
Heart, stroke and vascular health in Australia: resource digest

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Preface

The National Heart Stroke, and Vascular Health Strategies Group was established in 2001; its task is to develop a strategic framework for heart, stroke and vascular health in Australia. Membership of the Strategies Group is as follows:

- Professor John Chalmers (Chair)—Institute for International Health, University of Sydney
- Ms Melissa Burton—Australian Capital Territory representative while digest was being developed
- Ms Karen Carey-Hazell—Consumers Health Forum of Australia
- Professor Geoff Donnan—National Stroke Foundation of Australia
- Ms Liz Gill—New South Wales representative
- Professor Graeme Hankey—Stroke Society of Australasia
- Mr Robert Holt—National Aboriginal Community Controlled Health Organisation
- Professor Garry Jennings—Cardiac Society of Australia and New Zealand
- Ms Colleen Krestensen—Commonwealth representative
- Professor Ian Ring—public health representative
- Mr Paul Stephenson—National Health Priority Action Council
- Dr Jeanette Tait—General Practice Partnership Advisory Council
- Professor Andrew Tonkin—National Health Foundation of Australia.

Recognising the importance of building on previous work in the area of heart, stroke and vascular health in Australia, the Strategies Group wanted to draw together relevant information that has been recently produced in Australia and to develop a resource digest as a working document.

It was originally intended that the digest would be an internal document—a background briefing for the Strategies Group—but, in response to requests, it is being made more widely available in the hope that it might also help others working in the subject area. In this regard, the following should be noted:

- The digest does not purport to be a full literature review. In addition, because of the limited nature and time frame of the project, some important publications may have been excluded.
- Selection for inclusion in the digest was mainly on the basis of recommendations by members of the Strategies Group, who were asked to nominate publications they considered to be of national significance.
- Journal articles are, in general, excluded.
- The digest does not include all state and territory publications, although some that are relevant at a national level are included.

- The Strategies Group aims to update this digest in the future and would welcome nominations of any relevant documents to be included in this document.

The digest is arranged in three parts:

- Part A provides bibliographic details and a summary of each publication.
- In Part B information is summarised according to 10 themes, as identified by the Strategies Group, and cross-referenced to the publications in Part A.
- Part C summarises published guidelines relating to the management of heart, stroke and vascular disease.

Appendix 1 lists Australian Institute of Health and Welfare publications relating to heart, stroke and vascular health.

A number of people made valuable contributions to the development of the digest:

- Dr Andrew Boyden—National Heart Foundation of Australia
- Dr Sophie Couzos—National Aboriginal Community Controlled Health Organisation
- Professor Stephen Davis—Stroke Society of Australasia
- Ms Bonnie Field—Australian Institute of Health and Welfare
- Ms Cate Brown, Ms Krissa O’Neil and Mr Louis Young—Commonwealth Department of Health and Ageing.

Part A:
Annotated bibliography

A.1: The National Health Priority Areas report on cardiovascular health

Bibliographic details

Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra. (208 pp.)

Context

This comprehensive publication provides updated data, discusses trends, reports on progress, and identifies opportunities for further improvement. The National Health Priority Committee appointed an expert advisory group to oversee development of the report.

Five working groups assisted it in the following areas: cardiac and vascular disease; stroke; primary prevention; Aboriginal and Torres Strait Islander and remote populations; and information management. The report-development process involved extensive consultations throughout Australia.

Main subject areas

The report documents results for 22 indicators for cardiovascular health and eight risk factor indicators that are relevant to other National Health Priority Areas and health in general.

The following are the main subject areas:

- the current extent, nature and cost of, and long-term trends associated with, heart, stroke and vascular disease in Australia
- the current status of the indicators and risk factors, including newly developed indicators for stroke
- primary prevention and current activity in Australia
- diagnosis, treatment and management; secondary prevention and rehabilitation; and examples of work in this area in Australia
- the potential gains from successfully applied preventive and treatment strategies
- cardiovascular health among Aboriginal and Torres Strait Islander people, people living in remote areas, and socio-economically disadvantaged people
- monitoring, information management and research
- recommendations for continued improvement in prevention and management
- data deficiencies and requirements.

Data sources

The data used are primarily from the Australian Institute of Health and Welfare's National Cardiovascular System and National Mortality Databases. Appendix 3 of the report lists the surveys used to gather the data.

Findings

The report's numerous findings deal with the following:

- the social, economic and environmental conditions that influence the level of risk factors
- adequate funding, integrated effort, and long-term strategic planning
- development of partnerships with other sectors
- infrastructure for primary prevention
- coordination of health-promotion activities
- preventing disability and improving quality of life in an ageing population
- failure to achieve best practice in a number of areas
- lack of government funding for research
- in the case of the three disadvantaged populations, the need for intersectoral action to tackle the underlying causes of inequalities in health
- the urgent need for a national risk factor prevalence survey
- exploring new information-management technologies.

Priorities and recommendations

Six major priorities for action are identified and a recommendation made for each one:

A long-term, multi-disciplinary, national focus on heart, stroke and vascular disease

- A national program area to be established within the Department of Health and Ageing. The program area would support a Cardiovascular Health Advisory Committee, which would advise the Commonwealth, state and territory governments through mechanisms such as the National Health Priority Committee and the National Public Health Partnership.

Coordinated primary prevention across National Health Priority Areas, consistent messages, and adequate funding

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

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

- Regularly updated, systematic reviews and guidelines linked to local planning and quality-improvement processes for implementation.

Greater emphasis on, and funding for, stroke within the national focus

- A national approach to include a focus on stroke, involving all relevant stakeholders and taking account of specific stroke-related matters across the continuum of care.

Cross-sectoral interventions aimed at disadvantaged population groups

- A strategic, coordinated approach to the development and implementation of prevention programs and primary health care in special population groups, especially Aboriginal and Torres Strait Islander populations, with sufficient funds for this purpose. All programs must be appropriate to local needs and conditions.

Continuation and expansion of the work of the National Centre for Monitoring Cardiovascular Disease

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

A.2: Heart, stroke and vascular diseases: Australian facts

Bibliographic details

Australian Institute of Health and Welfare 2001, *Heart, Stroke and Vascular Diseases: Australian facts, 2001*, AIHW cat. no. CVD 13, AIHW, National Heart Foundation of Australia & National Stroke Foundation of Australia, Canberra. (108 pp.)

Context

This second report in the *Australian facts* series was prepared by staff of the National Centre for Monitoring Cardiovascular Disease. The series is produced by the Australian Institute of Health and Welfare in collaboration with the National Heart Foundation of Australia.

Other important contributors to the 2001 report were the National Stroke Foundation of Australia and the Department of Health and Ageing. In addition, the International Diabetes Institute provided access to recent risk factor data and diabetes data collected in the 1999–2000 AusDiab survey.

Main subject areas

The report provides statistics and information about the following:

- types of cardiovascular disease—including rheumatic heart disease—and international comparisons
- risk factors—including diabetes
- death rates (using various criteria), hospitalisation rates, rates of change in death rates, and health system costs
- treatment and care—drugs, procedures, rehabilitation and costs
- physical activity
- Aboriginal and Torres Strait peoples
- the definitions and methods used in preparing the report.

Data sources

The main data sources relied on for the report are national surveys dating back to 1980 and various national registers and databases.

Findings

The report notes a number of findings, or 'highlights':

- Cardiovascular disease continues to place a heavy burden on Australians—in terms of deaths, hospitalisations, health care costs, and future risks.
- The burden is most acute among Aboriginal and Torres Strait Islander people and people of lower socio-economic status.
- Much cardiovascular disease is preventable.
- There are favourable trends in some risk factors—high blood pressure, tobacco smoking and high blood cholesterol—but not in levels of physical activity and overweight and obesity.
- Advances in treatment and care—medical and surgical interventions, emergency care, drug therapies, provision of lifestyle advice, rehabilitation, and follow-up care—should lead to further improvement in outcomes.

Priorities and recommendations

The report makes no formal recommendations: it serves simply to provide up-to-date data on and information about trends in heart, stroke and vascular disease in Australia.

A.3: The National Stroke Strategy

Bibliographic details

Stroke Australia Task Force 1997, *National Stroke Strategy*, National Stroke Foundation, Melbourne. (77 pp.)

Context

The 1994 policy document *Better Health Outcomes for Australians* recommended the development of a national stroke strategy.

The National Stroke Foundation initiated the development of this strategy document, which represents the first step in a national campaign to increase awareness of stroke and reduce its impact.

The Stroke Australia Task Force, with 13 members, was charged with specifying 'goals, targets and strategies' for stroke in Australia.

Main subject areas

Stroke constitutes a major health challenge that has for too long gone unaddressed.

The report is divided into five main subject areas:

- prevention
- acute management
- rehabilitation and community care
- social equity
- research.

A broad vision, and goals and strategies accompany each subject area.

Data sources

The strategy is based on data and information from a wide range of sources, principally Australian, US and UK journals.

Findings

The document presents a number of findings, among them the following:

- Data on the costs of stroke are limited, and particularly so in relation to costs from the perspective of survivors and their carers.
- Continuing compilation of accurate data—on stroke-related costs, the cost-effectiveness of treatments, and the economic effects of new technologies and changing patterns of care—must be a priority.
- Savings could be achieved through effective preventive measures; improved outcomes, in both acute care and rehabilitation; and shorter hospital stays.
- Baseline data and facilities for monitoring change are inadequate. As a result, the Task Force's visions, goals and targets are restricted to broad 'statements of intent'.

Goals and targets

Goals and targets are outlined for nine areas:

Resourcing best practice stroke care

- to determine the economic impact of future reductions in stroke incidence, prevalence and mortality; to assess the potential cost savings from implementing best-practice in stroke care;
- to set up a system for assessing new medical interventions in the area of stroke and regular economic impact studies of existing and new interventions;
- to determine the most effective ways of paying for stroke care, so as to ensure integration of interventions and continuity across the spectrum of care required by stroke patients;
- to ensure that funding for rehabilitation programs allows for the varied and prolonged nature of recovery from stroke;
- to ensure that there is appropriate funding for outpatient and community programs for stroke patients and their carers and for periodic assessment and rehabilitation of nursing home patients

Classification of stroke

- to review the relevance and validity of the ICD (International Classification of Diseases) and DRG (Diagnosis Related Group) classifications of stroke as used for funding purposes by purchasers of health care services

Measuring outcomes

- to establish regular population-based studies to gather information on stroke incidence and
- to establish baseline data on current patterns of practice in stroke care, as a basis for assessment of change

Awareness of stroke

- public and professional awareness; risk factors; therapies

Acute treatment

- recognition of stroke as an emergency, including the need for urgent ambulance attention, hospitalisation and assessment; acute stroke care units, teams and care paths; best-practice management; early rehabilitation

Rehabilitation and community care

- continuity of care; rehabilitation units; appropriate referral for rehabilitation; involvement of patients and carers; outpatient and home-based programs; follow-up in the community; quality of life in long-term care; carers

Stroke and social equity

- Aboriginal and Torres Strait Islander people and stroke; the multicultural community and stroke risk; culturally appropriate rehabilitation; stroke awareness and impacts, and access to services, in rural and remote communities

Stroke in the young

- raising awareness; identifying those at high risk and taking preventive action; making provision for young people in regional stroke strategies

Research

- increased funding at national and state levels; a higher community profile for stroke; better access to information about stroke research.
-

A.4: Report of the Townsville workshop on heart disease in Aboriginal and Torres Strait Islander and rural and remote populations

Bibliographic details

National Workshop on Heart Disease 1999, *Report*, Summary of workshop held in Townsville, 17–19 October 1999, National Rural Health Alliance, Canberra. (26 pp.)

Context

The workshop—called the ‘National Workshop on Heart Disease in Aboriginal and Torres Strait Islander and Rural and Remote Populations’—was convened by James Cook University, the National Heart Foundation, the National Aboriginal Controlled Community Health Organisation, the National Rural Health Alliance, and the Department of Health and Ageing.

The aim was to examine the recommendations of the National Health Priority Areas report on heart, stroke and vascular disease (see entry A.1) and develop proposals for national policy, with a view to increasing Australia’s capacity to prevent and treat heart disease among Aboriginal and Torres Strait Islander people and people living in rural and remote areas.

Apart from the convening organisations, among the workshop participants were representatives of the Kidney Foundation; state and territory health departments; divisions of general practice; non-government organisations; academic institutions; and medical, nursing and allied health professionals.

Main subject areas

The workshop considered three aspects of the causes, prevention and management of heart disease—factors specifically affecting Aboriginal and Torres Strait Islander people, regardless of where they live; factors specifically affecting people living in rural and remote communities; and factors affecting both.

Ten subject areas emerged:

- alliances between non-government organisations and Aboriginal and Torres Strait Islander organisations
- financing a national program on health training for Aboriginal and Torres Strait Islander people
- a national chronic disease strategy—including a national health-screening framework
- access to services
- a Commonwealth–state program for rheumatic fever
- the availability of high-quality fresh fruit and vegetables
- secondary prevention and rehabilitation
- development of culturally appropriate guidelines for using existing guidelines

- psychosocial factors
- community control.

Data sources

No data sources are cited.

Findings

The health of Aboriginal and Torres Strait Islander people is worse than that of non-Indigenous people, and services in rural and remote areas are less accessible. There is evidence that rural and remote areas present higher risks for four main reasons:

- poor distribution of the health workforce
- poorer health services
- lack or limited availability of goods and services that contribute to good health
- lower overall income levels.

Priorities and recommendations

The report lists 11 proposed areas for action:

- alliances between non-government organisations and Aboriginal and Torres Strait Islander organisations
- alternatives for health financing
- a national program on Aboriginal and Torres Strait Islander health training
- an integrated chronic disease strategy—bringing together work on nutrition, physical activity and smoking—and a national health-screening framework as part of the strategy
- access to services
- rheumatic fever
- food and nutrition
- secondary prevention and rehabilitation
- guidelines for making maximum use of existing guidelines
- the importance of psychosocial factors and socio-economic status
- community control.

Appendix 2 of the report describes a detailed action program for each of the priority areas, listing goals, barriers to achieving those goals, the actions needed, the goals' relevance to the communities they target, indicators of success, and milestones.

Participants agreed on six major recommendations, or 'statements of principle', four of which covered the following:

- collaboration to promote a forum for developing a national chronic disease strategy
- adequate resourcing to redress disadvantages in education, nutrition, housing and employment—in the case of health, a 'life course' approach is seen as essential
- an urgent national effort to simplify and streamline funding and to support the development of a secure funding base for cardiovascular programs for Aboriginal and Torres Strait Islander people
- a strategic partnership of non-government organisations to be formed to develop further solutions and to lobby, at Commonwealth and state levels, for action on funding, coordination, infrastructure, and workforce and other relevant matters.

The other two recommendations concern ways of documenting and promoting the workshop outcomes.

A.5: The National Health Priority Areas Early Wins project

Bibliographic details

Department of Health and Ageing 2000, *National Health Priority Areas Early Wins Project: final report*, prepared by Carla Cranny & Associates, Department of Health and Ageing, Canberra. (124 pp.)

Context

The Early Wins project grew out of a workshop convened to consider the findings of the Review of the National Health Priority Areas. The workshop concluded that some 'runs on the board', or 'early wins', were needed—NHPA-related projects that could be expected to produce health gains and whose adoption was feasible in the short term.

The main criteria for selection as an Early Wins project were:

- clear evidence of effectiveness, consistent with NHMRC guidelines
- incorporation of the continuum of care, from prevention to rehabilitation and continuing care
- feasibility and sustainability, for all states and territories and/or the Commonwealth
- a consumer focus and identifiable target groups
- an acceptable time frame for development and initial implementation
- national relevance, with potential benefits for the majority of states and territories.

Main subject areas

Eight 'ambitious but achievable' initiatives were chosen. Six of them cover the National Health Priority Areas:

- asthma—with a focus on self-management of chronic disease
- cancer—with a focus on integrated systems of care for breast cancer
- cardiovascular disease and stroke—with a focus on treatment and management
- diabetes mellitus—with a focus on evidence-based practice and self-management
- injury prevention and control—with a focus on prevention
- mental health—with a focus on prevention and health promotion.

The other two initiatives cross National Health Priority Areas:

- risk factors common to cardiovascular disease and stroke, diabetes and selected cancers—with a focus on prevention, early detection and management
- the health of Aboriginal and Torres Strait Islander peoples.

An integrated approach is emphasised, one that retains a disease-specific focus but also promotes links across disease groups where the evidence supports this and where it is practicable in terms of routine clinical care.

The chapters of the report cover each of the project areas, providing epidemiological information, discussing current activity and the reasons for selection as an Early Wins project, and detailing the proposed implementation plan for the project.

The chapters on cardiovascular health, diabetes mellitus, and injury prevention and control each contain a specific section describing initiatives pertinent to Aboriginal and Torres Strait Islander peoples.

The final section of the report describes the overall implementation strategy.

Data sources

The main data sources are reports to and by government—guidelines, strategies, action plans, National Health Priority Areas reports, and so on. Other sources are the World Health Organization and journal material.

Themes

A number of ‘overarching themes’ are common to the nominated projects and have the potential to reinforce the strategic intent of the NHPA initiative:

- a focus on consumers
- representation of all the major population groups—children and young people, adults, older people, people of non-English speaking background
- explicit attention to the needs of Aboriginal and Torres Strait Islander people
- a focus on the health professionals and the health care setting
- the continuum of care
- effective care and chronic disease management
- project outputs
- an integrated approach and partnerships across national programs and initiatives
- partnerships outside the health care sector.

Priorities and recommendations

The report’s principal recommendations cover:

- involvement of the states and territories, consumers, and others with an interest in the program
- agreeing on priorities for projects with particular relevance to the health of Aboriginal and Torres Strait Islander people—involving consultations with representatives of Aboriginal and Torres Strait Islander organisations and communities

- partnerships with the General Practice Program and divisions of general practice
- an expert working party to manage each Early Wins project
- a three-year time frame—August 2000 to June 2003—with development of projects in two phases
- monitoring and evaluation.

Cardiovascular Early Wins nominations

Core strategic framework

- national strategy and action plan for cardiovascular disease and stroke

Prevention, early intervention and self-management

- a tobacco control and tobacco tax initiative
- a coordinated risk factor assessment project
- rheumatic heart disease surveillance systems for Top End Aboriginal communities
- Aboriginal health cardiovascular disease primary care initiatives
- a chronic disease self-management framework for heart disease and stroke

Treatment

- guides to best-practice management of cardiovascular disease and stroke and information and decision-support tools for consumers and health professionals
- irregular pulse—baseline practice review of management
- a revascularisation register for cardiology, cardiothoracic surgery and elements of stroke procedures
- a stroke service framework—to document service models for best-practice management of stroke in urban and rural settings, stroke units and care pathways
- agreed national standards for stroke rehabilitation—with a link to the revascularisation register agreed by workshop participants

Research, evaluation and surveillance

- increased funding for stroke research
 - an epidemiological review of rural service use and access to care
 - electronic medical records—core data items for coronary care units.
-

A.6: The national Aboriginal and Torres Strait Islander health strategies

Bibliographic details

National Aboriginal Health Strategy Working Party 1989, *A National Aboriginal Health Strategy*, n.p. (234 pp. plus appendixes)

National Aboriginal and Torres Strait Islander Health Council 2001, *National Aboriginal and Torres Strait Islander Health Strategy*, draft for discussion, NATSIHC, Canberra. (152 pp.)

Context

The 1989 strategy document was developed following extensive consultations with Aboriginal and Torres Strait Islander individuals, communities and organisations and with governments. It set the direction for Aboriginal and Torres Strait Islander health policy.

The 2001 document—a comprehensive draft for discussion produced after widespread consultations—is based on the 1989 strategy document and a 1994 evaluation of it. It also takes into account the findings of the Royal Commission into Aboriginal Deaths in Custody, the *Bringing Them Home* report and the House of Representatives Inquiry into Indigenous Health, plus current state and territory, regional and local policies.

Both strategy documents stress that health for Aboriginal and Torres Strait Islander people is not just about an individual's physical wellbeing; rather, it 'encompasses social, emotional, spiritual and cultural wellbeing, community capacity and governance. A holistic approach that also recognises the diversity of Aboriginal and Torres Strait Islander cultures is central to improving Aboriginal and Torres Strait Islander health'.

Main subject areas

In relation to cardiovascular disease, the 1989 strategy listed the objectives as smoking prevention and reduction, hypertension control, exercise promotion, and healthy nutrition.

The emphasis was on provision of sufficient numbers of health workers, health screening and health promotion. The overall priorities described in the 1989 strategy document are reflected in the nine 'key results areas' put forward in the 2001 document:

- the health care delivery framework
- building the capacity of health services, including the health workforce
- comprehensive community-controlled primary health care services
- building community capacity
- environmental health
- wider health strategies
- data, research and evidence
- resources and finance
- accountability.

Within each area, the aims, proposals for action, ways of assessing progress, and examples of promising approaches are discussed.

The 2001 document focuses primarily on improvements within the health system, as opposed to factors contributing to poor health: the evidence suggests that improvements to health services can significantly improve health outcomes.

Data sources

In addition to information arising out of consultations and submissions, both documents cite a wide variety of sources—in particular, reports of inquiries, the work of government agencies (notably Aboriginal and Torres Strait Islander organisations), non-government organisations and WHO, and journal material.

Findings

The health of Aboriginal and Torres Strait Islander people is the worst of any group in Australia and worse than the health of comparable indigenous populations in other countries. For both male and female Aboriginal and Torres Strait Islander people, the rates of death from cardiovascular disease are about double those for non-Indigenous males and females.

In spite of this grim picture, since publication of the 1989 document much progress has been made in identifying the most pressing health problems and the most promising responses and in developing the necessary infrastructure. The framework agreements on Aboriginal and Torres Strait Islander health offer a mechanism for joint planning between governments and Aboriginal and Torres Strait Islander organisations. Other models for increasing community participation and control have also been applied.

Additional resources have been allocated. Efforts have been made to increase the number of Aboriginal and Torres Strait Islander health workers and to expand the knowledge of non-Indigenous workers. Work has been done to reform health services and programs, and research and data have improved. There have been some health gains.

Diseases of the circulatory system are among the four main conditions accounting for excess deaths among Aboriginal and Torres Strait Islander people.

Socio-economic disadvantage and lack of control over life circumstances, unhealthy living conditions and food, tobacco smoking and lack of exercise, hypertension, genetic predisposition, and stress are seen to be the main risk factors. Possible strategies for redressing the problem involve health promotion, screening, improved education and employment opportunities, improved infrastructure, early detection, coordinated care, self-management, carer support, and rehabilitation.

A more systematic, evidence-based approach can guide health service decisions and investments, as well as clinical decision making, in the directions that research, evidence and clinical experience suggest can optimise health outcomes.

Priorities and recommendations

The recommendations in the 2001 document take account of the recommendations of the 1989 strategy as well as the considerable amount of other work that has been, or is being, done.

They cover the following areas:

- structural reform of the health system—including stronger Commonwealth leadership and improved cross-sectoral action
 - resource allocation—to ensure access to equitable and sustainable funding
 - increased Aboriginal and Torres Strait Islander participation in the health workforce
 - improved environmental standards and services
 - a focus extending beyond the health sector
 - an improved evidence base for identifying effective interventions
 - reform of mainstream programs and services—to eliminate barriers to access for, and make services more responsive to the needs of, Aboriginal and Torres Strait Islander people
 - Aboriginal community-controlled health services—to extend their range and improve the delivery of comprehensive primary health care services.
-

A.7: National Tobacco Strategy 1999 to 2002-03

Bibliographic details

Ministerial Council on Drug Strategy 1999, *National Tobacco Strategy 1999 to 2002–03: a framework for action*, Department of Health and Ageing, Canberra. (51 pp.; companion document, 31 pp.)

Context

As part of the National Drug Strategic Framework, the National Tobacco Strategy expands on a range of initiatives already implemented by the Commonwealth, state and territory governments, and non-government organisations. It also links with other national strategies to ensure an integrated approach.

Main subject areas

The strategy goal is to improve the health of Australians by eliminating or reducing their exposure to tobacco in all its forms.

In support of this, there are four strategy objectives:

- to prevent the uptake of tobacco use in non-smokers, especially children and young people
- to reduce the number of users of tobacco products
- to reduce users' exposure to the harmful health consequences of tobacco products
- to reduce exposure to tobacco smoke.

Six 'key strategy areas' are identified:

- strengthening community action for tobacco control
- promoting cessation of tobacco use
- reducing the availability and supply of tobacco
- reducing tobacco promotion
- regulating tobacco
- reducing environmental tobacco smoke.

Two long-term and eight short-term performance measures are listed, and monitoring, evaluation, management and infrastructure support arrangements are described.

Section 2 of the strategy document discusses the six strategy areas, which constitute the strategy's action plan. Each strategy area is described in terms of what has been done to date, what action now needs to be taken, who should take that action, and what will be achieved.

The strategy is evidence-based; the aim is to continue and expand upon the partnerships achieved through the 1997 National Tobacco Campaign.

Data sources

Four sources are listed. One deals with the findings of the 1998 National Drug Strategy Household Survey, one deals with the health and welfare of Aboriginal and Torres Strait Islander people, and the other two are journal articles dealing with smoking behaviour among secondary school students and adults in Australia.

Findings

Tobacco smoking is the primary preventable cause of disease and premature death in Australia. Success in controlling tobacco use is dependent on coordinated, comprehensive, 'multi-variate' national action. The emphasis is on capacity building and partnerships, networks and strategic links.

A.8: Eat Well Australia

Bibliographic details

Strategic Inter-Governmental Nutrition Alliance 2001, *Eat Well Australia: an agenda for action for public health nutrition, 2000–2010*, prepared for the National Public Health Partnership, Department of Health and Ageing, Canberra. (125 pp.)

Context

Published in tandem with the National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan (see entry A.20), the Eat Well Australia strategy builds on the 1992 Food and Nutrition Policy. It provides a 'whole of population' framework for Australia's nutrition. In addition to its specific reference to the health of Aboriginal and Torres Strait Islander people, emphasis is given to other population groups that are more vulnerable to poor nutrition and its health consequences.

The document is the product of wide-ranging consultation—with representatives of government health services and other agencies, non-government organisations (such as the National Heart Foundation, Diabetes Australia and anti-cancer councils), universities and other research bodies, commercial entities (such as food producers and marketers) and providers of health services.

Main subject areas

Eat Well Australia focuses on a 'partnership' model. The emphasis is on cooperative national action, and the strategy is designed to complement other national public health measures, such as Active Australia, Acting on Australia's Weight, the various NHMRC dietary guidelines, and work under way in the National Health Priority Areas of cardiovascular health, cancer and diabetes.

Each initiative put forward is supported by a rationale (including evidence and discussion of activity to date), objectives, and proposals for action. Responsibilities are assigned; evaluation indicators, risks and funding implications are discussed; and the main potential partners and capacity requirements are noted.

Data sources

Data are drawn from numerous government strategy documents and other reports (in particular, the work of the Australian Bureau of Statistics and the NHMRC) and some journal material.

Specific initiatives

Specific initiatives are discussed for each of the three main parts of the document.

They involve the following:

Strategic management

- steering the development of Eat Well Australia and the National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan
- developing nutrition policy

- establishing criteria for resource allocation
- managing partnerships

Health gain initiatives

- vulnerable groups—promoting organisational change in services; influencing broad social policy; and addressing structural barriers to choosing safe and healthy food
- promoting healthy weight
- fruit and vegetables—promoting fruit and vegetables; addressing underlying structural factors influencing consumption of fruit and vegetables; and improving research
- maternal and child health—improving nutrition for pregnant and lactating women; promoting breastfeeding and improving infant nutrition; and improving nutrition for children

Capacity-building initiatives

- research and development—investing in ‘public health nutrition research’; disseminating research evidence; promoting private sector investment in research; and promoting innovation
 - workforce development—building ‘human resource requirements’; expanding and extending tertiary education; training primary health care professionals; and training the non-health workforce
 - communication—disseminating the Eat Well Australia strategy and communicating with the public
 - monitoring and evaluation—a national food and nutrition monitoring system and evaluating Eat Well Australia.
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A.9: A review of the relationship between dietary fat and cardiovascular diseases

Bibliographic details

National Heart Foundation 1999, 'A review of the relationship between dietary fat and cardiovascular disease', *Australian Journal of Nutrition and Dietetics*, vol. 56, no. 4, suppl., pp. S5–S22.

Context

In view of the debate about the relationship between dietary fat and health, this comprehensive paper reviews the literature for evidence of the relationship between dietary fat and cardiovascular disease.

The evidence is categorised as 'good', 'moderate' or 'little'. *Good evidence* is defined as consistent demonstration and reporting of an association between the exposure variables and clinical endpoints (such as non-fatal myocardial infarction, death from coronary heart disease, and stroke). *Moderate evidence* is defined as conclusions reached by inference through surrogate measures of cardiovascular disease or known risk factors. *Little evidence* is defined as inconsistency in research findings and insufficient numbers and types of studies to allow for a more definitive judgment.

Risk factors and *determinants* are defined as factors that have been shown to increase the risk of cardiovascular disease.

Main subject areas

Dietary fat is assessed in terms of both total fat and type of fat—in particular, saturated fatty acids, *trans* fatty acids, mono-unsaturated fatty acids, n-6 polyunsaturated fatty acids, n-3 polyunsaturated fatty acids, and dietary cholesterol.

Various types of studies reported in the literature are examined—primary prevention trials, secondary prevention trials, prospective cohort studies, case-control studies, and descriptive studies.

The following risk factors are reviewed:

- serum lipids
- overweight
- insulin resistance
- blood pressure.

Arrhythmia and thrombosis are also reviewed.

