

National Health Priority Areas Report

Cardiovascular health

**A report on heart, stroke
and vascular disease**

Summary

1998

Commonwealth Department of Health and Aged Care
Australian Institute of Health and Welfare

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Preface

This is a summary of the National Health Priority Area (NHPA) report on cardiovascular health. The report is one of a series of biennial reports to Health Ministers on each NHPA – cardiovascular health, cancer control, mental health, injury prevention and control, and diabetes mellitus. These areas all have a significant impact on the health of Australians and offer potential for considerable health gain.

The reports are part of an encompassing NHPA process that involves various levels of government, the National Health and Medical Research Council and the Australian Institute of Health and Welfare, and draws on expert advice from the non-government sector.

There is considerable overlap between the priority areas, in terms of factors that contribute to greater risk and barriers to better prevention and care. The NHPA process recognises that broader population health initiatives that target these risk factors and barriers will bring benefits across priority areas. It also recognises that strategies to reduce the burden of illness should encompass the continuum of care from prevention through to treatment, management and long-term care, supported by appropriate research and monitoring.

Health Ministers agreed in July 1996 that reports should be developed on each of the priority areas. The *First Report on National Health Priority Areas 1996* provided an overview of the five NHPAs and discussed the work program for the initiative. Reports on injury prevention and control and on cancer control were published in July 1998 and have provided a basis for further action in those fields. Reports on cardiovascular health, mental health and diabetes mellitus are being released in July 1999.

The NHPA cardiovascular health report was developed through an Expert Advisory Committee appointed by the National Health Priority Committee. The process involved consultation with the Commonwealth Government and State and Territory Governments, the Australian Institute of Health and Welfare, and with a wide range of those active in the field of cardiovascular health, including consumer groups, peak community groups and health care professionals.

This summary aims to present the key messages of the cardiovascular health report, and highlight opportunities for improving the cardiovascular health of Australians. Readers requiring more detail about any of the points in this summary should consult the main report.

Background

Cardiovascular health is a great test case for Australia's future well being. In recent decades, Australians have enjoyed greater life expectancy and a lower prevalence of some risk factors for heart, stroke and vascular disease. Australia and other developed countries have also made major advances in preventing heart, stroke and vascular disease and treating it once it occurs.

Despite this, heart, stroke and vascular disease is a leading cause of mortality and morbidity in Australia, and its health and economic burden exceeds that of any other disease. Since cardiovascular conditions such as heart attack, stroke and heart failure particularly affect older people, their public health impact will increase greatly with the progressive ageing of the population.

Certain groups in the population have significantly higher mortality from heart, stroke and vascular disease than other groups, particularly Indigenous Australians and those of lower socio-economic status. There is a clear need to reduce heart, stroke and vascular disease mortality in less advantaged groups.

It is now agreed that most of the premature deaths and much of the morbidity caused by heart, stroke and vascular disease are preventable. Furthermore, since heart, stroke and vascular disease shares risk factors with several other diseases and conditions, the health gains can be extended further. A number of major types of cancer (Australia's other main source of illness and premature death) share important and preventable risk factors with heart, stroke and vascular disease. These include tobacco smoking, physical inactivity, a diet high in fats and overweight. The latter three are also important in the prevention and management of the most common form of diabetes, another leading cause of mortality and morbidity in Australia. This suggests that prevention can occur on a broad front and bring even wider gains than those relating to cardiovascular health.

Profile of heart, stroke and vascular disease

Heart, stroke and vascular disease comprises all diseases of the heart and blood vessels including coronary heart disease, stroke, heart failure and peripheral vascular disease. These are mainly caused by a damaged blood supply to the heart, brain and legs, and share a number of behavioural and physiological risk factors (Table 1).

Table 1: Risk factors for coronary heart disease and stroke

Risk factor	Coronary heart disease	Stroke
<i>Demographic and hereditary factors</i>		
Age	✓	✓
Sex	✓	—
Family history of disease	✓	✓
<i>Behavioural risk factors</i>		
Tobacco smoking	✓	✓
Physical inactivity	✓	✓
Poor nutrition	✓	✓
High consumption of alcohol	✓	✓
<i>Physiological risk factors</i>		
High blood pressure	✓	✓
Elevated blood lipids	✓	✓
Overweight and obesity	✓	✓
Diabetes mellitus	✓	✓
Non-valvular atrial fibrillation	—	✓
Transient ischaemic attack	—	✓

Note: ✓ substantial evidence of association between the risk factor and the disease;
— no known association.

Profile of heart, stroke and vascular disease

These risk factors are strongly influenced by the circumstances in which people live and work.

