and behavioural factors are the most important contributors, within individuals and between populations, to weight gained during adulthood (WHO 1998b). There is little in the way of intervention studies to show how these factors can be best manipulated to prevent overweight and obesity in populations (NHMRC 1997c).

Strategies to reduce the prevalence of overweight include interventions affecting behaviour, physical activity, diet, and combinations of all three approaches (ABS 1997c). Educational campaigns and financial incentives have been shown to reduce average weight gain, compared to control groups, in two United States population interventions (Forster et al 1988; Taylor et al 1991). However, the effectiveness of others has been questioned (Winkleby et al 1997). The combination of diet and physical activity appears to be more effective for weight loss than diet alone (Wing et al 1998; WHO 1998b), indicating the need for multifaceted approaches.

There is good evidence that interventions at a population level encouraging weight control and dietary salt reduction lower mean levels of blood pressure (Fagard & Tipton 1994). Diets high in fibre have been shown to lower systolic and diastolic blood pressure in people with hypertension (Anderson et al 1990). An adequate intake of fresh fruit and vegetables is also an important component of primary prevention (Zatonski et al 1998; NHMRC 1992).

Effective strategies should address the major societal contributors to the over-consumption of certain foods and calories, and inadequate physical activity. These could include food marketing practices, transportation patterns and opportunities for safe physical activity (James 1995; Jeffrey 1995; NHMRC 1997c).

3.4 Current approaches to primary prevention in Australia

As described in the preceding sections, there is a growing focus on intersectoral collaboration in Australian heath care at all levels, and a shift in emphasis towards primary prevention. This section examines general policies and approaches to primary prevention of heart, stroke and vascular disease by governments, general practice, and non-government organisations, and also describes a range of activities in specific areas.

Government policies and approaches

The Commonwealth, in collaboration with the State and Territory Governments, is aiming to increase public awareness of risk factors through a range of national initiatives. The NPHP is a working arrangement to plan and coordinate national public health activities, provide a more systematic and strategic approach for addressing public health priorities and provide a vehicle to assess and implement new directions and major national initiatives. The work of the NPHP principally deals with the components of the health system outside the framework of the Health Care Agreements and with services conceived and delivered with whole populations and their health status in mind.

Also being developed is a framework for a National Primary Prevention Strategy, to integrate programs on physical activity, diet, tobacco and alcohol and target the major chronic non-communicable diseases.

The Commonwealth has developed, or is in the process of developing, national plans to address tobacco smoking, physical inactivity, nutrition, alcohol consumption and diabetes. At the State level, there are numerous programs that aim to improve the health of Australians through modification of both behavioural and

biological risk factors. Commonwealth and State and Territory programs in progress are discussed in the section below on 'Current activities in primary prevention in Australia'.

While there are few evidence-based guidelines on prevention, an NHMRC report, *Guidelines for Preventive Interventions in Primary Health Care: Cardiovascular Disease and Cancer* (NHMRC 1997d), addresses the issues of screening for coronary heart disease, stroke and peripheral vascular disease, high blood cholesterol, high blood pressure, overuse of alcohol, cessation of smoking and use of aspirin to prevent coronary heart disease.

Following is a brief outline of State and Territory policy relevant to the primary prevention of heart, stroke and vascular disease:

