Commonwealth Department of

Health and Family Services

DEVELOPING AN ACTIVE AUSTRALIA:

A FRAMEWORK FOR ACTION FOR PHYSICAL ACTIVITY AND HEALTH

FOREWORD

I am pleased to endorse *Developing an Active Australia: a framework for action for physical activity and health*. It is a valuable resource for those working in health in Australia. The strategies recommended in this document aim to improve health and well-being by promoting increased levels of moderate-intensity physical activity in the Australian population.

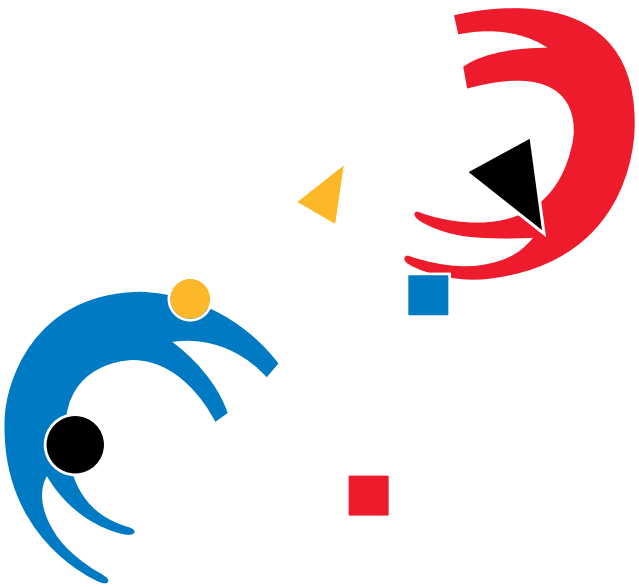
In 1996 the Australian Sports Commission invited my Department to work with it to develop an initiative to encourage people to be more physically active. This initiative, Active Australia, is a unique venture between sport and recreation, health, local government and education. Active Australia focuses on the health benefits of an active lifestyle, and on the quality, range and variety of activities and services provided at the local level.

Developing an Active Australia: a framework for action for physical activity and health is a health sector response to Active Australia. Some States and Territories are already developing a strong focus on physical activity as a valuable and cost-effective health intervention: this document will support their efforts.

Physical inactivity is now recognised as an important population health risk factor. Its role as a risk factor is as least as significant as hypertension or high cholesterol in contributing to cardiovascular disease, one of Australia's major killers. In fact, physical activity can play a part as a preventive factor in all of the current National Health Priority Areas – cardiovascular disease, cancer control, mental health, diabetes mellitus, and, particularly in older Australians, injury.

Developing an Active Australia is built on the fundamental principle that health is everybody's business. I urge all policy makers, experts in the field and those working in the area of physical activity, to work towards achieving the recommendations in this document.

Dr Michael Wooldridge
Minister for Health and Family Services



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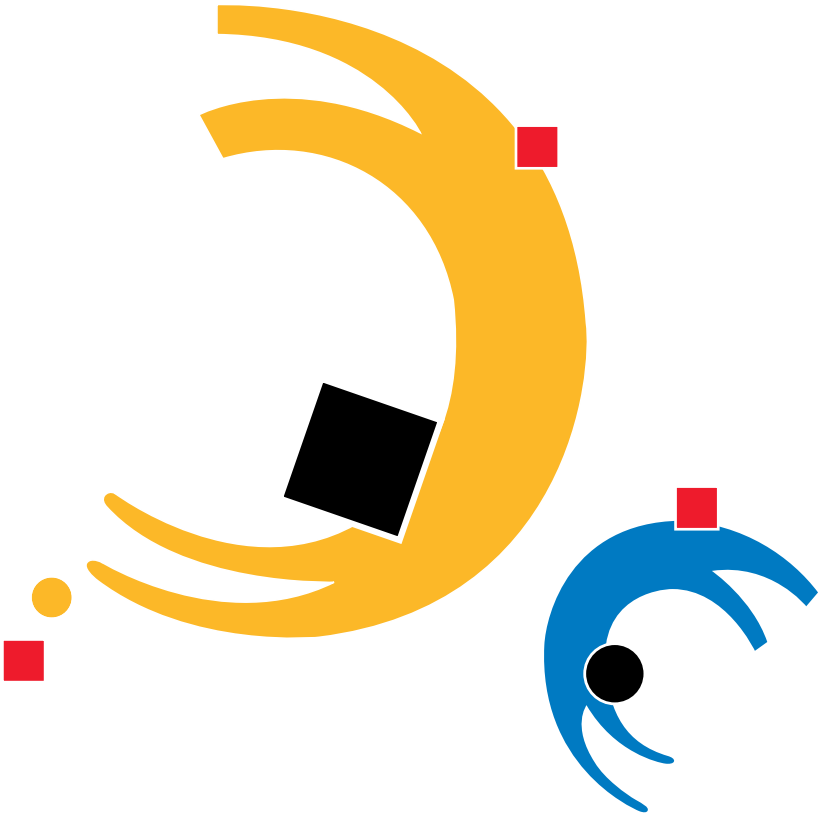

This document was coordinated by the Public Health Division of the Department of Health and Family Services with assistance from State and Territory health authorities, key academics and non-government organisations. Any enquiries regarding this report should be directed to the Public Health Division, Department of Health and Family Services, GPO Box 9848, Canberra, ACT 2601.