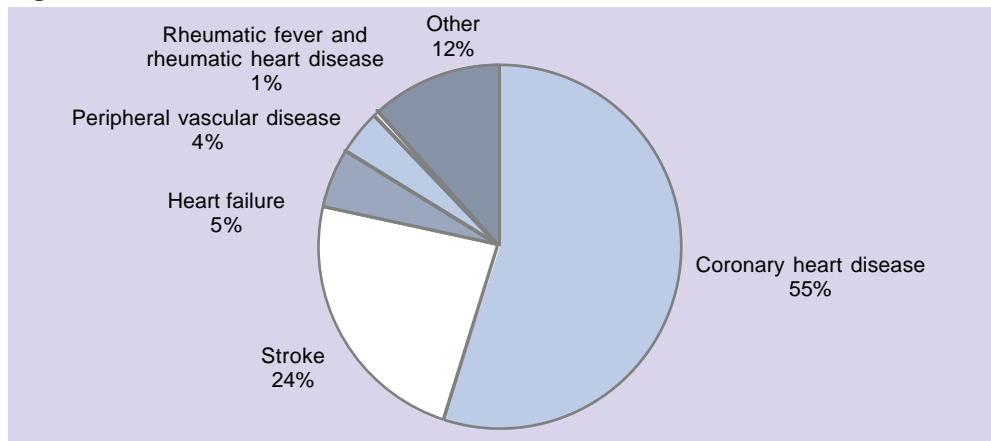
Because most heart, stroke and vascular disease has a common main cause, people with one cardiovascular condition are more likely to develop another. Also, because heart, stroke and vascular disease shares risk factors with other common conditions such as diabetes and some cancers, having one of these conditions can predispose to another.

Size of the problem

Heart, stroke and vascular disease is the largest cause of premature death and death overall in Australia, accounting for 42per cent of all deaths in 1996. It is also responsible for much ill health and disability.

Of the cardiovascular conditions, coronary heart disease is the major cause of death in those aged less than 70 years. Stroke is one of the principal causes of serious long-term disability (Figure 1).

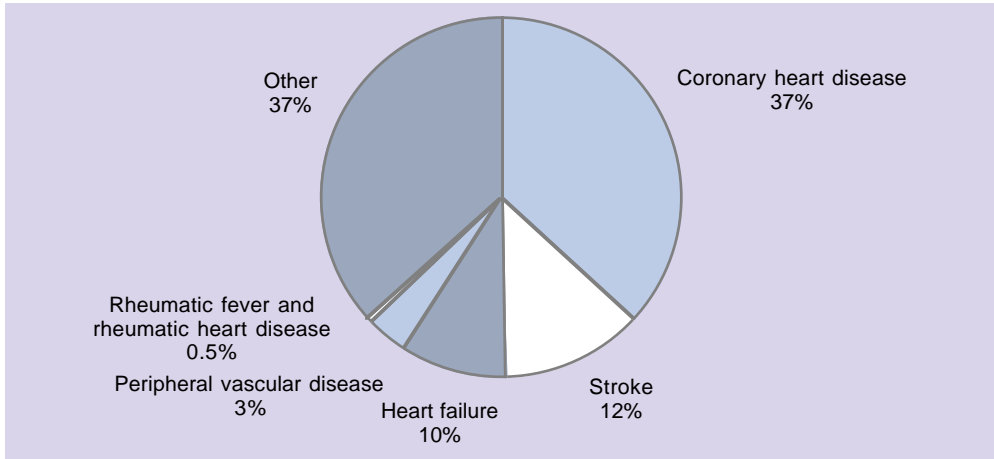
Figure 1: Deaths due to heart, stroke and vascular disease, Australia, 1996



Heart, stroke and vascular disease accounts for 12.5per cent of all problems managed by general practitioners and 8per cent of all hospital separations each year (Figure 2).

NHPA report on cardiovascular health: summary

Figure 2: Admissions to hospital for heart, stroke and vascular disease, Australia, 1996–97