- The New South Wales policy on health is encapsulated in its *Caring for Health* series. The first in the series commits the New South Wales health system to developing strategies to tackle the NHPAs, including cardiovascular health. State-based strategies have been developed for risk factors associated with cardiovascular health and the other NHPAs.
- Victoria is working to enhance the knowledge and skills of allied health and community health workers and to develop new information and referral systems, a baseline participation survey, community grants programs, and a review of policy and practice relating to physical activity in organised care settings.
- Queensland has developed a Social Development Strategy outlining intersectoral measures to improve health. Queensland Health has developed Health Outcomes Plans that support and maintain evidence-based practice across the spectrum of health care, seeking to link the processes and quality of health service delivery more closely with individual and population health outcomes. The Plans include a systematic approach to health promotion and disease prevention across NHPAs. Outcome Area Teams have been established for 25 areas and common approaches will be taken to issues including tobacco, nutrition, alcohol and physical activity.
- The Department of Human Services in South Australia has, or is developing, policies and strategies in areas such as food and health, tobacco control, physical activity and diabetes. Environmental change is encouraged in a number of programs including the linking of sponsorship of arts and sporting organisations with health-promoting policies and practices.
- In Western Australia, the Framework for Health Gain is a system-wide approach designed to improve health in the State. Providers are required to link development of health service strategies with local population needs and key areas for action. This ensures that health service business plans address the key areas and strategic directions of the health system. More than 30 health promotion research projects have been undertaken in Western Australia, mostly in the areas of smoking, nutrition, alcohol consumption and illicit drugs. State-wide surveys of attitudes and behaviours relating to the use of tobacco, alcohol and illicit drugs were also undertaken.
- In Tasmania, State-based strategies have been developed for risk factors associated with heart, stroke and vascular disease.

- In the Northern Territory, an integrated strategy is being developed by Territory Health Services to address prevention and treatment for the extremely high proportion of Indigenous adults who suffer an inter-related group of chronic illnesses including obesity, high blood pressure, coronary heart disease, diabetes and renal disease.
- The Australian Capital Territory Department of Health and Community Care developed health goals and targets for heart, stroke and vascular disease in 1994 after consultation with key stakeholders. Early identification of risk factors and lifestyle interventions are addressed through both preventive and improved primary care initiatives (Gilbert & White 1997).

The role of general practice

General practitioners have a unique role in primary prevention, as the community perceives doctors as the most authoritative source of information on factors and behaviours associated with reducing the risk of disease (RACGP 1996). Since 1993, the Royal Australian College of General Practitioners (RACGP) has produced and updated guidelines for preventive services in general practice (RACGP 1998a), and practice systems to implement the guidelines (RACGP 1998b).

Risk assessment and helping patients to reduce their risk factors are essential parts of general practice. Detection and documentation of behavioural risk factors are less than those of biologically based risk factors (Nelson & Piterman 1997). There are a number of trials in progress involving prescription of physical activity by general practitioners which show promising results (Calfas et al 1996; Swinburn et al 1997). Barriers to the implementation of preventive strategies by general practitioners are well recognised (Cockburn et al 1987; Bauman et al 1989; Mann & Putnam 1989) and principally relate to the health care system, the general practitioners themselves, the consultation process and the patient.

To make general practice more effective and accountable, organisational development into Divisions of General Practice was undertaken in 1993. There are four Support and Evaluation Resource Units (SERUs) to facilitate the programs and activities of the Divisions throughout Australia. The Public Health and Health Promotion SERU is working with the Victorian Division of the National Heart Foundation (NHF) on a guide to currently accepted practice in primary prevention of heart, stroke and vascular disease for Divisions of General Practice. The guide aims to provide a framework for implementing the cardiovascular primary prevention strategy within the context of local needs, service provision and available resources. The SERU is also developing draft sets of outcomes and indicators for Division programs in primary prevention and early detection of heart, stroke and vascular disease.

The change in project funding for Divisions of General Practice to outcomes-based block funding will encourage Divisions to implement preventive strategies that are acceptable to general practitioners, and will involve SERUs, University Departments of General Practice, the NHF and other organisations.

Community and non-government organisations

Among community and non-government organisations there is also a shift towards collaborative programs in primary prevention. The following groups have been particularly active in addressing risk factors and the general cardiovascular health of Australians. Individual projects initiated by these organisations are discussed in the section on 'Current activities in primary prevention'.