Developing an Active Australia: a framework for action for physical activity and health.

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ACKNOWLEDGEMENTS

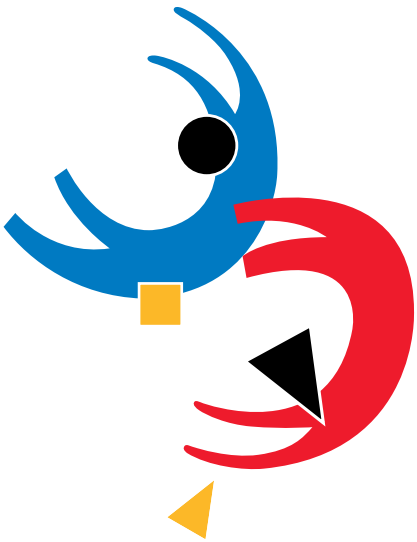
The development of this document is a testament to the cooperation, collaboration and good will of a lot of people. It was written in the conviction that to increase the level of physical activity in the population WILL make a difference to the health of Australians.

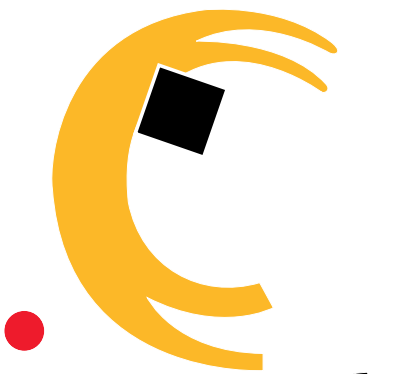
The preparation of *Developing an Active Australia: a framework for action for physical activity and health* has been a nationally collaborative venture.

A National Symposium on Physical Activity and Health in February 1997 and a Workshop in October that year helped to produce many of the strategies in the document and give it direction. Assistance with the production of this document was provided by representatives from State and Territory health authorities and many experts in the field of physical activity and health. The Department of Health and Family Services takes this opportunity to recognise and thank those people for their input and assistance.

At a seminar in Canberra on Physical Activity and Health on 4 September 1997, Professor Stephen Leeder, President, Public Health Association of Australia, spoke of the importance of focusing on more equitable outcomes in health. This document reflects that priority.

Particular thanks are due to Professor Adrian Bauman and Professor Neville Owen; Professor Bauman for providing the section on the epidemiological evidence and both for their critical input and editorial advice. They gave their time most generously.





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INTRODUCTION

THE ACTIVE AUSTRALIA INITIATIVE

On 11 December 1996, the Hon Dr Michael Wooldridge, Federal Minister for Health and Family Services and the Hon Warwick Smith, the then Federal Minister for Sport, Territories and Local Government, jointly launched the Active Australia concept.

Active Australia recognises the need to develop evidence-based population-wide strategies and public policies to promote higher levels of involvement in regular physical activity. It is unique in providing an opportunity to focus nationally on physical activity, acknowledging its place in the delivery of public health initiatives.

Active Australia provides the vehicle for collaborative action to increase levels of physical activity in Australia.

The Active Australia vision is to actively involve all Australians in sport, community recreation, fitness, outdoor recreation and other physical activities. It aims to:

- increase and enhance lifelong participation;
- realise the social, health and economic benefits of participation; and
- develop quality infrastructure, opportunities and services to support participation.

DEVELOPING AN ACTIVE AUSTRALIA – A HEALTH SECTOR PERSPECTIVE

This document is a health sector response to the Active Australia concept. It is the result of a rigorous collaboration process including input and advice from all State and Territory health jurisdictions and many of Australia's leading academics in this field.

Physical activity can play a part as a preventive factor in all of the current National Health Priority Areas (NHPAs) – cardiovascular disease, cancer, mental health, diabetes mellitus and, particularly in older people, injury. As little as 30 minutes of accumulated moderate-intensity physical activity on most, preferably all, days of the week can provide a health benefit.[1, 2]

The NHPA initiative aims, through collaborative action across all levels of government, to highlight effective strategies to maintain and improve the health status of the Australian population. It recognises that specific strategies for reducing the burden of illness should be holistic, encompassing the continuum of care from health promotion and illness prevention, through to treatment and management, underpinned by evidence-based research.[3]

Australia has many links with other industrialised countries working in the area of physical activity, particularly Britain, Canada and the United States of America. We have shared ideas and concepts for positive physical activity-related programs, campaigns and ways to measure and monitor physical activity levels. The World Health Organisation, through its global initiative, the Active Living National Policy Group, strongly supports the development of strategies promoting active living.

Australia has a unique opportunity to capitalise on international, national and state-level developments in the area of physical activity. The timing is right for a range of agencies to work together in a cooperative and collaborative way to enhance participation in physical activity in Australia. Such opportunities include:

- Building on the Sydney 2000 Olympic and Paralympic Games to generate enthusiasm for community participation in sport and physical activity at all levels and act as a catalyst to upgrade transport, recreational and other facilities for people with special needs such as those with disabilities, older people and people on low incomes;
- Capitalising on the shared vision for Public Health articulated through the National Public Health Partnership and the new arrangements in public health;
- Fostering cross-program links between physical activity and other relevant prevention policies and strategies such as the food and nutrition policy and the tobacco control strategy; and
- Actively pursuing opportunities to collaborate and develop partnerships across sectors other than health.