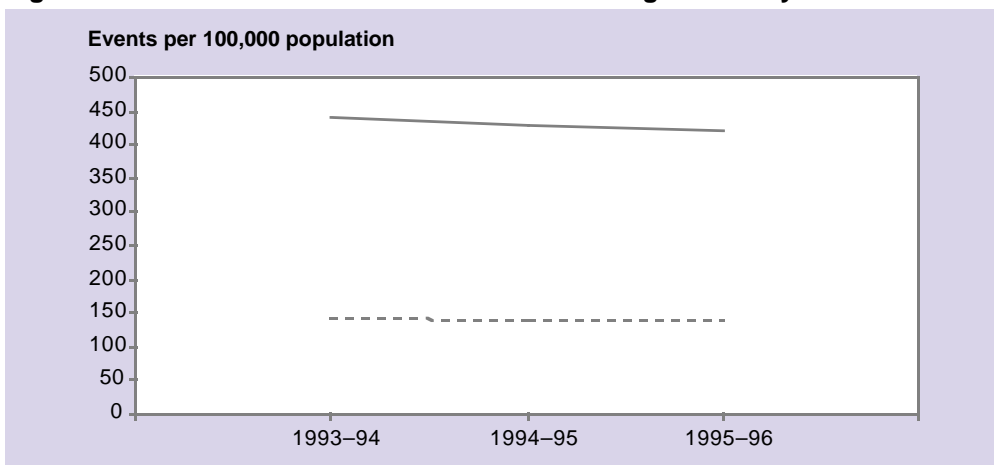


In 1995, an estimated 2.8 million Australians aged 18 years and over reported a recent and/or long-term cardiovascular condition, such as high blood pressure. The prevalence of these conditions increased with age, from 4 per cent among 18–24 year olds to 61 per cent among those aged 75 years and over.

The annual incidence of coronary events in Australia in 1995–96, mainly heart attacks, was estimated at 421 per 100,000 among males aged 35–69 years, and 137 per 100,000 among females of the same age.

In about one in four cases, the first clinical sign of coronary heart disease is fatal, highlighting the importance of effective prevention and early treatment.

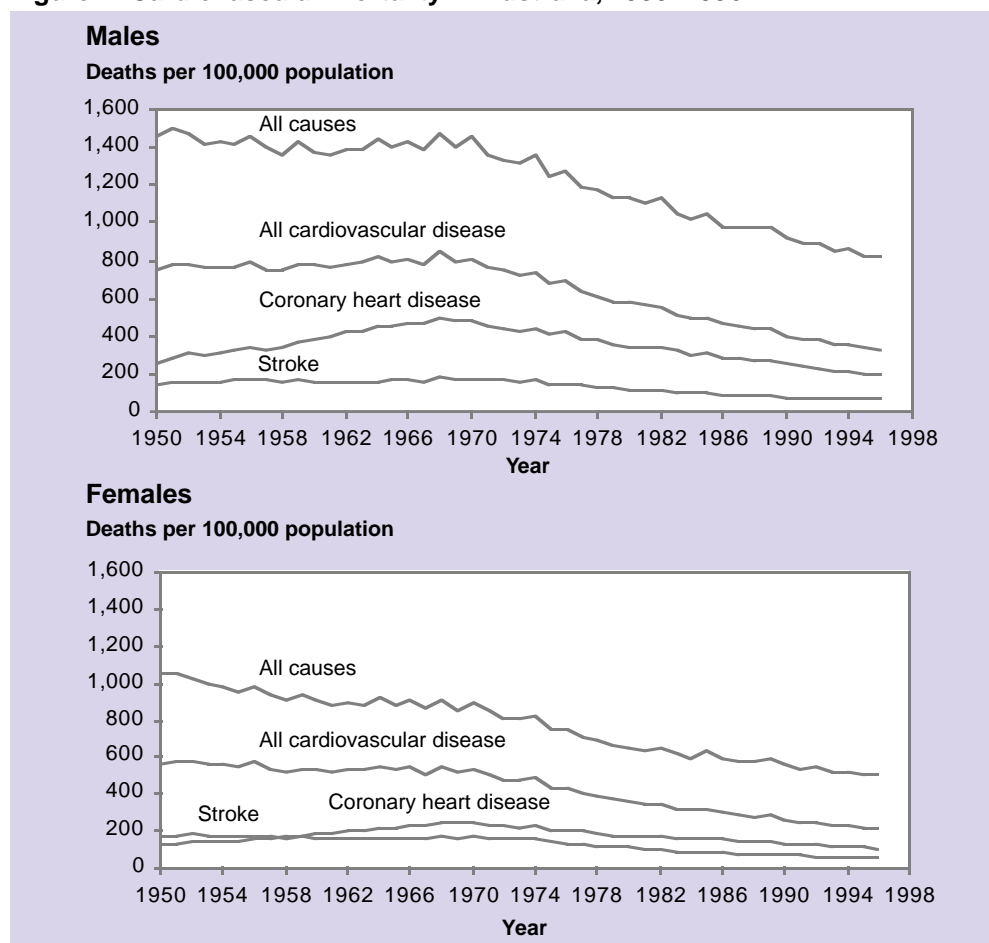
Figure 3: Incidence of heart attack in Australians aged 30–69 years



Trends in mortality

There has been a significant decline in mortality from heart, stroke and vascular disease in Australia over the past 30 years. This downward trend has occurred among males and females of all ages, and is more rapid than falls in mortality overall (Figure 4).

