

National Cancer Prevention Policy

2007–09



Preventable risk factors

Physical activity

Physical activity

Less than half of the Australian adult population achieves the current recommended levels of 150 minutes a week of moderate-intensity physical activity and less than one-third achieves the higher level of 60 minutes a day estimated to reduce colon cancer risk (Cerin et al. 2005).

Introduction

The study of physical inactivity as a risk factor for chronic disease commenced in the 1950s and focused on the epidemic of cardiovascular disease in Western countries. A pivotal review highlighted the public health benefits of regular physical activity (Pate et al. 1995). This was followed by the US Surgeon General's report, *Physical activity and health*, which summarised the scientific evidence for the health benefits of physical activity (USDHHS 1996). More recently an Australian review has confirmed the dose–response relationship between physical activity and better health outcomes, specifically all-cause mortality, cardiovascular disease, stroke, some cancers, type 2 diabetes, depression and obesity (Bull, Bauman et al. 2004). In addition to the reduction in chronic disease risk, it is clear that physical activity provides age-specific benefits over a person's life (Bull, Bauman et al. 2004).

Research on the link between levels of physical activity and specific cancers began during the 1980s but has increased rapidly over the last decade. Not surprisingly, the most commonly occurring cancers in men (prostate, lung, colorectal) and in women (breast, lung, colorectal) have been the subject of most published epidemiological studies. Recent reviews of physical activity and cancer have identified several hundred relevant studies (Friedenreich & Orenstein 2002; IARC Working Group 2002; Lee 2003; McTiernan 2003; Bull, Bauman et al. 2004; Gotay 2005). However, the majority of studies are observational rather than interventional (McTiernan 2003). More intervention studies are required to determine the optimal physical activity 'dose' for cancer prevention (McTiernan 2003).

The strongest evidence is for two of the most common cancers: breast cancer and colon cancer. It is also suggested that regular physical activity is associated with a reduction in all-cancer morbidity and mortality (Bull, Bauman et al. 2004); however this is likely to be due to the effect of exercise on breast and colon cancer. Whether physical activity reduces the risk of other cancers, including rectal, endometrial, prostate, testicular, kidney and lung cancer, remains less certain due to limited and inconclusive data (IARC Working Group 2002; Lee 2003). This remains an active area of research internationally.

Physical activity (along with nutrition) contributes to weight control by contributing to energy balance. Overweight and obesity have been associated with an increased risk of several cancers. It is clear that physical activity protects against cancer independently of its contribution to weight control. Overweight and obesity and physical inactivity are independent risk factors for cancer (Thune & Furberg 2001; Friedenreich & Orenstein 2002; IARC Working Group 2002; McTiernan et al. 2003).

More recently, physical activity and physical fitness have been shown to be beneficial to cancer patients. Despite being a relatively new area of research, physical activity before, during and after treatment is consistently showing a positive association with cancer outcomes (Courneya 2003).

How physical activity is measured

Understanding the 'dose' required

The epidemiological research investigating the contribution of physical inactivity to chronic disease, including cancers, is complicated by the complexities of physical activity assessment protocols in population-based research (Shephard 2003).

Physical activity is often classified by type. The type, or mode, of physical activity relates to the specific activity being performed (AIHW 2003). Broadly speaking, the three types of physical activity are aerobic, resistance and flexibility. Many activities cross more than one type, for example gymnastics has an aerobic, flexibility and resistance component (Whaley 2006).

Aerobic activities are assessed in terms of energy expenditure, which is a function of intensity, duration and frequency of activity. Intensity is a measure of how hard an activity is, duration is the time spent doing the activity and frequency is how many times, usually in a week, the activity is done (AIHW 2003).

In research, energy expenditure is often calculated in metabolic equivalents (METs). MET values are multiples of the resting metabolic rate (RMR), that is, 1 MET is the energy used when sitting quietly. One MET is equivalent to an oxygen uptake of 3.5 mL.kg⁻¹.min⁻¹ or to a caloric value of 1 kcal.kg⁻¹.hr⁻¹ (4.184 kilojoules per kilogram per hour) (Ainsworth et al. 2000).

Table 1.6 Examples of activities and MET intensities

METs	Activity	Examples
1.0	Inactivity, quiet	Sitting quietly and watching television
3.5	Walking	Walking for pleasure
8.0	Bicycling	Bicycling, 19–24 km/h, leisure, moderate
8.0	Water activities	Swimming, crawl, slow (50 m/min), moderate or light effort
12.5	Running	Running, 12 km/h (5 min/km)

Source: Ainsworth et al. 2000

More commonly the frequency, intensity and duration of physical activity are expressed separately, or frequency and duration are aggregated to give a total time (in minutes) per week. Activities are grouped according to intensity, for ease of use.