RATIONALE FOR DEVELOPING AN ACTIVE AUSTRALIA

THE SIGNIFICANCE OF PHYSICAL ACTIVITY FOR THE HEALTH OF AUSTRALIANS

Over the past 30 years, strong, consistent epidemiological evidence has emerged which defines a range of health and social benefits for participation in regular moderate-intensity* physical activity for all adults. The strongest benefits are for the primary prevention of coronary heart disease and in the reduction of other cardiovascular risk factors, the prevention of non-insulin dependent diabetes and some cancers.

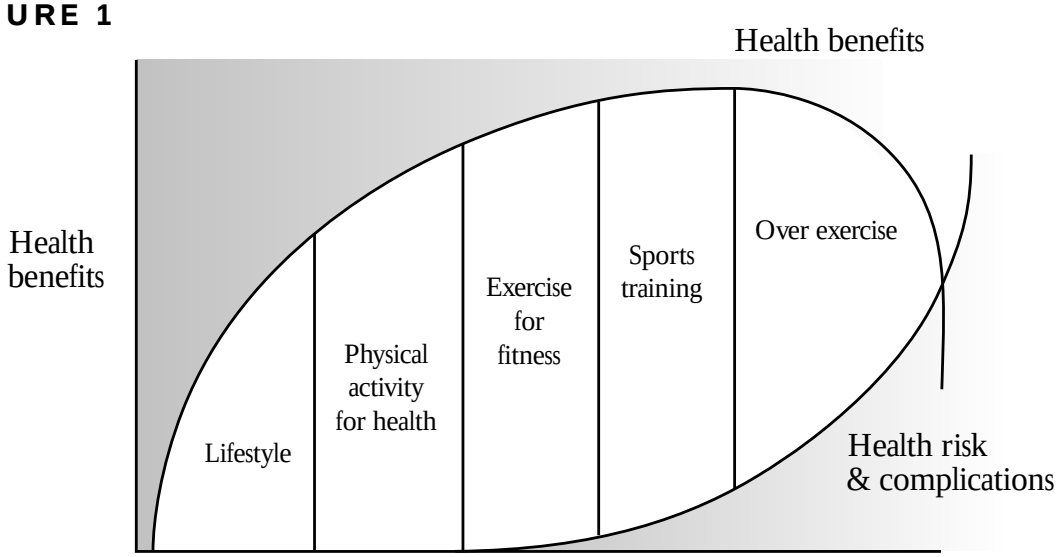
The health benefits of physical activity have achieved prominence in Australia and internationally, following the publication and dissemination of the 1996 *US Surgeon General's Report: Physical Activity and Health*.[1]

One determinant of ill health is the increasingly sedentary behaviour of Australians. Over the last few decades the amount of physical activity in our day-to-day lives has decreased significantly.

Big health gains could be made by encouraging small increases in physical activity levels among the least active in the population. An indication of this can be seen from an adaptation of Haskell's (1994)[20] analysis shown in figure 1.

Changes in the environment and technology have encouraged us to lead a more sedentary lifestyle. The trend to 'make life easier', but more inactive

FIGURE 1



Intensity	40	50	60	70	80	85	%HR Max
Frequency	1	2 3	4	5	6	7	#/Wk
Duration	1-10	20	30	40+		120+	Minutes

is robbing us of the health benefits of regular physical activity. Indeed, many of our modern leisure activities and transport habits could be packaged with the label 'physical inactivity is a health hazard'.

A more detailed review of current evidence linking physical activity and health is provided in the last section of this report.

Inequalities in health status are increasing.[4] A focus on achieving more equitable outcomes in health must be maintained by addressing some of the underlying determinants of ill health – the environment in which we live, socioeconomic status and access to health knowledge and skills.

The strategies outlined in this document promote action which takes these factors into account. It is essential to integrate the implementation of these strategies with other initiatives such as *Acting on Australia's weight: a strategic plan for the prevention of overweight and obesity,*[5] *National Public Health Nutrition Strategy, National Strategy for an Ageing Australia* and the draft *National Healthy Ageing Strategy* to ensure a response that is both coordinated and cohesive. The National Public Health Partnership provides the structure and mechanisms to do this.

** for the purposes of this document the following definition of moderate-intensity physical activity has been adopted.*

Moderate-intensity physical activity will cause a slight, but noticeable, increase in breathing and heart rate and may cause light sweating. The best example is brisk walking, during which most people will be able to talk, but not sing. Other examples include mowing the lawn, digging the garden or medium-paced swimming or cycling. To provide health benefits, moderate-intensity activities should be done for at least 10 minutes without stopping and about 30 minutes of moderate activity should be put together on most days of the week.

DEVELOPING AN ACTIVE AUSTRALIA

A Framework for Action for Physical Activity and Health

AIM

The strategies outlined in this document aim to improve the health and well-being of all Australians by promoting increased levels of moderate-intensity physical activity.