Figure 4: Cardiovascular mortality in Australia, 1950–1996



Between 1985 and 1996, heart, stroke and vascular disease death rates declined by about 3.6 per cent per year among both males and females. Deaths from heart attacks, the major contributor to coronary heart disease mortality, fell at an annual rate of 5.5 per cent among males and 4.7 per cent among females. Mortality from stroke decreased by 3.4 per cent per year among males and 3.8 per cent per year among females, and the decline occurred in all age groups.

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The continuing decline in mortality suggests that heart, stroke and vascular disease is largely preventable.

International comparisons

Despite the continuing fall in mortality, comparisons with other countries suggest that there is much room for further improvement in the cardiovascular health of Australians.

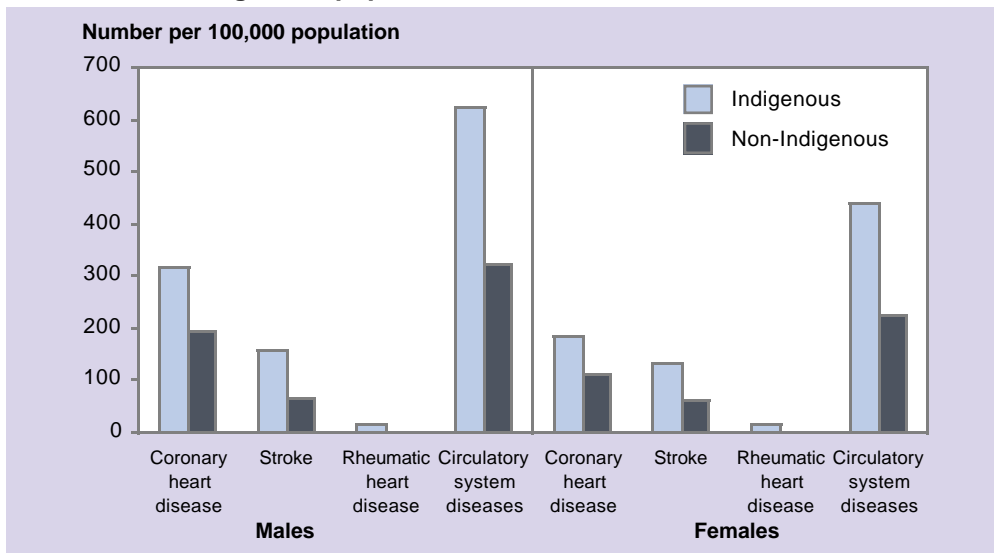
Internationally, Australia ranks ninth lowest out of 29 OECD countries in age-standardised death rates for all heart, stroke and vascular disease. Even so, these rates are 61per cent higher than for Hong Kong (among males) and 65per cent higher than for France (among females). Australian death rates for coronary heart disease are several times greater than those in Japan and France.

Groups at higher risk

The burden of heart, stroke and vascular disease is greater among certain groups in the population.

Indigenous Australians die from heart, stroke and vascular disease at twice the rate of non-Indigenous Australians. The most striking difference is in mortality from rheumatic heart disease, which is eleven times higher in Indigenous males and seven times higher in Indigenous females than in the general population.

Figure 5: Mortality from heart, stroke and vascular disease, Indigenous and non-Indigenous populations, 1994–1996