- *Vigorous-intensity* activity makes a person short of breath or 'puff and pant' (i.e. 7-9 METs).
- *Moderate-intensity* activity is when it is still possible to hold a conversation (i.e. 3-4 METs).
- *Walking* includes for recreation, transport or exercise.

(Ainsworth et al. 2000)

Total activity time per week is used to assess whether an individual has completed sufficient physical activity for a health benefit (see next table). To account for the greater intensity, time spent in vigorous-intensity activity is weighted by a factor of two (that is, doubled) when calculating the total activity time per week.

Table 1.7 Definitions of sufficient and insufficient physical activity and sedentary

Term	Definition
Sufficient	The accumulation of at least 150 minutes of activity over one week in at least five sessions.
Insufficient	The accumulation of some activity but less than 150 minutes of activity per week.
Sedentary	No activity reported over the week.

Source: AIHW 2003

Recall of participation is a known difficulty in the assessment of physical activity. Vigorous intensity activity is generally reported better than moderate intensity activity (Slattery and Jacobs 1995). Misclassification of moderate intensity activities would decrease the ability to detect a real association (IARC Working Group 2002).

The link between physical activity and cancer

The role of physical activity in the prevention of specific cancers continues to be an active area of research and review (Lee 2003; McTiernan 2003; Roberts & Barnard 2005; Warburton, Nicol & Bredin 2006).

For the 2002 World Health Report, the World Health Organization systematically reviewed the evidence on breast and colon cancer (WHO 2002; Bull, Armstrong et al. 2004). In the same year, the International Agency for Research on Cancer (IARC) published its report, *Weight control and physical activity*, which included a comprehensive review of the epidemiological evidence relating to all cancers (IARC Working Group 2002). In 2003, The Cancer Council commissioned a review of the epidemiological literature linking physical activity and specific cancers (Bauman, Habibullah & Holford 2003), which is summarised in *Getting Australia active II* (Bull, Bauman et al. 2004). In the same year, Lee reviewed the epidemiological evidence for the major cancer sites: breast, colon, rectum, prostate and lung. Overall the findings are consistent: colon cancer and breast cancer risk decrease with increasing levels of physical activity (IARC Working Group 2002; Lee 2003; Slattery et al. 1997).

All the reviews have used similar criteria to assess the research design and population studied: number and characteristics of cancer cases; definition and measurement of physical activity; estimated time between physical activity exposure and cancer outcome; and estimated effect size, expressed as an adjusted odds ratio or relative risk (RR).

For colon cancer there is consensus that the risk reduction for physically active men and women is around 30% to 40% (RR 0.6–0.7), compared with inactive people (IARC Working Group 2002; Lee 2003; Slattery et al. 1997). By contrast, the evidence for rectal cancer is inconsistent, with most studies not able to detect a significant difference or reporting a weak association (Lee 2003; Slattery et al. 1997). There is a dose–response relationship between physical activity and colon cancer, with optimal protection proffered by 3.5 to 4 hours of vigorous physical activity or 7 to 35 hours of moderate physical activity each week (Slattery et al. 1997). There remains no clear agreement on the biological mechanism(s) for the protective effect (Westerlind 2003; Slattery et al. 1997). Current suggestions include a reduction in gastrointestinal transit time, improvements in immune function, hormone modulation (insulin, sex hormones and insulin-like growth factor), a reduction in free radicals and prostaglandin modulation (Westerlind 2003; Slattery et al. 1997).

There is consistent epidemiological agreement that physically active women have about a 20% to 30% reduction in breast cancer risk (RR 0.7–0.8) compared with inactive women (IARC Working Group 2002; Lee 2003). Unlike colon cancer, there is not specific detail on the optimal dose of physical activity for breast cancer, although it appears that 30 to 60 minutes per day of moderate to vigorous exercise is required to reduce risk. Again there is evidence of a dose–response relationship: breast cancer risk decreases with increasing levels of physical activity (Lee 2003). Risk reduction has been reported for both pre- and post-menopausal women. However it is still unclear which time period(s) in a woman’s lifespan are most important for physical activity in the development of breast cancer (IARC Working Group 2002). Like colon cancer, the biological mechanism(s) are not clear. Similar mechanisms have been postulated, with greater emphasis on oestrogen metabolism (IARC Working Group 2002; Lee 2003; Westerlind 2003).