The *National Heart Foundation* has promoted a number of innovative projects addressing aspects of cardiovascular health in Australia, including development of clinical guidelines to enhance the performance of general practitioners in relation to cardiovascular risk and disease management, education in nutrition of primary school students and promotion of increased physical activity. A telephone service, Heartline, has recently been introduced to answer queries from the community.

The *National Stroke Foundation* has worked with the Commonwealth Department of Health and Aged Care and the NHMRC to draft a National Stroke Strategy and is working with the States and Territories in their development of State-based stroke strategies. To date, Victoria (Victorian Stroke Strategy Task Force 1998) and New South Wales (NSW Stroke Working Group 1998a) have completed strategies.

The *Brain Foundation* has worked on primary prevention initiatives focusing on stroke prevention since the early 1980s. Initiatives include development and regular updating of stroke education material for the general public, carers, patients and health service providers.

Current activities in primary prevention in Australia

The following section highlights activities that are considered by the initiating organisations to be 'best practice' and possible models for wider implementation. This is neither a review nor a comprehensive record of initiatives in primary prevention, but a summary that gives an indication of just some of the key initiatives being undertaken across the nation.

Collaborative activity — coronary heart disease

- The Health Department of Western Australia, the Heart Foundation of West Australia and Divisions of General Practice are collaborating to implement programs to increase awareness of early warning signs and risk factors among men.
- The Burnie Take Heart project in Tasmania is a collaborative project which includes Commonwealth, State and local governments, local business interests, the NHF and the community. Interventions focus on the promotion of physical activity and healthy eating, initially targeting upper primary school children.

Collaborative activity — stroke

- The Brain Attack program, established by the National Stroke Foundation, is an umbrella for a series of inter-related initiatives to enhance understanding and prevention of stroke. A package of booklets and brochures on stroke has been developed and published. It includes material on primary and secondary prevention, symptoms, treatment and commonly asked questions. The next stage will be in professional education for general practitioners, neurologists, pharmacists and allied health professionals about primary and secondary prevention of stroke. This will include elements on screening and behaviour change interventions, early diagnosis of stroke and the appropriate actions that should follow, and interventions for secondary prevention.
- Stroke Week, established in 1984, has provided a vehicle for promoting a coordinated health message about stroke prevention across Australia. In 1998, the Brain Foundation collaborated with the National Stroke Foundation and key players such as hospitals and community health centres to promote the Stroke Week message. In each State, risk factor screening, public seminars and other events are held, following a nationally agreed message.
- The Brain Foundation Victoria Ltd has collaborated with MEDI-World Ltd to produce a CD ROM on stroke for general practitioners. The CD includes stroke case studies with video footage and interactive learning methods, and has been allocated 12 continuing medical education points by RACGP.
- A Workplace Stroke Prevention Kit has recently been produced by the Brain Foundation in Victoria and is also in use in New South Wales and Tasmania. In Western Australia, HealthWay has provided funding to the Brain Foundation for conducting a primary prevention program on stroke, risk factors and lifestyle change.

Tobacco smoking

- The National Tobacco Campaign is a collaborative initiative between the Commonwealth Government, State and Territory Governments and major non-government organisations which aims to reduce the proportion of regular smokers in the population and reinforce current non-smokers in their decision not to smoke. The Campaign involves advertising, nationally coordinated Quitline telephone services, campaign materials produced in nine languages, a web site (www.quitnow.info.au), and national media promotions.
- The New South Wales Tobacco and Health Strategy 1995–1999 aims to lower smoking rates through elimination of tobacco marketing and collaboration between sectors involved in tobacco control. This has involved a review of services to smokers and resources and interventions available for smokers seeking assistance in giving up smoking. The *NSW Health Promotion Survey 1994* (NSW Health Department 1994) outlines strategies that have been found to be effective in reducing the prevalence of smoking, particularly at the area health service level.