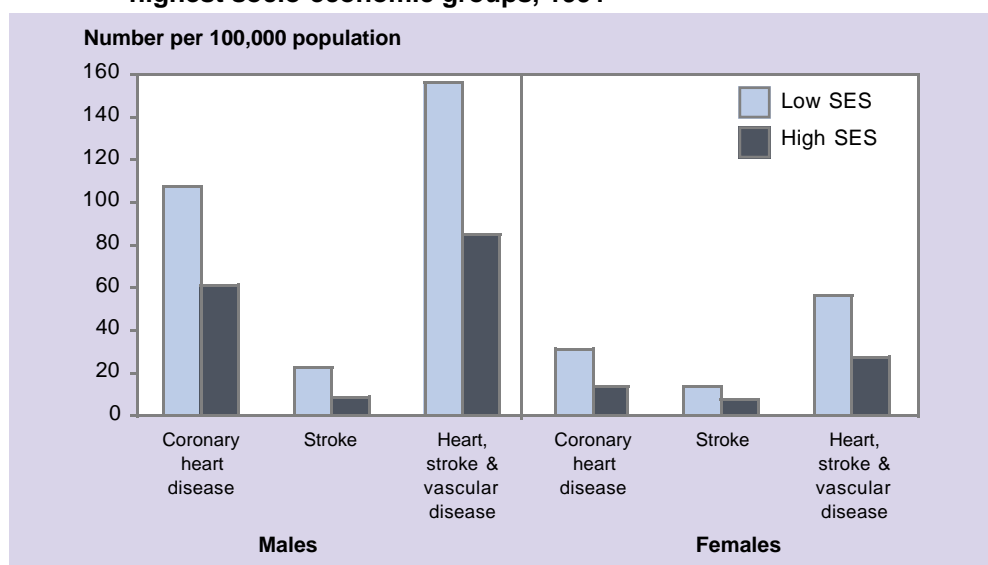


Profile of heart, stroke and vascular disease

The prevalence of smoking, high-risk alcohol use and diabetes is more than twice as high in Indigenous Australians than in the general population.

In Australia, as in other developed countries, *socio-economically disadvantaged* people are at greater risk of heart, stroke and vascular disease. Death rates for coronary heart disease and stroke among people of working age living in the most socio-economically disadvantaged areas are around double those of people in the least socio-economically disadvantaged areas.

Figure 6: Mortality from heart, stroke and vascular disease, lowest and highest socio-economic groups, 1991



Smoking is almost twice as common among people in disadvantaged circumstances. High-risk drinking, physical inactivity, obesity and high blood pressure are also more prevalent in low than in high socio-economic groups.

Mortality from heart, stroke and vascular disease, other than rheumatic heart disease, is marginally higher in *rural and remote areas* than in urban areas. In terms of cardiovascular health, the major issues for remote populations are about access to services rather than health differentials.

Increasing burden

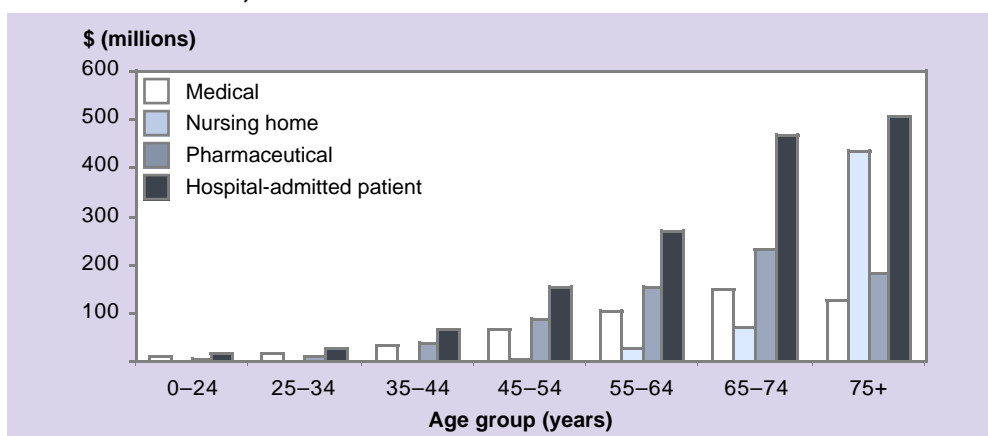
The number of people with heart, stroke and vascular disease is expected to increase dramatically over the next few decades, as advances in treatment and management shift the burden of the disease to higher age groups and the number of older Australians continues to increase.

The burden of heart failure and stroke in particular, but also heart attack, is likely to increase. There needs to be more emphasis than previously on reducing disability and improving the quality of life of older Australians.

Health system costs

The total direct costs of heart, stroke and vascular disease, estimated at \$3,719 million, represent 12per cent of the total health care costs for all diseases in 1993–94.

Figure 7: Costs of heart, stroke and vascular disease health care, Australia, 1993–94



The health care costs of heart, stroke and vascular disease increase with age for both sexes, with 65per cent of the total spent on those aged over 64 years. The rise is particularly marked for hospital expenditure for admitted patients after age 64, and nursing homes after age 74.

Currently, Australians aged 65 years or more comprise 12per cent of the population, but account for about two-thirds of cardiovascular health care costs. As the population ages, rising levels of treatment with drugs and other medical interventions will place increasing demand on the health care system.

Current activity and progress

The current status of heart, stroke and vascular disease in Australia can be looked at through both the range of activity in prevention and management, and the assessment of progress towards its reduction as a health problem.

