Chapter 2

Health Benefits of Participation in Sport

2.1 This chapter reviews the health and associated benefits of participation in sport and recreation activities, with a particular emphasis on the benefits accruing to women. The chapter discusses the health care costs of physical inactivity. There is also a discussion of the advantages participation provides in terms of promoting social cohesion in the community.

2.2 One submission, reflecting much of the evidence received during the inquiry, commented that:

> The individual, community and societal benefits of regular participation in sport and physical activity are well documented, as are the risks and costs of physical inactivity. Physical inactivity is considered to be the leading risk factor contributing to preventable illness and morbidity among women in Australia.[1]

2.3 Participation in physical activity contributes to the overall physical and psychological health of individuals of all ages and social groups.[2] Studies – both in Australia and overseas – have found that physical activity reduces the risk of cardiovascular disease, which is the leading cause of death in Australia. Physical activity has also been linked to a reduction in the incidence of other diseases such as diabetes, osteoporosis, depression, some forms of cancer, and injury among older people.

2.4 Submissions to the inquiry emphasised the health benefits for women of participation in sport and recreation. The National Heart Foundation stated that physical inactivity is a significant risk factor for cardiovascular disease and is the leading cause of burden of disease for Australian women. Less than half of all adult women are active enough to gain a health benefit.[3]

2.5 VicHealth stated that:

> Physical inactivity is responsible for about 7% of the total burden of disease in Australia and rates second only to tobacco smoking.
>
> The physical benefits of participating in sport and recreation have been well documented and include decreasing the risk of cardiovascular disease, particularly coronary heart disease, lowering blood pressure, decreasing the chance of developing Type 2 diabetes, raising levels of good cholesterol

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1 NSW Sport and Recreation, *Submission 53*, p. 1.

2 National Heart Foundation, *Submission 45*, pp 1–2; VicHealth, *Submission 54*, pp 5–6; Sports Medicine Australia, *Submission 19*, pp 1–2.

3 National Heart Foundation, *Submission 45*, p. 1.

> (HDL) and being protective against some forms of cancer. Weight bearing exercises such as walking, running and weight training can also strengthen the musculoskeletal system, which can decrease the likelihood of developing osteoporosis and osteoarthritis and, in the elderly especially, lessen the risk of having a fall. There are also many mental health and wellbeing benefits from physical activity which are less formally documented and recognised.[4]

2.6 A review of recent epidemiological evidence published between 2000 to 2003 on the benefits to health of physical activity concluded that:

> Recent papers have reinforced our understanding of the cardiovascular protective effects of moderate physical activity (PA)…The evidence base for protective effects of activity for women, older adults and for special populations has strengthened. Cancer prevention studies have proliferated during this period but the best evidence remains for colon cancer prevention, with better evidence accumulating for breast cancer prevention, and uncertainty or mixed evidence for the primary prevention of other cancers. Important new controlled evidence has accumulated in the area of type 2 diabetes…Limited new evidence has accumulated for the role of PA in promoting mental health and preventing falls.[5]

2.7 A major study by the US Surgeon General made similar links between physical activity and health concluding that both men and women could substantially improve their health and quality of life by including moderate amounts of physical activity in their daily lives.[6] The study analysed the effects of physical activity on health and disease and found that:

- Higher levels of regular physical activity are associated with lower mortality rates for both older and younger adults.
- Regular physical activity or cardiorespiratory fitness decreases the risk of cardiovascular disease in general and of coronary heart disease mortality in particular.
- Regular physical activity prevents or delays the development of high blood pressure, and exercise reduces blood pressure in people with hypertension.
- Regular physical activity is associated with a decreased risk of certain cancers.
- Regular physical activity lowers the risk of developing non-insulin-dependent diabetes mellitus.

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4 VicHealth, *Submission 54*, p. 5. See also Dr Fullagar, *Submission 2*, pp 1–14.