Data sources

The vast majority of the 184 sources cited are journal articles.

Findings

The following findings are noted:

- There is good evidence for an association between consumption of saturated fatty acids and the development of coronary heart disease. There is little evidence that reducing saturated fatty acid intake increases the incidence of stroke. Saturated fatty acid intake has been shown to have an adverse effect on LDL-C and total cholesterol. The effect of saturated fatty acid intake on risk factors such as blood pressure, insulin resistance and overweight, as well as on arrhythmia and thrombosis, is unclear.
- There is good evidence that coronary events and deaths are reduced if saturated fatty acids are replaced by polyunsaturated fatty acids. The effect of n-6 polyunsaturated fatty acid intake on risk factors such as blood pressure, insulin resistance and overweight, as well as on arrhythmia and thrombosis, is unclear.
- There is good evidence that consumption of fish reduces the risk of coronary death. There is good evidence that consumption of marine n-3 polyunsaturated fatty acids reduces coronary heart disease, moderate (circumstantial) evidence that it prevents arrhythmia, and good evidence that it reduces plasma concentration. There is moderate evidence that α -linolenic acid reduces the risk of cardiovascular disease, and it may be protective against coronary heart disease.
- There is little evidence to support an independent effect of mono-unsaturated fatty acid intake on coronary endpoints, but there is good evidence that replacing saturated fatty acids with mono-unsaturated fatty acids lowers total cholesterol and LDL-C. The effect of mono-unsaturated fatty acid intake on risk factors such as blood pressure, insulin resistance and overweight, as well as on arrhythmia and thrombosis, is unclear.
- *Trans* fatty acids have been consistently shown to have an adverse effect on total cholesterol and LDL-C. Their effect on risk factors such as blood pressure, insulin resistance and overweight, as well as on arrhythmia and thrombosis, has not been explored.
- A positive association between dietary cholesterol and coronary heart disease has been reported from cohort studies, but this effect has not been confirmed in primary or secondary prevention trials. There is moderate evidence that dietary cholesterol increases plasma total cholesterol and LDL-C concentrations.
- There is little evidence that coronary events or death are linked to the total amount of fat in the diet, and no studies have reported an association between total fat intake and coronary heart disease. There is, however, evidence that replacing saturated fatty acids with carbohydrate lowers total cholesterol and LDL-C; the evidence also emphasises replacing saturated fatty acids with unsaturated fats. It is not clear what implications the triglyceride-raising effect of a high-carbohydrate, low-fat diet might have. Similarly, the effect of total fat intake on risk factors such as blood pressure, insulin resistance and overweight, as well as on arrhythmia and thrombosis, is not clear.

Priorities and recommendations

The following is recommended:

- Emphasis should be placed on restricting the combined intake of saturated and *trans* fatty acids, rather than on reducing total fat intake.

- Eight to 10 per cent of total energy intake should be contributed by n-6 polyunsaturated fatty acids.
 - A proportion of saturated fatty acids should be replaced by n-6 polyunsaturated fatty acids.
 - A proportion of saturated fatty acids should be replaced by mono-unsaturated fatty acids.
 - At least two fish meals (preferably of oily fish) should be eaten each week.
 - Both plant and marine n-3 polyunsaturated fatty acids should be eaten because it is possible that α -linolenic acid and marine n-3 polyunsaturated fatty acids protect against coronary heart disease by different mechanisms.
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A.10: The costs of illness attributable to physical inactivity in Australia

Bibliographic details

Stephenson, J, Bauman, A, Armstrong, T, Smith, B & Bellew, B 2000, *The Costs of Illness Attributable to Physical Inactivity in Australia: a preliminary study*, report prepared for the Department of Health and Ageing & the Australian Sports Commission, Department of Health and Ageing, Canberra. (75 pp.)

Context

One of the first attempts to assess the economic burden attributable to physical inactivity, this document focuses on coronary heart disease, non-insulin dependent diabetes mellitus, colon cancer, breast cancer, stroke and depression in the adult Australian population.

Mortality and morbidity data for 1996 are analysed using national health cost data from 1993–94. The adult Australian prevalence rate of 44 per cent who were 'insufficiently active' was used as the estimate of inactivity. Population attributable risk, or PAR, approaches were used to estimate the proportion of disease outcomes attributable to inactivity. Estimates of relative risk were derived from studies of physical activity and each specific condition.

Main subject areas

The report discusses the evidence of health benefits from participation in physical activity, the level of activity among Australian adults, the burden of disease resulting from inactivity, and the costs of illness attributable to inactivity. It then presents a sensitivity analysis of the effect on health costs if public health approaches resulted in increased physical activity; for this, three scenarios are used:

- 5 per cent of the population becoming at least moderately active
- 10 per cent or more of the population becoming at least moderately active
- all who are insufficiently active becoming at least moderately active.

Data sources

The extensive reference list cites mainly journal material, publications produced by and for Australian government agencies (in particular, the Australian Institute of Health and Welfare) and the results of overseas studies.

Findings

Physical inactivity contributes to the risk of 6400 deaths a year in Australia from coronary heart disease, non-insulin dependent diabetes mellitus and colon cancer and up to 2200 more from other conditions (including breast cancer and stroke).

Conservative estimates suggested that PARs for each condition studied were 19 per cent for colon cancer, 18 per cent for coronary heart disease, 16 per cent for stroke, 13 per cent for non-

insulin dependent diabetes mellitus, 10 per cent for depression, and 9 per cent for breast cancer. The evidence for a causal relationship between physical activity and colon cancer, coronary heart disease and NIDDM is strongest.

The annual direct health care costs attributable to physical inactivity were estimated to amount to about \$377 million. For coronary heart disease the cost was estimated to be \$161 million; for stroke, \$101 million; for depressive disorders, up to \$56 million; for NIDDM, \$28 million; and for colon cancer and breast cancer, \$16 million each.

It is estimated that each year 122 deaths from coronary heart disease, NIDDM and colon cancer could be avoided for every 1 per cent increase in the proportion of the population engaging in 'a level of sufficient and regular physical activity'. Such an increase would produce gross annual savings of \$3.6 million in the health care costs of these three conditions.

The report concludes that physical inactivity is an important population health risk factor—comparable with tobacco use and poor diet—and poses substantial health care costs.

Greater attention should be given to describing the cost-effectiveness of strategies promoting physical activity and the health and social benefits of increased activity. Methods of increasing participation in regular, moderate physical activity in the entire Australian community also need greater attention.

A.11: Primary prevention of cardiovascular disease: a guide for divisions of general practice

Bibliographic details

Public Health and Health Promotion SERU 1998, *Primary Prevention of Cardiovascular Disease: a guide for divisions of general practice*, report prepared by A Sculthorpe and N Huang, Public Health and Health Promotion Support and Evaluation Resource Unit, University of Melbourne. (98 pp.)

Context

This guide brings together evidence from the literature and divisional experience to formulate a framework for choosing the best approach to cardiovascular health in a particular community. It focuses on three main lifestyle factors—smoking, physical activity and diet. It notes, however, that other factors (such as weight control) could equally be the focus of intervention and that many of the underlying principles remain relevant.

The literature review is categorised into interventions aimed at multiple risk factors and interventions aimed at the three main risk factors individually. All interventions involve counselling and education in addition to or instead of pharmacological treatment.

Main subject areas

The following subject areas are covered:

- epidemiology
- goals for cardiovascular disease in Australia—overall goals, goals specific to risk factors, goals for GPs, and goals for monitoring and research
- the literature review—GPs and lifestyle counselling, interventions aimed at multiple risk factors, interventions aimed at individual risk factors
- developing the prevention program
 - the options for models of care—opportunistic intervention by the GP, in-house clinics, referrals to an external agency, GP intervention with a specific group, a community strategy combined with any of the preceding options, and advocacy and policy setting
 - planning and implementation—general principles and essential steps.

The report's appendixes discuss barriers to and strategies for preventive care in general practice; the research evidence for primary prevention in general practice; divisional projects in cardiovascular health between 1993 and 1996 and the models of care used; and outcomes and indicators for cardiovascular disease.

Data sources

The 'strength of recommendations' definitions and levels of evidence come from the US Preventive Services Task Force and the NHMRC framework; they are shown in Appendix A.

Beyond that, the data sources are overwhelmingly journal articles; other material cited comes primarily from the NHMRC, the National Heart Foundation, the Australian Institute of Health and Welfare, and the Commonwealth health department.

Findings

The effectiveness of cardiovascular disease–related primary prevention in a general practice setting is a matter of debate. Interventions aimed at individual risk factors seem to have been more successful than general interventions aimed at multiple risk factors.

Preventive strategies should be tailored to the needs of patients and should take account of the barriers to change. A knowledge of behaviour theory (as described at some length in Appendix C of the report) is essential.

GPs play a crucial role in reducing smoking rates. Long-term compliance with dietary change appears to be problematic. In relation to physical activity, there is insufficient evidence of the efficacy of GPs' counselling.

A.12: Draft framework for developing integrated approaches to behavioural risk factor management in general practice

Bibliographic details

Joint Advisory Group on General Practice and Population Health 2001, 'Draft framework for developing integrated approaches to behavioural risk factor management within general practice', unpub. (19 pp.)

Context

The draft framework proposes a system-wide approach to general practice management of four behavioural risk factors for chronic disease—tobacco use, poor diet, inadequate physical activity, and alcohol misuse. These risk factors have significant effects in the National Health Priority Areas of diabetes, cardiovascular disease, mental health, cancer, injury and asthma.

The proposals are based on available evidence, current work in divisions of general practice, national public health initiatives, and information gathered by means of consultations Australia-wide. They are being circulated for comment.

Main subject areas

The document lists 10 'outcome areas', each with a nominated objective, as follows:

- raised awareness and expectations—among GPs, their patients and the broader community—about the impact of the four risk factors and how GPs can help
- evidence-based prevention and management of behavioural risk factors
- payment systems and incentives to support increased (but sustainable) population health activity in general practice
- training, education and quality assurance for GPs and practice staff, so that they have sufficient knowledge and skills to promote risk factor modification
- improved information systems in practices and divisions—to provide software packages that incorporate evidence-based guidelines and decision-support tools, patient-recall and -monitoring systems, data-collection systems, and multi-disciplinary information management and technology capabilities
- improved materials to support patient education and interventions for behaviour change—evidence-based information for both GPs and consumers to be provided in both hard-copy and electronic formats, so that GPs and consumers can work together on behavioural change
- improved communication and referral mechanisms—to develop networks of health professionals (including community support professionals) working together to encourage behaviour change
- support for GPs by divisions of general practice—to encourage integrated approaches to risk factor management

- GP partnerships with national, state and local health care providers and organisations—to maximise coordination and strengthen policies dealing with the determinants of risk status
- improved data collection and monitoring of risk factor behaviour—at aggregate levels and by GPs—to assist GPs in the provision of clinical care.

For each outcome area suggested roles and activities at five levels are described—GP consultation, GP practice, division and community level, state and territory level, and national level. Proposed partners in the activities are also described.

At the end of the document, examples of best practice—in the form of publications, strategies, guidelines, programs, advertising campaigns and other initiatives—are given for each outcome area.

Data sources

No data sources are cited.

A.13: Prevention of stroke: clinical practice guidelines

Bibliographic details

National Health and Medical Research Council 1997, *Prevention of Stroke: the role of anticoagulants, antiplatelet agents and carotid endarterectomy*, Clinical Practice Guidelines Series no. CP45, Australian Government Publishing Service, Canberra. (112 pp.)

[This document is also reviewed in Part C: see entry C.3.]

Context

A working party consisting of representatives of clinical practice, consumer groups, nursing and health economists was established in 1995 to develop the guidelines, which are evidence-based (using the NHMRC's recommended four-point rating system) and are designed to complement the National Stroke Strategy (see entry A.3). The working party was asked to focus on anti-coagulants, anti-platelet therapy and carotid endarterectomy.

Main subject areas

This comprehensive document covers the following subjects:

Stroke in Australia

- incidence, prevalence, sequelae and prognostic indicators, direct and indirect costs

Risk factors and prevention

- definitions; relative and absolute risk; the risk factors (listed as hypertension, smoking, hypercholesterolaemia, lifestyle, heart conditions, and vascular disease) and their modification; risk assessment; prevalence of high risk factors (minor stroke and transient ischaemic attacks, atrial fibrillation, and carotid artery stenosis); stroke and TIA as medical emergencies; and the cost of stroke prevention (including anti-coagulation, atrial fibrillation detection and carotid endarterectomy)

The consumer perspective

- the need for education (of the public and GPs); the need for research into cultural factors affecting risky behaviours and responses to illness; treatment options; participation in clinical trials; and communication between patients, carers and health professionals

Medical stroke prevention for people with cerebrovascular disease

- use of anti-platelet agents in low- and high-risk individuals

People at risk of cardioembolic stroke

- anti-coagulant therapy, atrial fibrillation and its detection, primary prevention in non-valvular atrial fibrillation, secondary prevention after cardiac brain infarction, and valvular heart disease

Carotid artery stenosis

- identifying and dealing with the problem (including duplex ultrasound, catheter angiography, magnetic resonance angiography, and spiral computed tomography); stroke risk and prevention (treatment options such as carotid endarterectomy and balloon angioplasty); symptomatic and asymptomatic carotid stenosis; and carotid stenosis and elective surgery

Stroke and Aboriginal and Torres Strait Islander people

- specific risk factors (hypertension, diabetes, smoking and obesity) and barriers to service provision (cultural differences, language barriers and remoteness)

Areas where research is needed

- anti-platelet agents, anti-coagulants and cardioembolic stroke, carotid endarterectomy, consumer awareness and needs, and stroke and the Aboriginal and Torres Strait Islander population.

Appendix C of the guidelines provides information on the cost of stroke and the cost-effectiveness of prevention. Appendix D summarises clinical trials of prophylaxis of thromboembolic complications in non-valvular atrial fibrillation.

Four clear charts (on pp. xix–xxii of the guidelines) show pathways for basic assessment and management of stroke; investigation and management of symptoms of cerebral ischaemia; investigation of suspected atrial fibrillation; and therapy for atrial fibrillation.

Data sources

The data are drawn principally from journals; other sources are heart and stroke organisations, the Australian Bureau of Statistics, the NHMRC and Queensland Health.

Guidelines

The guidelines cover the following:

- anti-platelet agents in primary prevention—there is insufficient evidence to support the routine use of aspirin among low-risk people
- medical intervention—involving aspirin or warfarin
- primary prevention in non-valvular atrial fibrillation—involving warfarin
- secondary prevention after cardioembolic TIA or stroke—involving warfarin and, to a lesser degree, aspirin
- stroke prevention in valvular heart disease—involving warfarin or a combination of warfarin and aspirin
- balancing risks for carotid endarterectomy
- symptomatic carotid stenosis
- asymptomatic carotid stenosis

- carotid endarterectomy before elective surgery.

Recommendations

The formal recommendations cover the following:

- basic risk factor management—hypertension, smoking and lifestyle
 - routine screening for stroke risk—including screening for atrial fibrillation
 - stroke and TIA to be treated as medical emergencies
 - carotid artery stenosis
 - in general, screening not recommended for asymptomatic carotid stenosis
 - initial investigation to be duplex ultrasonography
 - further strategies
 - quality assurance.
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A.14: Primary prevention of cardiovascular disease: a guide for divisions of general practice

Bibliographic details

Bunker, S 2001, *Developing a Strategy for the Secondary Prevention of Coronary Heart Disease*, report on the National Heart Foundation of Australia Internal Planning Forum, 4 April, National Heart Foundation (Victorian Division), Melbourne. (42 pp.)

Context

In July 2000 the National Heart Foundation's National Cardiac Rehabilitation Advisory Committee agreed that there was a need for a broad strategic framework for the foundation's future work on secondary prevention of coronary heart disease. A working group was formed to develop a draft strategy outline and convene a planning forum.

The forum's aims were to identify public health needs and the needs of health professionals and consumers in connection with secondary prevention of coronary heart disease, to agree on the basic content of the proposed strategy, to identify stakeholders and opportunities for collaboration, and to begin planning for an external forum.

Main subject areas

Speakers discussed the following:

The evidence

- the 'treatment gap' in secondary prevention, including data from two controlled trials in Victoria

Psychosocial factors

- the benefits of cardiac rehabilitation; the benefits of early ambulation; compliance with lifestyle and medical advice; and the need for greater understanding of the links between compliance and socio-economic status, education, social isolation and depressed mood

Rural 'issues'

- the lack of multi-disciplinary health professionals; the need to identify and train those workers that are available; the lack of resources for program evaluation; low uptake of secondary prevention services; the need to prevent relapse into unhealthy behaviours six to 12 months after rehabilitation; and the need for greater emphasis on self-management and 'self-efficacy'

'Indigenous issues'

- the lack of national, state and local data on Aboriginal and Torres Strait Islander people's cardiovascular health; the lack of Aboriginal and Torres Strait Islander health professionals (in hospitals and the community); the need to improve identification of Aboriginal and Torres Strait Islander patients and their recruitment into rehabilitation; and the need to develop

Aboriginal and Torres Strait Islander services' and communities' capacity to be involved in the continuum of care

The patient–client perspective

- the role of Heart Support Australia in providing support and information for patients and their carers.

The ensuing general discussion elicited several main points:

- Insufficient attention is being paid to the 12 per cent of Australians aged over 65 years. This group has most to gain from rehabilitation and secondary prevention.
- The mean age of cardiac patients is rising; as a result, so is the extent of co-morbidity.
- We need to think beyond the traditional models of program delivery and develop a range of services that are flexible and can cater for a variety of demographic and geographic characteristics.
- Are the terms *rehabilitation* and *secondary prevention* still appropriate? The term *continuing coronary care* excludes people at high risk.
- Patients need to be willing to be monitored and recalled.

Appendix 4 of the report details the priorities developed by various state divisions of the Foundation.

Data sources

Several journal articles are cited, as is the National Health Priority Areas report (see entry A.1).

Findings

The forum came up with a number of findings:

- Multiple programs are being funded from multiple sources. This is inefficient.
- The substantial treatment gap in secondary prevention suggests that the initial benefits achieved through cardiac rehabilitation are not being carried through to the longer term.
- Current cardiac rehabilitation is psychologically beneficial but does not prolong life.
- Four important areas need attention—development of flexible, adaptable models for medical management and intervention; behaviour change and adherence; evaluation and monitoring, including monitoring patients' feelings of wellbeing or otherwise; and lobbying for funding.

It was resolved that the secondary prevention guidelines should be simple and consistent with other NHF guidelines and that they should be regularly reviewed and updated.

Priorities and recommendations

The forum agreed on the following recommendations:

- that, in collaboration with the Medical Issues Committee, the National Cardiac Rehabilitation Advisory Committee be responsible for progressing and advising on the development and implementation of the strategy. This would include a summary of the current status of secondary prevention, what the goals and targets should be, and how to achieve them
 - that a submission for funding be made to the Commonwealth Advisory Committee
 - that there be collaboration with the National Institute for Clinical Studies to further identify the evidence base, 'best buys', and ways of evaluating outcomes.
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A.15: Health Outcomes Plan: coronary heart disease 2000 to 2004

Bibliographic details

Queensland Health 2000, *Cardiovascular Health: coronary heart disease, 2000–2004*, Health Outcomes Plan, Queensland Health, Brisbane. (summary, 4 pp.; plan, 30 pp.; background paper, 74 pp.)

Context

The purposes of the Health Outcomes Plan for Coronary Heart Disease are to identify the outcomes that will offer the maximum health benefits and to recommend evidence-based strategies to achieve these outcomes. The plan is for use by Queensland Health, non-government health services, other non-government organisations, and GPs.

The NHMRC quality of evidence rating scale was used in assessing the quality of evidence for all 43 strategies put forward.

Main subject areas

The plan describes the mix of evidence-based prevention and management strategies that will result in reductions in morbidity and mortality from coronary heart disease. It includes discussion of the strategies, as well as process, quality and outcome indicators. The evidence and rationale for each strategy are described in the background paper.

Document updates should be available on Queensland Health's website <www.health.qld.gov.au/hop/home.htm>.

Data sources

The most common data sources cited are journal articles. Also of note are NHMRC guidelines, and publications of UK, US and Canadian health agencies, the Australian Institute of Health and Welfare, and the Department of Health and Ageing.

Findings

Ten performance and risk factor indicators are identified, in the areas of prevention, acute management and secondary prevention.

Four risk factors are identified: primordial factors (the social and environmental determinants of health); heredity and demographic factors; behavioural factors; and physiological factors. It is also noted that depression, anxiety and anger are thought to be influential.

The high-risk groups are identified as Aboriginal and Torres Strait Islander people, Australians born overseas, people living in rural and remote areas, and possibly women.

The emphasis is on procurement and the planning and delivery of services.

Priorities and recommendations

The report puts forward the following strategic priorities:

Primary prevention

- decrease the prevalence and incidence of smoking
- increase community participation in regular physical activity
- increase compliance with the Dietary Guidelines for Australians
- reduce the prevalence of hypertension and hypercholesterolaemia

Clinical management and secondary prevention

- adoption of evidence-based strategies for the clinical management of acute myocardial infarction, unstable angina, and post-surgery patients
- offering a mix of secondary prevention services for patients with known coronary heart disease, including after surgery and after an acute coronary event
- a coordinated response by emergency services to acute coronary events
- early identification and resuscitation of people who suffer an acute myocardial infarction

System-wide action

- evidence-based policy development and service planning
- collaborative service planning and delivery across the continuum of care and between sectors
- training of health professionals
- improved information and management systems
- research into effective prevention and management strategies.

Recommended service providers are also listed.

A.16: Opportunities for control of coronary heart disease in Australia

Bibliographic details

McElduff, P, Dobson, AJ, Jamrozik, K & Hobbs, MST 2001, 'Opportunities for control of coronary heart disease in Australia', *Australian and New Zealand Journal of Public Health*, vol. 25, pp. 24–30.

Context

Despite the decline in mortality from coronary heart disease in Australia since the late 1960s, rates of 'coronary events' (coronary deaths and non-fatal myocardial infarctions) remain twice as high as those in some other countries.

Drugs for treating cardiovascular disease make up about 22 per cent of all prescriptions and 30 per cent of the cost of prescriptions subsidised under the Pharmaceutical Benefits Scheme. Effective prevention thus offers major savings.

The study aimed to estimate the number of coronary events that could be averted by the use of preventive and therapeutic strategies targeted at population sub-groups.

Methodology

Three population sub-groups were defined according to level of risk:

- Group I—people who have never been told they have hypertension, hypercholesterolaemia or coronary heart disease
- Group II—people with no history of coronary heart disease but with a history of hypertension or hypercholesterolaemia
- Group III—people with a history of symptomatic, clinically evident coronary heart disease.

The number of avoidable coronary events among males and females aged 35 to 79 years was calculated using estimates of risk reduction from the published literature, estimates of the prevalence of risk factor levels from the 1995 National Health Survey, and treatment levels from the Perth and Newcastle MONICA centres. Estimates of the benefits associated with improving risk factor levels and using various medical therapies were obtained from the latest reviews or meta-analyses.

Three sets of targets—an Australian set, an international set (based on UK and US recommendations) and a 'modest set' (designed to produce reductions that are half those aimed for in the Australian set)—were used for estimating the benefits of preventive and treatment strategies.

Data sources

Data sources cited are overwhelmingly journal articles; also used were data from the 1995 National Health Survey, data registers from the Perth and Newcastle MONICA centres, the

Australian Institute of Health and Welfare national morbidity database, and the ICD-9 classification.

Findings

About 14 000 coronary events could be averted each year if the Australian set of targets were reached—that is, if the mean level of cholesterol in the population were reduced by 0.5mmol per litre, if smoking prevalence were halved, and if the prevalence of physical inactivity were reduced to 25 per cent. This represents a reduction in coronary events of about 40 per cent.

Estimates are also provided for the international and modest sets of targets.

The authors conclude that further major reductions in morbidity and mortality can be achieved relatively inexpensively through reducing the mean level of cholesterol and blood pressure in the general population, reducing the prevalence of smoking and increasing the level of physical activity, and 'fully using aspirin in people with a history of coronary heart disease'.

A.17: Management of chronic heart failure: clinical practice guidelines

Bibliographic details

National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand Chronic Heart Failure Clinical Practice Guidelines Writing Panel 2001, *Guidelines on the Contemporary Management of the Patient with Chronic Heart Failure in Australia*, National Heart Foundation of Australia, Canberra. (65 pp.)

[This document is also reviewed in Part C: see entry C.15.]

Context

These comprehensive guidelines are evidence-based, using the NHMRC's four-point rating system and 'consensus expert opinion'. They summarise the existing evidence for the most effective diagnosis, treatment and management of chronic heart failure.

The target audience is GPs, cardiologists and cardiology registrars, people preparing educational material on chronic heart failure, and people with chronic heart failure who want to know more.

Both systolic and diastolic dysfunction are included in the definition of *chronic heart failure*.

Main subject areas

The guidelines cover the following subject areas:

- epidemiology and aetiology
- pathophysiology—the 'vicious cycle' of ventricular dysfunction, neurohormonal activation, myocardial damage, and peripheral and renal vasoconstriction
- diagnosis—symptoms, the New York Heart Association grading system, physical and functional evaluation, and diagnostic tests
- non-pharmacological management—regular physical activity, lifestyle modification, education and support, psychosocial factors, and so on
- pharmacological therapies—for prevention of chronic heart failure and treatment of asymptomatic left ventricular dysfunction, for treatment of symptomatic systolic heart failure and symptomatic diastolic heart failure, for advanced systolic heart failure, and for associated disorders
- ancillary therapies—pacing and surgery (other than revascularisation)
- palliative support—symptom control and community palliative support
- management pathways
- support through education.

Data sources

The many data sources listed are primarily journal articles; other information comes from the Australian Institute of Health and Welfare, the NHMRC, the National Heart Foundation of Australia, the American College of Cardiology, and the American Heart Association.

Findings

The findings, or 'practice points', are as follows:

- The epidemiology of diastolic heart failure has been incompletely described. The main risk factors are advancing age, hypertension, diabetes, left ventricular hypertrophy and coronary artery disease.
- Decreased cardiac output activates many neurohormonal compensatory systems that act to preserve circulatory homeostasis in the short term but, when activated for longer periods, play a role in the development and progression of chronic heart failure.
- Clinical diagnosis is often unreliable, especially in obese people, people with pulmonary disease and the elderly. Many of the signs and symptoms lack specificity and sensitivity.
- All patients with a suspected diagnosis of chronic heart failure should be considered for measurement of ventricular function. The preferred test is the transthoracic echocardiogram.
- Regular physical activity—if possible through a rehabilitation program designed for patients with chronic heart failure—is recommended.
- A good, consistent relationship with the patient and an active role for the patient and their family are essential.
- Communication between the patient's GP, the hospital and the specialist is vital. Patients of non-English speaking or Aboriginal or Torres Strait Islander background have special communication needs and have been shown to have poorer outcomes.
- All patients with systolic left ventricular dysfunction—asymptomatic or symptomatic—should be established on at least low doses of ACE inhibitors and efforts should be made to 'up-titrate' to higher doses if possible.
- The following drugs should be avoided: anti-arrhythmic agents (apart from beta-blockers and amiodarone); calcium antagonists that are direct negative inotropic agents (such as verapamil and diltiazem); tri-cyclic anti-depressants; and non-steroidal anti-inflammatory drugs and COX-2 inhibitors.
- Only a minority of patients are suitable for cardiac surgery for the primary indication of chronic heart failure. Careful evaluation is essential. All patients with severe chronic heart failure and angina require a specialist consultation.
- Treating doctors should discuss with their patients the level of intervention that is appropriate and desirable during the palliative therapy phase, so that unwanted, traumatic interventions are avoided. Both the patient and their family and carers may need considerable emotional support at this time.

Priorities and recommendations

All recommendations are accompanied by a level-of-evidence ranking.

The 11 recommendations for non-pharmacological management of chronic heart failure cover physical activity; lifestyle changes (for example, avoiding smoking, limiting dietary sodium, little or no alcohol, restricted fluids); patient support; continuous positive airway pressure for obstructive sleep apnoea; bed rest for patients who have an acute exacerbation or are clinically unstable; weight monitoring and monitoring for dyspnoea, oedema or abdominal bloating; vaccination against influenza and pneumococcal disease; avoidance of high altitudes; and caution with travel.

The five recommendations for prevention of chronic heart failure and treatment of asymptomatic left ventricular dysfunction concern the use of ACE inhibitors and beta-blockers, anti-hypertensive therapy, and statin therapy for prophylaxis.

The recommendations for treatment of symptomatic chronic heart failure concern 'first line agents' (ACE inhibitors, diuretics, beta-blockers, spironolactone, and all receptor antagonists), 'second line agents' (digoxin and hydralazine-isosorbide dinitrate), and 'other agents' (amlodipine and felodipine) for treating co-morbidities.

A.18: Recommendations for cardiac rehabilitation

Bibliographic details

National Cardiac Rehabilitation Advisory Committee n.d., *Recommendations for Cardiac Rehabilitation*, National Heart Foundation of Australia, Melbourne. (10 pp.)

Context

This document presents the current recommendations for cardiac rehabilitation programs across Australia.

Cardiac rehabilitation is defined as ‘all measures used to help cardiac patients return to an active and satisfying life and to prevent recurrence of cardiac events’.

Main subject areas

The document is divided into three main parts—inpatient rehabilitation, outpatient rehabilitation, and maintenance rehabilitation.

Data sources

The document draws primarily on journal material. Other National Heart Foundation publications, conference proceedings, and the Australian Institute of Health and Welfare’s *Outline of a National Monitoring System for Cardiovascular Disease* are also cited.

Priorities and recommendations

An organised, integrated approach is recommended.