Current activity

Initiatives related to heart, stroke and vascular disease are many and diverse. Some of these are policies and programs originating with the Commonwealth Government and/or State and Territory Governments. Non-government organisations such as the National Heart Foundation, National Stroke Foundation and Brain Foundation play an important role in prevention and management, along with community organisations, general practitioners, professional bodies, educational institutions, Indigenous and ethnic organisations, the pharmaceutical industry, and private enterprise.¹ Altogether there is an impressive level of current activity, the results of which need to be widely disseminated and built upon. Of particular importance is the growing focus on collaboration in primary and secondary prevention programs, and in the integration of treatment and rehabilitation services.

For example, the Commonwealth Government and State and Territory Governments are collaborating on a range of national initiatives to increase public awareness of lifestyle-related risk factors. The National Public Health Partnership aims to plan and coordinate national public health activities and provide a more systematic and strategic approach for addressing public health priorities. A framework for a National Primary Prevention Strategy is also being developed, to integrate programs on physical activity, diet, tobacco and alcohol and target the major chronic non-communicable diseases including heart, stroke and vascular disease.

1 Chapters 3 and 4 of the NHPA cardiovascular health report describe examples of key initiatives being undertaken around Australia.

Measuring progress

Under the NHPA initiative, progress is measured by time trends in risk factor prevalence, morbidity and mortality.

A set of priority indicators has been developed for NHPA monitoring and reporting that includes 22 indicators for cardiovascular health, and eight risk factor indicators that are also relevant to other NHPAs and to the health of Australians in general.

There have been positive outcomes in several areas for which trend data are available. Death rates for coronary heart disease and stroke have decreased. Prevalence rates for two major risk factors, adult tobacco smoking and high blood pressure, have continued to fall. However, there has been little change in recreational physical activity levels over the past 20 years. Of particular concern is the continuing rise in the prevalence of overweight and obesity. Table 2 summarises the trends for some of these indicators.

Table 2: Summary of trends for selected indicators

Favourable trend	Smoking rates in adults Blood pressure levels Contribution of saturated fat to total energy intake Coronary heart disease death rates Stroke death rates
Little or no change	Smoking rates in adolescents Participation in physical activity
Unfavourable trend	Prevalence of overweight or obesity
Insufficient data	Cholesterol levels Incidence of heart attack or stroke Disability rates
No national data	Time to hospital from symptom onset Use of rehabilitation programs Angioplasty or bypass surgery outcomes Case fatality rates

Key issues

It is clear that heart, stroke and vascular disease places a heavy burden on society in terms of illness, disability and economic cost, despite the improvements in death rates in recent decades. There is great potential for further reductions in cardiovascular morbidity and mortality, through improved prevention and treatment in the whole population as well as in high-risk groups. For example, it is estimated that there could be about 38per cent fewer coronary events and 41per cent fewer coronary deaths in people aged 35–79 years in Australia, if the most effective prevention and treatment interventions were fully implemented.²

Far too many Australians remain at higher risk of heart, stroke and vascular disease through lifestyle-related behaviours. In those who develop heart, stroke and vascular disease, effective treatment and continuing care are needed to reduce deaths and the recurrence of events such as heart attack and stroke.

Fostering research, monitoring disease trends and differentials and applying technology to improving information management are also important, as they underpin developments in prevention and management.

Prevention

A range of evidence suggests that high levels of heart, stroke and vascular disease can be reduced dramatically, given enough time and effort.

The great challenge for prevention is to turn this theoretical scope into practice, maintaining the favourable trends of some risk factors and reversing worsening trends in others.

Another challenge is to attend to the social, economic and environmental conditions that can influence the level of risk factors, as well as other social and psychological aspects that affect cardiovascular health.

The reduction in tobacco smoking, for example, has been largely due to a combination of legislative, educational and economic approaches. There are many opportunities to decrease tobacco smoking further, and to promote physical activity, good nutrition, reduction of overweight and obesity, and successful management of risk factors. While the health

² Estimates and methodology are given in Chapter 5 of the NHPA cardiovascular health report.

sector should take the lead in preventive actions, it will ensure more lasting effects if it forms long-term partnerships and alliances with other sectors.

As mentioned under *Current activity*, work is in progress at Commonwealth, State and Territory, and regional levels to establish such partnerships, improve the infrastructure for primary prevention and coordinate health promotion activity across major health issues.

Management

The management of patients with heart, stroke and vascular disease aims to reduce mortality and morbidity, and improve quality of life, through emergency treatment, medical therapy and interventions. In the long term, management involves secondary prevention to modify risk factors, and continuing medical treatment to reduce risk factor levels and control symptoms. Rehabilitation is an important part of the long-term management of coronary heart disease and stroke.

Despite continuing advances in the management of heart, stroke and vascular disease, in many areas there is a substantial gap between accepted best practice and current practice, as follows.