PRINCIPLES

The main principles underpinning this report are:

- all Australians need to be physically active;
- increasing physical activity in the Australian population is an important and cost-effective health intervention;
- participation in incidental and structured physical activity is dependent on environmental, economic, social and cultural factors;
- relevant information, education and research activities are important for increased participation in physical activity;
- maximum impact for health gain is made by linking relevant programs and strategies;
- national and international collaborations are essential for a sustained and systematic approach to health promotion and disease prevention; and
- an intersectoral approach is essential to the development of supportive environments within the community – the importance of the contribution of sectors other than health cannot be overstated.

PRIORITY GROUPS

This report aims to improve the health and well-being of all Australians. Analysis of current data clearly indicates that involvement in physical activity, and the subsequent health benefits, is strongly associated with a number of socio-demographic factors. These include in particular, occupational status, marital status, gender, cultural background, geographic location and level of education.

Continuing inequalities in the health of Australians remain a source of major concern.[6] People from low socio-economic groups are less likely to be active, as are older people and people with disabilities. It is recognised that the quality of life for people with disabilities can be significantly enhanced through participation in physical activities. However, people with disabilities face a number of barriers to their full participation in these activities which are not encountered by other members of the community. The opportunity to participate in physical activity, and the accessibility of appropriate infrastructure to support this, is critically important for these groups.

Physical activity is very important in childhood and the teen years because these times play such a critical role in establishing the foundations, skills and attitudes needed for good health throughout life.

Traditionally, physical activity has been an integral part of the lifestyles of indigenous peoples. However, evidence shows that indigenous Australians have substantially worse morbidity and mortality rates than non-indigenous Australians.[7] Improvements in many of the serious health problems faced by indigenous peoples, such as coronary heart disease, obesity and non-insulin dependent diabetes mellitus, can be achieved by increases in physical activity.

A major challenge then is to recognise the significant health differentials within the community and, at implementation stage, address these by focusing on appropriately targeted interventions.

IMPLEMENTATION PLAN

Developing an Active Australia: a framework for action for physical activity and health will be forwarded to the National Strategy Coordination Working Group of the National Public Health Partnership for recommendation regarding endorsement.

The Health Ministers from all jurisdictions agreed to a National Public Health Partnership for Australia in 1996. The Partnership establishes for the first time in Australia a shared vision of a modern, comprehensive national public health effort, with a major focus on health promotion and chronic disease prevention. It clarifies the respective responsibilities and roles of the principal partners (the Commonwealth, States and Territories). As such, the Partnership provides the most appropriate, collaborative health structure through which to pursue national endorsement and coordinated implementation.

EVALUATION

An interim evaluation of Active Australia health-related initiatives is planned for the year 2000. Baseline measures for levels of physical activity in the population are in place, so that national levels of activity can be assessed.

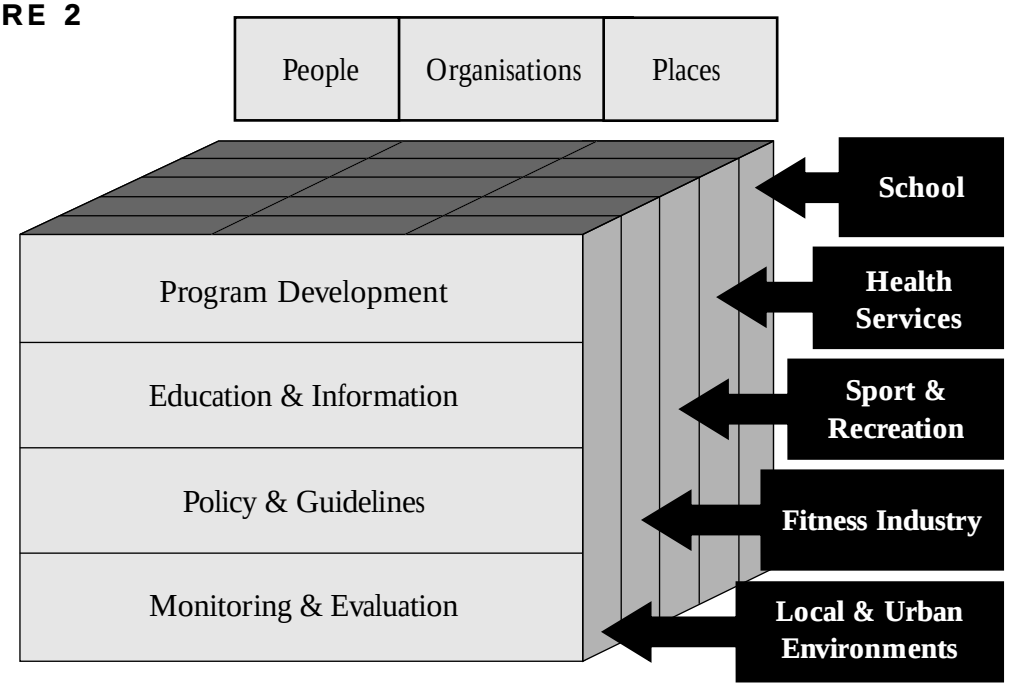
OPPORTUNITIES FOR STRATEGIC DEVELOPMENT AND INTERSECTORAL LINKAGES

Much of the physical activity in people's daily lives is not a result of planned exercise programs or training for sporting events but occurs incidentally in the course of occupational, domestic and leisure time activities. Supportive environments are instrumental in encouraging people to be more active in their daily routine.