Cardiac rehabilitation services should be available, and routinely offered, to everyone with cardiovascular disease. Trained health professionals should deliver them, and the treating doctor, cardiac rehabilitation team member and patient should all be involved in planning the rehabilitation, so that the appropriate services are available.

All public and private hospitals, as well as centres offering rehabilitation programs, should appoint a cardiac rehabilitation coordinator.

In the case of inpatient rehabilitation, the emphasis should be on the following:

- mobilisation and resumption of activities of daily living
- education and counselling
- individual assessment and referral to the necessary health professionals
- discharge planning.

The main elements of outpatient rehabilitation are:

- light or moderate physical activity
- education and counselling.

For maintenance rehabilitation, the main elements are:

- regular physical activity
 - support, compliance and maintenance of behaviour change
 - compliance with goals of medical therapy, including medications.
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A.19: A general practice view of cardiovascular disease and diabetes in Australia

Bibliographic details

Senes, S & Britt, H 2001, *A General Practice View of Cardiovascular Disease and Diabetes in Australia*, cat. no. CVD 17, Australian Institute of Health and Welfare, Canberra. (93 pp.)

Context

Based on the BEACH (Bettering the Evaluation and Care of Health) program, which was a study of general practice activity in Australia, this report discusses cardiovascular conditions, diabetes and some related risk behaviours from the standpoint of general practice care. The data presented constitute a baseline for future comparisons and for interpretation of trends.

The BEACH study collected data for April 1998 to March 1999 using a random sample of 1000 GPs, who each recorded details of about 100 doctor–patient encounters of all types during the study period. This report discusses the data collected on the type of consultation, patient details, the nature of the problem, and medical and non-pharmacological management.

- Main subject areas
-

The following subject areas are covered by this comprehensive report:

Heart problems

- ischaemic heart disease
- heart failure
- atrial fibrillation and atrial flutter
- palpitations

Cerebrovascular disease

- stroke
- transient cerebral ischaemia

Diabetes mellitus

- type 1 diabetes
- type 2 diabetes
- gestational diabetes

Other related problems

- hypertension

- hypertension in pregnancy
- lipid disorders
- overweight and obesity
- smoking
- peripheral vascular disease

Data sources

Apart from the data gained through the BEACH survey, the primary data sources used for the report are journal material, reports and other documents by a variety of government agencies, guidelines by the Royal Australian College of General Practitioners, and WHO guidelines for the management of hypertension.

Findings

Of the heart conditions studied, GPs were called on to manage ischaemic heart disease most often. Heart failure was the second most commonly managed heart-related problem. Atrial fibrillation and atrial flutter came in next.

In the case of cerebrovascular disease, stroke and TIA were managed in broadly similar degree.

Of type 1 and type 2 diabetes, type 2 was managed 10 times more often.

Hypertension was the most common problem managed in the study. After hypertension, lipid disorders were the most commonly managed of all the problems studied.

The rate of management of overweight and obesity was very low compared with the prevalence of this problem among patients in the study. Similarly, the rate of management of smoking appeared quite low, as did the rate for peripheral vascular disease.

For all these conditions, information is given about the male–female ratio of patients, the primary age range of those affected, the proportion of new problems as compared with existing problems, common co-morbidities and associations, and the types of treatment or management offered.

Information is also provided on patients seeking cardiovascular check-ups.

A.20: National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan 2000 to 2010

Bibliographic details

Strategic Inter-Governmental Nutrition Alliance 2001, *National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan 2000–2010 and First Phase Activities 2000–2003*, prepared by the National Aboriginal and Torres Strait Islander Nutrition Working Party, National Public Health Partnership, Department of Health and Ageing, Canberra. (55 pp.)

Context

Developed by and for Aboriginal and Torres Strait Islander people, the National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan, or NATSINSAP, is a central component of Eat Well Australia (see entry A.8). It is designed to facilitate work relating to the nutrition of Aboriginal and Torres Strait Islander people within the broader framework of the Australian population as a whole and to link with Eat Well Australia as appropriate.

The purpose is to build on existing efforts to make healthy food choices easier for Aboriginal and Torres Strait Islander people. The actions and priorities described are not only directed at physical wellbeing: they also take account of the social, emotional and cultural wellbeing of individuals, families and communities.

The document is the product of wide-ranging consultations—by means of workshops, submissions, questionnaire responses, and so on—and the work of representatives of government organisations, non-government organisations, commercial entities and providers of health services. The views of representatives of Aboriginal and Torres Strait Islander communities were vital to the formulation of the strategy and action plan.

The working party consisted of representatives of the Aboriginal and Torres Strait Islander Commission, the National Aboriginal Community Controlled Health Organisation, the Australian Medical Association, the Aboriginal Health and Medical Research Council, the National Health and Medical Research Council, SIGNAL and the Department of Health and Ageing, and several individuals appointed because of their expertise in the subject area.

Main subject areas

The document is divided into three parts:

- Part A—development of the strategy and action plan; nutrition concerns and diet-related disease affecting Aboriginal and Torres Strait Islander people; and guiding principles of the strategy and action plan
- Part B—management of the strategy and action plan and areas for action
- Part C—first-phase activities.

Data sources

Apart from the information elicited through the consultation process, data were drawn from Commonwealth, state and territory policies relating to Aboriginal and Torres Strait Islander people, other government publications, and journal material.

Areas for action

Each area for action is described in terms of the rationale for it; what is already being done; what more is needed; activities; potential partners; barriers to implementation; measures of progress; and the relationship to other action areas, Eat Well Australia initiatives, and other national health initiatives. The action areas are as follows:

- food supply in rural and remote communities
 - food security and socio-economic status
 - family-focused nutrition promotion, resourcing, and communicating 'good practice'
 - nutrition in urban areas
 - the environment and household infrastructure
 - the Aboriginal and Torres Strait Islander nutrition workforce
 - national food and nutrition information systems.
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A.21: Overweight and obesity among Aboriginal and Torres Strait Islander people

Bibliographic details

Australian Bureau of Statistics 1994, *Overweight and Obesity: Indigenous Australians*, occasional paper prepared by J Cunningham and D Mackerras, cat. no. 4702.0, ABS, Canberra. (52 pp.)

Context

This paper presents an analysis of data collected as part of the National Aboriginal and Torres Strait Islander Survey, conducted in 1994. The survey covered approximately 15 700 Aboriginal and Torres Strait Islander people, in a variety of rural and urban locations.

The distributions of weight, height and body mass index among Aboriginal and Torres Strait Islander children and adults are compared with information on other populations and from other, more specific studies. The results of an analysis of demographic, socio-economic, health, cultural and other factors that may be associated with body mass index are also presented.

Main subject areas

The paper is divided into three main sections—methodology, children and young adults, and adults.

The section on children and young adults discusses the following:

- availability of height and weight measurements
- distributions of height, weight and body mass index
- height for age, weight for age, and weight for height
- comparison of body mass index with published 'cutpoints'
- characteristics associated with mean body mass index
- characteristics associated with non-measurement
- assessment of potential bias due to non-measurement.

The section on adults discusses the last three factors listed for children as well as the following:

- distributions of height, weight and body mass index
- body mass index categories
- characteristics associated with obesity.

Data sources

Apart from the information elicited through the National Aboriginal and Torres Strait Islander Survey, data are drawn principally from journal material. The reports of government organisations—in particular, the Australian Bureau of Statistics, the Australian Institute of Health and Welfare and the NHMRC—are also cited.

Findings

Aboriginal and Torres Strait Islander children in urban areas were taller and heavier than their counterparts in rural and remote areas. Despite this, the height of Aboriginal and Torres Strait Islander children in urban areas was lower on average than the international reference. (The category 'other urban' includes non-capital city locations with a population greater than 1000, which means that some of the larger remote Aboriginal communities are grouped with cities such as Newcastle, so the results should be interpreted with care.)

For children and young adults, body mass index figures showed large proportions of both high and low values compared with the reference population. A number of factors in addition to place of residence were associated with mean BMI among children, among them main language, number of people per bedroom, and reports of a household member going without food. Children in rural areas were relatively worse off than their urban counterparts.

For adults, lower than expected heights were also seen, and most were classed as overweight or obese. Torres Strait Islander adults were taller and heavier than Aboriginal adults. Obesity was prevalent in all areas, although it was lower among rural males compared with their city counterparts.

A number of socio-economic, health and cultural factors were associated with mean BMI and obesity among adults—age, presence of diabetes, alcohol consumption, main language, number of people per bedroom, employment, and place of residence. Although these relationships are not necessarily causal, the information can help to guide policy makers.

There is great variability in the distributions of height, weight and body mass index among Aboriginal and Torres Strait Islander people. A high prevalence of underweight can coexist with a high prevalence of obesity in some groups.

The results of the National Aboriginal and Torres Strait Islander Survey offer the first opportunity to compare Aboriginal and Torres Strait Islander people living in a wide range of circumstances across Australia. More research is needed.

A.22: Report of the Alice Springs workshop on cardiovascular disease in rural and remote settings and in Aboriginal and Torres Strait Islander people

Bibliographic details

National Heart Foundation & Centre for Remote Health 2000, *Report of Workshop to Review Current Research and Determine Future Research Priorities for Cardiovascular Disease in Rural and Remote Settings, and in Aboriginal and Torres Strait Islander People*, report prepared by P Field, J Wakerman & K Nash, Centre for Remote Health, Alice Springs. (82 pp.)

Context

This workshop, held in November 1999 (a month after the Townsville workshop—see entry A.4) was organised to review current research and determine future research priorities for cardiovascular disease among non-Indigenous people in rural and remote settings and among Aboriginal and Torres Strait Islander people in urban, rural and remote settings.

Representatives of universities, hospitals, health services, research organisations, government agencies, non-government organisations and Aboriginal and Torres Strait Islander organisations were among those who participated.

Main subject areas

The Alice Springs workshop considered information from the Townsville workshop and a 1999 review of the state of knowledge of cardiovascular disease among the populations of interest. Related areas, such as nutrition and diabetes, and the broader social and economic determinants of health were not explored in Townsville or the review, but some of the Alice Springs workshop participants were experts in these areas, so that broader views would be represented.

A number of main themes emerged from the workshop:

- current and likely interventions relating to physical activity, food supply and diet, smoking, collection of evidence about food supply approaches (including local approaches), and definition of social indicators
- strategies to increase community control
- models of health care—funding models that support effective interventions, improved coordination and less fragmentation, primary health care and Aboriginal community-controlled health services, capacity and evidence building, and so on
- dealing with social and economic inequalities—including changing the professional–patient relationship to one of mutual negotiation
- development of informatics relating to access, quantity and quality, and GPs' role in data collection
- building shared cultural understanding
- a focus on youth.

Eight of the report's 11 appendixes reproduce the papers on the subjects just listed, as presented at the workshop.

Data sources

Some presenters' papers are accompanied by reference lists; others are not. The most common citations are of journal material and the work of government agencies (such as the Australian Institute of Health and Welfare and departments of health) and research organisations.

Findings

A number of potential areas of research priority were identified:

- development of research projects that identify regional variation in epidemiology and demographics
- further investigation of models of effective health service delivery
- trialing and evaluation—using appropriate methodology—of interventions focusing on risk factors and treatment
- priority support for behavioural and sociological research, with funding bodies reviewing their project-selection criteria and review processes.

Priorities and recommendations

The recommendations concern ways of promoting the outcomes of the workshop—in particular the development of partnerships and networks with Aboriginal and Torres Strait Islander organisations and researchers and the seeking of quarantined funding for priority and strategic research.

A.23: Report of the 'Working towards Healthy Aboriginal Communities' Summit

Bibliographic details

Scott, M 2001, '*Working towards Healthy Aboriginal Communities' Summit*, NSW Aboriginal Vascular Health Program report, Centre for Research and Clinical Policy, NSW Health, Sydney. (4 pp.)

Context

The Aboriginal Vascular Health Program was established in July 2000, building on the work of the Aboriginal Diabetes Project, which reviewed diabetes and related disease as they affect Aboriginal people. The NSW Aboriginal Health Partnership endorsed a combined vascular approach to the health priorities that were identified in the Aboriginal Health Strategic Plan.

The aim of the Vascular Health Program is to work in collaboration with relevant organisations and service providers to improve prevention and care services and so promote the vascular health of Aboriginal and Torres Strait Islander people living in New South Wales.

Main subject areas

The following are the main subject, or 'focus', areas of the program:

- increasing Aboriginal people's access to and use of health services
- improving early detection and intervention, primary and secondary intervention, and coordination of care across the 'continuum of need'
- health workforce development—especially for Aboriginal health workers
- development of an 'evidence base' of effective strategies, interventions and models of care for vascular disease among Aboriginal people
- resource development—including a set of standardised clinical resources that are adaptable to local health services for Aboriginal people
- provision of technical support and advice for regional initiatives to facilitate change in service delivery
- ensuring consistency with Commonwealth and state policy relating to chronic disease among Aboriginal and Torres Strait Islander people.

Data sources

No data sources are cited.

Action to date

The program involves developing an implementation plan incorporating strategies aimed at strengthening the Aboriginal health workforce, developing evidence-based 'clinical resources',

and research and development (including new models of service delivery and care). Ten demonstration projects have been funded, with the following aims:

- to improve prevention, early identification and intervention, and ongoing care for Aboriginal people with or at risk of vascular disease
- to increase Aboriginal people's use of primary health care
- to promote greater coordination and continuity of care—emphasising community-based care and self-management
- to reduce preventable hospital admissions for complications of vascular disease
- to promote community support for disease prevention and health improvement.

Priorities

From the primary prevention perspective, a number of factors are important:

- building the capacity of the Aboriginal health workforce
- developing the capacity to implement evidence-based, standardised clinical management of disease
- consultation and collaboration with Aboriginal communities and community-controlled health services, area health services, divisions of general practice, and non-government organisations
- multi-disciplinary educational interventions.

The importance of using local resources and the expertise of local health professionals and community members is stressed, as is the development of partnerships with, for example, divisions of general practice and Aboriginal community-controlled health services.

From the clinical perspective, the following are seen as priorities:

- provision of consistent, standardised, evidence-based clinical treatment and care
 - development and implementation of locally agreed clinical protocols
 - more effective, culturally appropriate approaches to self-management of chronic disease
 - development and implementation of clinical information and management systems.
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A.24: The evidence supporting consumer participation in health

Bibliographic details

Consumer Focus Collaboration 2001, *The Evidence Supporting Consumer Participation in Health*, National Resource Centre for Consumer Participation in Health, LaTrobe University, Bundoora, Victoria. (9 pp.)

Context

The Consumer Focus Collaboration, established in 1997, aims to strengthen the focus on consumers in the planning, delivery, monitoring and evaluation of health services in Australia. A wide range of organisations and interests are represented by the collaboration—consumers, professional and private sector organisations, and all Australian health departments.

Main subject areas

This document discusses some of the evidence supporting the notion that consumer involvement in decision making associated with health care, and in the implementation and evaluation of health strategies and programs, leads to improvements in the quality of care and offers physical, social and political benefits.

Consumer participation is discussed in relation to three areas:

- individual care
- health services
- the health system.

It is noted that research into consumer participation is an emerging area and so the literature is modest in terms of the number of studies and the range of methodologies. Descriptive studies are more common than methodologies such as randomised trials and systematic reviews.

Data sources

The majority of the sources cited are publications of the Department of Health and Ageing and journal material.

Findings

At the individual level, there is growing recognition that consumers have enormous potential to influence their own health outcomes if they are involved in decision making and provided with good information and appropriate self-management tools.

The studies discussed deal with people with chronic disease. All contend that consumers should become 'full partners with their health care providers'. The benefits include more efficient and effective service delivery, reduced depression and anxiety, greater perception of control, greater emotional wellbeing and, as a consequence, assisted recovery.

In the case of consumer participation in health services, the result is services that are more accessible and effective. Productive consumer participation in service development and improvement can be achieved in a variety of ways that facilitate participation by those who have traditionally been marginalised by mainstream services.

The studies discussed deal with the advantages and disadvantages of various methods of obtaining consumers' views—patient satisfaction surveys, patient-centred care, community-controlled health services, partnerships in care, and so on.

Consumer participation in the health system has characterised a number of national policies in Australia and has been integral to success. Examples are the National Mental Health Strategy and Australia's response to HIV and AIDS. The central motif is developing, fostering and valuing partnerships—between governments, community-based organisations, affected communities, health professionals and researchers.

A.25: Models of reporting to consumers on health service quality: a review

Bibliographic details

Consumer Focus Collaboration 2000, *Review of Existing Models of Reporting to Consumers on Health Service Quality*, report prepared by the Division of Research and Education (Royal Women's Hospital, Melbourne), the Health Issues Centre & Consumers in Health Consulting, Department of Health and Ageing, Canberra. (46 pp.)

Context

The Consumer Focus Collaboration, established in 1997, aims to strengthen the focus on consumers in the planning, delivery, monitoring and evaluation of health services in Australia. A wide range of organisations and interests are represented by the collaboration—consumers, professional and private sector organisations, and all Australian health departments.

In the past decade there has been much debate in the health sector in Australia about what information on the quality of health services can and should be made available to consumers. The Consumer Focus Collaboration's strategic plan notes that, as a first step in improving information provision to consumers, a review of current health service reporting to the community was necessary. This document is the result of taking up that challenge: the relevant literature was reviewed and consultations were held with a wide range of interested parties.

The document summarises the review findings and describes the principles and guidelines that were developed as a result of the review.

Main subject areas

The review developed five 'models for reporting'—competition; accountability; quality and safety; consumer empowerment; and health system and health status—each distinguished by its rationale, the data reported on, the information design and mode of dissemination, and the target audience. In addition, two frameworks are put forward:

- Framework One—public release of information
- Framework Two—purposeful reporting to consumers.

In this regard, the following is discussed:

- the format of reporting
- the impact of reporting—on consumers, purchasers, individual providers, health care agencies and quality-improvement programs
- reasons consumers are not using reports and not changing behaviour
- examples of reporting in Australia
- limitations of the data.

The second part of the document describes the principles and guidelines for purposeful reporting to consumers. The framework is based on consumer involvement in decision making and performance-improvement processes and the targeting of consumers as the primary audience for information on the quality of services. It has implications both for the content of what is reported and for the design and dissemination of reports.

Data sources

The primary data sources are journals and consumer-oriented publications.

Findings

Apart from the five reporting models and the two frameworks, the review found:

- To date there has been little evaluation of or research into the impact of reports on consumer behaviour and health agencies' responses to the findings of reports to consumers.
- There is continuing debated about the value of reporting.
- There are shortcomings in the reliability and accessibility of Australian data on the quality of health services, particularly data enabling comparison between agencies.

Principles, guidelines and strategies

The following principles underpin purposeful reporting to consumers in connection with the quality of health care:

- Reporting on the quality of health services values open and honest dialogue between consumers and providers.
- Health agencies have a duty to comment on and interpret information and to share it with consumers and the wider community.
- Consumers need to be informed of what they can expect from health agencies and the health care system.
- Consumers' contribution to 'defining the measurement of quality' is essential to improving health services.
- Consumers are entitled to information about how health resources are being allocated and whether the health system is delivering equitable outcomes.
- Reports to consumers should integrate definitions of quality that are useful to consumers as well as to providers.

The implementation guidelines and strategies cover purpose and planning; partnerships with communities of interest; deciding what to report on; selecting the data; system linkages; communicating the data; dissemination, communication and feedback mechanisms; and evaluation.

A.26: Feedback, participation and consumer diversity: a literature review

Bibliographic details

Consumer Focus Collaboration 2000, *Feedback, Participation and Consumer Diversity: a literature review*, report prepared by the National Resource Centre for Consumer Participation in Health, Department of Health and Ageing, Canberra. (88 pp.)

Context

The Consumer Focus Collaboration, established in 1997, aims to strengthen the focus on consumers in the planning, delivery, monitoring and evaluation of health services in Australia. A wide range of organisations and interests are represented by the collaboration—consumers, professional and private sector organisations, and all Australian health departments.

Although much has been done to improve the health system's capacity to respond to the diversity of consumers, many groups are excluded from receiving appropriate services offered by mainstream health care organisations. They are also excluded from participating in service development. Only limited resources are provided to consumers, especially marginalised groups, to develop their capacity to participate. Development of effective structures and processes to enable consumers to participate is a continuing challenge for most organisations.

This project was undertaken to draw together existing information about the participation of previously excluded groups and to highlight barriers to their participation.

Consumer participation is defined as the involvement of consumers in the development of health services; this includes policy development, strategic planning, service planning and delivery, and evaluation and monitoring.

Consumer feedback, a form of consumer participation, is defined as a process whereby health services seek information from consumers, analyse the information, and decide what action to take in response to the information.

Main subject areas

Much of the literature reviewed dealt with efforts to involve specific groups of consumers. There was little information about work done to involve a range of groups in a single project or strategy.

The document deals at length with barriers to participation—structural barriers, problems with the quality of information obtained through feedback and participation, and barriers for consumers (such as fear of discrimination and poor questionnaire design).

A 21-page table summarises participation and feedback methods used to date with marginalised groups. Following this is a discussion of ways of developing links with communities and what should be considered when developing a research strategy. Chapter 10 deals with various methods used to obtain feedback, and the final chapter deals briefly with using feedback to improve the quality of services.

Data sources

The extensive reference list cites a wide variety of publications—journals, government publications, research reports, and so on—from Australia and elsewhere. There are also appendixes listing resources for consumer participation and relevant literature not included in the review.

Findings

Much has been done—nationally and at state and territory level—to develop a health system that is more consumer oriented; similarly, much has been done to develop the health system's ability to respond to the diversity within the Australian community. Despite this, though, many consumer groups continue to be excluded from receiving appropriate services and from participating in service development. Only limited resources are provided to consumer groups to develop their capacity to participate.

Evidence is emerging that consumer participation in the development of health care services is in fact of value. And there appears to be a link between the participation of consumers from diverse backgrounds and the development of appropriate health care services. Development of such services may entail empowering consumers so that they can tell the system what their characteristics and needs are; it may also involve developing organisations' capacity to listen and respond to consumers' voices.

The following barriers to participation were identified:

- policy directives that work against participation and collaboration
- lack of commitment to and leadership for consumer participation
- lack of management support for consumer participation
- limited evaluation and evidence of the benefits of consumer participation
- lack of education and training that supports participation
- organisations' lack of capacity to involve consumers
- difficulties for policy makers, service providers and consumer organisations in ensuring that community diversity is fully represented in participation initiatives.

The following groups were identified as being most marginalised:

- people from a range of cultural and linguistic backgrounds
- people of Aboriginal or Torres Strait Islander descent
- people living with chronic conditions
- people with a mental illness
- people with a disability
- people living in rural and remote areas
- people living in poverty
- people who are socially isolated
- young people

- older people
 - people with low literacy.
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A.27: Western Australian Heartcare Strategy

Bibliographic details

Briffa, T 2001, *Western Australian Heartcare Strategy: a framework for action*, report prepared on behalf of the Steering Committee of the Medical and Scientific Advisory Panel of the Western Australian Division of the National Heart Foundation of Australia for the Western Australian Health Department, Perth. (27 pp.)

Context

The Heartcare Strategy, commissioned by the Western Australian Department of Health, was prepared following publication of two reports produced under the aegis of the Western Australian Division of the National Heart Foundation. (The second of those reports is summarised in entry A.28.)

Health planners, policy makers, practitioners of heart disease management, specialists, GPs, nursing and allied health professionals, consumers, and representatives of universities and health services all provided input.

Main subject areas

The strategy emphasises the need for a systematic, multi-faceted, evidence-based approach involving statewide collaboration. It notes that activity should be 'patient-centred, primary care-directed, locally delivered and centrally coordinated'.

The need for a system for monitoring coronary heart disease outcomes is stressed, as is the fact that health service providers should have flexibility in responding to the needs of individuals and local health services.

Partnerships, networks and strategic links—involving consumers, the Commonwealth and state governments, non-government agencies, health professionals, hospitals and health units—are essential.

Three long-term and eight short-term performance indicators are identified, although it is noted that there will probably be some change to the short-term indicators during the term of the strategy (2001 to 2004). New instruments and monitoring systems should be established to track short-term outcomes.

The strategy expands on the range of initiatives already implemented by the Commonwealth and state governments and non-government organisations, and it links with other strategic documents, ensuring an integrated, comprehensive approach.

Data sources

The strategy is based on four decades of published scientific evidence and on experience at state, national and international levels.

Objectives

The primary goal is 'to improve the health of Western Australians with heart disease by lowering the risk for subsequent cardiac problems and enhancing quality of life'.

There are five strategy objectives:

- to offer patient-centred care to all Western Australians with heart disease—including Aboriginal and Torres Strait Islander, rural and remote, and disadvantaged populations
- to effectively treat all eligible people
- to increase physiological and psychosocial functioning in the target population
- to monitor health outcomes in those with heart disease
- to reduce cardiac mortality, morbidity and revascularisation rates in those with heart disease.

Priorities and recommendations

The four priority strategy areas involve the following:

- educating health practitioners
- accelerated cardiac recovery in primary care
- patient compliance and behavioural change
- monitoring.

To improve quality of life and lower coronary heart disease mortality, the strategy recommends as follows:

- Provide accelerated cardiac recovery in primary care to enhance, appeal and improved access by those with heart disease.
 - Initiate local debrief sessions ... that offer a variety of heartcare services individually tailored to [the individual's] culture, interest, willingness to change and personal resources ...
 - Develop a flexible range of local, culturally appropriate heartcare services for increasing adherence to medical therapy and changes to behavioural risk factors.
 - Develop and implement an agreed data set for systematic monitoring and evaluation of heartcare service participation, adherence, quality, effectiveness and costs to determine its value to health care.
 - Implementing the strategy should be overseen by a subcommittee of the Medical and Scientific Advisory Panel of the Western Australian Division of the National Heart Foundation of Australia with additional representation of other key stakeholders.
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A.28: Cardiac rehabilitation services and resources in Western Australia

Bibliographic details

Briffa, T 2000, *Draft Audit of Cardiac Rehabilitation Services and Resources in Western Australia*, report prepared on behalf of a Steering Committee of the Medical and Scientific Advisory Panel of the Western Australian Division of the National Heart Foundation of Australia for the Western Australian Health Department, Perth. (32 pp.)

Context

This report was used in the development of the Western Australian Heartcare Strategy (see entry A.27).

A statewide audit of services and resources available for cardiac rehabilitation was conducted. Representatives of area health services, divisions of general practice and private hospitals, and other individuals were contacted and a detailed survey form was distributed. Interviews were also held and submissions received.

Cardiac rehabilitation was not defined: it was left to respondents to decide whether they provided such a service.

Main subject areas

The detailed survey form covered the following:

- inpatient service provision and policy
- 'post-discharge/outpatient/community' service provision and policy
- education
- evaluation and monitoring—for inpatients and outpatients
- staff training
- 'maintenance/long-term service provision and policy'.

Data sources

Australian government and non-government agencies, WHO and the UK National Health Service are cited. Information was also gathered from interviews and submissions and by means of the survey form.

Findings

Twenty-six rehabilitation programs were being offered at 21 centres in the state. Of these, 76 per cent were offered in hospitals and 14 per cent in general practice or private health care settings; one program was attached to a university and one was offered in a health centre gym. Sixteen programs provided in-hospital rehabilitation, 19 ran post-discharge programs, and eight offered

long-term services. The majority of programs were developed by practitioners with an interest in rehabilitation and were largely under-resourced.

The core program components were education and exercise. Interventions for stress management and counselling were less evident.

Program coordination was mostly by nurses, physiotherapists and exercise scientists. Post-discharge rehabilitation mostly involved physiotherapists, dietitians, nurses and pharmacists. Doctors tended to have supportive and advisory roles.

Other findings concerned the following:

- Resources are scarce and funding insecure—a consistent theme.
- Insufficient staff and shorter hospital stays act as barriers to delivering rehabilitation in hospitals—another consistent theme.
- Service provision is selective.
- Systematic monitoring and evaluation were not apparent, although better resourced services were taking some action to remedy this.
- With several exceptions, policy documentation was poor.
- Support for, and knowledge of, services varied.
- With the possible exception of GPs, no clear mechanisms were identified for systematic, ongoing measurement and management of blood cholesterol, smoking, blood pressure and physical activity status.
- Provision of information in languages other than English and in large print was limited. There was nothing for the blind, no audio material, and limited use of videos. Two centres asked that consideration be given to culturally appropriate educational material, in particular for Aboriginal people in regional areas of the state.

Priorities

The 'unmet needs' that are listed might be viewed as priorities:

- Fewer than 20 per cent of patients admitted to hospital for a cardiac condition receive rehabilitation. Further, there are no data on management of chronic heart disease, in particular the monitoring of risk factors.
- Program quality and outcomes were not routinely reported, and commercial software products to support documentation were 'non-existent'.
- Continuing education for health professionals and patients was under-developed.
- The links between service providers were fragmented.
- The fact that Australian guidelines for cardiac rehabilitation and secondary prevention exist does not guarantee that they will be heeded. Difficulty in interpreting and adopting them inhibits their uptake.
- In the case of post-discharge rehabilitation, there is a need for a variety of approaches that fit not only patients' clinical status but also their lifestyle.

- Alternative models for service delivery and continuing care—including self-management—should be developed and evaluated for their cost-effectiveness.
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A.29: The Victorian Stroke Strategy

Bibliographic details

Victorian Stroke Taskforce 1998, *Victorian Stroke Strategy: report of the Stroke Strategy Taskforce*, National Stroke Foundation, Melbourne. (82 pp.)

Context

This report puts forward recommendations for coordinated stroke care that is based on best practice and cost efficiency. The Victorian strategy is based on the National Stroke Strategy (see entry A.3), applying the national goals and recommendations to the Victorian situation.