There is no consistent evidence of an association between physical activity and other specific cancers. Endometrial, prostate, testicular, ovarian and lung cancers have been the subject of the most attention. Although some studies show an association between physical activity and lung cancer, it is possible that this relationship is confounded by smoking and/or other lung diseases (IARC Working Group 2002; Lee 2003).

Many questions remain unanswered in this comparatively new area of cancer research. It appears that more intense and more frequent and longer duration of activity may generally provide more protection (Bauman, Habibullah & Holford 2003). Further research is required into the dose–response relationship between physical activity and cancer and specific cancer sites; the type, frequency, intensity and duration of physical activity; and the biological mechanisms influencing cancer development (Lee 2003; UICC 2004; Gotay 2005; Roberts & Barnard 2005).

The impact

The population attributable risk (PAR) is often used to assess the relative public health importance of a risk factor. PAR is a function of the prevalence and strength of the association between the risk factor and the disease outcome. In the case of physical inactivity it represents the proportion of cases (for example colon cancer) that could be prevented if exposure to the risk factor were eliminated, that is, 100% of the population achieving sufficient physical activity (Bauman 1998; Stephenson et al. 2000). The PAR for physical inactivity has been estimated for two types of cancer, colon cancer and breast cancer, as the strongest epidemiological evidence relates to these cancers.

Table 1.8 Estimates of population attributable risk (PAR) for physical activity and cancer

Author	Year	Breast cancer	Colon cancer
Mezzetti et al.	1998	10.6%	
Stephenson et al.*	2000	9%	19%
WHO	2002	10%	16%
IARC	2002	11%	13–14%
Slattery	2004		12–14%

* Estimate for the Australian population

Sources: Mezzetti et al. 1998; Stephenson et al. 2000; IARC Working Group 2002; WHO 2002; Smith 2004; Slattery 2004

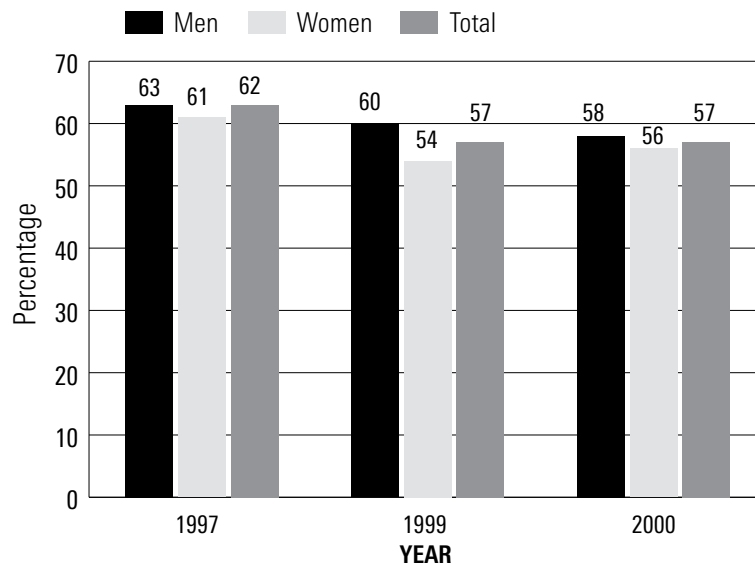
Broadly speaking, there is agreement between the various estimates. It is likely however that these underestimate the true PAR. Variation in measurement and definition of physical activity between studies and the unaccounted-for contribution of physical inactivity to weight gain are all sources of potential error (IARC Working Group 2002).

In broad terms, therefore, it follows that increasing physical activity could prevent up to 1165 colon cancer and 1297 breast cancer cases annually (AIHW & AACR 2004).

The challenge

Australia has had three national physical activity surveys: in 1997, 1999 and 2000. The results from the three surveys (see figure below) are of concern, with a discernable downward trend in the proportion of the population reporting sufficient physical activity. In 2000, just over half of the adult population (56.8%) achieved the current recommended levels of 150 minutes per week while the proportion of Australians reporting no physical activity (sedentary) increased (13.4% in 1997 to 15.3% in 2000) (Bauman, Ford & Armstrong 2001).