Promoting incidental activity involves partnerships between health organisations, community members and those experts who plan, design and engineer the physical environment of towns, buildings, work sites, schools, shopping centres, parks and gardens.

Helping people to change established lifestyle habits like physical inactivity requires a range of complementary strategies, with different contributions from many areas within and outside the health sector. Figure 2 gives an indication of the possible layers involved in the development of strategies to increase levels of activity in the population.

FIGURE 2



There are important synergies between physical activity and other areas of public health. The particularly close relationship between physical activity and nutrition in the prevention of overweight and obesity has been illustrated in *Acting on Australia's weight: a strategic plan for the prevention of overweight and obesity.*[5] The plan is a population-based approach that focuses on changing the macro environment to make it easier for people to undertake physical activity and make healthier food choices, thereby assisting in the prevention of overweight and obesity.

Developing an Active Australia recognises and supports the concept that physical activity is not a stand-alone issue.

It encompasses a series of interlinking health-related issues and key concerns between governments, the private sector, NGOs, industry and communities. It requires coordination and collaboration across sectors. Areas of particular relevance to physical activity are environment, transport, education and industrial relations.

Consequently, *Developing an Active Australia* is built on the fundamental principle that health is everybody's business.

KEY STRATEGIES

1. EDUCATION

■ Increase people's awareness and understanding of the benefits of daily or regular participation in moderate-intensity physical activity.

Actions to advance this strategy:

- Implement a 3-5 year Active Australia education campaign targeting health and allied health professionals and the general public in all States and Territories. The campaign will promote regular moderate-intensity exercise, with rigorous evaluation and careful review at each phase of implementation.
- Develop, with appropriate partners, a component for the Active Australia public education campaign which is relevant to, and focuses on, indigenous Australians and other high risk groups.

2. ENVIRONMENTS

■ Create opportunities for increasing both structured and incidental physical activity through appropriate planning of the physical environment.*

Actions to advance this strategy:

- Encourage the inclusion of regular moderate-intensity physical activity in occupational health and safety policies and workplace health policies.*
- Incorporate daily physical activity into school programs and encourage opportunities for physical activity on tertiary and further education campuses.*
- Work with appropriate partners to create opportunities and settings for physical activity in residential (including institutional) environments.
- Consult with peak disability consumer bodies to provide an Australia-wide information service to enhance participation by people with disabilities.
- Encourage opportunities for children to be physically active out of school hours by supporting the development and maintenance of safe school routes and parks.

3. INFRASTRUCTURE

■ Establish operational links to recognise the roles and responsibilities of relevant sectors, such as transport and environment, in the implementation of a national physical activity strategy.

Actions to advance this strategy:

- Create links with other relevant initiatives, programs and national strategies, such as the Clean Air policy and the Smogbusters initiative, to add value through a health input.
- Work with local government to create local environments which facilitate accessible physical activity choices and opportunities, especially incidental activity.

■ Maximise the efficiency and outcomes of physical activity initiatives, by ensuring a coordinated effort by all relevant sectors.

Action to advance this strategy:

- When developed, promote and implement the National Physical Activity Guidelines.*

- Develop and support the knowledge and practices of health professionals and other relevant people, particularly those who work with the target groups.*

  Actions to advance this strategy:

  - Pilot variations of physical activity minimal intervention trials by health professionals including in the general practice setting.
  - Work collaboratively with the Royal Australian College of General Practitioners and the Divisions of General Practice, to develop and support local coordination and dissemination of 'best practice' for physical activity interventions and resources at both the practice (GP consultation) and population level.

- Where appropriate, develop complementary strategies that address specific types of physical activity.

  Action to advance this strategy:

  - Work collaboratively with appropriate organisations to develop complementary strategies such as a National Walking Network and a National Bicycle Strategy.

4. MONITORING

- Monitor physical activity patterns through regular population surveys which employ standardised methods of measuring and describing physical activity.*

  Action to advance this strategy:

  - Develop nationally agreed uniform standards, methods, procedures and definitions for the measurement of frequency, intensity and duration of physical activity.

- Monitor environmental and policy approaches relating to physical activity.

  Actions to advance this strategy:

  - Develop objective measures of environments and their characteristics that can be used in further research.
  - Develop objective measures of physical activity policies and policy changes.
  - Conduct descriptive research to identify the settings in which people are more likely to be physically active and to identify the characteristics of settings that are associated with participation.
  - Liaise with all appropriate policy bodies, including the National Health Priority Committee and the National Public Health Partnership, to ensure that linkages are in place to share information on relevant activities and to avoid any duplication of activity.

- Monitor infrastructure relating to physical activity

  Action to advance this strategy:

  - Conduct surveys using standardised methods of measuring and describing the knowledge and practices of health professionals and others who work with target groups

- Coordinate data systems to monitor the implementation of agreed strategies in *Developing an Active Australia*.