Main subject areas

Information is provided on the impact of stroke in Victoria, preventive strategies, current stroke management in the state, acute stroke management, rehabilitation and vocational programs, and community and long-term support services.

Of interest are the chapters on stroke in the Koori population and in 'culturally and linguistically diverse populations'. Research and professional education and training are also discussed.

Data sources

Data are drawn primarily from journals, the National Heart Foundation, and the NHMRC clinical practice guidelines for the prevention of stroke (see entry A.13).

Findings

Although stroke shares risk factors with other vascular diseases, it should be seen as an independent health problem, requiring a distinct management process. Effective prevention and treatment depend on public and medical recognition of the condition and an integrated strategy that enables swift intervention.

A number of findings are noted for each subject area, among them the following:

- There is considerable public confusion and misinformation about stroke.
- Stroke is largely preventable—through, for example, lifestyle modification, effective treatment of major risk factors, and recognition of warning attacks. GPs have an important role to play in prevention.
- Optimal acute care can reduce mortality and improve outcomes.
- Well-developed, coordinated community services are crucial for people with stroke-induced disability.
- It is likely that stroke poses a substantial burden in the Koori population.
- Language barriers, differences in risk factors, and different attitudes to disease mean that people from culturally diverse backgrounds have special needs.
- Excellence in the delivery of stroke care is strongly linked with good research.

- Continuing education of health professionals is essential.

Priorities and recommendations

The report nominates 10 'key steps', or recommendations, for improved stroke care:

- Expand the 'Stroke is a Brain Attack' program.
- Distribute to all GPs the NHMRC guidelines on stroke.
- Develop stroke units in all major metropolitan and rural hospitals, with satellite units in peripheral hospitals using telemedicine.
- Appoint stroke care coordinators.
- Improve rehabilitation services in rural areas.
- Carry out epidemiological research in Koori and culturally diverse populations.
- Provide research funding commensurate with the magnitude of the problem.
- Improve the education of all health professionals.

The remaining recommendations concern implementation of the strategy.

A.30: Improving Health care for people with chronic illness: New South Wales Action Plan

Bibliographic details

NSW Health 2001, *Improving Health Care for People with Chronic Illness: a blueprint for change, 2001–2003*, NSW Government Action Plan, NSW Health Department, Sydney. (63 pp.)

Context

This report describes the work of the Chronic and Complex Care Implementation and Coordination Group established under the New South Wales Government's Chronic and Complex Care Program, which has introduced, among other things, 24 programs dealing with cardiovascular disease.

Main subject areas

Cardiovascular disease affects 2.8 million Australians aged over 18 years—that is, about 16 per cent of the total population. In 1999–2000 in New South Wales, 17 per cent of public hospital admissions were attributable to cardiovascular disease, diabetes, cancer or respiratory disease. This amounted to 36 per cent of public hospital bed-days and cost \$1.1 billion. Each year 23 000 people with 'heart failure' are admitted to hospital in the state.

This report describes how New South Wales is moving away from a health care system focused on acute care to one that provides more anticipatory, coordinated, efficient and effective care for the chronically ill. In June–July 2001 three Special Interest Groups held workshops to set targets for measuring progress towards this goal.

In the case of the cardiovascular disease workshop, the group considered in particular the differing challenges for urban and rural service delivery. General consensus was reached on the following 'process indicators':

- use of ACE inhibitors
- pre-discharge review
- use of echocardiograms
- use of enhanced primary care MBS items for discharge conferences and heart failure care plans.

The following health outcome indicators were also agreed:

- quality of life—using the Minnesota Living with Heart Failure tool
- unplanned re-admissions
- length of stay
- the patient's compliance with their care plan and associated requirements.

Data sources

Journal material and publications of NSW Health and the UK National Health Service are cited.

Guiding principles

Five guiding principles are listed:

- placing consumers at the centre of the health system, with services designed around individual needs
- developing consumers' capacity to participate fully in their own health care
- improving access to appropriate community-based services
- facilitating continuity in relationships between health care providers at all levels and between health care providers and consumers
- developing organisational and governance systems that support long-term orientation of care within the health system.

Opportunities and recommendations

A number of opportunities for improving the care and quality of life of people with chronic illness were identified:

- development of standards and principles and clinical guidelines and protocols
- identification, development and implementation of information systems to assist in the continuum of care
- development of education and training infrastructure for health professionals
- development and monitoring of agreed performance indicators and targets
- specification of health service research and development activity.

The recommendations covered five areas:

- personal health records for all patients with chronic and complex conditions
 - better coordination of care through care planning
 - agreed standards of care across the state, using clinical service frameworks
 - enabling of clinical leadership and consumer participation
 - closer collaboration with general practice.
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A.31: Healthy lifestyles: primary prevention of diabetes and cardiovascular disease in Western Australia

Bibliographic details

Department of Health WA 2001, *Healthy Lifestyles: a strategic framework for primary prevention of diabetes and cardiovascular disease in Western Australia, 2001–2006*, Department of Health, Perth. (31 pp.)

Context

This framework, developed to complement international, national, state and regional policies, is designed to facilitate a more coordinated and strategic approach to type 2 diabetes and cardiovascular disease in Western Australia.

A literature review, interviews and focus group discussions provided the means of exploring ways of moving towards best practice. Consultations involved representatives of health services, Aboriginal medical services, divisions of general practice, non-government organisations with an interest in health, consumers, and planners and purchasers of health services.

Despite its five-year time frame, the document describes three types of actions: short term (one to two years), medium term (three to five years) and long term (six to 10 years). It offers a population-based approach—'based on the knowledge that by far the greatest number of disease cases arises from that majority of the population who are not seen as "at risk", and that small changes in this group can produce much greater community benefit than large changes in a small number of high-risk individuals'. This does not, however, exclude populations with specific needs: the framework pays particular attention to the needs of Aboriginal and Torres Strait Islander people.

Main subject areas

The document's 'vision for 2006' speaks of awareness raising; service accessibility; collaboration between service providers and other 'community stakeholders'; a commitment to primary prevention; agreement on outputs; and establishment of an information system that meets the needs of all participants—funders, planners, providers and the community.

Seven goals are listed:

- to increase Western Australians' awareness of the impact of diabetes and cardiovascular disease and what they can do to prevent these illnesses and their complications
- to increase the proportion of the population eating healthily, exercising regularly and not smoking tobacco
- to slow the trend towards overweight and obesity
- to reduce the proportion of the population who are overweight or obese
- in relation to risk factors and health outcomes, to reduce the disparities between sections of the population
- to create and sustain partnerships, systems and leadership to achieve the goals

- to reduce the projected incidence and prevalence of morbidity and premature mortality associated with type 2 diabetes and cardiovascular disease in the state.

Data sources

The data cited come from government agencies (especially the Australian Institute of Health and Welfare, the Australian Bureau of Statistics and health departments), WHO, several US health bodies, and journals.

Findings

Cardiovascular disease is Australia's biggest health problem. It accounts for 12 per cent of health system costs, 22 per cent of the burden of disease, 33 per cent of premature death, and almost 9 per cent of healthy life lost through disease, impairment and disability. Among other things, diabetes—the seventh leading direct cause of death in Australia—can lead to heart failure and stroke.

Compared with non-Indigenous Australians, the burden of diabetes and cardiovascular disease is much greater for Aboriginal and Torres Strait Islander people: hospital discharge rates are three times higher for myocardial infarction; rates of death due to ischaemic heart disease are twice as high.

About 20 per cent of non-Indigenous Australians and 25–30 per cent of Aboriginal and Torres Strait Islander people are obese. One in six Australians engage in no physical activity at all. About 23 per cent smoke tobacco; for Aboriginal and Torres Strait Islander people living in non-remote areas, the rate is twice as high.

Rates of fatal and non-fatal heart attack have declined in the last 30 years; this is partly attributed to reduced rates of tobacco smoking and dietary intake of saturated fats, despite little change in levels of physical activity and the rapid increase in overweight and obesity.

Strategic objectives and principles

The following strategic objectives and principles for achieving them are described:

Generate an information base for action

- generation of relevant, timely, local data
- an evidence-based approach

Establish and sustain effective primary prevention programs to promote healthy lifestyles and risk factor reduction

- a population approach
- a risk factor approach
- promotion of wellbeing and a holistic approach to health
- a life-course approach
- a comprehensive approach

Address factors external to the health sector that influence healthy lifestyles

- an intersectoral approach
- community participation

Ensure health sector reforms

- a coordinated approach within the health sector
- integration of primary prevention with the continuum of care
- integrated public health practice at local level
- funding and resources—including flexibility and a longer term focus
- consistency with regional plans
- workforce capacity—including a changed focus, management reforms, coordination, an adequate and appropriate workforce, and staff development.

'Prevention is everybody's business.'

A.32: Stroke incidence on the east coast of Australia: the NEMESIS study

Bibliographic details

Thrift, AG, Dewey, HM, Macdonell, RAL, McNeil, JJ & Donnan, GA 2000, 'Stroke incidence on the east coast of Australia: the North East Melbourne Incidence Study (NEMESIS)', *Stroke*, vol. 31, pp. 2087–92.

Context

Community-based stroke incidence studies are the most accurate way of explaining mortality trends and informing the development of public health policy.

The NEMESIS study set out to determine stroke incidence among 133 816 residents of inner north-east Melbourne between 1 May 1996 and 30 April 1997. The results were compared with those obtained from studies in Europe and, more particularly, Perth. Other stated aims of the study were to determine stroke outcomes and investigate the costs of stroke.

Among the study population, 15.7 per cent were aged 65 years or more, which compares with 12 per cent for the entire Melbourne Statistical Division; in addition, 30 per cent of the study population was born overseas, which compares with 24 per cent for the rest of Victoria.

Methodology

The WHO definition of *stroke* was used; other 'standard definitions' of *transient ischaemic attack*, *first-ever stroke*, *possible stroke* and *case fatality* were used.

The primary sources of study subjects were the daily admission lists of major public and private hospitals in the study area and surrounds, GPs, physicians, neurologists, geriatricians and rehabilitation specialists. Advertisements were also placed in divisional general practice newsletters, local and 'ethnic' newspapers, and one major Melbourne newspaper.

Information from the Australian Bureau of Statistics and hospital and nursing home records was also used. The National Death Index was used to determine whether any patients lost to follow-up had died.

A total of 1371 patients with 'potential stroke' were referred to the study. Of these, 987 were excluded, mainly because they lived outside the study area, had had TIAs, or fell outside the study time frame.

Data sources

The data sources cited are overwhelmingly journal articles. The WHO's ICD-9 classification and MONICA criteria were also used.

Findings

Australia's geographic and demographic diversity means that it is 'quite probable' that incidence rates vary in different parts of the country.

Further, different methods are used for reporting incidence in population-based studies, and this makes comparison difficult. Nevertheless, the study found incidence rates similar to those found in many European studies—in particular, recent ones in Germany, Greece and Italy. In contrast, it found significantly higher incidence rates than those found in Perth in 1995–96. The pattern holds good for both males and females, as well as for overall attack rates.

The study results provide an important baseline from which to assess changes over time. When applied to national mortality trends, such data may provide clues as to whether the declining mortality from stroke is a reflection of declining incidence, declining case fatality, or a combination of both. Information of this kind is important for health care planning, especially at a time when the population at risk of stroke is growing.

A.33: The SCOPES Report: stroke care outcomes - providing effective services

Bibliographic details

National Stroke Foundation 2001, *SCOPES Report: stroke care outcomes—providing effective services*, draft final report of the Health Services Unit, National Stroke Foundation, Melbourne. (303 pp.)

Context

The SCOPES study evolved from the Victorian Stroke Strategy (see entry A.29), which identified a lack of information about the delivery of care for stroke sufferers in Victoria. The study was carried out in 1998 and 1999. It evaluated the quality of stroke services across the continuum of care by examining structure (staffing and facilities), process (policies and practices) and outcomes (survival, disability and levels of satisfaction among stroke patients).

A multi-centre prospective cohort trial was used—512 participants (from eight metropolitan hospitals and one rural base hospital) were tracked for six months. Health professionals, working in both acute and primary care, were also surveyed, as were non-participating hospitals.

Main subject areas

The following are the draft report's main subject areas:

- the stroke care continuum and pre-hospital management
- acute stroke care
- long-term care—use of services, prevention, and communication between GPs and hospitals
- outcomes—disability, handicap and psychological consequences
- consumer perceptions.

Appendix 1 of the draft report lists the key search words used for the literature review and presents the questionnaires used.

At the time of the draft report's presentation, in July 2001, two chapters were outstanding. They were to be included in the final report, due for presentation in September 2001, and were to cover the following important areas:

- a comprehensive appraisal of stroke care, including an economic evaluation of the pathway of care over six months and a cost description of stroke units
- a description of stroke care in rural Victoria, based on the rural cohort that participated in the study.

Data sources

All sections of this comprehensive document are accompanied by their own reference list—journal material predominates. But the basis of the document is the questionnaire results, which cover assessment of quality of life, case reporting, patient and carer follow-up, patient satisfaction, level of handicap, access to care in the community, carer strain, patients' feelings of wellbeing, and social support.

Findings

- Stroke is an emergency medical condition calling for urgent medical attention. Public awareness of this is poor.
 - Geographically discrete stroke units—with integrated, expert, multi-disciplinary teams—appear to be the most effective.
 - Clinical management plans are important to inpatient care, and stroke units are more likely to use them.
 - There are three important areas where information is lacking—stroke rehabilitation; the cost-effectiveness of stroke care; and the needs of carers and the burden of caring.
 - All models of acute care were hindered by inefficiencies in the wider health system. 'Exit blocking' is a particular problem.
 - GPs were the main service providers following patients' discharge from hospital. They are ideally placed to provide information and case management for stroke survivors in the community.
 - To ensure continuity of care, timely communication between the various service providers, and between service providers and carers, is necessary.
 - Carers and stroke survivors in the community reported lack of organisation of care and problems with access to services such as rehabilitation.
 - Consumers need more advice about modifiable risk factors, regular monitoring, and recognising and responding to a recurrent stroke event.
 - Stroke care in Victoria is variable and access to evidence-based medicine in the form of stroke units is limited.
 - Care is fragmented because of exit blocking and variable communication between service providers.
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Part B: Themes

B.1: Aboriginal and Torres Strait Islander peoples

Context

The poor state and relative lack of improvement in Aboriginal and Torres Strait Islander people's health are well known, well documented, and much discussed in the literature reviewed. Compared with the non-Indigenous Australians, people of Aboriginal and Torres Strait Islander origin suffer far greater morbidity and mortality from heart, stroke and vascular disease, and the prevalence of major risk factors such as smoking, obesity, hypertension and diabetes is estimated to be about twice as high. (entries A.1, A.2 and A.4)

Heart, stroke and vascular disease is the biggest single cause of premature death among Aboriginal and Torres Strait Islander people. (entries A.1 and A.22)

Overall, members of this population group die from cardiovascular disease at twice the rate of other Australians; among people aged 25 to 64 years, death rates are seven times higher for men and 10 times higher for women. In 1996 to 1998 Aboriginal and Torres Strait Islander people were three times more likely to die from heart failure compared with non-Indigenous Australians. During the same period the overall death rate from stroke was twice as high; among men and women aged 25 to 64 years, the rates were seven and eight times higher respectively. (entry A.2)

Among Aboriginal and Torres Strait Islander people the average age of death from cardiovascular disease is 59 years; this compares with 79 years among non-Indigenous Australians. (entry A.2)

Rates of hospitalisation for conditions such as coronary heart disease and stroke are substantially higher (entry A.1). The average age of hospitalisation for cardiovascular disease is 47 years for Aboriginal and Torres Strait Islander people, compared with 66 years for non-Indigenous Australians. And Aboriginal and Torres Strait Islander people stay in hospital longer. (entry A.2)

In addition, in northern Queensland in 1997 and 1998 rates of participation in cardiac rehabilitation programs were found to be 3 per cent for Aboriginal and Torres Strait Islander people compared with 19 per cent for non-Indigenous Australians. This was partly attributed to the dearth of Aboriginal health service providers—both in hospitals and in the community—and the fact that only 50 per cent of the Aboriginal health service workers had received formal education in cardiovascular disease. (entry A.14)

Aboriginal and Torres Strait Islander people have one of the highest rates of type 2 diabetes in the world. In 1997 and 1998 the rate of type 2 diabetes as the underlying cause of death among Aboriginal and Torres Strait Islander people was three times higher than among non-Indigenous Australians. Aboriginal and Torres Strait Islander females were almost twice as likely as their male counterparts to die from diabetes. (entry A.2)

A national workshop on heart disease in Aboriginal people, Torres Strait Islanders, and rural and remote populations was held in Townsville in October 1999 (see entry A.4). The workshop brought together some of Australia's leading policy makers and service providers as well as researchers working in the area of heart disease. The report of the workshop makes proposals for action and puts forward a detailed action program for priority areas.

Rheumatic heart disease

Aboriginal and Torres Strait Islander people have one of the highest rates of rheumatic heart disease in the world. Compared with non-Indigenous Australians, the rates are 13 times higher for males and 14 times higher for females. Rheumatic heart disease—which results from repeated, prolonged episodes of acute rheumatic fever associated with group A streptococcal infection in childhood and adolescence—is a disease of disadvantage. It is entirely preventable. (entry A.1)

The nature of the problem

Many factors contribute to the problem of poor cardiovascular health among Aboriginal and Torres Strait Islander people:

- The primary factors are dispossession, loss of community cohesion, powerlessness, stress and alienation. (entry A.6)
- For Aboriginal and Torres Strait Islander people, health cannot be isolated from emotional, social and cultural wellbeing: all facets of existence are interconnected. As a result, interventions need to be broad and holistic, not uni-directional, and treated within a chronic disease framework. (entry A.6)
- Health-related interventions—from preventive work to management and treatment—are often culturally inappropriate, sometimes offensive. The same applies to research.
- For the Aboriginal and Torres Strait Islander population that lives in rural and remote parts of Australia, where the health workforce is poorly distributed, goods (such as fresh fruit and vegetables) and services (such as dental care) may be either unavailable or expensive, and incomes are generally lower. (entries A.1, A.4 and A.22)
- Aboriginal and Torres Strait Islander people are more likely to smoke tobacco, have lower levels of leisure-time physical activity, and to be obese. Although the proportion of the Aboriginal and Torres Strait Islander population consuming alcohol is lower than among non-Indigenous Australians, Aboriginal and Torres Strait Islander people who do consume it are more likely to do so at harmful levels. (entry A.2)
- There are too few Aboriginal and Torres Strait Islander doctors, nurses and allied health workers, which undermines efforts to improve the cultural competence and the sustainability of the workforce. (entries A.4 and A.22)

To compound the problem, there is a lack of high-quality data for Aboriginal and Torres Strait Islander peoples. This is partly a consequence of inappropriate methods used in the past and of the fact that, in administrative data collections, there has been incomplete identification of Aboriginal and Torres Strait Islander origin. In addition, changes over time in the availability and quality of data make assessment of trends difficult and potentially misleading. (entries A.1, A.2 and A.6)

Evidence for particular interventions

Current activity

The role of Aboriginal and Torres Strait Islander communities in health financing agreements is critical. A good example is the Rural and Remote Health Financing Project, currently under way between the Department of Health and Ageing and the National Rural Health Alliance; the project should result in a range of options for funding health in rural and remote areas.

Efforts continue to be made to increase the number of Aboriginal and Torres Strait Island health workers; research and data have improved; and work continues to be done to re-orient programs and services.

Current efforts are, however, insufficient to allow a real prospect of achieving the nationally agreed 10-year target of a 50 per cent reduction in mortality from coronary heart disease or of achieving the related targets for risk factors.

Programs for prevention are fragmented and lack clearly identified sources of funding. Although there will be gains from improved access to treatment, there is even greater potential for gain from improved primary and secondary prevention.

The Primary Health Care Access Program is a Commonwealth–state/territory initiative that aims to increase access to primary health care services, to improve the local health system to better meet the needs of Indigenous people, and to empower individuals and communities to take greater responsibility for their own health. Under the joint regional planning process, local areas are considered for selection for the program on the basis of need and the capacity to use funds effectively in delivering services such as clinical care, illness prevention and early intervention.

Rheumatic heart disease

Training in treatment and prevention of acute rheumatic fever and rheumatic heart disease for Aboriginal and Torres Strait Islander people in rural and remote areas has occurred under the Commonwealth Rural Health Education, Support and Training Program.

The Commonwealth-funded rheumatic heart disease control program has a register of people with rheumatic heart disease and acute rheumatic fever in the Top End of the Northern Territory. The register has recently been extended to Central Australia and is used to improve patient care, focusing on secondary prevention.

More effort needs to be made in areas of high attack rates.

Recommendations for future activity

The rapid decline in mortality from cardiovascular disease among New Zealand Maoris in the early 1970s—from a position comparable with that applying to Aboriginal and Torres Strait Islander people today—suggests that similar gains ought to be achievable in Australia. There are calls for a national training program to ensure that there are adequate numbers of skilled Aboriginal and Torres Strait Islander health workers. Community education about interventions is also seen as important.

Efforts should be made to further encourage consultation and collaboration with Aboriginal community–controlled health services, government agencies and non-government organisations.

Community ownership and control of initiatives should be promoted through agreements between governments and communities that allow decision making, fund holding and program implementation to occur at the local level.

Development of a secure funding base for cardiovascular programs is vital. In the case of stroke, the National Stroke Strategy recommendations cover:

- collection and monitoring of morbidity and mortality data
- improving data on risk factor prevalence

- promoting research into language and cultural barriers to access to health services and information
- promoting research into the differentials in access to services between rural and urban areas and ways of overcoming this.

The same could be said for other aspects of cardiovascular disease among Aboriginal and Torres Strait Islander peoples.

More epidemiological research is called for, in particular research into more effective methods of intervention. Behavioural and sociological research is also seen as a priority.

The question of food supply and security needs further attention, as do influential factors such as socio-economic status, employment, and the host of other problems arising from dispossession and alienation. The focus should extend beyond the health sector.

The greatest potential for relieving the burden of cardiovascular disease among Aboriginal and Torres Strait Islander peoples lies in improved primary and secondary prevention. This should include improvements to fundamental determinants of health such as socio-economic status.

Rheumatic heart disease

Organised primary health care is essential if rheumatic fever is to be controlled. Continued, collaborative, intersectoral efforts are necessary. As part of this, several matters merit particular attention:

- housing, overcrowding and hygiene
- the control of group A streptococci
- the development and evaluation of programs for treating streptococcal sore throat and scabies and skin sores
- research into a vaccine for acute rheumatic fever.

A re-evaluation of access to the Pharmaceutical Benefits Scheme for the purpose of public health control is warranted. The Australian Pharmaceutical Advisory Committee has already endorsed this proposal. A coordinated, register-based control program is also warranted, as recommended by the World Health Organization.

As with cardiovascular disease in general, the greatest potential for dealing with rheumatic heart disease lies in improved primary and secondary prevention.

Further reading

Many of the documents reviewed in Part A discuss Aboriginal and Torres Strait Islander peoples' cardiovascular health or aspects of it; particularly noteworthy are the following:

- entry A.1—Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra.

- entry A.2—Australian Institute of Health and Welfare 2001, *Heart, Stroke and Vascular Diseases: Australian facts, 2001*, AIHW cat. no. CVD 13, AIHW, National Heart Foundation of Australia & National Stroke Foundation of Australia, Canberra.
- entry A.3—Stroke Australia Task Force 1997, *National Stroke Strategy*, National Stroke Foundation, Melbourne.
- entry A.4—National Workshop on Heart Disease 1999, *Report*, Summary of workshop held in Townsville, 17–19 October 1999, National Rural Health Alliance, Canberra.
- entry A.6—National Aboriginal Health Strategy Working Party 1989, *A National Aboriginal Health Strategy*, n.p.; National Aboriginal and Torres Strait Islander Health Council 2001, *National Aboriginal and Torres Strait Islander Health Strategy*, draft for discussion, NATSIHC, Canberra.
- entry A.13—National Health and Medical Research Council 1997, *Prevention of Stroke: the role of anticoagulants, antiplatelet agents and carotid endarterectomy*, Clinical Practice Guidelines Series no. CP45, Australian Government Publishing Service, Canberra.
- entry A.14—Bunker, S 2001, *Developing a Strategy for the Secondary Prevention of Coronary Heart Disease*, report on the National Heart Foundation of Australia Internal Planning Forum, 4 April, National Heart Foundation (Victorian Division), Melbourne.
- entry A.22—National Heart Foundation & Centre for Remote Health 2000, *Report of Workshop to Review Current Research and Determine Future Research Priorities for Cardiovascular Disease in Rural and Remote Settings, and in Aboriginal and Torres Strait Islander People*, report prepared by P Field, J Wakerman & K Nash, Centre for Remote Health, Alice Springs.
- entry A.23—Scott, M 2001, *'Working towards Healthy Aboriginal Communities' Summit*, NSW Aboriginal Vascular Health Program report, Centre for Research and Clinical Policy, NSW Health, Sydney.

The Aboriginal and Torres Strait Islander health workforce is discussed in entry B.2.

B.2: The health workforce

Context

The term *health workforce* is used here to refer to many areas of activity and skill:

- the medically trained workforce—including general practitioners, cardiologists, strokeologists, and gerontologists
- nurses, nurse practitioners and community nurses
- allied health professionals—including physiotherapists, occupational therapists, speech pathologists, pharmacists, Aboriginal health workers, dietitians, nutritionists, experts in sports medicine, and paramedics
- health policy makers, administrators and advocacy groups—Commonwealth, state and territory government agencies and organisations such as NACCHO (the National Aboriginal Community Controlled Health Organisation) and the National Heart Foundation of Australia
- the volunteer sector—carers (including family members, friends or voluntary helpers), volunteers, peer support groups and individuals, counsellors, and so on
- health researchers—including epidemiologists, clinical and social researchers, health economists and program evaluators.

The literature reviewed is replete with calls for improved training for the health workforce and for improved planning and coordination in the provision of services. But if the burden of disease and death caused by heart, stroke and vascular disease is to be alleviated, preventive action needs to occur on many fronts: it is not just the province of the health workforce.

The nature of the problem

The main problems identified in the literature fall into a number of categories, as follows:

Communication and consistency

Although there is a growing focus on intersectoral collaboration in Australian health care at all levels, there remains a lack of communication and coordination of effort between members of the health workforce and between the health workforce and users of health services. This is a recurrent theme in the literature reviewed.

There also is a lack of consistency in practice—for example, in following evidence-based guidelines. Associated with this are the difficulties of encouraging practitioners to keep their knowledge and skills up to date without burdening them with too much information. Further, there needs to be consistency between public health messages and the information provided to health professionals.

Coordination

Integration of care—along the continuum, from in-hospital services to community services—is less than optimal. The appointment of care coordinators does much to alleviate this problem (entry A.29). The potential role of nurse practitioners is under-exploited.

The dearth of Aboriginal and Torres Strait Islander health workers, and of other health workers who are conversant with the health and sensitivities of Aboriginal and Torres Strait Islander peoples, is another recurrent theme, as is the pressing need for continuing education of these workers. (entries A.4 and A.22)

More specifically, there is a dearth of Aboriginal and Torres Strait Islander health professionals and workers who are trained in the provision of cardiac care. (entry A.14)

It is essential to involve Aboriginal and Torres Strait Islander health organisations in all stages of planning, implementing and evaluating health care services and programs. (entry A.14)

The Aboriginal Diabetes Project in New South Wales found that among mainstream health service providers (including GPs) there is much goodwill and interest in participating in Aboriginal health initiatives but that there is uncertainty about how best to contribute. (entry A.23)

The Aboriginal and Torres Strait Islander Health Workforce Draft Strategic Framework was released for comment in November 2001. The aim of the framework is to transform the Aboriginal and Torres Strait Islander health workforce, so as to provide the best possible health system response. The review on which the framework is based identified a current shortfall of 486 medical officers, 655 nurses and 2338 Aboriginal health workers and a total shortfall of 3890 workers in the health sector. This shortfall impinges on the ability to provide effective health care.

People from diverse cultural backgrounds

There is a need to ensure that services are designed to meet the needs of the users—to ensure that service design does not act as a barrier to access. To assist in service planning and delivery, training in cross-cultural competence should be available for workers in those areas. The relevant communities should also be involved in planning, implementing and evaluating the delivery of health services. Services that are more responsive to the needs of a specific community might involve the provision of more interpreters and a broader range of educational materials. (entry A.29)

Primary health care

There are many barriers to the provision of prevention services in the primary health care setting, among them lack of knowledge of effective counselling methods and messages, time pressures, and the fee-for-service environment.

Rural and remote areas

Professional and geographical isolation, overwork, difficulties with pursuing continuing education, and problems with accommodation and transport make it difficult to attract and retain health professionals—GPs, nurses, allied health professionals, pharmacists, and so on—to rural and remote areas (entry A.1). There is also a shortage of GPs in outer suburban areas and areas of lower socio-economic status.

Because the health workforce is poorly distributed in rural and remote areas, access to health support and interventions is poorer than in other areas of Australia; the health services themselves (including first-line emergency services) are also poorer. (entry A.4) The lack of multi-disciplinary health professionals is a major barrier to the delivery of effective cardiac rehabilitation and secondary prevention services. In addition, uptake of those services that do exist is low.

Stroke

Medical, nursing and allied health professionals providing rehabilitation for people with stroke need specialist training in stroke. Stroke units, using a multi-disciplinary team to deliver services, foster an environment of continuing professional development. (entry A.3)

GPs, general physicians and even neurologists know too little about the management of acute stroke. (entry A.3).