- Too few eligible patients with heart attack, unstable angina or stroke receive appropriate drug therapy.
- There are currently insufficient stroke units nationwide, and access to a stroke unit may not be available to all eligible patients.
- There is wide variation in use of techniques employed for cardiac interventions such as bypass surgery and coronary angioplasty, with limited access to facilities and specialists causing long waiting times in some States.
- Current funding mechanisms do not facilitate coordinated ‘shared’ care of patients with heart failure or severe peripheral vascular disease, although such an approach has been shown to decrease costly hospital re-admissions.
- Cardiac rehabilitation has been shown to have both short and long-term benefits, but rates of participation in cardiac rehabilitation programs are less than desirable.
- Stroke rehabilitation services vary greatly between geographical areas, with clustering in some areas and few or no services available in others.

The development and endorsement of guidelines to encourage evidence-based practice will continue through the National Health and Medical Research Council, with the involvement of non-government organisations and specialist colleges.

It is essential to have an appropriate infrastructure for the regular review, dissemination and implementation of clinical practice guidelines. At present, little is known about the impact of guidelines on the use of various treatments, health outcomes or costs.

Research

Specific strategies for improving cardiovascular health should be underpinned by evidence based on appropriate research. Australia has international standing for its biomedical research, and the area of heart, stroke and vascular disease is at the forefront of these achievements. In addition, significant research has been undertaken linking social environment issues to health status.

The Commonwealth Government, State and Territory Governments, and non-government organisations all contribute to research funding for heart, stroke and vascular disease in Australia. However, the major organisations that support grants for cardiovascular research can now provide funding for only about 25per cent of applications, despite ranking most of the projects as worthy of funding.

Recent experiences with private industry partnerships highlight opportunities for substantial industry funding from multinational companies to support clinical research.

Special populations

Groups with worse cardiovascular health than the general population share some factors that contribute to their greater risk, such as higher prevalence of risk factors and reduced access or use of prevention programs and treatment services.

Indigenous Australians

Despite the higher levels of mortality and morbidity from heart, stroke and vascular disease among Indigenous Australians, special programs for prevention are fragmented and there are no clearly identified sources of funding for such programs at an appropriate scale. There are also barriers to accessing mainstream health services. Current efforts may

not be sufficient for nationally agreed targets for mortality reduction and risk factor improvement in the Indigenous population to be achieved within the defined period.

While there will be gains from improved access to treatment, there is even greater potential from improved primary and secondary prevention. These services should not be seen as competitive and need to be adequately funded under a balanced, comprehensive and coordinated approach.

Rheumatic heart disease represents a significant and entirely preventable cause of morbidity and mortality among Indigenous Australians. Organised primary health care is essential for the control of rheumatic fever.

Socio-economically disadvantaged Australians

Health inequalities are caused by the interplay of risk factors and social and economic circumstances. Policy initiatives to address health inequalities require coordination across sectors of government, and should aim to:

- improve living and working conditions;
- reduce poverty and unemployment; and
- influence people's health-related attitudes and behaviours, through sensitive interventions that combine education and support with action at other policy levels, and improve access to health and social services according to need.

Remote area residents

Access to health services is a problem for most people living in remote areas. Distance is a major factor, with poor roads and unreliable communication systems contributing to the isolation.

The difficulties of recruiting and retaining health professionals in remote areas are generally understood. Professional and geographic isolation, continuing education and overwork, accommodation and transport all have an impact on staff and ultimately on the availability of services.

As well as addressing service delivery issues, there is a need to improve supplies of affordable fresh fruit and vegetables in remote areas. This may require subsidies, reduction of transport costs, grants for upgrade of storage facilities and support for production of locally grown produce.

Monitoring and information management

The National Centre for Monitoring Cardiovascular Disease at the Australian Institute of Health and Welfare is developing an integrated information system that will cover major aspects of prevention, management and mortality for individual heart, stroke and vascular diseases, as well as monitoring differences between population groups.

Important data issues include:

- an urgent need for a national risk factor prevalence survey which includes taking a blood sample from participants;
- the number of potential indicators of cardiovascular health for which there are no data or insufficient data to estimate trends;
- the development of data standards for monitoring prevalence of risk factors;
- the need to improve the quality of data relating to the health of Indigenous Australians; and
- the need to address deficiencies in hospital separations data so they can be used to measure disease incidence.

The way forward

Given the size of the burden it imposes and the extent of knowledge on which to base further endeavours, there is great potential to improve the health of all Australians through changes in cardiovascular health.

Achieving this potential improvement in cardiovascular health will require new approaches and sometimes new systems to support them. There is still a great challenge to achieve adequate funding, integration of effort and long-term strategic planning. This action will involve governments at all levels, the private sector, and non-government and community organisations.