5 AE Bauman, ' Updating the evidence that physical activity is good for health: an epidemiological review 2000-2003', *Journal of Science and Medicine in Sport*, 7(1), 2005; 6–19. See also Green Prescription, *Physical Activity and Health: the benefits of physical activity on minimising the risk of disease morbidity and mortality*, August 2001.

6 US Surgeon General, *Physical Activity and Health*, 1996.

- Regular physical activity is necessary for maintaining normal muscle strength and joint function. In the range recommended for health, physical activity is not associated with joint damage or development of osteoarthritis and may be beneficial for many people with arthritis.
- Weight-bearing physical activity is essential for normal skeletal development during childhood and adolescence and for achieving and maintaining bone mass in young adults.
- It is unclear whether resistance or endurance-type physical activity can reduce the accelerated rate of bone loss in postmenopausal women in the absence of oestrogen replacement therapy.
- Evidence suggests that strength training and other forms of exercise in older adults preserves the ability to maintain independent living status and reduces the risk of falling.
- Low levels of physical activity contribute to a higher prevalence of obesity. Physical activity may favourably affect body fat distribution.
- Physical activity appears to relieve symptoms of depression and anxiety and improve mood. Regular physical activity may reduce the risk of developing depression, although further research is required on this issue.
- Physical activity appears to improve health-related quality of life by enhancing psychological well-being and by improving physical functioning in persons compromised by poor health.

2.8 The study found that physical activity may, however, have adverse effects. The most common health problems that have been associated with physical activity are musculoskeletal injuries, which can occur with excessive amounts of activity or with suddenly beginning an activity for which the body is not conditioned. Serious cardiovascular events can occur with physical exertion, but the net effect of regular physical activity is a lower risk of mortality from cardiovascular disease.

2.9 The study found that for women in particular physical activity need not be strenuous to achieve health benefits; women of all ages benefit from a moderate amount of physical activity, preferably daily; and additional health benefits can be obtained through greater amounts of physical activity. Women who can maintain a regular routine of physical activity that is of longer duration or of greater intensity are likely to derive greater benefit.

Health care costs

2.10 While participation in sport and recreation has particular health benefits for the individual, public investment in sport and recreation pays public health dividends.

2.11 The Australian Institute of Health and Welfare (AIHW) stated that physical inactivity is responsible for about 6.7 per cent of the total burden of disease and injury in Australia in 2003 – 6.5 per cent for males and 6.8 per cent for females.[7]

2.12 A report into the costs of illness attributable to physical inactivity in Australia found that the annual direct health care cost is approximately $377 million per year.[8] The costs (for each of the diseases or conditions in the study) were estimated to be $161 million for coronary heart disease (CHD), $28 million for non-insulin dependent diabetes mellitus (NIDDM), $16 million for colon cancer, $101 million for stroke, $16 million for breast cancer, and up to $56 million for depressive disorders.

2.13 The report estimated that 122 deaths per year from CHD, NIDDM and colon cancer could be avoided for every one per cent increase in the proportion of the population who achieve a level of sufficient and regular physical activity. These estimates indicate that one quarter of these deaths occur in people under 70 years and indicates that 1764 life years could be gained for every one per cent in increase in moderate activity levels. The analysis indicates that gross savings of $3.6 million per annum in the health care costs of these three diseases could be achieved for every one per cent gain in the proportion of the population who are sufficiently active.

2.14 Another report also estimated that physical inactivity accounts, on a conservative estimate, for approximately $400 million each year in direct health costs. There are about 8000 preventable deaths each year in Australia associated with physical inactivity, and it makes a large contribution to the overall burden of disease in Australia, ranking second only to tobacco use as the most important issue in prevention.[9]

2.15 Studies overseas have reached similar conclusions on the effect of physical inactivity on health costs. A US study concluded that increasing participation in regular moderate physical activity among the population over the age of 15 years would reduce annual medical costs in that country by approximately US$29.2 billion in 1987 – US$76.6 billion in 2000 dollars.[10]

2.16 The National Heart Foundation also argued that health benefits from physical activity can translate into significant health cost savings. The Foundation estimated that $8 million per year could be saved for every one per cent increase in the proportion of the adult population that is sufficiently active.[11]

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7 AIHW, *Australia's Health 2006*, pp 146,162. See also VicHealth, *Submission 54*, p. 5.