  Action to advance this strategy:

  - Develop a coordinated system of monitoring and reporting on the implementation of Active Australia, across health, sport and other sectors, publishing a national compendium of intersectoral indicators and data sources.

* *Indicates strategies and actions which are from, or linked to, similar recommendations from Acting on Australia's weight: a strategic plan for the prevention of overweight and obesity.*

THE EVIDENCE – HEALTH BENEFITS OF PHYSICAL ACTIVITY

AN UPDATE OF THE EPIDEMIOLOGICAL EVIDENCE

Despite over a decade of clear recognition of the risks of physical inactivity,[8] the promotion of physical activity has lagged behind recognition of other risk factors in Australian public health.

It is estimated that at least a third of the adult Australian population are so inactive that they gain no health benefit. Some experts even put this figure as high as 50 per cent.[9] The population risks related to inactivity are substantial. For example, the population risk to health posed by physical inactivity may be as important in the primary prevention of coronary heart disease as high cholesterol or high blood pressure.[10, 11, 12]

The health benefits of physical activity have achieved recent prominence in Australia and internationally, following the publication and dissemination of the *US Surgeon General's Report: Physical Activity and Health*,[1] and at the state level in Australia, by the dissemination of *Physical Activity and Health; a special communication from the Chief Health Officer (1996)*.[13] Recent reports strongly emphasise the preventive health benefits gained by the accumulation of 30 minutes of moderate-intensity physical activity on most or all days of the week.[2, 11]

Physical activity has a range of other important health and social benefits beyond preventing heart disease. Studies in the United States analysing the effects of lifestyle changes in middle-aged and older men, showed that beginning moderately vigorous physical activity improved life expectancy[12] as well as reducing coronary heart disease, even when other risk factors (eg, smoking, high blood pressure and being overweight) are present.[14]

It is important to maintain levels of activity throughout life to stay healthy. Epidemiological evidence suggests that people who were fit in early adult life do not retain lower risk profiles if they become sedentary in later years. For those who have been inactive in their youth, it is never too late to become physically active to gain a significant health benefit.

DEATHS FROM ALL CAUSES

Studies among diverse populations, such as US college alumni, British civil servants, US Seventh Day Adventist men, Alameda County (California) residents, US railroad workers, Finnish populations and men in the British Regional Heart Study, have suggested that physical activity extends life, mainly by protecting against cardiovascular disease.[12,15]

The studies also demonstrated that the least fit men had a twofold increase in the risk of mortality from all causes than the most fit men. Recent evidence also suggests decreased mortality from all causes among active postmenopausal women.[16]

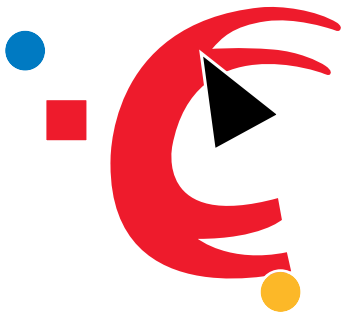
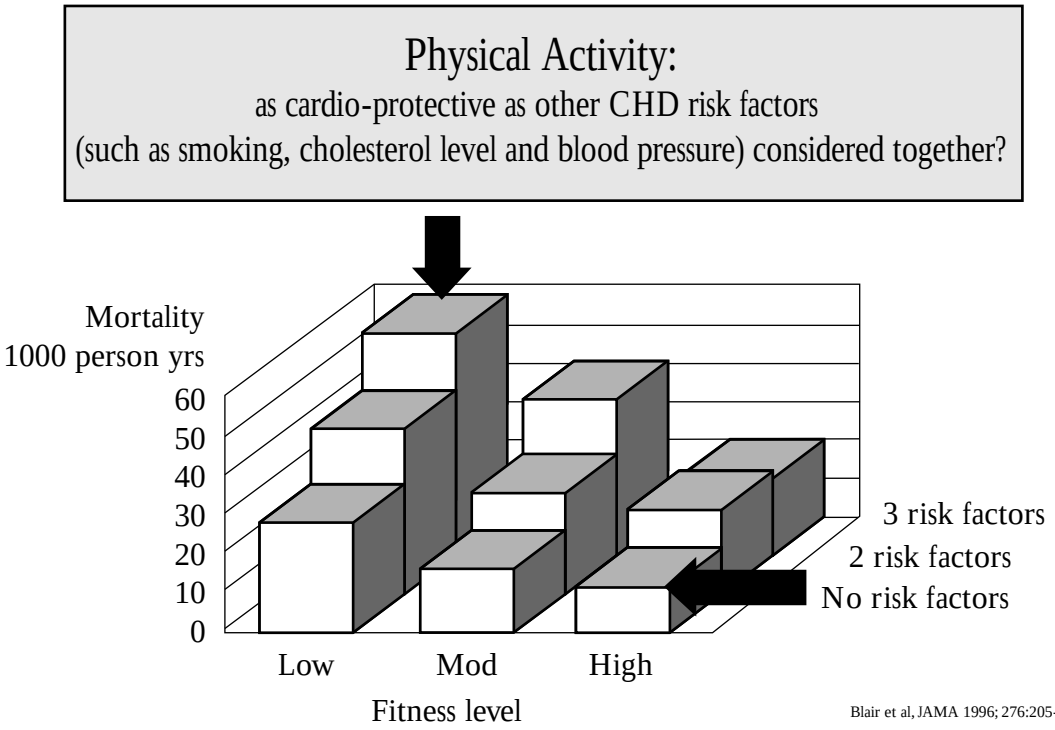