Governments have a range of broad levers at their disposal to foster better programs and practice and to discourage inappropriate practice. A number of these levers could be employed within the following priority areas for cardiovascular health.

National focus on cardiovascular health

Although cardiovascular health is an NHPA, it lacks a secure long-term national focus from which policies and activities can emanate. National approaches exist for other NHPAs, and major achievements have occurred with programs such as HIV control and screening for cervical cancer.

To ensure a strategic long-term approach to heart, stroke and vascular disease, a similar multidisciplinary approach should be established to help coordinate prevention and guide management. It should involve government, non-government organisations, colleges of health professionals and consumer groups. There should also be provision for regular review of progress and future opportunities.

Recommendation

- A national focus on cardiovascular health should be established, through a national program area within the Department of Health and Aged Care. This would support a national expert advisory group on heart, stroke and vascular disease, which could advise Commonwealth Government and State and Territory Governments through existing mechanisms.

Coordinating primary prevention

There are already highly developed, largely evidence-based, programs to address risk factors for heart, stroke and vascular disease and other major health issues through strategies developed by governments and non-government organisations.

National action in these areas will be most effective if there is coordination across different program areas, consistent health messages and adequate funding.

The National Public Health Partnership and National Primary Prevention Strategy should contribute much to this area. Currently, there is no funding infrastructure in place to address coordination issues. However, several innovative proposals could be further explored to draw together processes and principles established under existing arrangements.

Recommendation

- Approaches to primary prevention should be integrated nationally through the National Public Health Partnership and the framework for the National Primary Prevention Strategy, and resourced at the level required for effective action.

National mechanism for development, review and implementation of best-practice guidelines

There is a gap between accepted best practice and usual practice in the management of patients with heart, stroke and vascular disease.

The Commonwealth is likely to maintain overall responsibility for ensuring that clinical practice guidelines are developed. However, many of the issues central to implementing change in practice are service design issues and require the involvement of State and Territory and local government and non-government groups to ensure high uptake.

Recommendation

- A nationally coordinated mechanism to ensure regularly updated systematic reviews and guidelines are available should be linked to local planning and quality improvement processes for implementation.

Focus on stroke

Stroke is a major public health problem in Australia, but the area has received less emphasis and funding than coronary heart disease. Many issues in stroke will be addressed by better coordination of preventive activities and the development, implementation and review of best-practice guidelines. However, any national approach to cardiovascular health should include a specific focus on stroke.

Recommendation

- A national approach to cardiovascular health should include a focus on stroke, which involves all relevant stakeholders and addresses specific stroke-related issues across the continuum of care.

Addressing the needs of special populations

For populations with worse cardiovascular health than the general population, it is particularly important to tackle the underlying causes of inequalities in health.

A key aim of public policy in the next millennium must be to design cross-sectoral interventions that improve the health of these populations and reduce gaps in health status. Government policy initiatives at all levels need to be examined for their likely impact on the health of disadvantaged populations.

Recommendation

- There should be a strategic and coordinated approach to developing and implementing prevention programs and primary health care in special population groups, especially Indigenous populations, with sufficient funds and infrastructure for this purpose. All programs must be appropriate to local needs and conditions.

Improving monitoring and information management

The activities of the National Centre for Monitoring Cardiovascular Disease should be continued and expanded. There is an urgent need for a national risk factor prevalence survey which includes taking a blood sample from participants, and which collects data relevant to all NHPAs.

A range of evolving technologies should be explored for their usefulness in improving information management. These include unique patient identifiers to facilitate record linkage, increased use of computerised clinical records in general practice, and use of information technology to facilitate education of health professionals working in remote regions.

Recommendation

- There should be continued funding of the national system for monitoring cardiovascular disease, through the Australian Institute of Health and Welfare, and funds allocated for the conduct of a national risk factor prevalence survey which includes taking a blood sample from participants.

Keeping track

This report aims to inform governments and the community about areas of intervention that will have most impact in terms of sustainable improvements and outcomes in cardiovascular health.

Progress in coordinating prevention across major health issues, the promotion of evidence-based practice in emergency and continuing care, and specific attention to the needs of special populations will require collaboration and partnerships across all sectors.

In addition, monitoring progress and reporting developments are imperative to inform future direction. The NHPA reporting process provides the opportunity to monitor the impact of national and State-based strategies and identify opportunities for improvement. The next NHPA report on cardiovascular health will assess the impact of strategic, collaborative action arising from this report and point to future opportunities. The continuing involvement and commitment of all players will be central to ensuring the progress of the initiative.