The current poor access to nursing homes causes back-ups in stroke units, preventing prompt and effective management of new cases. In addition, there are insufficient stroke units to meet demand, and coordination of rehabilitation services is poor. (entry A.3)

Allied health professionals

There is a lack of affordable allied health professionals, among them dietitians, physiotherapists and speech pathologists.

Access to surgical procedures

Limited access to cardiac surgery and coronary angioplasty facilities and specialists causes long waiting times in some parts of Australia. Further, early angiography and revascularisation procedures are not available in all hospitals, although, in hospitals that do have the facilities, over-use may increase costs without producing concomitant health gains.

Carers

Carers of people with stroke and chronic heart disease have an onerous task, and their economic contribution frequently goes unrecognised. Similarly, their need for support—emotional, practical (including transport) and financial—is often ignored. (entry A.3)

Lack of organisation of care in the community and problems with access to services such as rehabilitation place an added burden on carers. (entry A.3)

Research

The major government and non-government organisations that support grants for research into cardiovascular disease can now provide funding for only about 25 per cent of worthy research applications.

General practitioners

GPs have a unique place in primary prevention, but barriers to their successful introduction of preventive strategies persist; they mainly relate to the health system, the GPs themselves, the consultation process and the patient. (entry A.11)

It has been found that GPs have a crucial role in reducing smoking rates. Their success in promoting dietary change has, however, been less striking. In general, GP interventions aimed at single risk factors appear to be more successful than interventions aimed at multiple risk factors. (entry A.11)

In the case of secondary prevention, GPs are important for reinforcing lifestyle change (such as giving up smoking), controlling high blood pressure and high cholesterol, and reinforcing compliance with medication. (entry A.1)

Attracting health professionals to rural and remote areas

Schemes are now operating to encourage health professionals to work in rural and remote areas, but their success seems to be modest. There is evidence of failure to attract younger people, so that the health workforce in these areas is ageing rapidly.

Attracting students from culturally diverse backgrounds

Different cultural groups have different perceptions of the work carried out by some health professionals. Sometimes this is because particular allied health occupations do not exist within their culture or involve different types of work. This can lead to a lack of value placed on studies in those areas, which in turn leads to a lack of cultural diversity. (Liz Gill, NSW Health, pers. comm., 29 May 2002)

Current activity

A variety of workforce-related initiatives are in progress, among them the following:

- The coordinated care trials are an example of the trend towards intersectoral collaboration; they are designed to explore better ways of caring for chronically ill people. This is especially relevant to heart, stroke and vascular disease: the condition is chronic; there are often co-morbidities such as diabetes; and the multiple services that are needed are often poorly coordinated.
- A number of trials involving GPs' prescription of physical activity are also under way and producing promising results.
- Under the National Stroke Strategy (see entry A.3) efforts are being made to increase the health workforce's knowledge about stroke prevention, acute treatment, rehabilitation, and long-term management.
- Queensland Health has introduced a strategy for increasing the number of Aboriginal and Torres Strait Islander people in the health workforce. At the federal level, the Office of Aboriginal and Torres Strait Islander Health is also working on this.
- There is a wide range of local and statewide programs involving primary health care professionals. Examples are HART (Heart Action in Rural Towns), an initiative between the National Heart Foundation and the New South Wales Divisions of General Practice; the *General Practice Nutrition Manual*; and the 'Gut Busters' Shared Care Program with general practitioners.
- The New South Wales Chronic and Complex Care Program aims to improve the quality of life of people with chronic and complex conditions, and their carers and families, by providing coordinated, efficient and effective care. As part of this, further aims are to prevent crises and unplanned and unnecessary hospital admissions and to avoid duplication in service provision. Cardiovascular disease (and associated risk factors such as diabetes) is one of the program's three priority areas.

Recommendations for future activity

Important areas for future action are coordination; education and training; Aboriginal and Torres Strait Islander people; carers; and research, information systems and data collection.

Coordination

There is considerable scope for greater coordination between the main agencies that can help to improve Australians' health. The health workforce should take the lead, but initiatives will be more durable and the community better served if the health workforce collaborates and develops and reinforces alliances with other sectors.

A variety of programs designed to improve cardiovascular health in Australia are in operation or being developed. These efforts will be most effective if there is coordination across program areas, the messages are consistent, and the funding is adequate. Important opportunities lie with optimal use of local resources and harnessing the expertise of local health professionals and community members. Partnerships with divisions of general practice, area health services (or their equivalent), Aboriginal community-controlled health services and other organisations are recommended.

The NHMRC guidelines on stroke should be distributed to all GPs, who should play a central role in coordinating post-discharge treatment of stroke sufferers as well as in the dissemination and continued use of the guidelines. In addition, stroke care coordinators should be appointed to ensure that there is continuity in the delivery of acute, rehabilitation and community services. (entry A.29)

Coordination of the emergency services response to acute coronary events is vital.

Education and training

Further training, education and development of the primary prevention workforce and greater emphasis on the role of all health professionals are central to improving the cardiovascular health of Australians.

Although cerebrovascular disease is studied as part of the undergraduate medical curriculum, too little attention is paid to stroke and stroke rehabilitation. Similarly, comprehensive stroke education should be part of the undergraduate nursing curriculum.

There is a need for a national training program to ensure adequate numbers of skilled Aboriginal and Torres Strait Islander health staff. The purpose is to increase the number of Aboriginal and Torres Strait Islander students in health programs and the number of well-qualified Aboriginal health workers. In this context, a number of aspects of education are important for all sectors of the health workforce:

- cultural competence for non-Indigenous health service providers
- understanding of the important role of Aboriginal and Torres Strait Islander health staff in care teams
- programs to improve the skills of Aboriginal and Torres Strait Islander health staff
- educational programs backed up by continuing clinical advice and mentoring.

Success will be most likely if interventions are multi-disciplinary. General practitioners are inundated with information, so guidelines need to be simple and easy to obtain. Software, based on the evidence, covering the management of heart disease and stroke should be developed; it too should be simple and accessible.

There is a need for targeted programs for cultural groups of non-English speaking background, with bilingual health workers. Specific programs for the socio-economically disadvantaged are also needed.

Aboriginal and Torres Strait Islander people

Interventions to improve the cardiovascular health of Aboriginal and Torres Strait Islander peoples will have limited success if the problem of these people's living conditions is not tackled sincerely.

The Townsville report (see entry A.4) notes the need to define the range of services desirable in rural and remote areas, to avoid fragmentation in the delivery of those services, and to develop infrastructure that supports access to the services.

The New South Wales Aboriginal Vascular Health Program report (see entry A.23) stresses the importance of using local resources and the expertise of local health professionals and community members. It also notes the importance of developing partnerships—for example, with divisions of general practice and Aboriginal community-controlled health organisations.

The National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan (see entry A.20) calls for a nutritional workforce that can deliver food and nutrition programs and initiatives in partnership with Aboriginal and Torres Strait Islander communities. This workforce should be a key partner in the provision of advice. Adequate employment and career path opportunities should be provided, and there should be further development of nutrition competencies, career paths and accredited, accessible training in nutrition and diabetes.

A cross-cultural training package should be developed to assist people who are recruited to work in the field of Aboriginal and Torres Strait Islander nutrition.

Carers

Respite care should be readily available to the carers of stroke sufferers. Further, carers should receive instruction in rehabilitation and nursing care outside hospital, as well as sufficient support to maintain their physical and emotional wellbeing.

Support for self-help groups and voluntary patients' associations should be encouraged. All facilities treating stroke patients should have a comprehensive database on nationally available resources and initiatives, including information pamphlets for stroke patients and their families and carers.

Research, information systems and data collection

There are calls for more research into the social and behavioural risk factors associated with cardiovascular disease, for improved information systems and decision-support tools for GPs, and for improved data collection and monitoring in general.

Further reading

Many of the documents reviewed in Part A discuss the situation with the health workforce or parts of it; particularly noteworthy are the following:

- entry A.1—Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra.
- entry A.3—Stroke Australia Task Force 1997, *National Stroke Strategy*, National Stroke Foundation, Melbourne.

- entry A.4—National Workshop on Heart Disease 1999, *Report*, Summary of workshop held in Townsville, 17–19 October 1999, National Rural Health Alliance, Canberra.
 - entry A.6—National Aboriginal Health Strategy Working Party 1989, *A National Aboriginal Health Strategy*, n.p.; National Aboriginal and Torres Strait Islander Health Council 2001, *National Aboriginal and Torres Strait Islander Health Strategy*, draft for discussion, NATSIHC, Canberra.
 - entry A.11—Public Health and Health Promotion SERU 1998, *Primary Prevention of Cardiovascular Disease: a guide for divisions of general practice*, report prepared by A Sculthorpe and N Huang, Public Health and Health Promotion Support and Evaluation Resource Unit, University of Melbourne.
 - entry A.15—Queensland Health 2000, *Cardiovascular Health: coronary heart disease, 2000–2004*, Health Outcomes Plan, Queensland Health, Brisbane.
 - entry A.20—Strategic Inter-Governmental Nutrition Alliance 2001, *National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan 2000–2010 and First Phase Activities 2000–2003*, prepared by the National Aboriginal and Torres Strait Islander Nutrition Working Party, National Public Health Partnership, Department of Health and Ageing, Canberra.
 - entry A.23—Scott, M 2001, '*Working towards Healthy Aboriginal Communities*' Summit, NSW Aboriginal Vascular Health Program report, Centre for Research and Clinical Policy, NSW Health, Sydney.
 - entry A.29—Victorian Stroke Taskforce 1998, *Victorian Stroke Strategy: report of the Stroke Strategy Taskforce*, National Stroke Foundation, Melbourne.
 - entry A.33—National Stroke Foundation 2001, *SCOPES Report: stroke care outcomes—providing effective services*, draft final report of the Health Services Unit, National Stroke Foundation, Melbourne.
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B.3: Heart failure

Context

Heart failure is an important manifestation of cardiovascular disease. It can be caused by ischaemic heart disease (particularly a previous heart attack), hypertension, heart valve abnormalities, idiopathic cardiomyopathy, excessive alcohol intake, and thyroid disease. Diagnosis is based on clinical features and objective measurement of ventricular function—for example, echocardiography.

There are no national data on the number of Australians who have heart failure, but in 1998–99 the condition accounted for 0.7 per cent of hospital separations and 10 per cent of hospitalisations for cardiovascular disease. It is much more common among people aged 65 years and over.

The prevalence of heart failure is expected to increase markedly as a consequence of the ageing of the population, decreased case-fatality rates after acute myocardial infarction, and the use of more sensitive diagnostic techniques.

The nature of the problem

Heart failure is the third largest cause of cardiovascular deaths in Australia and accounted for 2500 deaths, or 2 per cent of deaths from all causes, in 1998 (entry A.2). Age-adjusted death rates appear to have declined in the past 15 years.

People aged 65 years and over account for more than 85 per cent of all hospitalisations for heart failure. Males are more likely than females to be hospitalised, and death rates among males aged more than 75 years are considerably higher than among females in that age group. (entry A.2)

Death rates for heart failure appeared generally lower in Queensland and Western Australia in 1996 to 1998 compared with the rest of Australia. (entry A.2)

Evidence for particular interventions

Although clinical research has shown that ACE inhibitors relieve symptoms and improve a patient's prognosis, these agents are under-used and the doses that are given are usually lower than those proven to be effective in clinical trials. Several short-term studies have found that angiotensin II receptor antagonists may have benefits that are comparable with those produced by ACE inhibitors; they are, however, generally reserved for patients who do not tolerate ACE inhibitors. (entry A.1)

Beta blockers have been shown to reduce morbidity and mortality in patients who have been stabilised on usual medical therapy, although again the results of clinical trials have not been widely adopted in practice. (entry A.1)

Diuretics—except for trials of spironolactone in patients with severe heart failure—and digoxin do not improve survival but are effective in symptom relief. (entry A.1)

Cardiac transplantation is usually restricted to patients aged less than 60–65 years because of the shortage of donors and, since the majority of patients with heart failure are older than this,

such treatment is not an option for them. Other procedures such as cardiomyoplasty and ventricular reduction surgery are being evaluated. (entry A.1)

Primary prevention initiatives aim to reduce the prevalence of risk factors for coronary heart disease—for example, hypertension, tobacco smoking, excess alcohol consumption and obesity (entry A.1). GPs have an important role in providing information about, and in early detection and treatment of, the main risk factors for heart failure.

Among the most common non-pharmacological management measures taken are the following:

- Regular physical activity is recommended. All patients with chronic heart failure should be referred to an exercise program.
- Patient support from a doctor and a pre-discharge nurse review, with or without a home visit, are crucial.
- Sleep apnoea often coexists with heart failure: patients with obstructive sleep apnoea may benefit from nasal continuous positive airway pressure
- Patients with chronic heart failure who have an acute exacerbation or are clinically unstable should have bed rest until their condition improves.
- Dietary sodium should be limited to below 200 milligrams daily.
- Fluid intake should generally be limited—1.5 litres daily in mild to moderate chronic heart failure and 1 litre daily in severe chronic heart failure.
- Alcohol intake should generally be nil. If alcohol is taken, the amount should not exceed 10–20 grams a day.
- Smoking should be strongly discouraged.
- Patients should weigh themselves daily and consult their doctor if their weight increases by more than 1.5 kilograms in any 24-hour period or if they experience dyspnoea, oedema or abdominal bloating.
- Patients should be vaccinated against influenza and pneumococcal disease.
- Long flights may exacerbate the condition and should be undertaken with caution. High-altitude destinations should be avoided. Caution is also necessary with travel to very humid or hot climates, and fluid status should be carefully monitored. (entry A.17)

At least one Australian study has found that home visits by a nurse and a pharmacist following a hospital admission for heart failure significantly reduce the number of unplanned readmissions.

Current activity

Only in a few centres in Australia are there comprehensive management programs for heart failure. The programs that do operate take a systematic approach to drug therapy and education of patients and offer regular contact with the medical advisor, which improves compliance with both therapy and requirements to attend the clinic. Increasingly, however, specialised heart failure clinics are being developed.

Recommendations for future activity

Proven agents such as ACE inhibitors and beta blockers are insufficiently used in clinical practice. Many heart failure clinics are based on referral for transplantation, which excludes all but a small number of older patients. Funding mechanisms should facilitate coordinated shared care of people with heart failure. Patients, their carers, clinicians and other members of a multi-disciplinary care team should all be involved in developing and documenting a care plan. (entry A.30)

Further reading

Of the literature reviewed in Part A, the following entries deal with heart failure in the greatest detail:

- entry A.1—Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra.
 - entry A.2—Australian Institute of Health and Welfare 2001, *Heart, Stroke and Vascular Diseases: Australian facts, 2001*, AIHW cat. no. CVD 13, AIHW, National Heart Foundation of Australia & National Stroke Foundation of Australia, Canberra.
 - entry A.17—National Heart Foundation of Australia & Cardiac Society of Australia & New Zealand Chronic Heart Failure Clinical Practice Guidelines Writing Panel 2001, *Guidelines on the Contemporary Management of the Patient with Chronic Heart Failure in Australia*, National Heart Foundation of Australia, Canberra.
 - entry A.19—Senes, S & Britt, H 2001, *A General Practice View of Cardiovascular Disease and Diabetes in Australia*, cat. no. CVD 17, Australian Institute of Health and Welfare, Canberra.
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B.4: Secondary prevention and rehabilitation: heart and stroke

Context

Secondary prevention in this context refers to action taken to limit the risk of a recurrence of an 'acute vascular event' such as a heart attack or stroke. *Rehabilitation* refers to action taken to help a person return to an active and satisfying life after they have experienced an acute vascular event; some rehabilitation occurs in hospital but most of it occurs after the patient is discharged.

About 2 per cent of the Australian population is disabled as a result of heart, stroke and vascular disease, and stroke is the cause of almost 25 per cent of disability. Nearly 60 per cent of deaths from coronary heart disease and 35 per cent of non-fatal heart attacks occur in patients who have previously been admitted to hospital for heart, stroke and vascular disease. About one-third of the 40 000 strokes that occur each year in Australia occur in people who have already had a stroke or transient ischaemic attack.

Effective secondary prevention and rehabilitation could dramatically reduce the burden of coronary heart disease and stroke among those who have previously experienced a coronary event, stroke or TIA. Secondary prevention and rehabilitation services should be available to Australians who experience an acute vascular event.

The nature of the problem

Discharge planning

Effective discharge planning is essential to ensuring the smooth transition from hospital-based management to resumption of normal activities. Consumers have nominated the following principles as important:

- timely delivery of post-discharge services
- provision of clearly worded information
- comprehensive pre-discharge consultation and information provision—for both the patient and their family and carers
- referral to outpatient rehabilitation. (entry A.1)

Cardiac rehabilitation

Mortality after a heart attack remains high, despite improvements in the use of coronary care units, effective drug therapy and coronary angioplasty.

The treatment gap in secondary prevention suggests that the initial benefits achievable through cardiac rehabilitation are not being carried into the longer term. Either cardiac rehabilitation needs to be modified or other structures are needed to help reduce the probability of the patient having further problems.

The National Health Priority Areas report (see entry A.1) lists a number of problems associated with cardiac rehabilitation in Australia:

- Rates of participation in rehabilitation programs are sub-optimal: not all eligible patients are offered a place in a program, even when one is available and accessible.
- Service availability and accessibility is poor, especially in rural and remote areas. Inadequate coordination of services and the shortage of allied health professionals in rural and remote areas are also a problem. In addition, programs need to be made more accessible and appealing to some population groups—for example, Aboriginal and Torres Strait Islander people, women, people of non-English speaking background, and people with low incomes.
- Shorter hospital stays affect the delivery of inpatient rehabilitation services, and outpatient services are often limited for people who return to work early.
- Links between formal programs and broader community facilities are not ideal.
- Rehabilitation modules suitable for shared care with GPs and other health professionals should be developed so as to increase the availability of rehabilitation programs.
- The lack of formal accreditation procedures for cardiac rehabilitation services means that some services do not comply with the recommended national guidelines.
- There is only limited information available on rates of participation in cardiac rehabilitation programs.
- Compared with the general population, the rate of Aboriginal and Torres Strait Islander people's participation in rehabilitation programs is low.

Stroke rehabilitation

A number of problems appear to dog stroke rehabilitation in Australia:

- Service availability varies greatly: in some areas, services are readily available; in others, few or no services exist. Overall, however, there are too few specialised stroke rehabilitation services.
- There is no standardised approach to determining who will benefit from rehabilitation.
- Coordination between acute hospital, inpatient rehabilitation and community services is poor. Better information sharing between the various service providers is necessary. Associated with this, assessment procedures, management approaches and outcome measures vary between centres, limiting communication and impeding efforts to achieve best practice.
- In some cases—such as falls and recovery of arm function—current rehabilitation approaches have been shown to be of limited efficacy.
- Post-rehabilitation referral for further therapy should not occur only in response to a deterioration in function: the referral process should take account of *any* identified need for further therapy.
- Insufficient attention is paid to the social and emotional consequences of stroke. In particular, depression can occur as a reaction to stroke or as a direct result of it. Depression and other psychological responses are also common among the family and carers of stroke patients. The needs of carers are not being met adequately by conventional services.
- Stroke rehabilitation programs do not always take account of the particular needs of the 5 per cent of stroke patients who are aged less than 45 years—for example, the need for vocational rehabilitation or retraining.

- There is insufficient funding for outpatient day therapy and community therapy. (entries A.1, A.3 and A.29)

Many of these problems would be alleviated by the establishment of stroke units charged not only with acute care of stroke patients in hospital but also with coordination and continuity of care in cooperation with community services.

Compliance

Patients' compliance with medication and lifestyle advice is poor, as is their attendance at rehabilitation programs.

Evidence for particular interventions

Secondary prevention: coronary heart disease

A number of strategies have been found beneficial in the secondary prevention of coronary heart disease:

- a reduction in risk factors—cessation of smoking, control of blood pressure, dietary modification, and so on
- use of aspirin and, in specific situations, new anti-platelet drugs such as ticlopidine and clopidogrel
- long-term treatment with beta blockers
- treatment with ACE inhibitors, starting within 24 hours of the onset of symptoms and usually continuing for five to six weeks.
- use of cholesterol-lowering agents such as statins. (entries A.1, A.2 and A.14)

It appears, however, that these therapies are often under-used or inappropriately used. Further, although some of the agents are relatively expensive, their benefits are well established and they can be very cost-effective. The Lyon Heart Study suggests that a Mediterranean-style diet (rich in α -linolenic acid) is protective after myocardial infarction. (entry A.9)

Secondary prevention: stroke

The following strategies have been shown to be beneficial in the secondary prevention of stroke and transient ischaemic attack:

- anti-platelet therapy for patients with ischaemic stroke
- anti-coagulant therapy, especially for patients with atrial fibrillation
- blood pressure-lowering therapy for all patients with stroke, both haemorrhagic and ischaemic—this is most likely to have the greatest impact
- use of aspirin, diuretics and warfarin (in people with atrial fibrillation)—the most cost-effective pharmaceutical agents
- possibly the use of cholesterol-reducing statin drugs. (entries A.1, A.2, A.3, A.29 and A.33)

Carotid endarterectomy for asymptomatic carotid stenosis is expensive and applies to fewer cases than the strategies just listed. The perioperative complication rate for this procedure should be monitored.

Current activity

Large-scale randomised trials are being conducted to determine whether ACE inhibitors should be used long term (as opposed to the five to six weeks for which they are usually offered) for coronary heart disease.

At present, three main types of stroke rehabilitation services are usually offered: inpatient rehabilitation in the acute setting; inpatient rehabilitation in the post-acute setting; and domiciliary and community rehabilitation services. Preliminary studies suggest that home rehabilitation and inpatient rehabilitation produce similar results and no significant differences in strain on the carer after 12 months. The importance of monitoring strain on the carer in the shorter term is, however, noted.

Controlled trials of cardiac rehabilitation programs at four centres in Australia have failed to find any measurable benefits. This may, however, be a result of sample sizes since the Cochrane Review of Jolliffe et al.¹ did demonstrate benefits.

Two pilot projects are under way in Western Australia in an attempt to redress problems associated with access and equity in the provision of cardiac rehabilitation and secondary prevention services.

The Commonwealth and the states and territories, sometimes in collaboration with health and community organisations, are involved in numerous programs aimed at improving secondary prevention and rehabilitation for heart disease and stroke. Among these initiatives are the following:

- The Hunter *On the Move* initiative is designed to increase the availability of community-based physical activity programs for people with known heart disease or at high risk of developing it.
- The Consumer Information Resources Project is a qualitative research project dealing with the support and information needs of people with stroke and their carers.
- The Queensland Division of the National Heart Foundation is developing a manual of cardiac rehabilitation and secondary prevention for rural and remote health workers.
- In Tasmania the Brain Foundation has established a support scheme for stroke sufferers and their carers. It has links with training programs in hospitals, rehabilitation centres, nursing homes and the University of Tasmania, as well as with work-skill disability courses within TAFE colleges.

¹ Jolliffe, JA, Rees, K, Taylor, RS, Thompson, D, Oldridge, N & Ebrahim, S 2001, 'Exercise-based rehabilitation for coronary heart disease (Cochrane Review)', *The Cochrane Library*, issue 1, Oxford.

Recommendations for future activity

Coordination and integration

Hospitals and other centres offering cardiac rehabilitation programs should appoint or identify a trained health professional with specific expertise in cardiac rehabilitation to take on the role of cardiac rehabilitation coordinator. This person would have three primary responsibilities:

- managing the rehabilitation program
- liaising with the patient's medical practitioner and community services
- coordinating the other members of the multi-disciplinary team.

Areas where there is potential for integrating the delivery of rehabilitation services should be further explored. Cardiac rehabilitation should be integrated into the routine management of all patients. It should include, and complement, the support and medical care given by specialists and GPs.

The National Stroke Strategy (see entry A.3) recommends as follows:

- that, to improve the secondary management of stroke, strong links be developed and maintained between stroke rehabilitation units, acute stroke units and community-based services
- that a database of locally available services for stroke patients and their carers be developed, to disseminate information and enable liaison between hospital and community services
- that critical care pathways in stroke rehabilitation be developed and used as part of accreditation criteria for acute stroke units and stroke rehabilitation units
- that protocols be established for both acute and rehabilitation stroke units. The protocols should include initiation of contact with members of the integrated care team soon after a stroke and planning for rehabilitation and discharge, including ongoing support and follow-up
- that, to ensure optimum use of stroke rehabilitation resources, evidence-based protocols and criteria for admission to formal rehabilitation programs (based on existing research into outcome predictors) be developed and implemented.

Palliative care

Good-quality palliative care—involving the provision of coordinated medical services, where possible in an environment of the patient's choosing—should be available to all patients whose heart, stroke or vascular disease is incurable or unlikely to be cured. Where necessary, material or financial support should also be available.

Data collection

A standardised data collection tool should be developed for collecting information on rates of participation in cardiac rehabilitation programs.

A national cardiovascular minimum data set is being developed. The objective is to improve data monitoring of individual and population risk. The questions are how to link this initiative with other databases being developed for the acute hospital setting and why not integrate it with other diseases such as cancer?

Research

A program of research on many fronts is necessary if there is to be continuing improvement in stroke prevention and management. This will help achieve the best possible results in the most cost-effective way—for patients, their families and carers, and the community as a whole.

Other priorities

The Townsville report (see entry A.4) recommends that programs for the secondary prevention and rehabilitation of ischaemic heart disease be made available for all Aboriginal and Torres Strait Islander patients and patients in rural and remote areas. The programs must be culturally appropriate, involve Aboriginal health workers, and be adequately resourced.

Greater understanding of the links between socio-economic status, education level, social isolation, depressed mood and compliance is necessary. Greater emphasis should be given to patient self-management.

No single service model is applicable in all situations. There is a need to develop different models for cardiac rehabilitation—for example, to meet the needs of people in rural and remote locations and of people of culturally diverse origin.

Further reading

Of the literature reviewed in Part A, the following entries deal with secondary prevention and rehabilitation in greatest detail:

- entry A.1—Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra.
- entry A.2—Australian Institute of Health and Welfare 2001, *Heart, Stroke and Vascular Diseases: Australian facts, 2001*, AIHW cat. no. CVD 13, AIHW, National Heart Foundation of Australia & National Stroke Foundation of Australia, Canberra.
- entry A.3—Stroke Australia Task Force 1997, *National Stroke Strategy*, National Stroke Foundation, Melbourne.
- entry A.14—Bunker, S 2001, *Developing a Strategy for the Secondary Prevention of Coronary Heart Disease*, report on the National Heart Foundation of Australia Internal Planning Forum, 4 April, National Heart Foundation (Victorian Division), Melbourne.
- entry A.18—National Cardiac Rehabilitation Advisory Committee n.d., *Recommendations for Cardiac Rehabilitation*, National Heart Foundation of Australia, Melbourne.
- entry A.28—Briffa, T 2000, *Draft Audit of Cardiac Rehabilitation Services and Resources in Western Australia*, report prepared on behalf of a Steering Committee of the Medical and Scientific Advisory Panel of the Western Australian Division of the National Heart Foundation of Australia for the Western Australian Health Department, Perth.
- entry A.29—Victorian Stroke Taskforce 1998, *Victorian Stroke Strategy: report of the Stroke Strategy Taskforce*, National Stroke Foundation, Melbourne.

- entry A.33—National Stroke Foundation 2001, *SCOPES Report: stroke care outcomes—providing effective services*, draft final report of the Health Services Unit, National Stroke Foundation, Melbourne.
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B.5: Acute cardiac care

Context

Coronary heart disease is the leading cause of sudden death in Australia and accounted for 22 per cent of all deaths in 1998. It consists mainly of myocardial infarction (heart attack—accounting for 59 per cent of coronary heart disease deaths in 1998) and angina. About 25 per cent of people who have a heart attack die within an hour of the emergence of symptoms.

There are no national figures on the number of Australians who have coronary heart disease. It has been estimated, however, that in 1997–98 there were almost 19 000 coronary heart disease events among people aged 35–69 years. Of these, non-fatal heart attacks accounted for about two-thirds of cases. Males are more than twice as likely as females to be hospitalised for coronary heart disease.

Coronary heart disease is the most costly cardiovascular disease for the health care system, accounting for 24 per cent of the costs of cardiovascular disease. In 1993–94 the direct health system costs of the condition amounted to \$894 million.

Males, older Australians, Aboriginal and Torres Strait Islander people, and people from lower socio-economic groups are more vulnerable to coronary heart disease than other Australians. The standard of treatment for coronary heart disease in Australia is high and continues to improve.

The nature of the problem

Service availability

Although prompt aspirin and reperfusion therapy have been demonstrated to be very effective, too few eligible patients with heart attack receive this treatment. Too few patients with unstable angina receive aspirin and heparin, although the situation is improving. (entry A.1)

Early angiography and revascularisation are not available in all hospitals. On the other hand, over-use of these techniques in hospitals with suitable facilities may increase costs without improving outcomes. (entry A.1)

There is wide variation between the states and territories in rates of bypass surgery and coronary angioplasty. Low rates are usually a result of limited access to facilities, cardiac surgeons and interventional cardiologists in public hospitals. The result is long waiting times in some jurisdictions. (entry A.1)

A recent Australian study found that only 26 per cent of heart attack patients were seen by a doctor within 10 minutes of arriving at hospital and only 40 per cent received thrombolytic therapy within an hour of arrival. Delays were much longer if a junior doctor evaluated the patient.

Cardiac testing

Because of the ageing of the population, there will be a big increase in the number of people undergoing cardiac testing.