FIGURE 3



CORONARY HEART DISEASE BENEFITS

The best evidence for the health benefits of physical activity is in the prevention of coronary heart disease (CHD). Studies have repeatedly shown that those who are sedentary have a 20% to 100% higher risk of non-fatal or fatal cardiovascular events, compared to those who are at least moderately physically active.[1, 17, 18]

Consistently across studies, the maximum CHD preventive benefit is associated with moving from sedentary or low fitness levels to moderate activity or moderate fitness levels.[12, 19] There is evidence of a dose-response relationship, with more sustained activity conferring a greater reduction in the risk of fatal and non-fatal coronary events.

There are reasonable and acceptable scientific explanations for this observation,[2, 20] including one study which showed that heart disease causing damage to the coronary arteries could possibly be reversed by a regular exercise program.[21]

In a recent Swedish study,[22] physical activity was associated with reduced clotting of the blood in the arteries, which may be another scientific explanation of why it reduces the risk of heart attacks and coronary heart disease.

The protective role of physical activity in coronary heart disease is independent of whether people have high blood pressure or high cholesterol levels. In other words, even if people have a raised cholesterol level or are overweight, physical activity confers an independent health benefit.[8, 14, 17]

If every Australian adult became moderately physically active, more than 9000 premature deaths could be prevented. However, if more modest targets of 3-5 per cent increases in the prevalence of physical activity participation were achieved, then, extrapolating NSW figures,[23] about 900-1000 Australian premature deaths per year might be prevented.

In addition to the independent effects of physical activity on CHD outcomes, there is substantial evidence of associations between physical activity and risk factors for cardiovascular disease.[24, 25] These include cross-sectional and longitudinal associations with blood pressure, body mass index and high density lipoprotein to total cholesterol ratio.[26]
In line with the recent National Health and Medical Research Council report *Acting on Australia's weight: a strategic plan for the prevention of overweight and obesity*,[5] physical activity has a role in weight maintenance, although more sustained and vigorous activity may be needed to achieve long term weight loss among the overweight and obese.[27]

THE PREVENTION OF CEREBROVASCULAR DISEASE (STROKE)

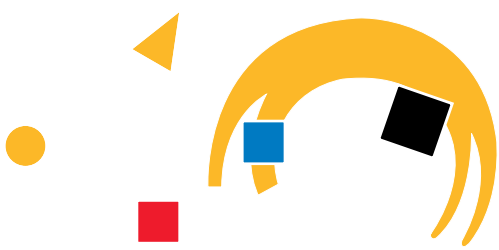
The relationship between physical activity and stroke is not clear for two reasons. First, there are two types of stroke, with somewhat different mechanisms and risk factors, namely haemorrhagic and occlusive (atherosclerotic) stroke. Second, only a few studies have examined this area, but encouraging results are appearing, with an inverse association between physical activity and risk of stroke.[28,29] The mechanism may be protection against blood clot formation and hence in reducing thrombosis. The risk of thrombosis is 33 – 67 percent lower for those who are moderately active compared to those who are sedentary.

Since hypertension is one of the major risk factors for stroke, and regular physical activity has been shown to reduce blood pressure in those with hypertension, physical activity could be used as an effective alternative protective mechanism.[30]

CANCER PREVENTION

Many studies have now shown a relationship between physical activity and cancer mortality, particularly from colon cancer. Recent studies have shown this protective benefit to extend to precancerous polyps in the large bowel.[31, 32, 33]
The relevant biological mechanisms include effects of physical activity on prostaglandins and antioxidants, reduced intestinal transit time, and a contribution to overall energy balance.[33]

Studies of physical inactivity and increased incidence of other cancers are finding less clear results.
A recent large study in Norway showed a 30 per cent decrease in risk of breast cancer among the more active, particularly among women aged less than 45 years.[34] Another Norwegian study showed a decreased risk of lung cancer, especially among men, independent of smoking and nutritional status,[35] but no obvious biological mechanism for this effect could be identified. Similarly, increased and decreased risks of prostate cancer have also been demonstrated.
Reviewers have recommended conducting larger, better designed studies to further ascertain the cancer prevention potential of physical activity.