8 J. Stephenson *et. al., The Costs of Illness Attributable to Physical Inactivity in Australia*, Commonwealth Department of Health & Aged Care and the ASC, 2000, pp vii–viii.

9 A. Bauman *et. al*., *Getting Australia Active*, National Public Health Partnership, 2002, p. vi.

10 M. Pratt *et. al*., 'Higher Direct Medical Costs Associated with Physical Inactivity', *The Physician and Sportsmedicine*, vol 28, no.10, October 2000, p. 1.

11 National Heart Foundation, *Submission 45*, p. 2. See also Sports Medicine Australia, *Submission 19*, p. 1.

2.17 The obesity problem in Australia provides an example of the significant burden such conditions can impose on the health care system. Obesity has significant health effects, including as a risk factor for cardiovascular disease, stroke, high blood pressure, type 2 diabetes, sleep apnoea, osteoarthritis, psychological problems and reproductive problems in women.

2.18 While the personal burden of obesity is considerable, through reduced life expectancy and increased disability, the financial burden for governments of increased health care costs associated with obesity are also significant. In 1989-90 the National Health and Medical Research Council (NHMRC) estimated that the indirect costs of obesity in Australia amounted to $736 million (excluding personal expenditure on weight control measures – estimated at $500 million a year). Further, reducing the prevalence of obesity by 20 per cent would realise health care savings estimated at $59 million.[12] More recently in 2003 the National Taskforce on Obesity estimated that the annual cost of obesity was $1.3 billion and rising.[13] In the United States it has been estimated that the cost of obesity related medical expenses reached US$75 billion in 2003.[14]

2.19 The health care costs associated with eating disorders are also considerable. In 2000-01, some 16 per cent of all hospitalisations for mental and behavioural disorders in women aged 12-24 were due to eating disorders. A recent report found that for young women the most frequent diagnoses resulting in hospitalisation was depression, followed by eating disorders.[15] The 1999 *Burden of Disease and Injury Survey* found that eating disorders were the fourth leading cause of burden in females aged 15-24.[16]

2.20 Evidence indicates that participation in sport and recreation has benefits for all age groups. Australian Bureau of Statistics (ABS) and other social research confirm strong positive associations of physical activity for girls and young women, with leadership and teamwork skills, skill development, improved self-esteem and a reduced likelihood of making health-compromising choices (substance abuse, physical inactivity, poor eating). The benefits of physical activity for health and longevity among older adults (50 years or more) are also well established. There is good evidence that in addition to reducing the functional declines of ageing, regular physical activity reduces the risk and severity of major diseases affecting women (e.g. cardiovascular and lung disease, diabetes and breast cancer). Regular movement and

12 NHMRC, *Acting on Australia's Weight*, 1997, p. 85.

13 National Obesity Taskforce, *Health-Weight 2008*, Department of Health and Ageing, 2003, p. 2.

14 US Centers for Disease Control, 'Obesity Costs States Billions in Medical Expense', *Press Release*, 21 January 2004.

15 AIHW, *Australia's Young People: Their Health and Well Being*, 2003, p. 100.

16 AIHW, *The Burden of Disease and Injury in Australia*, 1999, p. 71. See also www.womhealth.org.au

strength training help to maintain balance and flexibility, thereby assisting in the prevention of injurious falls, particularly amongst post-menopausal women.[17]

2.21 As noted above, physical activity is important in maintaining good health. National guidelines have set out the amount of physical activity that Australians should take up if they are to gain health benefits. The National Physical Activity Guidelines for Australians recommend at least 30 minutes of moderate-intensity physical activity on most, preferably all, days of the week to obtain health benefits. This is generally interpreted as 30 minutes on at least five days of the week, a total of 150 minutes of moderate activity per week. The guidelines for children and adolescents recommend at least 60 minutes of moderate to vigorous physical activity every day.[18]