There is variation in rates of testing across Australia, and patients in rural and remote areas usually have to travel long distances for consultations with cardiologists. Access in the future might be improved by the use of telemedicine, with infrastructure and funding mechanisms to

enable rural doctors to contact cardiologists and transfer patients for the necessary investigation and treatment. (entry A.1)

Other problems

Mortality after heart attack remains significant, despite improvements in the use of coronary care units, drugs such as aspirin and thrombolytic therapy, and coronary angioplasty. Half of all patients with heart attack take more than six hours to seek treatment. (entry A.1) The current National Heart Foundation cardiac surgical registry data are not up to date and probably contain inaccuracies.

There is a disparity between patients who identify themselves as Aboriginal or Torres Strait Islander people and other people in terms of the procedures recorded in public hospitals: Aboriginal and Torres Strait Islander people are less likely to have a principal procedure recorded as acute myocardial infarction but more likely to have a cerebrovascular disease recorded.²

Evidence for particular interventions

After diagnosis is confirmed, the options for treatment are pharmacological therapy, coronary bypass surgery, and coronary angioplasty. The type of treatment chosen depends on the severity of symptoms, the extent of any damage to the heart muscle, and the availability of expertise and facilities.

Testing and diagnosis

Coronary angiography is the standard for diagnosis of coronary heart disease and is required before coronary bypass surgery or coronary angioplasty. Combined with assessment of left ventricular function, it helps in the classification of patients according to risk.

Among the indirect non-invasive tests used are resting electrocardiogram, exercise stress ECG, rest or stress echocardiography, and continuous ambulatory electrocardiography. These tests are, however, not highly accurate or specific.

Pharmacological treatments

There is good evidence for the efficacy of drugs in treating coronary heart disease. (entry A.1) The main thrombolytic therapies are streptokinase, alteplase, tenecteplase and reteplase, and their effectiveness in limiting the size of myocardial infarction and improving long-term survival is proven. The main disadvantage is bleeding. Although the newer generation thrombolytics are more expensive than streptokinase, the latter has been found to be more effective in some cases. (entry A.1)

Aspirin—alone or in combination with thrombolytic therapy—has been shown to reduce mortality rates in patients with heart attack and to reduce both mortality and heart attack rates in patients with unstable angina. (entry A.1)

Beta blockers are used to treat patients with angina or hypertension and patients with a history of heart attack. They have been shown to limit the size of myocardial infarction and increase survival; long-term treatment can reduce mortality and prevent subsequent events. (entry A.1)

Calcium channel blockers reduce blood pressure and angina. There is, however, no evidence that their routine use prevents death or heart attack, although some studies of the longer acting

² Cunningham, J, 2002, 'Diagnostic and therapeutic procedures among Australian hospital patients identified as Indigenous', *Medical Journal of Australia*, vol. 176, 21 January, pp. 58–62.

forms do suggest a survival advantage. There is evidence that short-acting dihydropyridine derivatives can have deleterious effects, and diltiazem has been found to have an adverse prognostic effect on post-infarct patients with heart failure. (entry A.1)

ACE inhibitors have been shown to prevent the progressive enlargement of the heart following myocardial infarction. If given early during a heart attack, they also reduce mortality and improve longer term survival rates. (entry A.1)

Nitrates relieve and prevent symptoms but there is no evidence that their long-term use reduces mortality. (entry A.1)

Invasive procedures and surgery

Coronary bypass surgery reduces mortality in patients with left main artery disease or multi-vessel disease and impaired ventricular function. (entry A.1) Valve replacement surgery—which is particularly relevant to rheumatic heart disease—is indicated for symptomatic valvular heart disease or progressive left ventricular dysfunction. (entry A.1)

Compared with medical therapy, coronary angioplasty provides greater relief of anginal symptoms in patients with single- and double-vessel disease and leads to sustained improvement in quality of life. Use of the intravenous platelet receptor blocker abciximab has been shown to improve the safety of coronary angioplasty in both low- and high-risk patients. (entry A.1)

Coronary angioplasty can also be used to treat heart attack. Several studies have demonstrated its benefits over thrombolytic therapy, and it has an important role for patients who cannot have thrombolytic therapy or who have severe heart failure or cardiogenic shock. (entry A.1)

Stent implantation reduces early coronary closure and early complications following coronary angioplasty; it also reduces the rate of re-blockage of coronary arteries in medium- to long-term follow-up. Outcomes are also improved by the addition of newer and more effective anti-platelet therapies. Further trials using early stenting for heart attack have suggested early benefits when compared with coronary angioplasty alone. If these studies are corroborated, early stent implantation may become the treatment of choice for heart attack. (entry A.1)

The implantable cardiac defibrillator offers the most effective prevention of sudden cardiac death in people at high risk of life-threatening dysrhythmia. Its benefit over drug treatment in patients with cardiac arrest or hypotensive ventricular tachycardia has been clearly demonstrated; the benefit extends to patients with impaired ventricular function or asymptomatic non-sustained ventricular tachycardia after heart attack. (entry A.1)

Clinical improvement

A systemic approach to continuous practice improvement can be achieved through collaborative teams of health care providers, development and promulgation of clinical practice guidelines, and performance measurement and feedback to providers. Encouraging results have been achieved in both teaching and regional hospitals.³

Current activity

The use of stents to treat multi-vessel coronary disease is being investigated. Multi-vessel angioplasty is not commonly performed in Australia. If the technique is found to be safe and

³ Scott, I, Harper, C, Clough, A & West, M 2000, 'WESTCOP: a disease management approach to coronary artery disease', *Australian Health Review*, vol. 23, no. 2, pp. 96–112.

effective, the rate of coronary angioplasty and stenting will increase, taking some of the pressure away from coronary bypass waiting lists.

New methods of managing the National Heart Foundation cardiac surgical registry are being assessed through the development of a National Cardiac Procedures Register. The use of implantable cardiac defibrillators is likely to increase rapidly; this has important cost implications.

There is rapid growth in the development of new technologies in revascularisation; examples are coated stents, use of irradiation within stents, minimally invasive bypass surgery, and biological techniques to induce the formation of new blood vessels to overcome occlusion. Promising results are expected for drug-eluting stents.

As new services are introduced, particularly in locations where they have not previously existed, it is important that health professionals support staff by sharing their experience and knowledge and ideas—that is, mentoring. Experienced and skilled workers should also be available to help others in their role and work. Establishing linkages is very important here. (Liz Gill, NSW Health, pers. comm., March 2002)

The National Cardiac Procedures Register is an initiative currently being developed by the National Heart, Stroke and Vascular Health Strategies Group and the Australian Council for Safety and Quality in Health Care. The project aims to continuously improve the quality and safety of care for patients undergoing cardiac procedures performed by cardiac surgeons and interventional cardiologists, by providing a tool for measuring and improving patient outcomes.

Recommendations for future activity

The patchy availability of acute cardiac care facilities warrants particular attention. In rural and remote areas, telemedicine—with adequate support in terms of infrastructure and expertise—should be pursued. Ways of encouraging heart attack victims to seek treatment, promptly, should be further investigated.

Service planning and delivery need to be collaborative. Consistent, standardised, evidence-based strategies are needed for the clinical management of acute coronary syndrome—covering acute myocardial infarction and unstable angina—and post-surgery care. Unless contra-indicated, aspirin should be prescribed to all patients with acute coronary syndrome, beta blockers should be prescribed to all patients with heart attack, and ACE inhibitors should be prescribed to most patients with heart attack.

There is an urgent need to support registries in gathering long-term data on outcomes and provide evidence of the efficacy of coronary angioplasty and stenting.

Collection of outcome data for acute coronary syndrome would help resolve the problem of uneven distribution of services and possible over-use of services in some areas. The availability of data on short- and long-term outcomes following cardiac surgery and coronary angioplasty would help to clarify the roles of each intervention in particular patient groups.

New techniques in revascularisation need to be evaluated to determine their cost-effectiveness. In the case of Aboriginal and Torres Strait Islander peoples, locally agreed clinical protocols should be developed and implemented. Similarly, clinical information and management systems need to be developed and implemented.

Overall information and management systems need to be improved.

Further reading

Acute cardiac care is dealt with in greatest detail in the following entries in Part A:

- entry A.1—Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra.
 - entry A.2—Australian Institute of Health and Welfare 2001, *Heart, Stroke and Vascular Diseases: Australian facts, 2001*, AIHW cat. no. CVD 13, AIHW, National Heart Foundation of Australia & National Stroke Foundation of Australia, Canberra.
 - entry A.19—Senes, S & Britt, H 2001, *A General Practice View of Cardiovascular Disease and Diabetes in Australia*, cat. no. CVD 17, Australian Institute of Health and Welfare, Canberra.
 - entry A.27—Briffa, T 2001, *Western Australian Heartcare Strategy: a framework for action*, report prepared on behalf of the Steering Committee of the Medical and Scientific Advisory Panel of the Western Australian Division of the National Heart Foundation of Australia for the Western Australian Health Department, Perth.
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B.6: Acute stroke care

Context

A stroke is a brain attack. It occurs when an artery supplying blood to the brain becomes blocked (ischaemic stroke—about 85 per cent of strokes) or bleeds into the brain (haemorrhagic stroke). A transient ischaemic attack is an ischaemic stroke whose symptoms disappear within 24 hours.

- Each year in Australia about 40 000 people suffer a stroke. Of these, 25 per cent will die within a month.
- Stroke causes about 10 per cent of deaths in Australia and 25 per cent of chronic disability.
- About 50 per cent of stroke sufferers are aged over 75 years; at least 5 per cent are aged less than 45 years.
- Death rates from stroke have been declining since the 1950s, but this is no reason for complacency: the rate of decline has been slowing in recent years and the population is ageing rapidly.
- Aboriginal and Torres Strait Islander people and people of low socio-economic status are more vulnerable to stroke than other members of the community. Among Aboriginal and Torres Strait Islander males and females aged 25 to 64 years, for example, rates of death from stroke are seven and eight times higher respectively than those among non-Indigenous males and females in the same age group.

Like heart attack and major trauma, stroke is a medical emergency.

The nature of the problem

The literature identifies the following main problems associated with acute stroke care in Australia.

Lack of knowledge

Too few people—in the health workforce and the general community—are aware that stroke is an emergency requiring rapid transport to hospital and immediate assessment. Too few people recognise the warning signs and know what to do. Too few patients go to hospital soon enough, and too often they or their doctor wait a few days for the problem to resolve itself. (entries A.1 and A.3)

Too few health professionals are fully conversant with the principles and diagnosis of acute stroke treatment, the types of stroke and the investigations that are necessary. Lack of knowledge and understanding that something can be done may result in failure to provide treatment. (entries A.1 and A.3)

Lack of services

In 1998 there were about 20 stroke units or services in Australia. This is insufficient to meet national needs: the units treated only 25 per cent of stroke sufferers. (entry A.1) CT scanning is not routine—mainly because of a lack of availability of equipment, particularly in rural areas. (entry A.3)

The current poor access to nursing homes creates blockages within stroke units, preventing effective management of new patients. (entry A.33) There are too few allied health professionals, especially physiotherapists.

Inadequate or inappropriate care

Current acute stroke management is often haphazard and the quality of care varies enormously. Integrated, multi-disciplinary health care teams can improve outcomes after stroke, providing comprehensive services and coordinated care.

Too few patients receive the established effective therapeutic treatment of early use of aspirin and management in a stroke unit. This may be a consequence of a limited diagnosis. (entry A.1) Although a number of promising acute-phase treatments are under investigation, the central concerns relate to general medical and nursing approaches and early rehabilitation. (entry A.1)

Lack of data

Data on the costs of stroke are limited. The NHMRC's clinical practice guidelines for the prevention of stroke (see entry A.17) contain the first cost analysis from the clinical perspective. There has been very limited analysis of costs from the perspective of stroke survivors and their families and carers. It is known, however, that stroke is the largest consumer of resources in hospital neurology departments, accounting for 21 per cent of all neurological separations and 40 per cent of all neurological bed-days.

Evidence for particular interventions

Dedicated stroke units

There is strong evidence that outcomes are improved if stroke patients are managed by a multi-disciplinary team that includes the following health professionals:

- a stroke physician
- a physician with an interest in stroke rehabilitation
- specialised nursing staff
- allied health professionals—social worker, occupational therapist, speech pathologist, physiotherapist, and so on
- a clinical psychologist
- a dietitian.

Ideally, this multi-disciplinary team works in a dedicated acute stroke unit, with the following objectives:

- diagnosis of stroke
- early treatment
- early rehabilitation
- prevention of second stroke
- prevention of complications

- treatment of related conditions—for example, cardiovascular disease.

A meta-analysis of all existing randomised trials of management within stroke units, as opposed to general wards, found that specialised units reduce the odds of death and dependency after stroke by about 29 per cent. The effect appears to be most evident during the early post-stroke phase.

Acute stroke units also facilitate the use of stroke care paths. These generic treatment plans can be tailored to each individual's needs; they are designed so that management planning begins on the day of admission, incorporating best-practice principles. Apart from improving outcomes for patients, care paths have been shown to streamline management and reduce costs.

Pharmacological management

Aspirin is the only anti-platelet agent of proven effectiveness in the treatment of acute stroke. When given within 48 hours of the onset of an ischaemic stroke, it reduces early recurrent ischaemic stroke by about 28 per cent. Early aspirin therapy also reduces the risk of death and dependency at one to six months after stroke.

Anti-coagulants—heparin and heparinoids—have not been shown to be effective in the treatment of acute ischaemic stroke, even in patients with atrial fibrillation. Thrombolysis is recommended by the US Food and Drug Administration, but in Australia it is used only by stroke physicians in some specialised stroke care units.

Neuroprotective therapies to prevent the death of brain cells in the ischaemic stage of an acute stroke are also being assessed, but trial results thus far have been disappointing.

Surgery

Decompressive suboccipital craniectomy can be a life-saving treatment for cerebellar haemorrhage or infarction. The relative risks of surgical evacuation of other haemorrhages remain uncertain and are the subject of trials in the United Kingdom, Germany and the United States.

Self-management

There is evidence that patients who are motivated and have an improved understanding of their disease have better recovery.

Current activity

An initiative currently supported by the National Heart, Stroke and Vascular Health Strategies Group is the National Stroke Unit Program, which aims to improve the management of stroke through stroke units.

Recommendations for future activity

Awareness of stroke

All members of the health workforce, and the community in general, should be made aware that stroke is a medical emergency and that, if appropriately managed, many people can make a good recovery following stroke.

The NHMRC guidelines for the prevention of stroke (see entry A.17) should be distributed to all GPs.

Best practice

Outcomes for many stroke patients could be improved, disability minimised and quality of life maximised if best practice were universally applied in acute care. All patients should have access to a specialised acute stroke unit, to be cared for by a highly skilled, multi-disciplinary health team. Within hours of a suspected stroke, all patients should be investigated with a non-contrast CT brain scan.

Assessment on the basis of clinical features alone is insufficient. Patients should be treated in a facility with access to emergency CT scanning; other urgent investigations for which equipment should be available are duplex carotid Doppler ultrasound, angiography and echocardiography.

Governments should encourage health services in rural and remote areas to develop multi-disciplinary treatment teams or networks for acute stroke care. They should also encourage health regions to nominate a centre for full diagnostic evaluation of young stroke patients or provide easy access to such a centre outside the region.

Departments responsible for health, the National Stroke Foundation, the Australian Health Insurance Foundation and, as appropriate, professional bodies should take the following action:

- designate properly equipped emergency departments attached to acute stroke units
- develop sufficient numbers of acute stroke units with multi-disciplinary teams
- establish an accreditation system and criteria for acute stroke units
- ensure that acute stroke units have ready access to investigational services
- implement stroke care paths for all stroke patients
- involve rehabilitation specialists in acute stroke units
- develop outcome measures to assess performance in relation to the foregoing
- encourage collaboration with other clinicians who have had experience in similar areas.

Disadvantaged populations

Action is needed to improve access to care and reduce inequalities in service provision for Aboriginal and Torres Strait Islander people, people living in rural and remote areas, disabled people, young people, people of non-English speaking background, socio-economically disadvantaged people, and long-term carers of people with stroke.

There is a need for research into ways of reducing the language and cultural barriers that impede Aboriginal and Torres Strait Islander people's access to acute stroke services.

Research and data collection

A number of areas would benefit from further research:

- anti-platelet agents
- anti-coagulants and cardioembolic stroke

- carotid endarterectomy
- stroke prevention through systematic management of atrial fibrillation
- consumer awareness and needs.

Compilation of data on evidence-based treatment of stroke and stroke-related costs, the cost-effectiveness of treatments, and the economic effects of new technologies and changing patterns in stroke care should be a priority.

Further reading

Acute stroke care is dealt with in greatest detail in the following entries in Part A:

- entry A.1—Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra.
 - entry A.3—Stroke Australia Task Force 1997, *National Stroke Strategy*, National Stroke Foundation, Melbourne.
 - entry A.13—National Health and Medical Research Council 1997, *Prevention of Stroke: the role of anticoagulants, antiplatelet agents and carotid endarterectomy*, Clinical Practice Guidelines Series no. CP45, Australian Government Publishing Service, Canberra.
 - entry A.16—McElduff, P, Dobson, AJ, Jamrozik, K & Hobbs, MST 2001, 'Opportunities for control of coronary heart disease in Australia', *Australian and New Zealand Journal of Public Health*, vol. 25, pp. 24–30.
 - entry A.29—Victorian Stroke Taskforce 1998, *Victorian Stroke Strategy: report of the Stroke Strategy Taskforce*, National Stroke Foundation, Melbourne.
 - entry A.32—Thrift, AG, Dewey, HM, Macdonell, RAL, McNeil, JJ & Donnan, GA 2000, 'Stroke incidence on the east coast of Australia: the North East Melbourne Incidence Study (NEMESIS)', *Stroke*, vol. 31, pp. 2087–92.
 - entry A.33—National Stroke Foundation 2001, *SCOPES Report: stroke care outcomes—providing effective services*, draft final report of the Health Services Unit, National Stroke Foundation, Melbourne.
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B.7: Emergency treatment: heart and stroke

Context

In Australia a substantial proportion of coronary deaths occur before the victim reaches hospital; immediate access to treatment can avert death by allowing defibrillation from cardiac arrest and minimise damage to the heart by providing reperfusion therapy. In the case of stroke, emergency treatment is critical if damage to the brain is to be minimised and complications and recurrent stroke events prevented.

The nature of the problem

A number of problems affect the operations and effectiveness of emergency services in Australia:

- Consumers' awareness of the warning signs—of heart attack, angina and stroke—is poor, as is their knowledge that immediate action is necessary. Further, too few members of the community are skilled in cardiopulmonary resuscitation. (entries A.1 and A.3)
- Emergency treatment of stroke requires early access to organised care in a stroke unit staffed by a multi-disciplinary team; this includes nursing and allied health care, general medical care, and specific medical and surgical therapy. There are too few stroke units in Australia, and the geographical distribution of those that do exist is uneven. (entries A.1 and A.3)
- Associated with this is the fact that—mainly because of a shortage of funds and nursing staff—some hospitals are forced to close their emergency departments to all but life-threatening cases. Closures of this kind can last for several hours each day.
- Fifty per cent of heart attack victims delay seeking treatment by at least two hours, and over half of all heart attack deaths occur before the victim reaches hospital. (entry A.1)
- After cardiac arrest the chances of successful defibrillation decrease by 10 per cent each minute, yet there are often substantial delays before defibrillation can be attempted.
- About 80 per cent of stroke patients are hospitalised, but there are substantial delays in getting them to hospitals and triage is poor. (entry A.1)
- The main problem in rural and remote parts of Australia is the distance patients need to travel to emergency facilities. (entry A.1)
- Early warning signs of stroke in a younger person may be missed or misinterpreted by a doctor, who might not consider a diagnosis of stroke. (entry A.3)
- Thrombolysis treatment should be administered by non-medical personnel in rural areas where administration by a medical practitioner would cause a delay.
- Australian practice guidelines recommend early angiography in cardiac patients with high-risk clinical features, but neither local data on implementation of best practice nor mechanisms for continued assessment of treatment strategies are available.
- The Victorian Stroke Strategy (see entry A.29) notes anecdotal evidence to suggest that management of transient ischaemic attacks in emergency departments is 'not ideal—patients are sent home or seen only after a lengthy delay'. The taskforce preparing the strategy was

told of instances of ambulance staff and hospital emergency personnel ignoring or discounting concerns about TIA symptoms.

- No baseline data are available on waiting times before suspected stroke patients arrive at hospital, before they are assessed once in an emergency department, how many receive CT scans, and the length of waiting time for admission.

Evidence for particular interventions

A public health campaign designed reduce the time it takes patients to go or be taken to hospital was unsuccessful.

Appropriate triage and risk stratification of heart attack and unstable angina patients facilitates effective use of coronary care and other hospital beds and can shorten hospital stays.

Current activity

Efforts are being made to improve cardiopulmonary resuscitation skills in the community and to provide rapid-response coronary care ambulances. St John Ambulance Australia is promoting a program of early access to defibrillation for people following a cardiac arrest. In many states ambulance services have given highest priority to responding to stroke.

In Melbourne, the Medical Priority Dispatch system was introduced for the ambulance service in December 1996. The system automatically allocates the appropriate level of ambulance care in response to details provided by the caller and a pre-determined dispatch grid. In the case of stroke, patients are taken to hospital, but at present no consideration is given to whether the hospital has a stroke unit.

Recommendations for future activity

Improved funding for hospital emergency departments is essential.

A coordinated response by emergency services to acute coronary events is essential, as is early identification and resuscitation of people who suffer a heart attack.

Programs supporting early access to defibrillation should be strongly encouraged.

There is a need for further research into ways of encouraging victims of cardiac events or stroke to go to hospital as soon as possible.

Outcome data are necessary to document the effectiveness—both clinical and in terms of cost—of various approaches to treatment of cardiac patients. This includes data on the following:

- use of chest-pain triage protocols
- intermediate-intensity areas staffed by cardiac nurses adjacent to coronary units
- guideline-based referral for coronary angiography and myocardial revascularisation.

In the case of emergency treatment of stroke, two sets of data should be collected:

- the numbers of patients receiving a CT scan

- the length of time between arrival at the hospital emergency department and receiving a CT scan.

Patients with stroke should be urgently taken to a hospital emergency department that has the personnel and facilities to care for them. This requires early recognition of the condition and immediate contact with the ambulance service. The same applies to patients with suspected heart attack.

In the hospital emergency department, initial treatment of stroke must pay particular attention to an adequate airway, oxygenation and maintenance of circulation.

Ambulance services should be informed of which hospitals have stroke units, and they should give priority to those hospitals when transporting suspected stroke patients.

The Queensland Government's Health Outcomes Plan for coronary heart disease (see entry A.15) notes four elements of a coordinated response to acute coronary events in the community: a universal emergency number, a 'timely' emergency response, availability of defibrillators, and rapid transfer to an acute medical facility.

Further reading

Emergency treatment is dealt with to a limited extent in the following entries in Part A:

- entry A.1—Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra.
- entry A.2—Australian Institute of Health and Welfare 2001, *Heart, Stroke and Vascular Diseases: Australian facts, 2001*, AIHW cat. no. CVD 13, AIHW, National Heart Foundation of Australia & National Stroke Foundation of Australia, Canberra.
- entry A.3—Stroke Australia Task Force 1997, *National Stroke Strategy*, National Stroke Foundation, Melbourne.
- entry A.15—Queensland Health 2000, *Cardiovascular Health: coronary heart disease, 2000–2004*, Health Outcomes Plan, Queensland Health, Brisbane.
- entry A.29—Victorian Stroke Taskforce 1998, *Victorian Stroke Strategy: report of the Stroke Strategy Taskforce*, National Stroke Foundation, Melbourne.

B.8: Lifestyle interventions

Context

The majority of the modifiable risk factors for heart, stroke and vascular disease are behavioural, or lifestyle-related—tobacco smoking, physical inactivity, poor diet (including high-risk alcohol consumption), and overweight and obesity.

These factors are often interconnected; for example, inappropriate diet can lead to overweight or obesity, as can physical inactivity. Many of the interventions designed to reduce the burden of heart, stroke and vascular disease in the community are also interconnected; for example, a 'healthy eating' campaign may produce benefits in terms of rates of overweight and obesity, as might a physical activity campaign.

Modification of lifestyle-related risk factors is not simply a matter for individuals: the intervention of general practitioners is particularly important in inducing behaviour change, consumer education is vital, and the regulatory framework must reinforce interventions.

The nature of the problem

Tobacco smoking

Tobacco smoking is the single largest cause of preventable disease and death in Australia. It has the same status in relation to cardiovascular disease and death, being responsible for about 13 per cent of cardiovascular deaths. It is estimated that in 1998 about 3.5 million Australians smoked on a regular basis and about 19 000 people died as a result. Passive exposure to tobacco smoke also increases the risk of heart disease among adults, and there is increasing evidence that it is atherogenic and can increase the risk of stroke. (entries A.1 and A.2)

Although smoking rates have declined steadily since the early 1970s, the decline has slowed in recent years. In addition, some groups in the community—the socio-economically disadvantaged, Aboriginal and Torres Strait Islander people, and men from some cultural and linguistic backgrounds, for example—have far higher rates of smoking than others. (entries A.1 and A.2)

In 1995 it was estimated that, smokers aged less than 65 years were three times more likely to develop ischaemic heart disease and two-and-a-half times more likely to develop atherosclerotic peripheral vascular disease. Smoking has also been established as a risk factor for stroke in both men and women⁴⁻⁷: up to 25 per cent of all strokes can be directly attributed to cigarette smoking, and the relative risk of stroke among smokers increases approximately threefold.^{4,7}

Physical inactivity

Epidemiological evidence indicates an almost certain causal relationship between physical inactivity and mortality from cardiovascular disease and diabetes. The evidence is of the same strength as that associating tobacco smoking with heart disease. Research has shown that

⁴ Bonita, R, Scragg, R, Stewart, S, Jackson, R & Beaglehole, R 1986, 'Cigarette smoking and risk of premature stroke in men and women', *British Medical Journal*, vol. 293, pp. 6–8.

⁵ Shinton, R & Beevers, G 1989, 'Meta-analysis of relation between cigarette smoking and stroke', *British Medical Journal*, vol. 298, pp. 789–94.

⁶ US Department of Health and Human Services 1990, *The Health Benefits of Smoking Cessation: a report of the Surgeon General*, Public Health Service, Centers for Disease Control, Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, Rockville, MD.

⁷ Hankey, GJ 1999, 'Smoking and risk of stroke', *Journal of Cardiovascular Risk*, vol. 6, pp. 207–11.

becoming physically active confers a benefit in terms of cardiovascular mortality more rapidly than changes to other risk factors. (entry A.10)

There is evidence that up to 15 per cent of stroke events can be attributed to physical inactivity. Recent studies also suggest that physical activity provides a protective mechanism by reducing blood-clot formation or by reducing high blood pressure, or both. This evidence is not universally accepted, but it is mounting.

It is estimated that up to half the Australian population is physically inactive to an extent that carries a heightened risk of heart, stroke and vascular disease. During the 1980s and 1990s there was little change in physical activity but between 1997 and 1999 there was a significant decline, from 62 per cent to 57 per cent, in the proportion of people engaging in recommended levels of physical activity (entry A.1).

Physical inactivity is also linked with other risk factors for heart, stroke and vascular disease—obesity and high blood pressure, for example, it is estimated that the direct health costs attributable to physical inactivity in Australia in 1993–94 were \$161 million for coronary heart disease and \$15.7 million for stroke. (entry A.10)

It is estimated that 122 deaths a year due to either coronary heart disease or non–insulin dependent diabetes could be avoided with every 1 per cent increase in the proportion of the population who achieve a level of sufficient and regular physical activity. (entry A.10)

Poor diet

Poor diet can have many effects that contribute to heart, stroke and vascular disease, among them effects on body weight, blood cholesterol and blood pressure. The effects of dietary components—such as fat, fibre, sodium and potassium—are complex and interrelated, but the most important single factor for heart, stroke and vascular disease appears to be the quantity of saturated fats consumed. High intakes of fats, and especially saturated fats, are associated with high blood cholesterol, overweight and obesity and an increased likelihood of death among people whose level of physical activity is low. (entry A.2)

The total fat intake (that is, of saturated fatty acids, *trans* fatty acids, mono-unsaturated fatty acids, polyunsaturated fatty acids and dietary cholesterol) appears to be less important than the intake of saturated fat. Saturated fatty acids account for about 13 per cent of Australians' total energy intake. The National Heart Foundation of Australia recommends that *trans* fatty acids and saturated fatty acids together contribute no more than 8 per cent of total energy intake. (entry A.9)

The high cost, relative unavailability and relatively poor quality of fresh fruit and vegetables in rural and remote areas is a fundamental concern. (entries A.1, A.4 and A.20) A diet high in salt contributes to high blood pressure. There are no national figures on salt consumption in Australia, but a Hobart study found that only 6 per cent of men and 36 per cent of women were below the recommended maximum salt intake of 100mmol per day. (entry A.2)

Alcohol

High-risk alcohol consumption (particularly binge drinking) is associated with higher blood pressure and death from stroke. Evidence shows that each increment of 10 grams of alcohol consumed per day increases systolic blood pressure by an average of 1–2mmHg and diastolic blood pressure by 1mmHg. (entry A.2)

In 1998 in Australia, about 8 per cent of adult male drinkers and about 4 per cent of female drinkers usually drank at hazardous or harmful levels. Taking account of the fact that low to

moderate alcohol consumption appears to provide some protection against hypertension, coronary heart disease and stroke, it is estimated that alcohol consumption accounts for about 2.2 per cent of the total disease burden. (entry A.2)

Overweight and obesity

Coronary heart disease, heart failure, stroke and type 2 diabetes are all more likely to occur in people who are overweight or obese. Even a modest degree of excess body fat has been associated with a higher risk of hypertension and diabetes, both of which contribute to heart, stroke and vascular disease.