MENTAL HEALTH

The mental health benefits of physical activity are derived from population-based cross-sectional surveys showing associations, as well as on clinical trials where physical activity has been used as a therapy for non-psychotic forms of mental illness. Physical activity has been associated with better indices of mental health in a number of large population studies,[36, 37] as well as being a recognised and evidence-based treatment for clinical anxiety[38] and depression.[39] Those who are less active or less fit are known to be more anxious and/or depressed.[40] A recent study showed that mental stress may be associated with myocardial ischaemia, and hence play a role in CHD events.[41] Finally, a West Australian Child Health Survey found a cross-sectional association between mental health and physical activity in children and adolescents.[42]

DIABETES MELLITUS

The high and increasing incidence of Non Insulin Dependent Diabetes Mellitus (NIDDM) in Australia is a cause for concern, particularly among older people, some migrant populations, and indigenous communities. There is now strong and consistent evidence that physical activity is associated with a reduced incidence of NIDDM.[43, 44, 45] Between a third and a half of new cases of diabetes might be prevented by physical activity.[46] Physical activity may also prevent or delay the onset of complications of both Insulin Dependent Diabetes and NIDDM. A large recent cross-sectional study showed that quality of life and mental health were highest among diabetics who were physically active, after adjustment for other relevant factors.[47]

Physical activity is important for the whole population as a primary prevention strategy for NIDDM. It is particularly important for individuals in high risk groups, such as those who are overweight or have a family history of diabetes.[48] Exercise may improve glucose metabolism, increase insulin sensitivity, and also prevent the increase in atherosclerotic disease among those who have diabetes.[49]

INJURY PREVENTION

Among older adults, the risks of injury, particularly through falls and consequent fractures, are a substantial burden on individuals and the health system. Participation in physical activity in this group can help maintain mobility and independence and decrease the risk of physical impairment.[50]

The development of osteoporosis and subsequent bone fracture has been shown to be associated with physical inactivity.[51] Weight bearing activity in youth has been shown to be important for the development of peak bone mass.[52] Bone strength can also be improved in middle age by moderate weight bearing exercise. This has been shown to have a beneficial effect on bone mineral density in women at or around the time of menopause.[53]

The American College of Sports Medicine recently published a position statement on osteoporosis.[54] The statement concluded that functional loading through physical activity exerts a positive influence on bone mass, but that the type of programs that may be most effective in producing beneficial results are still uncertain. Results vary according to age, hormonal status, nutrition and type and duration of exercise.

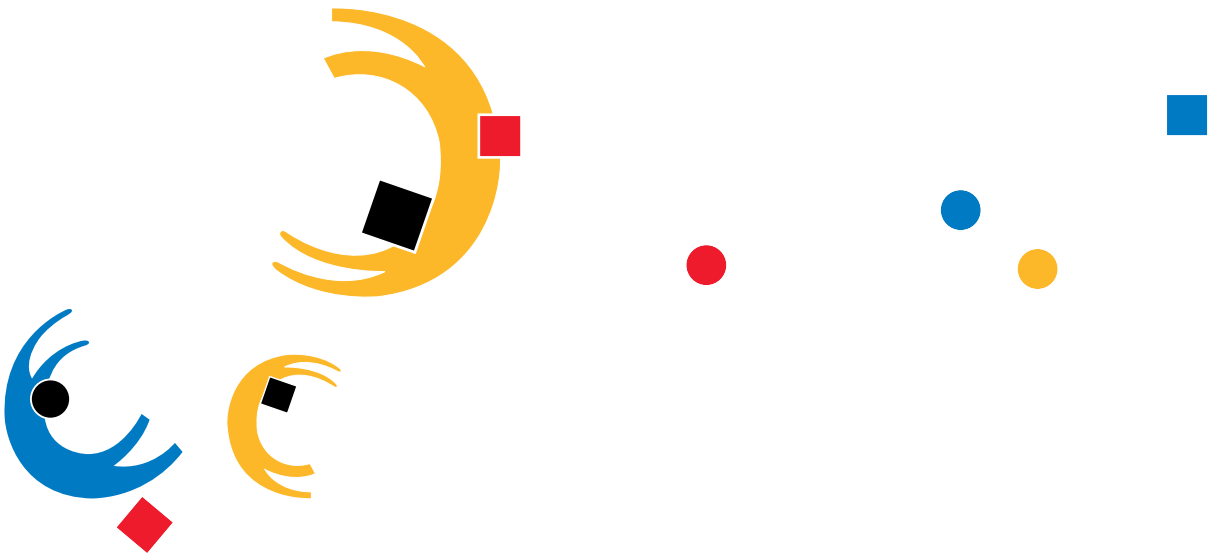
For older people, research has demonstrated that physical activity can help maintain independence and reduce the risk of falling.[55, 56] Regular physical activity can favourably impact on important physical factors predisposing to falls: balance, muscle strength and osteoporosis.[57, 58]

Turning Compelling Data into Effective Policy and Programs

Demonstrably, an increase in the number of Australians who incorporate moderate amounts of physical activity into their daily lives would result in a healthier Australia. The amount of physical activity which is needed to have a significant preventive benefit for coronary heart disease is now thought to be quite modest.

The evidence for more moderate, but regular, activity is now compelling,[1] and strategies to encourage this across the whole Australian population are needed. This should include focusing on appropriately targeted interventions that promote the health benefits of physical activity for people with disabilities. There needs to be increasing recognition that physical inactivity is a key risk factor[10] for ill health and premature death and should be given appropriate recognition as such in terms of policies and programs.

The strategies recommended here will form an integrated approach to the systematic promotion of physical activity. They link current Commonwealth and State and Territory initiatives and can provide further direction, coordination and impetus in developing a healthy and Active Australia.



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