- South Australia has committed significant funds to the implementation of a comprehensive Tobacco Control Strategy, with the objective of reducing smoking prevalence, particularly amongst young people. This collaborative government–non-government approach includes public education, restrictions on sales to minors, quit information and support, smoke-free public places including dining areas, restrictions on advertising and school-based programs.
- In the Northern Territory, the Tobacco Action project has initiated a specific Aboriginal Smoking Strategy to raise the awareness of Indigenous people of the harmful effects of smoking and to initiate community action to reduce smoking in Indigenous communities.
- Smoking in enclosed public places is prohibited in the Australian Capital Territory under the *Smoke-free Areas (Enclosed Public Places) Act 1994*, which aims to reduce people's exposure to environmental tobacco smoke. By late 1998, all enclosed public places were 'smoke free', including licensed premises. Only premises with an exemption may have limited smoking areas, and these areas must have mechanical ventilation equipment capable of maintaining air quality in accordance with Australian Standards.

Physical activity

- The Commonwealth has developed a national public education campaign (described below), funded economic analysis of the cost of inactivity, funded demonstration projects in several States trialing physical activity interventions aimed at both broad and specific population groups, and funded 44 projects under the Healthy Seniors Initiative to promote the health and well being of older Australians.
- Active Australia is a national initiative promoting population-wide strategies and public policies to increase regular involvement in physical activity. The Active Australia partnership involves the Australian Sports Commission, the Commonwealth Department of Health and Aged Care, the National Office of Local Government and Sport and Recreation departments in all States and Territories. Health, in consultation with State and Territory health departments, has produced a health sector response to the initiative (DHFS 1998). The report, entitled *Developing an Active Australia: a Framework for Action for Physical Activity and Health*, identifies intersectoral collaboration as essential for the efficient development of supportive infrastructure, environments and attitudes to encourage people to become and remain physically active at levels sufficient to achieve benefit to health.
- *Towards Best Practice for the Promotion of Physical Activity in the Areas of NSW* (Bauman et al 1996) provides data on the prevalence of physical activity in New South Wales at both the State and local levels; identifies priority populations for intervention; and identifies best-practice approaches to the promotion of physical activity that can be implemented at the local level. New South Wales physical activity demonstration project grants are directed towards supplementing and enhancing the knowledge needed to specify best practice for the promotion of physical activity at the State and area health service level, with a focus on priority areas such as disadvantaged groups, systems and settings, and environments.

- The NSW Health Centre for Disease Prevention and Health Promotion is involved in developing and implementing an interdepartmental Physical Activity Strategy to maximise awareness by key agencies and the public of the health benefits of regular physical activity of moderate intensity.
- The Victorian physical activity strategy (developed by the Departments of Human Services and of Sport and Recreation) is engaging a wide range of sectors to develop an integrated program of activities to increase participation in regular moderate physical activity, building on previous work done by the Active for Life program in Victoria.
- In South Australia, activities include a State-wide survey to assess levels of physical activity, the development of a State Active Australia Strategic Plan, school-based physical activity projects, local government plans, a project on prescribing of physical activity by general practitioners and several projects aimed at developing supportive environments to encourage people to be more active.
- In Tasmania, physical activity for older people is being promoted through provision of structured education sessions for Senior Citizens clubs and support for the development of safe, suitable physical activity programs. Just Walk It walking groups for people who have had cardiac events are organised all over Tasmania and coordinated by the NHF. Walk/Talk is a forum for coordinators of community recreation walking groups to meet regularly and share resources and knowledge.
- Supportive Environments for Physical Activity is a NHF program which aims to increase environmental support and opportunities for people to be physically active as part of their daily life. The program has been funded by a grant from the Commonwealth Department of Health and Aged Care and aims to work with local governments to influence urban planning. One such project, the Illawarra Physical Activity Project has developed a range of community-wide and inter-sectoral initiatives, using local media and working with local Councils, worksites and schools. Impact evaluation has been undertaken throughout the project.