2.22 The National Heart Foundation stated that the majority of Australian women are not physically activity enough to obtain health benefits. According to the 2000 National Physical Activity Survey, more than half (55 per cent) of Australian women aged 18-75 years are not reaching recommended levels of physical activity and a further 15 percent do not participate in any physical activity.[19] VicHealth stated that in Victoria in 2004 only 58.6 per cent of men and 55.1 per cent of women participated in sufficiently regular physical activity to achieve a health benefit.[20]

2.23 There are no recent national data on the physical activity levels of Australian children and adolescents. In a 2004 survey in NSW, three quarters of the students in Years 6, 8 and 10 reported levels of physical activity that met the physical activity recommendations (see above). Boys reported more activity than girls, but for both genders participation decreased with age. A 2004 survey in Western Australia found that one-quarter of high school males surveyed, one-third of high school females and one out of seven primary school students reported doing no sport, exercise or dance activities in a typical week.[21]

Social cohesion

2.24 Public investment in sport and recreation also benefits social cohesion and community-building. Sport and recreational activities bring people together and help build a sense of community. VicHealth noted that:

> Sporting and active recreation activities can be the glue that holds communities together. Sport builds social capital by providing a sense of unity. It is a social leveller, fostering a sense of trust amongst participants and members and contributing to greater social cohesion…Sport and shared

17 VicHealth, *Submission 54*, pp 5–6; NSW Sport and Recreation, *Submission 53*, p. 1.

18 AIHW, *Australia's Health 2006*, p. 162.

19 National Heart Foundation, *Submission 45*, p. 1.

20 VicHealth, *Submission 54*, p. 5.

21 AIHW, *Australia's Health 2006*, p. 164.

> recreation activities offers people the opportunity to be involved, which provides them with a positive sense of self worth. Opening these opportunities to the younger community and allowing adolescence to participate in sports and physical activity, will generally promote their active participation in their later life and thus lower their chances of developing such diseases as coronary heart disease and diabetes.[22]

2.25 Bowls is one example of the role sport can play with older women. Although the sport is strongly focussed on attracting younger participants, it provides far more than physical exercise. Given that most bowls facilities are part of a club, the sport provides the setting for social interaction in a safe and supportive environment. Bowls Australia noted that:

> For the older demographic bowler the social and mental health benefits gained from bowls are invaluable. Bowls Clubs provide a sense of community; a safe welcoming environment where the older population in particular can gain a sense of belonging. Often they help integrate people back into the community, such as those recovering from an illness or those who have lost a partner. [23]

2.26 Participation in sport and recreation also helps build bridges across age and cultures. Sport has a strong tradition of being a social equaliser. Sport often forms the bond between people from different cultures: a shared passion for a team or playing together in a team forms the basis of many enduring friendships across modern society. VicHealth noted that:

> In many communities, sport is seen as a means of building community pride and loyalty, with sporting events providing a meeting place and a means of uniting people across age groups.[24]

2.27 Participation also provides an intergenerational link between parents and their children and grandparents and their children and grandchildren. For example, for many parents and grandparents, the shared experience of throwing or kicking a ball around, or taking their child/grandchild to play their sport or training is a meaningful one that provides the opportunity for family members to spend time together.

Commonwealth and State Government initiatives

2.28 The Commonwealth and the States have introduced a number of initiatives to encourage regular physical activity and active living.

2.29 The Commonwealth, under the *Building A Healthy, Active Australia* initiative operates four measures to address the declining physical activity and poor eating habits of Australian children:

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22 VicHealth, *Submission 54*, pp 5–6. See also Netball Victoria, *Submission 21*, p. 3.