There has been an alarming increase in rates of overweight and obesity in Australia in the last 20 years: between 1980 and 1999–2000 the proportion of overweight women increased from 27 per cent to 45 per cent and the proportion of overweight men increased from 48 per cent to 65 per cent. (entry A.2)

Evidence for particular interventions

Tobacco smoking

There is good evidence that interventions with individuals who smoke tobacco (advice from doctors and nicotine-replacement therapies) and regulatory mechanisms (taxes on tobacco products and adoption of smoke-free environment policies) result in significant reductions in rates of smoking. (entry A.7)

Among other measures are structural changes such as banning all promotion of tobacco products, reducing the nicotine content of cigarettes, and rigorous enforcement of laws governing the sale of tobacco products to minors. Public education campaigns, education in schools, and even greater involvement of GPs are also valuable. (entry A.7)

Physical inactivity

There has been relatively little research into the effectiveness of interventions designed to increase levels of physical activity, although some studies have found that public education campaigns can have some success in the short term. Other studies have found that advice from a GP can help to achieve modest short-term increases in the time spent engaged in physical activity. (entry A.10)

Schools are seen as an ideal setting for promoting physical activity because there is a captive audience of students and parents. But it has been found that health education alone makes little difference; more likely to increase cardiovascular fitness are programs that involve vigorous aerobic activity and lead to increased physical activity in and out of school. A school's resources and commitment are critical to success. (entry A.10)

Workplaces also have potentially large captive audiences, but physical activity programs in this milieu have been characterised by poor attendance, selection bias (where only the fit volunteer to participate) and high drop-out rates. Policy and environmental changes—such as encouraging the use of stairs, providing showers, and subsidising employees' use of fitness clubs—are thought to be more promising options. (entry A.10)

Community-based strategies—including home-based interventions, media campaigns, and interventions to make environments more conducive to physical activity—also offer promise. Among the factors that increase the acceptability of such interventions are community participation in the planning and implementation of programs, culturally specific interventions,

and identification of possible economic barriers to participation. Local government is the level of government with the greatest ability to effect changes in communities. (entry A.10)

Interventions to increase physical activity have a shorter lag time in producing benefits than interventions such as smoking cessation. (entry A.10)

Poor diet

There is good evidence that coronary events and deaths are reduced if saturated fatty acids are replaced by polyunsaturated fatty acids. There is also good evidence that consumption of fish reduces the risk of coronary death. *Trans* fatty acids have been consistently shown to have an adverse effect on total cholesterol and LDL-C. No studies have reported an association between total fat intake and coronary heart disease. (entry A.9)

There is increasing evidence that consumption of fresh fruits and vegetables confers some protection against coronary heart disease and stroke. (entry A.1)

Approximately 14 000 coronary events could be avoided each year if the mean level of cholesterol in the population were reduced by 0.5mmol per litre, smoking prevalence were halved, and the prevalence of physical inactivity were reduced to 25 per cent. (entry A.16)

*Acting on Australia's Weight*⁸ identifies three key influences on dietary intake: environmental, biological and behavioural. The strategies it identifies deal with infrastructure and education; research, monitoring and evaluation; and the coordination of effort to reduce the prevalence of overweight and obesity in Australia.

There is evidence that when the system as a whole works together—governments, transporters, wholesalers, retailers and communities—it is possible to equalise prices and the accessibility of nutritious foods across a range of urban and rural locations. (entry A.4)

Results from the Lyon Diet and Heart Study have demonstrated that the consumption of a Mediterranean-type diet leads to significant reductions in coronary heart disease mortality among patients with coronary heart disease. (Lorgeril et al. 1994, cited in entry A.15; entry A.9)

Overweight and obesity

There is evidence that losing weight reduces the incidence and severity of risk factors such as high blood pressure, high blood cholesterol and diabetes. (entry A.1)

Lack of sound scientific evidence for successful public health interventions specifically targeting overweight and obesity prevention makes priority setting difficult.

Interventions in the general practice setting

Over 80 per cent of Australians see a GP at least once a year. This highlights the potential for primary care as a setting for promoting lifestyle change. There are, however, barriers to GPs' intervention: lack of time, lack of financial incentive and insufficient training in counselling are most often nominated. (entry A.11)

GP interventions aimed at a single risk factor seem to be more successful than general interventions aimed at multiple risk factors. GPs play a crucial role in reducing smoking rates, but their effectiveness in relation to dietary change seems problematic. (entry A.11)

⁸ NHMRC 1997, *Acting on Australia's Weight: a strategic plan for the prevention of overweight and obesity*, National Health and Medical Research Council, Canberra.

Several studies have demonstrated short-term increases in physical activity following primary health care interventions, mostly through brief counselling and the provision of printed information. It appears that GPs are able to achieve a 2–5 per cent increase in short-term participation in physical activity; this rate of success is similar to that achieved when brief smoking cessation advice is offered. Longer term maintenance of physical activity is less encouraging. (entry A.11)

Current activity

The Commonwealth is working with the states and territories to raise public awareness of risk factors through a range of initiatives. For example, a framework for a national primary prevention strategy is being developed, so that programs dealing with tobacco smoking, physical activity and nutrition are integrated.

In the states and territories work is also going ahead. For example, Victoria is working to improve the knowledge and skills of allied health and community health workers and to develop new information and referral systems, community grants programs, and a review of policy and practice relating to physical activity in organised care settings.

South Australia has been developing policies in areas such as diet, tobacco control and physical activity. 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.

Tobacco smoking

Australia first formalised its commitment to a comprehensive approach to tobacco control in 1991. The National Tobacco Campaign—a collaborative initiative between the Commonwealth, the states and territories, and non-government organisations—involves advertising, telephone counselling services, campaign materials produced in a variety of languages, a web site, and national media promotions.

Some states and the two territories have also taken independent action to reduce the prevalence of smoking in the community. The Northern Territory has introduced a specific Aboriginal Smoking Strategy.

Physical inactivity

Active Australia is a national initiative promoting population-wide strategies and public policy designed to increase regular involvement in physical activity. A particular focus is encouraging physical activity through membership of sporting clubs. Intersectoral collaboration is seen as essential to the development of supportive infrastructure, environments and attitudes. Some states have also taken independent action to redress the problem of physical inactivity. Supportive Environments for Physical Activity is a National Heart Foundation program that aims to increase environmental support and opportunities for people to be physically active, working collaboratively with local government and the transport and other sectors.

The Strategic Inter-Governmental Forum on Physical Activity and Health, or SIGPAH, has been established under the National Public Health Partnership (see entry A.8) to advise governments on achieving sustainable improvements in levels of physical activity among Australians.

Poor diet

The Strategic Inter-Governmental Nutrition Alliance, or SIGNAL, has been established under the National Public Health Partnership (see entry A.8) with the intention of achieving equitable and sustainable improvements in nutrition. The emphasis is on cooperative national action and

complementarity with other national initiatives such as Active Australia, the *Australian Guide to Healthy Eating*, and the NHMRC's dietary guidelines for older Australians (1999) adults (2002), and children and adolescents (2002).

Part of SIGNAL's work has been to develop the National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan (see entry A.20). Numerous other initiatives are under way throughout Australia.

Overweight and obesity

The NHMRC has developed *Acting on Australia's Weight* to promote healthy eating and regular moderate physical activity for all. Guidelines for health professionals and consumers on the treatment and management of overweight and obesity in adults and children and adolescents are also being developed. (entry A.8)

Recommendations for future activity

Interventions aimed at behavioural risk factors should include environmentally based strategies that focus on major societal influences on smoking, inadequate physical activity, and over-consumption of certain foods and calories. Other approaches should focus on common risk factor reduction, improved service coordination, prevention of duplication, and fostering integration of activities designed to reduce risk factors.

There is great scope for coordination of health-promotion interventions among the main agencies that can improve health. The health sector should take the lead, but the effects will be longer lasting and the community better served if partnerships are forged with other sectors.

Tobacco smoking

Specific interventions targeting high-risk individuals should be developed. These might include campaigns aimed at Aboriginal and Torres Strait Islander people, males from some cultural and linguistic backgrounds, and other groups with a high prevalence of smoking. Adolescents should be a particular target: they receive pro-smoking messages from a range of sources, including the internet.

Physical inactivity

Good, safe, accessible public transport systems increase the prevalence of walking to transport or travelling by bicycle. Good urban design can help people to be active.

Legislative and fiscal strategies are required to discourage people from using private cars to travel short distances. This, of course, also offers environmental benefits.

Interventions that encourage the large number of people who are currently sedentary or who do little physical activity or sport to change their lifestyle should be investigated and developed. (see entry A.10)

Poor diet

Food and nutrition matters that call for a public policy response—food security, health claim labelling and genetic modification, for example—are becoming increasingly numerous and complex. Up-to-date public policy is essential if stakeholders are to pursue their roles effectively. (entry A.8)

There is a need to address the underlying structural barriers in rural and remote areas to achieve a situation where 'healthy food choices are easy food choices' for Aboriginal and Torres Strait Islander peoples. (entry A.20)

Overweight and obesity

Action-oriented research needs to be undertaken to guide policy and program development.

The general practice setting

Preventive strategies need to be evidence-based and tailored to the needs of patients; they should also take account of the barriers to change. Appropriate payment mechanisms and incentives to support increased population health interventions in general practice are needed.

There is a need for improved information systems in general practice and for improved data collection and monitoring of risk factor behaviour to assist GPs in the provision of clinical care. Improved materials to support patient education and interventions for behavioural change are also needed.

The role of nurse practitioners is important, and there should be greater support for practice nurses, to enhance a systematic disease-management approach.

Further reading

Many of the documents reviewed in Part A discuss or touch on lifestyle interventions to improve the cardiovascular health of Australians. Of particular interest are the following entries:

- entry A.1—Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra.
- entry A.2—Australian Institute of Health and Welfare 2001, *Heart, Stroke and Vascular Diseases: Australian facts, 2001*, AIHW cat. no. CVD 13, AIHW, National Heart Foundation of Australia & National Stroke Foundation of Australia, Canberra.
- entry A.7—Ministerial Council on Drug Strategy 1999, *National Tobacco Strategy 1999 to 2002–03: a framework for action*, Department of Health and Ageing, Canberra.
- entry A.8—Strategic Inter-Governmental Nutrition Alliance 2001, *Eat Well Australia: an agenda for action for public health nutrition, 2000–2010*, prepared for the National Public Health Partnership, Department of Health and Ageing, Canberra.
- entry A.9—National Heart Foundation 1999, 'A review of the relationship between dietary fat and cardiovascular disease', *Australian Journal of Nutrition and Dietetics*, vol. 56, no. 4, suppl., pp. S5–S22
- entry A.10—Stephenson, J, Bauman, A, Armstrong, T, Smith, B & Bellew, B 2000, *The Costs of Illness Attributable to Physical Inactivity in Australia: a preliminary study*, report prepared for the Department of Health and Ageing & the Australian Sports Commission, Department of Health and Ageing, Canberra.
- entry A.11—Public Health and Health Promotion SERU 1998, *Primary Prevention of Cardiovascular Disease: a guide for divisions of general practice*, report prepared by A Sculthorpe and N Huang, Public Health and Health Promotion Support and Evaluation Resource Unit, University of Melbourne.

- entry A.12—Joint Advisory Group on General Practice and Population Health 2001, ‘Draft framework for developing integrated approaches to behavioural risk factor management within general practice’, unpub.
 - entry A.20—Strategic Inter-Governmental Nutrition Alliance 2001, *National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan 2000–2010 and First Phase Activities 2000–2003*, prepared by the National Aboriginal and Torres Strait Islander Nutrition Working Party, National Public Health Partnership, Department of Health and Ageing, Canberra.
 - entry A.21—Australian Bureau of Statistics 1994, *Overweight and Obesity: Indigenous Australians*, occasional paper prepared by J Cunningham and D Mackerras, cat. no. 4702.0, ABS, Canberra.
 - entry A.31—Department of Health WA 2001, *Healthy Lifestyles: a strategic framework for primary prevention of diabetes and cardiovascular disease in Western Australia, 2001–2006*, Department of Health, Perth.
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B.9: People at risk

Context

People at risk can be divided into two groups: population groups and people with multiple risk factors.

Population groups

In Australia the following population groups are at greatest risk of dying from heart, stroke and vascular disease:

- Aboriginal and Torres Strait Islander peoples
- people of lower socio-economic status
- people living in rural and remote areas
- in the case of coronary heart disease, males.

There is considerable overlap between the first three groups. The primary structural factors affecting them are limited access to prevention programs and treatment services and social and economic disadvantage. They also share some of the behavioural risk factors—higher rates of smoking and alcohol consumption and overweight and obesity, for example—that contribute to even higher risk.

A number of marginalised population groups can also be at high risk—for example, people with a mental illness, people from diverse cultural and linguistic backgrounds, people living with chronic conditions, and people with a disability. The higher risk for these populations stems mainly from difficulties with access to services.

Multiple risk factors

Four types of factors can lead to higher risk of cardiovascular disease:

- structural factors—for example, social and economic circumstances and access to information and services
- behavioural factors—for example, tobacco smoking, poor diet and inadequate physical activity
- physiological factors—for example, overweight and obesity, high blood pressure, high blood cholesterol, diabetes and rheumatic fever
- genetic factors—increasing age and being male.

The structural, behavioural and physiological risk factors are modifiable.

Many people have multiple cardiovascular risk factors, or co-morbidities—for example, poor diet, high cholesterol, high blood pressure, and overweight or obesity. The risk factors add to each other's effects if they are present in an individual. Several are also risk factors for other major diseases such as cancer.

In addition, the literature identifies a number of barriers to people's access to and use of health care services.

- social and economic barriers—including low income, limited education, and living in a rural area
- psychological and behavioural barriers—including those that determine patients' behaviour, motivation and attitudes as well their psychological capacity to perform their intended actions
- cultural barriers—barriers that flow from a mismatch between patients' belief systems and the ideology and functions of the Australian health care system. Examples are traditional beliefs about the role and status of health practitioners, a belief in fate and the inevitability of ill-health, and the distance between the patient's culture of birth and mainstream Australian culture. There is a growing body of evidence suggesting that people from culturally and linguistically diverse backgrounds receive poorer quality health care and education in Australia
- health care system barriers—the barriers that arise from the structure and functioning of the health care system. Examples are lack of a regular general practitioner (often associated with lack of availability of bulk billing), lack of culturally appropriate education material, and GPs failing to refer patients.

The existence of these barriers can be associated with a higher risk of cardiovascular disease.

The nature of the problem

A 'one cap fits all' model of service provision does not capture high-risk groups; instead, it acts as a barrier to access. New models of service delivery that are specifically tailored to meet the needs of these people are required. This could include local community-based models of care, bilingual health workers, and 'one stop shop' services and after-hours services.

Aboriginal and Torres Strait Islander peoples

Among Aboriginal and Torres Strait Islander peoples death rates for coronary heart disease and stroke are twice as high as in the non-Indigenous population.

- Rates of smoking, high-risk alcohol consumption and diabetes are about twice as high.
- Obesity is more common in some communities.
- Physical inactivity is more common.
- The prevalence of high blood pressure is thought to be about two to three times higher.
- Rheumatic heart disease is of particular concern: it almost exclusively affects Aboriginal and Torres Strait Islander peoples.

Poverty, lower education levels, cultural and racial barriers, and the unacceptably low standard of facilities are the main structural barriers. They make access to mainstream services difficult, and in rural and remote areas distance from facilities exacerbates the situation. In addition, current models of funding and service delivery do not reflect the needs of these communities.

The cardiovascular health of Aboriginal and Torres Strait Islander peoples is discussed in more detail in entry B.1.

People of culturally and linguistically diverse background

Australia is reputed to be the world's most 'multicultural' nation: well over 5 million people (more than a quarter of the total population) account for the more than 190 languages spoken.

The groups at highest risk are socially, ethnically and culturally furthest from the mainstream; they may need quite separate, and often very different, strategies to engage and involve them.

Literacy levels—including basic biophysiological understanding of the body—must be a consideration, as must be the way in which it is best to provide information. Bilingual health workers and community representatives are often a good medium for information provision. It is vitally important that assumptions are not made about the level of understanding, knowledge or education of any particular group. Rather, consideration should be given to carrying out qualitative research to determine the baseline for a particular group.

The concept of self-management does not sit well with some ethnic, cultural and religious groups⁹, although other studies have supported concepts similar to self-management (such as self-help) so long as this is done in a culturally appropriate way and translated information is provided.

People of low socio-economic status

The relationship between socio-economic disadvantage and higher risk of heart, stroke and vascular disease is well documented. The evidence suggests that structural factors such as economic resources, living and working conditions, social support, and access to services (including how services are designed and their hours of operation) all operate in combination with behavioural risk factors. (entries A.1 and A.2)

- There is a strong relationship between socio-economic disadvantage and death, sickness and disability from coronary heart disease, stroke and many other diseases. In Australia, mortality rates for coronary heart disease and stroke are especially high among people of working age living in the most disadvantaged areas. (entry A.1)
- Factors known to increase the risk of developing heart, stroke and vascular disease are far more prevalent among people of low socio-economic status compared with people of high socio-economic status. Smoking is almost twice as common; excessive alcohol consumption, physical inactivity, obesity and high blood pressure are also more prevalent. (entry A.3)
- The Whitehall Study found that biomedical risk factors are associated with psychosocial work characteristics and concluded that the association between social class and cardiovascular risk may be a consequence of differences in psychosocial work conditions.¹⁰
- During the 1980s the cardiovascular risk profile of socio-economically disadvantaged people improved somewhat, but this group's position vis-à-vis people of higher socio-economic status remains poor. (entry A.1)

⁹ South East Health Multicultural Unit & Australian Centre for Diabetes Strategies 2002, 'A systematic review of issues impacting on culturally diverse groups using diabetes as a model', South Eastern Sydney Area Health Services, Sydney.

¹⁰ Marmot, M & Theorell, T 1988, 'Social class and cardiovascular disease: the contribution of work', *International Journal of Health Services*, VOL. 18, no. 4, pp. 659–74.

People living in rural and remote areas

The primary problem for people living in rural and remote parts of Australia concerns access to services—that is, the availability, supply and design of services—rather than health differentials. (entry A.1)

The difficulty of attracting health professionals to these areas and keeping them there is noted in entry B.2.

Although the prevalence of risk factors is not significantly different in rural and remote areas, the cost, quality and accessibility of food present major problems. (entry A.1)

With the exception of rheumatic heart disease and remote Queensland, mortality from heart, stroke and vascular disease is only marginally higher compared with urban areas. Mortality from rheumatic heart disease is almost triple that in urban areas. (entry A.1)

People with diabetes

Diabetes is a risk factor for coronary heart disease and stroke and a condition in its own right. Genetic and environmental factors contribute to the onset of diabetes, although type 2 diabetes is influenced largely by the presence of behavioural risk factors such as physical inactivity, overweight and obesity, and possibly poor nutrition in foetal and early life. (entry A.2)

The presence of diabetes is also known to magnify the effect of conventional risk factors for coronary heart disease and stroke; for example, abnormal cholesterol levels, central (abdominal) obesity, hypertension and smoking. In addition, people with diabetes are more likely to have a clustering of risk factors, a condition called *metabolic syndrome*. (entry A.2)

Modifiable risk factors

- It is estimated that tobacco smoking is responsible for the greatest burden of disease in Australia—about 12 per cent of the total burden of disease and injury in males and about 7 per cent in females. (entry A.2)
- Physical inactivity comes next, accounting for about 7 per cent and responsible for the highest burden among females. (entry A.2)
- High blood pressure accounts for more than 5 per cent of the total burden of disease and injury among men and 6 per cent among women. There have been significant declines in the proportion of people with high blood pressure and receiving treatment since the 1980s—for men aged 25–64 years, a decrease from 45 per cent in 1980 to 22 per cent in 1999; for women aged 25–64 years, from 29 per cent in 1980 to 16 per cent in 1996, with no change since. People who are overweight, physically inactive, have high dietary salt intakes, or are psychologically stressed are more likely to develop high blood pressure. (entry A.2)
- Overweight and obesity account for about 4 per cent of the burden of disease. There have been significant increases in the proportions of overweight and obese Australians in the past 20 years: the proportion of overweight women aged 25–64 years increased from 27 per cent in 1980 to 45 per cent in 1999–2000; the proportion of overweight men of that age increased from 48 per cent to 65 per cent over the same period. (entry A.2)

In 1995, 85 per cent of males aged 18 years or more and 75 per cent of females in the same age range had at least one major modifiable risk factor; about 15 per cent of males and 10 per cent of females had three or more such risk factors. (entry A.2)

The prevalence of modifiable risk factors is highest around middle age and remains fairly stable after that. In 1995 over 90 per cent of males aged 45–79 years and almost 89 per cent of females aged 55–79 years had at least one modifiable risk factor. (entry A.2)

It is estimated that about 14 000 coronary events could be averted each year if the mean level of cholesterol in the population were reduced by 0.5mmol/L, if smoking prevalence were halved, and if the prevalence of physical inactivity were reduced to 25 per cent. This represents a reduction in coronary events of about 40 per cent. (entry A.16)

Compliance with drug therapy is variable in patients with coronary heart disease, a disease that is largely without symptoms and where there may be side effects associated with the therapy. The Australian population can be divided into three groups according to their level of risk:

- people with no known history of high blood pressure, high blood cholesterol or coronary disease—Group I
- those with a known history of hypertension or high blood cholesterol but without any evidence of coronary heart disease—Group II
- those with a known history of coronary heart disease—Group III. (entry A.16)

The greatest opportunity for gain is in Groups II and III: 48 and 31 per cent of the cardiac events occur in these two groups respectively, yet they represent 31 and 5 per cent of the population. The gains can be achieved through a combination of reductions in lifestyle risk factors and medical intervention. Prevention in Group I is also important because it can stop people moving into the other groups, where the risks of morbidity and mortality and the costs of treatment are much higher. (entry A.1)

Evidence for particular interventions

Evidence from studies of populations and from trials shows that when risk factors are reduced so are rates of heart, stroke and vascular disease.

Better education of doctors and patients about lifestyle factors such as salt consumption, diet, exercise, smoking and stress reduction can assist in lowering blood pressure, and combined risk factor reduction through lifestyle interventions may lead to a significant reduction in pharmaceutical costs. (entry A.3)

Clinical trials have shown that lowering cholesterol with and without existing cardiovascular disease reduces death and illness from cardiovascular disease and the need for bypass surgery and angioplasty. (entry A.2)

Recent research has examined social inequalities and the risks of death from all causes and from heart, stroke and vascular disease. Even after allowing for the traditional risk factors of smoking, overweight and physical inactivity, socio-economic factors (such as income and geography) remain independently associated with death.

Trials have shown that lowering diastolic blood pressure by 5–6mmHg and systolic blood pressure (if it is greater than 160, by 10mmHg) reduces the risk of stroke by 36–40 per cent. (entry A.3)

Current activity

Aboriginal and Torres Strait Islander peoples

- The Australian Health Ministers Advisory Council has approved a range of targets and indicators for monitoring governments' performance in improving the cardiovascular health of Aboriginal and Torres Strait Islander peoples. The targets, set for 2008, are to reduce mortality from coronary heart disease by 50 per cent, mortality from rheumatic heart disease by 50 per cent, mortality from diabetes by 20 per cent, the prevalence of smoking by 25 per cent, and the prevalence of overweight and obesity among 25–64 year olds by 15 per cent.
- The Commonwealth Remote Communities Initiative, introduced in 1997–98, is designed to improve access to primary health care services in about 35 remote Aboriginal and Torres Strait Islander communities that have little or no access to such services.
- The Office for Aboriginal and Torres Strait Health is working with the Department of Health and Ageing to develop a broader approach to health financing for the Aboriginal and Torres Strait Islander population.
- The Coordinated Care Model for service funding and delivery is being evaluated through trials in New South Wales, Western Australia and the Northern Territory. These trials, involving the Commonwealth, state and territory governments and local Aboriginal communities, are focusing on funding (including Medicare block funding in areas where there is limited access), community management of resources and control of services, development of care plans, and program evaluation.
- Training in prevention and treatment of acute rheumatic fever and rheumatic heart disease for Aboriginal health workers in rural and remote areas has been offered under the Commonwealth Rural Health Education, Support and Training program.
- The Territory Food Project is working to redress deficiencies in food supply in remote Aboriginal communities, where the availability of fresh fruit and vegetables and other healthy foods is often extremely limited.

Other activity relating to Aboriginal and Torres Strait Islander peoples is discussed in entry A of Part Two.

Other initiatives

- The Commonwealth is funding a National Collaboration on Health and Socio-economic Status.
- The Commonwealth Rural Australian Stroke Pilot Study will examine a rural population to determine the incidence, outcomes, and direct and indirect costs of stroke. The results will be compared with those from a metropolitan study in order to develop a model for the establishment of sustainable medical research capability in rural areas and to establish comprehensive regional stroke services for the rural, remote and Aboriginal populations of New South Wales.
- The University of Newcastle is working to develop estimates of combined risk factor reduction on coronary heart disease in Australia.
- The Royal Flying Doctor Service remains an integral part of the health care infrastructure available to remote communities.

Recommendations for future activity

The principles of self-determination in health care, as expressed in the Alma Ata declaration, are critical to improvements in the health of Aboriginal and Torres Strait Islander peoples. There are gains to be made from improved access to treatment, but there are even greater gains to be made from improved primary and secondary prevention services. These services should be adequately funded under a balanced and comprehensive approach.

There should be a coordinated approach to primary health care and the development of prevention programs in remote areas of Australia, with sufficient funds allocated for this purpose. All programs must be appropriate to local needs and conditions.

Priorities for the prevention of heart, stroke and vascular disease in rural and remote areas are nutrition, tobacco smoking and physical activity. In addition, primary health care teams should be able to devote sufficient resources to both their clinical and their public components.

An important part of the challenge is to attend to the social, economic and environmental conditions affecting people's lives—in particular, the lives of disadvantaged and marginalised groups.

Primary prevention initiatives relating to behavioural risk factors should include environmentally based strategies that tackle major societal influences on smoking, over-consumption of particular types of foods and calories, and physical inactivity.

In relation to socio-economic disadvantage, there is a need for policy initiatives that aim to improve living and working conditions, reduce poverty and unemployment, change people's attitudes and behaviours, and facilitate access to health and social services according to need.

Fundamental to public policy should be the design of cross-sectoral interventions that reduce the socio-economic gap in health status.

General practitioners have an important role in risk assessment and helping patients to reduce their risk factors. There is a need to develop strategies for best-practice implementation and use of 'enhanced primary care' items on the Medicare Benefits Schedule and the increased availability of bulk-billed services by general practitioners and specialists.

Development of community-based, user-focused and -designed models of service delivery, where the design is determined by the target group through qualitative research, is important.

The actions of governments, businesses and industry can have a strong effect on opportunities, attitudes and skills. Education, taxation, housing, urban design, and workplace conditions can influence levels of risk factors as well as other social and psychological factors that can affect cardiovascular health.

Prevention requires action on many fronts. Individuals can play a part, but it is the actions of governments, non-government organisations and general practitioners that are most important. Government policy initiatives at all levels should be examined for their potential impacts on the cardiovascular health of Aboriginal and Torres Strait Islander peoples, people in rural and remote locations, socio-economically disadvantaged people, and marginalised groups.

Further reading

A number of the documents reviewed in Part A discuss people at risk and risk factors in general; of particular note are the following entries:

- entry A.1—Department of Health and Ageing & Australian Institute of Health and Welfare 1999, *Cardiovascular Health: a report on heart, stroke and vascular disease, 1998*, National Health Priority Areas report to the Australian Health Ministers Conference, AIHW cat. no. PHE 9, DHA & AIHW, Canberra.
 - entry A.2—Australian Institute of Health and Welfare 2001, *Heart, Stroke and Vascular Diseases: Australian facts, 2001*, AIHW cat. no. CVD 13, AIHW, National Heart Foundation of Australia & National Stroke Foundation of Australia, Canberra.
 - entry A.3—Stroke Australia Task Force 1997, *National Stroke Strategy*, National Stroke Foundation, Melbourne.
 - entry A.4—National Workshop on Heart Disease 1999, *Report*, Summary of workshop held in Townsville, 17–19 October 1999, National Rural Health Alliance, Canberra.
 - entry A.6—National Aboriginal Health Strategy Working Party 1989, *A National Aboriginal Health Strategy*, n.p.; National Aboriginal and Torres Strait Islander Health Council 2001, *National Aboriginal and Torres Strait Islander Health Strategy*, draft for discussion, NATSIHC, Canberra.
 - entry A.15—Queensland Health 2000, *Cardiovascular Health: coronary heart disease, 2000–2004*, Health Outcomes Plan, Queensland Health, Brisbane.
 - entry A.21—Australian Bureau of Statistics 1994, *Overweight and Obesity: Indigenous Australians*, occasional paper prepared by J Cunningham and D Mackerras, cat. no. 4702.0, ABS, Canberra.
 - entry A.22—National Heart Foundation & Centre for Remote Health 2000, *Report of Workshop to Review Current Research and Determine Future Research Priorities for Cardiovascular Disease in Rural and Remote Settings, and in Aboriginal and Torres Strait Islander People*, report prepared by P Field, J Wakerman & K Nash, Centre for Remote Health, Alice Springs.
 - entry A.23—Scott, M 2001, '*Working towards Healthy Aboriginal Communities*' Summit, NSW Aboriginal Vascular Health Program report, Centre for Research and Clinical Policy, NSW Health, Sydney.
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B.10: Consumer involvement

Context

The literature acknowledges that consumers have enormous potential to influence their own health outcomes if they become full partners with their health care providers.