Nutrition

- A National Public Health Nutrition Strategy has been commissioned by the Commonwealth to assist in achieving equitable and sustainable improvements in nutrition as outlined in the National Food and Nutrition Policy. In the first stage, a Strategic Intergovernmental Nutrition Alliance (SIGNAL) has been established under the NPHP. SIGNAL has membership from the Common-wealth, States and Territories and external expertise and reflects commitment to a coordinated and integrated partnership approach. Continuing monitoring and surveillance of the food system will be important. The second stage will look at the role of the non-government sector in effecting food and nutrition outcomes. Work has commenced on establishing a monitoring and surveillance system for food and nutrition, which will take into account other relevant data collections such as those for heart, stroke and vascular disease and the 1995 National Nutrition Survey (ABS & HEALTH 1998).
- The *Australian Guide to Healthy Eating*, a national food selection guide, has been developed for the Commonwealth, on the basis of recent research in nutrition.

Primary prevention

- Action in response to *Australia's Weight: a Strategic Plan for the Prevention of Overweight and Obesity* (NHMRC 1997c) is principally oriented towards primary prevention of overweight and obesity. A national strategy to implement the recommendations of the report is being developed.
- The New South Wales Nutrition Strategy is based on interventions in institutional settings (eg schools, hospitals, nursing homes). Specific projects include: the Better Health Innovation Award for new food products; a State-wide approach to fruit and vegetable consumption and a monitoring tool for school canteens.
- Current initiatives under the Victorian Nutrition Strategy (Healthy Eating Healthy Victoria) include developing a public awareness campaign; producing a common State-wide nutrition promotion logo and brand; undertaking a review of policy and practice relating to nutrition in various organised care settings; and establishing a new program at Monash University to provide critical analysis support for public health nutrition activity.
- The Garden KaiKai project in the outer islands of the Torres Strait seeks to improve food supplies in remote Indigenous communities through the establishment of community gardens, combined with workshops by nutritionists and diabetes educators. The project was developed by community councils in the participating islands in response to difficulties in obtaining fresh fruit and vegetables. Facilitated by the Tropical Public Health Unit and employing a horticulturist, it was funded by a three-year grant from the Queensland Health Promotion Council.
- The OK Takeaway project, an initiative piloted by the Darling Downs Public Health Unit, aims to increase availability of and demand for nutritious takeaway foods through the use of education and marketing strategies. The project is now being piloted throughout southern Queensland in partnership with local government and community health services.
- Lighten Up is a community-based weight management project supported by the public health services of Queensland Health and offered through the services of professional staff and community volunteers. An adaptation of the project aimed at the Indigenous population, Healthy Weight, is currently being evaluated State wide.
- The Pintubi Homelands Health Service in central Australia is an example of an approach to developing an interagency nutrition program in a remote community. Covering the issues of child nutrition, food policy and store policy, the project involves consumers, the community store and a multidisciplinary health team.
- In South Australia, the What's Eating Enfield healthy food choice project resulted from intersectoral partnership between community health centre nutrition workers (State government) and an Environmental Health Officer (local government). The project was designed to increase the range of, and access to, healthy food available from food outlets in the local area.
- The key objectives of the Eat Well SA Project are to increase the availability of healthy food in settings where children, young people and their families live, are cared for, educated and spend their leisure time. Linkages are made with child care centres, the health-promoting schools framework, training institutions, local government and primary producers.