23 Bowls Australia, *Submission 70*, p. 2.

24 VicHealth, *Submission 54*, p. 5.

- *Active After-School Communities* – provides an after-school physical activity program in schools and approved after school hours care services.
- *Active School Curriculum* – new funding conditions require education authorities to include in their curriculum at least two hours of physical activity per week for children in primary school and junior high school.
- *Healthy School Communities* – grants are provided to community organisations linked with schools, such as parents and citizens associations, to initiate activities to promote healthy eating.
- *Healthy Eating and Regular Physical Activity – Information for Australian Families* – provides families with practical help and information about how to make healthy eating and physical activity part of their everyday lives.[25]

2.30 In February 2006 Council of Australian Governments (COAG) agreed to the implementation of *The Better Health for all Australians Action Plan* with programs to commence in 2006 and 2007. This Plan includes national efforts to reduce lifestyle health risks such as inactivity, obesity, alcohol and smoking. The package includes the following priority areas:

- Promoting healthy lifestyles – the program will encourage people to make informed lifestyle choices and reduce the risk of developing chronic disease. A focus will be on agreement of simple, consistent messages between all jurisdictions that all Australians can benefit from healthy lifestyle advice.
- Supporting lifestyle and risk modification – this initiative will provide support for people at high risk of developing a chronic condition to make lifestyle changes and reduce their risk. The services will be provided by approved providers such as registered nurse and allied health professionals.[26]

2.31 The Commonwealth has also implemented a number of initiatives to promote a healthy, more active community generally. These include initiatives through Medicare, such as Medicare rebates for services by medical practitioners treating patients for obesity; and Enhanced Primary Care Medicare items to provide preventive care for older Australians; the National Child Nutrition Programme; the Diabetes Prevention Pilot Initiative; the Smoking, Nutrition, Alcohol and Physical Activity Framework for General Practice; Stronger Families and Communities Strategy, to address health issues, including obesity and related risk factors, in children and families; various programs targeting Indigenous communities and rural communities; various community awareness programs, and research initiatives.[27]

25 www.healthyactive.gov.au

26 Minister for Health and Ageing, 'Better Health for all Australians', *Media Release*, 10 February 2006.

27 www.healthyactive.gov.au

2.32 The States have also undertaken various initiatives. In Tasmania, the Women Get Active Program aims to enhance the health and wellbeing of women and girls through physical activity. The program specifically seeks to engage women and girls who are not currently physically active and who may have experienced barriers to physical activity such as body image, costs of participation and concern for personal safety.[28] In Queensland, the government has established an Obesity Taskforce to implement a number of physical activity and nutrition initiatives. Queensland Health also has staff based throughout the state to promote programs to improve physical activity in the community.[29] In Western Australia, the Department of Sport and Recreation operates a number of community grants schemes. One program targets currently inactive women to participate in a range of exercise activities.[30]

Findings

2.33 The committee found that:

- Participation in physical activity contributes to the overall physical and psychological health of individuals of all ages and social groups.
- Studies – both in Australia and overseas – have found that physical activity reduces the risk of cardiovascular disease, which is the leading cause of death in Australia. Physical activity has also been linked to a reduction in the incidence of other diseases such as diabetes, osteoporosis, depression, some forms of cancer, and injury among older people.
- The public investment in recreational and sporting activities provides an important dividend to terms of both public health and social cohesion.
- Participation in recreational and sporting activities is therefore a practical and efficient way to increase physical activity, thereby maximising the health and social dividends to the community.
- There need to be sustained and focussed efforts to increase the physical activity levels amongst all Australians.
- Strategies need to be developed for minimally physically active and sedentary people – both males and females – to undertake some form of physical activity and these need to be applied across all age groups.
- Strategies need to be developed for both men and women who are moderately physically active to ensure that they can sustain this level of activity throughout their lives, regardless of age.

28 Sport and Recreation Tasmania, *Submission 51*, p. 3.

29 Queensland Government, *Submission 49*, pp 2–5; Queensland Womensport, *Submission 39*, p. 6.

30 WA Department of Sport and Recreation, *Submission 48*, p. 3.