The term *consumer participation* is used to describe the involvement of consumers in the development, delivery and evaluation of health services. Although there are many areas in which this can occur, two specific areas that have a strong evidence base linking them to improved health outcomes and have been identified as important for progress in relation to cardiovascular disease are consumer access to information and consumer self-management.

The nature of the problem

There is a lack of appropriate, accessible information for consumers about:

- early detection of problems
- the importance of particular factors—lifestyle, medication adherence, social support, and so on
- enabling informed decision making about interventions across the disease continuum.

Consumers are not always adhering to the preventive or treatment regimes suggested by health professionals, possibly because they are not being supported or they are insufficiently skilled to manage their condition on a daily basis.

Medical practitioners do not always provide sufficient information to enable patients to manage their own condition.

Evidence for particular interventions

Self-management

There is a growing body of information in the literature that self-management is particularly important in relation to cardiovascular disease, because of its lifestyle links and the high level of potential for prevention at both the primary and the secondary levels. For example, it has been shown that people with hypertension benefit when they have an active, rather than passive, role in their care.

Access to information

The literature suggests that health outcomes are improved if consumers receive targeted information about their treatment options and how to contribute to their own care. This should be part of an ongoing, two-way communication process between consumers, their carers and health service providers.

Different communication strategies complement each other, and approaches need to be patient focused—through targeting the community at large using media campaigns or through health practitioners focusing on individual patients' needs.

Information must be designed to fit the purpose required. The most pressing needs of consumers relating to information requirements are:

- to be provided with quality information and appropriate self-management tools—in particular, decision aids such as information on treatment or screening options and outcomes
- to receive information about what to expect during the episode of care and their rights—including the right to make decisions about their treatment and care and protocols and policies for access to personal health records.

Current activity

A range of initiatives are occurring with the aim of providing appropriate consumer information; Health inSite is an example.

Self-management is closely associated with self-determination in Aboriginal and Torres Strait Islander communities. The development of community-controlled health services to facilitate access to culturally appropriate services has in effect delegated control to communities themselves, so that they can shape and deliver health services to meet their needs.

Heart Support Australia is a national, volunteer organisation for heart patients and their families that works in collaboration with divisions of general practice, area health services, community health services and hospitals, as well as other non-government organisations. Through positive role modelling and peer support, it aims to encourage the maintenance of secondary prevention programs and compliance with medical advice and to enhance the quality of life of patients and their carers.

Recommendations for future activity

Information strategies

Information strategies should be designed to:

- enable consumers to be as knowledgeable about their health and treatment as they wish to be, in addition to having at least a basic level of knowledge of what will or may happen. This includes descriptions of services and costs, methods of access, and consumers' rights when using services
- reduce consumers' anxiety about being ill and requiring treatment
- enable consumers to participate to the extent they wish in decision making associated with their treatment. This includes provision of evidence-based information about treatments and patient-oriented versions of clinical practice guidelines.

Specific information needs that have been highlighted in the literature are:

- advice about modifiable risk factors at the primary and secondary levels
- the importance of adhering to a treatment regime and regular monitoring
- recognising and responding to early warning signs of an acute event and seeking emergency help.

Self-management

Self-management strategies should be designed to:

- give consumers skills, improve their confidence, and meet the specific needs of individuals or groups—including provision of written action plans
- help, and where necessary educate, consumers to care for themselves when they wish to or have to. This includes provision of information about self-help groups and their programs, community support programs, coping with specific conditions, treatment advances, and clinical trials for specific conditions.

General recommendations

- More research is needed in the area of sociological and behavioural research and into new and improved ways of promoting self-management resources and models to optimise the participation of consumers.
- In the case of Aboriginal and Torres Strait Islander peoples and people of non-English speaking background, the emphasis should be on continuing to develop culturally appropriate approaches to self-management.
- Feedback received from consumers should be used to develop health strategies that are responsive to the needs of the communities they are designed to serve.
- There should be improved training for health professionals, especially medical practitioners, in relation to the importance of providing information to patients and the best ways of providing that information.

Further reading

The following documents reviewed in Part A discuss consumer involvement:

- entry A.24—Consumer Focus Collaboration 2001, *The Evidence Supporting Consumer Participation in Health*, National Resource Centre for Consumer Participation in Health, LaTrobe University, Bundoora, Victoria.
 - entry A.25—Consumer Focus Collaboration 2000, *Review of Existing Models of Reporting to Consumers on Health Service Quality*, report prepared by the Division of Research and Education (Royal Women's Hospital, Melbourne), the Health Issues Centre & Consumers in Health Consulting, Department of Health and Ageing, Canberra.
 - entry A.26—Consumer Focus Collaboration 2000, *Feedback, Participation and Consumer Diversity: a literature review*, report prepared by the National Resource Centre for Consumer Participation in Health, Department of Health and Ageing, Canberra.
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Part C: Guidelines

C.1: NHMRC clinical practice guidelines: coronary heart disease

Bibliographic details

National Health and Medical Research Council 1996, *Clinical Practice Guidelines for the Procedural and Surgical Management of Coronary Heart Disease*, Clinical Practice Guidelines Series no. CP34, Australian Government Publishing Service, Canberra. (140 pp.)

Main subject areas

These evidence-based guidelines were developed through a consultative process involving numerous stakeholders, including consumers. The aim is to clarify the role of bypass surgery and coronary angioplasty in the management of coronary heart disease.

The guidelines are intended for use by specialists, referring clinicians and health professionals providing aftercare and support and as a reference for consumers. There are four chapters:

- Chapter 1 gives an overview of the morbidity and mortality caused by coronary heart disease and the emergence of revascularisation techniques as major treatments. A description of coronary artery bypass grafting and percutaneous transluminal coronary angioplasty is given, together with information about their current status in Australia, their efficacy and risks, and the short- and long-term outcomes. There is also a discussion of the importance of involving patients in the decision-making process.
 - Chapter 2 gives general indications and contra-indications for CABG and PTCA and rates the strength of the evidence for each recommendation.
 - Chapter 3 provides a more detailed assessment of the evidence for the use of either procedure in various categories of coronary heart disease.
 - Chapter 4 discusses outcomes measurement and the importance of cardiac rehabilitation and secondary prevention in maximising treatment for coronary heart disease and reducing the risk of further events.
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C.2: NHMRC clinical practice guidelines: unstable angina

Bibliographic details

National Health and Medical Research Council 1997, *Clinical Practice Guidelines for the Diagnosis and Management of Unstable Angina*, Clinical Practice Guidelines Series no. CP48, Australian Government Publishing Service, Canberra. (248 pp.)

Main subject areas

These guidelines take an evidence-based approach to best practice. They are directed at all health care practitioners engaged in the care of people with unstable angina—cardiologists, cardiac surgeons, cardiac care nurses, clinicians and nurses working emergency medicine, general practitioners, and others involved in continuing care. The following subjects are covered:

- definitions of terms and processes
 - initial evaluation and treatment
 - outpatient care
 - intensive medical management and progression to non-intensive care
 - cardiac catheterisation and myocardial revascularisation
 - hospital discharge and post-discharge care.
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C.3: NHMRC clinical practice guidelines: prevention of stroke

Bibliographic details

National Health and Medical Research Council 1997, *Prevention of Stroke: the role of anticoagulants, antiplatelet agents and carotid endarterectomy*, Clinical Practice Guidelines Series no. CP45, Australian Government Publishing Service, Canberra. (112 pp.)

[This document is also discussed in Part A: see entry A.13.]

Main subject areas

This comprehensive document covers the following subjects:

- stroke in Australia—incidence, prevalence, sequelae and prognostic indicators, direct and indirect costs
- risk factors and prevention—definitions; relative and absolute risk; the risk factors (listed as hypertension, smoking, hypercholesterolaemia, lifestyle, heart conditions, and vascular disease) and their modification; risk assessment; prevalence of high risk factors (minor stroke and transient ischaemic attacks, atrial fibrillation, and carotid artery stenosis); stroke and TIA as medical emergencies; the cost of stroke prevention (including anti-coagulation, atrial fibrillation detection and carotid endarterectomy)
- the consumer perspective—the need for education (of the public and GPs); the need for research into cultural factors affecting risky behaviours and responses to illness; treatment options; participation in clinical trials; and communication between patients, carers and health professionals
- medical stroke prevention for people with cerebrovascular disease—use of anti-platelet agents in low- and high-risk individuals
- people at risk of cardioembolic stroke—anti-coagulant therapy, atrial fibrillation and its detection, primary prevention in non-valvular atrial fibrillation, secondary prevention after cardiac brain infarction, and valvular heart disease
- carotid artery stenosis—identifying and dealing with the problem (including duplex ultrasound, catheter angiography, magnetic resonance angiography, and spiral computed tomography); stroke risk and prevention (treatment options such as carotid endarterectomy and balloon angioplasty); symptomatic and asymptomatic carotid stenosis; and carotid stenosis and elective surgery
- stroke and Aboriginal and Torres Strait Islander people—specific risk factors (hypertension, diabetes, smoking and obesity) and barriers to service provision (cultural differences, language barriers and remoteness)
- areas where research is needed—anti-platelet agents, anti-coagulants and cardioembolic stroke, carotid endarterectomy, consumer awareness and needs, stroke and the Aboriginal and Torres Strait Islander population.

Appendix C provides information on the cost of stroke and the cost-effectiveness of prevention. Appendix D summarises clinical trials of prophylaxis of thromboembolic complications in non-

valvular atrial fibrillation. Four charts show pathways for basic assessment and management of stroke, investigation and management of symptoms of cerebral ischaemia, investigation of suspected atrial fibrillation, and therapy for atrial fibrillation.

C.4: NHMRC clinical practice guidelines: prevention of stroke - a guide for GPs

Bibliographic details

National Health and Medical Research Council 1997, *Stroke Prevention: a guide for general practitioners*. Clinical Practice Guidelines Series no. CP47, Australian Government Publishing Service, Canberra. (17 pp.)

Main subject areas

These guidelines are designed to help GPs with the following:

- screening for stroke risk in both symptomatic and asymptomatic patients
- taking urgent action to reduce stroke risk, particularly in patients with atrial fibrillation and TIA or suspected stroke
- helping patients to make informed decisions about treatment for reducing stroke risk and to understand specialist medical advice.

The guidelines also include:

- checklists for stroke prevention and action
 - a discussion of the role of anti-platelet agents
 - recommendations for therapy, including pharmacological treatments and surgical procedures such as carotid artery stenosis and carotid endarterectomy
 - a listing of stroke risks.
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C.5: NHMRC clinical practice guidelines: preventive interventions in cardiovascular disease and cancer

Bibliographic details

National Health and Medical Research Council 1997, *Guidelines for Preventive Interventions in Primary Health Care: cardiovascular disease and cancer*. Clinical Practice Guidelines Series no. CP50, Australian Government Publishing Service, Canberra. (136 pp.)

Main subject areas

The guidelines were produced after assessment of the scientific literature on the value of a range of preventive activities in terms of their impact on health outcomes. They are directed at Australian primary health care professionals and provide recommendations on the preventive activities that should and should not be undertaken. In relation to cardiovascular disease, the following subjects are covered:

- screening for coronary artery, cerebrovascular and peripheral arterial diseases
- counselling on the cessation of smoking.

Recommendations about overweight, obesity and exercise are not included: at the time of publication (1997), these were being prepared by other committees of the NHMRC.

The recommendations are aimed at general practitioners and are deliberately broad so as to allow for the clinician's judgment in the context of each patient's situation.

C.6: NHMRC clinical practice guidelines: unstable angina - a consumer's guide

Bibliographic details

National Health and Medical Research Council 1997, *Unstable Angina: a consumer's guide*, Clinical Practice Guidelines Series no. CP49, Australian Government Publishing Service, Canberra. (20 pp.)

Main subject areas

This booklet provides a summary of some information about unstable angina, to help patients discuss their treatment with their doctor. It briefly explains coronary angioplasty, bypass surgery, and diagnostic tests and treatments for unstable angina.

Rather than explaining unstable angina in detail, it emphasises communication with doctors and encourages patients to ask their doctor for information.

C.7: Aboriginal and Torres Strait Islander peoples

Bibliographic details

National Health and Medical Research Council 1996, *Prevention of Stroke: a consumer's guide*, Clinical Practice Guidelines Series no. CP46, Australian Government Publishing Service, Canberra. (60 pp.)

Main subject areas

These guidelines are written for people who are at risk of stroke or are concerned about their stroke risk. It briefly discusses a wide range of risk factors for stroke but focuses on people at very high risk of stroke because of atherosclerosis or atrial fibrillation.

Consumer participation at all stages of decision making is emphasised. the publication covers the following:

- stroke and its symptoms
- people at risk of stroke
- stroke caused by artery disease
- stroke caused by blood clots from the heart
- stroke-prevention treatments.

There is also a glossary of terms.

C.8: NHMRC clinical practice guidelines: angioplasty and bypass surgery - a consumer's guide

Bibliographic details

National Health and Medical Research Council 1996, *Angioplasty and Bypass Surgery: a consumer's guide*, Clinical Practice Guidelines Series no. CP35, Australian Government Publishing Service, Canberra. (47 pp.)

Main subject areas

By giving information about angioplasty and bypass surgery, these guidelines are designed to help people with coronary heart disease become involved in making decisions about their treatment.

They explain the part that the two procedures play in the treatment of coronary heart disease, their likely benefits and possible risks, and how well they work in the short and long term.

The four main chapters cover the following:

- coronary heart disease, including a description of the various types of coronary heart disease and their causes
 - tests for coronary heart disease, why they are done, and what they diagnose
 - treatment options for coronary heart disease—medication, angioplasty and bypass surgery—and what research has shown about angioplasty and bypass surgery. There is also a section on the importance of information provision and patients' involvement in decision making
 - recovery and rehabilitation after the surgical procedures, how to prevent further blocked arteries, and sources of help for people with coronary heart disease.
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C.9: Guidelines for self-management of chronic conditions

Bibliographic details

Department of Health and Ageing & Royal Australian College of General Practitioners 2001, *Chronic Condition Self-management Guidelines for General Practitioners Working with Chronic Conditions*, (15 pp.) RACGP (WA Research Unit)

Main subject areas

The guidelines are designed to help GPs facilitate self-management by patients with a chronic condition. They are presented in the format of a framework to help establish effective interactions and management strategies. Flow charts are used to help the GP define the problem, to help patients set goals and determine management strategies, and for monitoring progress.

Suggestions are given for ways in which a general practice setting can be organised to promote self-management for patients with chronic conditions. Among the strategies described are reorganisation of office duties, greater use of practice nurses, and introduction of IT solutions to make patient recall easier.

Underlying theories and models of behaviour change are discussed with reference to their appropriateness for self-management of chronic conditions.

NOTE: The clinical guidelines are being tested within the demonstration project implemented under the newly named Department of Health & Ageing's *Sharing Health Care Initiative*.

C.10: Guidelines for the prevention of vascular disease in people aged 50 and over

Bibliographic details

NATIONAL VASCULAR DISEASE PREVENTION PARTNERSHIP?

Diabetes Australia xxxx, 'Guideline for the prevention of vascular disease in people aged 50 and over', Diabetes Australia, unpub. (4 pp.)

Main subject areas

This guideline emphasises assessment of the individual at risk of vascular disease and stipulates that history taking, physical examination and laboratory tests be done to determine the risk. Management principles and pharmacological interventions are also discussed.

Well-recognised risk factors predispose to the development of vascular disease. Many of them are common to a number of other conditions and the management approaches are similar.

This is a joint guideline prepared by members of the National Vascular Disease Prevention Partnership, which consists of the Australian Kidney Foundation, Diabetes Australia, the National Heart Foundation of Australia and the National Stroke Foundation of Australia.

C.11: Therapeutic guidelines: vascular

Bibliographic details

Therapeutic Guidelines 1999, *Therapeutic Guidelines: cardiovascular*, Therapeutic Guidelines Ltd, Melbourne. (211 pp.)

Main subject areas

The book provides a 'snapshot' of consensus on the most appropriate pharmacological therapies for cardiovascular conditions, based on current evidence. It is a reference for practising clinicians in the field and is oriented towards GPs. It includes:

- brief summaries of the mode of action of the various drugs, their pharmacological properties, and indications for use and recommended dosages
 - a brief discussion of drug interactions
 - comprehensive descriptions of cardiovascular conditions and recommendations for their management.
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C.12: NHF guidelines: reperfusion therapy for acute myocardial infarction

Bibliographic details

National Heart Foundation of Australia 2000, *Guidelines: reperfusion therapy for acute myocardial infarction*, National Heart Foundation of Australia Medical Issues Committee (principal authors P Aylward & D Hunt), National Heart Foundation of Australia, Canberra. (8 pp.)

[Note: The 2002 version of this document is available from the NHF website <www.heartfoundation.com.au/prof/index_fr.html>.]

Main subject areas

These guidelines are designed to assist doctors and other health care professionals in the management of patients who have acute myocardial infarction with ST elevation and need reperfusion therapy.

Fibrinolytics and adjunctive therapy, indications for and contra-indications to reperfusion, and access to services in rural and remote areas are all discussed.

C.13: Management of unstable angina: guidelines

Bibliographic details

National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand 2000 (addendum July 2002), *Management of Unstable Angina: guidelines*, Australian Medical Publishing Company, Sydney. (23 pp.)

Main subject areas

These guidelines provide a general framework for practice. They are directed primarily at doctors in a hospital environment who are managing patients with unstable angina, but they also contain information relevant to general practitioners. Among the recommendations are those relating to:

- pre-hospital care
- acute hospital assessment and triage
- management of patients at low, intermediate and high risk
- long-term management.

The terminology and pathophysiology of unstable angina are discussed, as is the evidence for the available therapies, both pharmacological and invasive.

C.14: Management of hypertension for doctors

Bibliographic details

National Heart Foundation of Australia 1999 (amendment 2000), *Heart Foundation Guide to Management of Hypertension for Doctors*, National Heart Foundation of Australia, Canberra. (15 pp.)

Main subject areas

This comprehensive treatment guide is primarily directed at general practitioners. It emphasises continuity of care, patient compliance and ongoing management and contains the following sections:

- general principles of managing hypertension
 - factors influencing prognosis and absolute cardiovascular risk
 - a guide to measuring blood pressure accurately
 - a guide to diagnostic blood pressure levels
 - diagnostic evaluation in patients with confirmed hypertension
 - when to intervene
 - treatment goals
 - complementary lifestyle interventions to reduce absolute risk.
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C.15: Guidelines on the contemporary management of the patient with chronic heart failure in Australia

Bibliographic details

National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand Chronic Heart Failure Clinical Practice Guidelines Writing Panel 2001, *Guidelines on the Contemporary Management of the Patient with Chronic Heart Failure in Australia*, National Heart Foundation of Australia, Canberra. (65 pp.)

[This document is also reviewed in Part A: see entry A.17.]

Main subject areas

These guidelines cover the following subject areas:

- epidemiology and aetiology
 - pathophysiology—the ‘vicious cycle’ of ventricular dysfunction, neurohormonal activation, myocardial damage, and peripheral and renal vasoconstriction
 - diagnosis—symptoms, the New York Heart Association grading system, physical and functional evaluation, diagnostic tests
 - non-pharmacological management—regular physical activity, lifestyle modification, education and support, psychosocial factors, and so on
 - pharmacological therapies—for prevention of chronic heart failure and treatment of asymptomatic left ventricular dysfunction, for treatment of symptomatic systolic heart failure and symptomatic diastolic heart failure, for advanced systolic heart failure, and for associated disorders
 - ancillary therapies—pacing and surgery (other than revascularisation)
 - palliative support—symptom control and community palliative support
 - management pathways
 - support through education.
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C.16: NHF guidelines; lipid management

Bibliographic details

National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand 2001, 'Lipid management guidelines 2001', *Medical Journal of Australia*, vol. 175, pp. S57–S88.

Main subject areas

The rationale for these guidelines is the need to focus medical practitioners' attention on the 'treatment gap' between Australia and other countries in terms of use of effective lipid-modifying therapies, which are under-used in Australia.

These are updated guidelines; they differ from the previous National Heart Foundation guidelines in that there is increased emphasis on LDL-C as the major atherogenic component of plasma and HDL-C as the anti-atherogenic component.

- The summary contains recommendations relating to initial patient assessment, treatment initiation, lipid target levels, and cardiovascular risk factors in children.
 - Criteria are given for higher absolute risk of coronary heart disease to guide treatment decision making.
 - Recommendations on healthy eating are made, and advice on weight reduction, alcohol consumption and physical activity is given.
 - The pharmacological agents of choice are listed, along with their specific indications. Adherence to medication is emphasised.
 - All recommendations in the guidelines are given a level-of-evidence rating.
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Appendix 1:
Publications of the Australian Institute of Health
and Welfare

Appendix 1: Publications of the Australian Institute of Health and Welfare (AIHW)

Boyle, C & Dobson, A 1995, *Morbidity from Cardiovascular Disease in Australia*, cat. no. 344, Cardiovascular Disease Series no. 2, Australian Institute of Health and Welfare, Canberra.

A joint AIHW and University of Newcastle publication. Uses available data to present a picture of morbidity from cardiovascular disease at the time of publication. Also examines issues related to the presentation and interpretation of morbidity data.

Bennett, S, Dobson, AJ & Magnus, P 1995, *Outline of a National Monitoring System for Cardiovascular Disease*, Cardiovascular Disease Series no. 4, Australian Institute of Health and Welfare, Canberra.

Outlines a national integrated monitoring system for cardiovascular disease based on the framework described in the publication *Better Health Outcomes for Australians*.

Mathur, S & Gajanayake, I 1998, *Surveillance of Cardiovascular Mortality in Australia 1985–1996*, cat. no. CVD-3, Cardiovascular Disease Series no. 6, Australian Institute of Health and Welfare, Canberra.

Presents comprehensive national data on patterns and recent trends in death from cardiovascular disease. Includes statistics on the major components of cardiovascular disease mortality for each state and territory, and for Indigenous, non-Indigenous, urban, rural and remote populations.

Waters, AM, Armstrong, T & Senes, S 1998, *Medical Care of Cardiovascular Disease in Australia*, cat. no. CVD-4, Cardiovascular Disease Series no. 7, Australian Institute of Health and Welfare, Canberra.

Presents information on the prevalence of cardiovascular conditions in the community, their care in general practice and in hospital, the use of drugs to treat the conditions, the costs associated with cardiovascular health care, and the size of the specialised medical labour force involved with cardiovascular disease. Also describes the data sources relevant to monitoring medical care and assesses the uses and limitations of each collection.

Mathers, C & Penm, R 1999, *Health System Costs of Cardiovascular Diseases and Diabetes in Australia 1993–94*, cat. no. HWE-11, Health and Welfare Expenditure Series no. 5, Australian Institute of Health and Welfare, Canberra.

Examines the direct costs to the Australian community of cardiovascular diseases in 1993–94, including coronary heart disease, stroke and other vascular diseases, high blood pressure and high cholesterol, and diabetes.

Department of Health and Ageing & AIHW 1999, *NHPA Report on Cardiovascular Health 1998: a report on heart, stroke and vascular disease*, AIHW cat. no. PHE 9, Australian Institute of Health and Welfare, Canberra.

Updates the data provided and trends discussed in the *First Report on National Health Priority Areas*, overviews current activity in cardiovascular health, and proposes a framework for future collaborative action between all stakeholders. One of a series of biennial reports to Australian Health Ministers on each of the five National Health Priority

Areas. Part of a process that involves various levels of government and draws on advice from non-government sources, with the primary goal of reducing the incidence and impact of heart, stroke and vascular disease in Australia.

Department of Health and Ageing & AIHW 1999, *NHPA Report on Cardiovascular Health: a report on heart, stroke and vascular disease—summary*, AIHW cat. no. PHE 12, Australian Institute of Health and Welfare, Canberra.

Summarises the *NHPA Report on Cardiovascular Health 1998*, which updates the data and trends provided in the *First Report on National Health Priority Areas*, outlines the current status of cardiovascular health in Australia, and proposes a framework for future collaborative action between all stakeholders.

National Centre for Monitoring Cardiovascular Disease 2000, *Data Sources for Cardiovascular Health Indicators*, Australian Institute of Health and Welfare, Canberra.

Makes recommendations for redressing data gaps and deficiencies in the indicator set for cardiovascular health.

McElduff, P, Dobson, A, Jamrozik, K & Hobbs, M 2000, *The WHO MONICA Study, Australia 1984–93: a summary of the Newcastle and Perth MONICA projects*, cat. no. CVD-11, Cardiovascular Disease Series no. 13, Australian Institute of Health and Welfare, Canberra.

Provides a detailed statistical analysis of the information collected by the two Australian centres that participated in the World Health Organization's multinational study designed to look at trends in cardiovascular disease and its causes. Documents rates of and trends in coronary events; data on the use of medical treatment before, during and after hospitalisation, including information on drug treatments; and population levels of the major risk factors for cardiovascular disease.

AIHW 2001, *Heart, Stroke and Vascular Diseases: Australian facts, 2001*, AIHW cat. no. CVD-13, Cardiovascular Disease Series no. 14, Australian Institute of Health and Welfare, National Heart Foundation of Australia & National Stroke Foundation of Australia, Canberra.

The second report in a biennial series by the National Centre for Monitoring Cardiovascular Disease. Covers patterns of cardiovascular health and illness among Australians, the associated risk factors, treatment and management of cardiovascular disease, and health care costs.

Davies, J & Senes, S 2001, *Coronary Angioplasty in Australia 1998*, AIHW cat. no. CVD-14, Cardiovascular Disease Series no. 15, Australian Institute of Health and Welfare & National Heart Foundation of Australia, Canberra.

Provides details of percutaneous transluminal coronary angioplasty, as performed in Australia in 1998. The only national compilation of information on procedures performed in 1998 and based on data supplied directly by cardiology units. Provides information on patterns and trends in the use of the technique, its indications, complications and success rates, and monitors the uptake of stenting, atherectomy and laser angioplasty.

Davies, J & Senes, S 2001, *Cardiac Surgery in Australia 1998*, AIHW cat. no. CVD-15, Cardiovascular Disease Series no. 16, Australian Institute of Health and Welfare & National Heart Foundation of Australia, Canberra.

The only national compilation of information on cardiac surgery performed in 1998. Uses data supplied directly by cardiac surgery units and examines patterns and trends in the use of cardiac surgery procedures for acquired and congenital conditions and the mortality associated with the procedures.

Jamrozik, K, Dobson, A, Hobbs, M, McElduff, P, D'Este, K & Crome, M 2001, *Monitoring the Incidence of Cardiovascular Disease in Australia*, cat. no. CVD-16, Cardiovascular Disease Series no. 17, Australian Institute of Health and Welfare, Canberra.

Examines the feasibility of monitoring the incidence of selected cardiovascular diseases using existing national datasets. Recommends methods for estimating the national incidence of acute myocardial infarction, stroke, unstable angina pectoris, and congestive heart failure.

Senes, S & Britt, H 2001, *A General Practice View of Cardiovascular Disease and Diabetes in Australia*, cat. no. CVD-17, Cardiovascular Disease Series no. 18, Australian Institute of Health and Welfare, Canberra.

Provides a snapshot of general practice care of cardiovascular conditions, diabetes and some related risk behaviours. Based on the BEACH (Bettering the Evaluation and Care of Health) program, a study of general practice activity in Australia, for the period April 1998 – March 1999.

Davies, J & Senes, S 2002, *Coronary Angioplasty in Australia, 1999*, AIHW cat. no. CVD-19, Cardiovascular Disease Series no. 19, Australian Institute of Health and Welfare & National Heart Foundation of Australia, Canberra.

Provides details of percutaneous transluminal coronary angioplasty, as performed in Australia in 1999. The only national compilation of information on procedures performed in 1999 and based on data supplied directly by cardiology units. Provides information on patterns and trends in the use of the technique, its indications, complications and success rates, and monitors the uptake of stenting, atherectomy and laser angioplasty.

Abbreviations

ABS	Australian Bureau of Statistics
ACE	angiotensin-converting enzyme
AIDS	acquired immune deficiency syndrome
AIHW	Australian Institute of Health and Welfare
BEACH	Bettering the Evaluation and Care of Health
BMI	body mass index
CABG	coronary artery bypass grafting
CHD	coronary heart disease
CT	computerised tomography
CVD	cardiovascular disease
DHAC	(Commonwealth) Department of Health and Ageing
DRG	diagnosis related group
ECG	electrocardiogram; electrocardiograph
EPC	enhanced primary care
GP	general practitioner
HART	Heart Action in Rural Towns
HDL-C	high-density lipoprotein cholesterol
HIV	human immunodeficiency syndrome
ICD	International Classification of Diseases
IT	information technology
LDL-C	low-density lipoprotein cholesterol
MBS	Medical Benefits Schedule; Medical Benefits Scheme
mmHg	millimetre of mercury
mmol	millimol
MONICA	Multilateral Monitoring of Trends and Determinants in Cardiovascular Disease
NACCHO	National Aboriginal Community Controlled Health Organisation
NATSINSAP	National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan
NEMESIS	North East Melbourne Incidence Study
NHF	National Heart Foundation of Australia
NHMRC	National Health and Medical Research Council
NHPA	National Health Priority Areas
NIDDM	non-insulin dependent diabetes mellitus
PAR	population attributable risk
PTCA	percutaneous transluminal coronary angioplasty
RACGP	Royal Australian College of General Practitioners
SCOPES	stroke care outcomes—providing effective services
SERU	Support and Evaluation Resource Unit
SIGNAL	Strategic Inter-Governmental Nutrition Alliance
SIGPAH	Strategic Inter-Governmental Forum on Physical Activity and Health
TAFE	technical and further education
TIA	transient ischaemic attack
WHO	World Health Organization