- The 1995 Western Australian Health Survey provides a comprehensive profile of population subgroups most at risk from poor dietary practices. As well, a report on nutrition-related deaths in Western Australia in 1983–1994, produced in conjunction with the Epidemiology Branch in 1996–1997, showed that 18 per cent of all deaths in West Australia are due to poor nutrition, mainly related to heart disease, stroke, bowel cancer and diabetes.
- State-wide consultation with Indigenous organisations, communities and individuals in Western Australia was conducted this year to develop a nutrition policy and plan for Indigenous peoples.
- Food service guidelines and assessment tools for child-care centres in Western Australia were developed as part of the Cent$ible Food Service Project, a joint initiative with Curtin University, funded by Healthway.
- The Territory Food Project is addressing deficiencies in food supply in remote Indigenous communities where availability of fresh fruit and vegetables and other healthy foods is often severely limited through local monopoly food retailers.
- The Northern Territory Strong Women, Strong Babies, Strong Culture program is addressing the health status of Indigenous mothers and children by enlisting and training older, senior Indigenous women as Strong Women Workers. These women provide leadership and advice to younger women on a range of issues including nutrition. Initial evaluation of three pilot communities indicates that the program has had considerable success, and women in other communities throughout the Northern Territory and interstate are taking up the program.
- The Eat Well Tasmania campaign of the Tasmanian Nutrition Promotion Task-force is in its third year of operation. The Taskforce is an intersectoral coalition with representation from primary producers, manufacturers, retailers, health sector and consumers. The campaign aims to foster an intersectoral approach to nutrition promotion throughout the State. An example of the type of project being supported is the Healthy Options Takeaway project, involving work with local government to provide incentives for local food outlets to offer healthy take-away foods. Financial incentives (a reduction in licensing fees) and marketing and promotion support are offered to food outlets that meet certain nutrition and food hygiene standards.
- In the Australian Capital Territory, the Good Food Good Fun initiative aims to improve nutritional health through promotion of good nutrition at all levels of the food and nutrition system. The initiative promotes the enjoyment of healthy food, supports activities that make healthy food choices easier and encourages links between a broad range of groups working in the areas of food and nutrition. The initiative is occurring over four phases: creating community awareness of the message; introducing the message and approach in the Healthpact Nutrition Grants and Sponsorships program; developing links with generic food retailers; and developing links with the broader food industry and community food services.
- The Australian Capital Territory Lifestyle Changes and Nutrition Program is conducted by the Nutrition Department of The Canberra Hospital. Referral sources are hospital inpatients and outpatients and general practitioner referral following risk factor assessment.

Primary prevention

- Eat Smart for Heart is a NHF primary school nutrition program that addresses education, policy and practice in relation to food and nutrition. It has been implemented in over 250 schools in South Australia over the past five years. Impact evaluation showed positive changes in food provision and promotion in canteens, nutrition teaching in the classroom and children's food choices. Importantly, the program was seen as very enjoyable and positive. In 1998 the program is being revised and updated for national use.

Alcohol

- A National Expert Advisory Committee on Alcohol has been established to provide independent, high-level advice on alcohol issues to the Commonwealth Minister for Health and Aged Care, the newly formed Australian National Council on Drugs, the Ministerial Council on Drug Strategy and the Inter-governmental Committee on Drugs. Activities of this group include the development of a National Alcohol Strategic Plan and the development of a nationally targeted education campaign.
- Four Western Australian communities have signed an accord designed to reduce the harm associated with alcohol consumption. These accords aim to establish a link between the way alcohol is retailed and its effect on a community.

Diabetes

- The *National Diabetes Strategy and Implementation Plan* report (Colagiuri et al 1998) was presented to Health Ministers in March 1998 and is currently being considered by the Commonwealth Government and State and Territory Governments. This report, together with the NHPA report on diabetes to be released in mid-1999, will be the source material for a National Diabetes Strategy to be presented to Health Ministers in July 1999. Specific State and Territory and Commonwealth activity is outlined in the NHPA report.

Key points — Primary prevention of heart, stroke and vascular disease

- There is considerable potential for further reductions in heart, stroke and vascular disease, with the best use of knowledge already available. Primary prevention of behavioural risk factors should include environmentally based strategies that address major societal influences on smoking, over-consumption of certain foods and calories, and inadequate physical activity.
- There is great scope for coordination of health promotion among the main agencies that can improve health. While the health sector should take the lead in preventive actions, it will ensure more lasting effects and better serve the community if it forms long-term partnerships and alliances with other sectors.