Figure 1.3 Trends in proportion of Australian adults meeting recommended levels of physical activity



Source: Bauman, Ford & Armstrong 2001

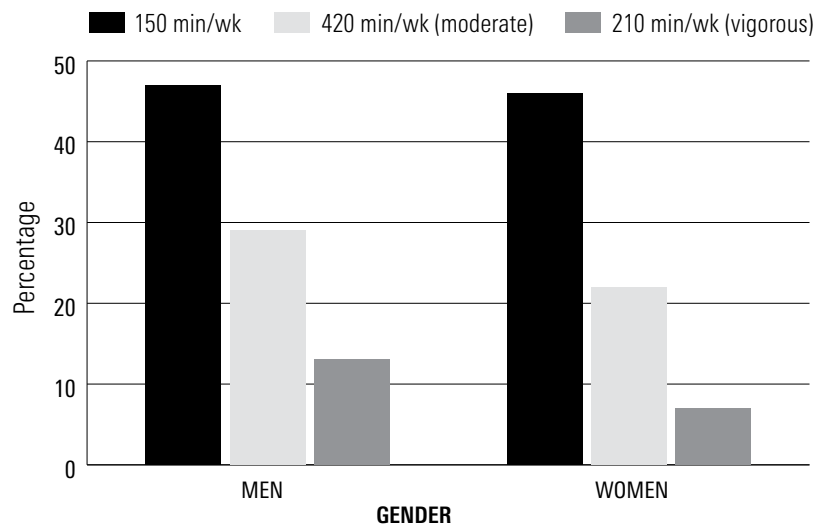
There has not been a national physical activity survey since 2000 so it is not possible to make an accurate assessment of the current population physical activity level in Australia. A number of states have conducted surveys during the intervening period based on the same instrument, the Active Australia questionnaire. Data from these state-based surveys show that the downward trend in physical activity has most likely continued.

The data from the 2000 national physical activity survey were re-analysed against three criteria for achieving sufficient physical activity (Cerin et al. 2005) (refer to figure 1.4 below):

- *National physical activity guidelines for adults*: accrual of ≥ 150 minutes of at least moderate-intensity activity through five or more sessions in the previous week (DHAC 1999).

- Moderate-intensity physical activity to reduce colon cancer risk: accrual of ≥ 420 minutes of at least moderate-intensity activity in the previous week (Slattery et al. 1997).
- Vigorous physical activity to reduce colon cancer risk: accrual of ≥ 210 minutes of vigorous activity in the previous week (Slattery et al. 1997).

Figure 1.4 Proportion of the population achieving three criteria for sufficient activity



Source: Cerin et al. 2005

The application of different criteria to the data from the 2000 national physical activity survey highlights that the prevalence of meeting physical activity criteria for colon cancer prevention is low and much lower than that related to the more generic physical activity recommendations. Less than half of the population (46%) achieves the recommended ≥ 150 minutes of at least moderate-intensity activity through five or more sessions in a week and only 26% meet the colon cancer criteria (Cerin et al. 2005). The same review also examined the socio-demographic factors associated with achievement of the physical activity criteria. Across each of the three criteria, physical activity is higher in males than females, decreases with age and increases with educational attainment (Cerin et al. 2005).

Effective interventions

There is potential to promote higher levels of participation in physical activity in the Australian population. Several recent reviews and reports have examined the evidence on effectiveness, key characteristics and best strategies for a population-based approach to promoting physical activity (Kahn et al. 2002; Bull, Bellew et al. 2004; NPHP 2005).

Be active Australia: a framework for health sector action for physical activity (NPHP 2005) is the current strategic framework for population-based physical activity promotion in Australia. The strategic focus of this framework contains three areas: settings, overarching strategies and population groups. The action areas are summarised below:

1. Settings

- Community environments and organisations
- Health services

- Childcare and out of school hours care
- Schools
- Workplaces

2. Overarching strategies

- Communication
- Workforce capacity
- Evidence, research, monitoring and evaluation
- Strategic management and coordination

3. Priority populations

- Aboriginal and Torres Strait Islander peoples
- Populations with special needs

Be active Australia is underpinned by *Getting Australia active II*, a major review of physical activity interventions across different settings and approaches and for different populations (Bull, Bauman et al. 2004).

Settings

Community environments and organisations

The influence of the environment on physical activity has been the subject of increased attention for the past decade. It is commonly accepted that the built environment provides opportunities (and barriers) to physical activity and can facilitate incidental physical activity. Unfortunately there is a paucity of evidence on the relative contribution of the environment to physical activity behaviour and there are limited data on the specific environmental attributes that increase physical activity (McCormack et al. 2004; Giles-Corti 2006). Environmental improvements require collaboration with and commitment from sectors outside of health, such as transport and urban planning. The health sector has a role in education, workforce development and advocacy, as well as contributing to the evidence base (Giles-Corti 2006).

Health services

Health services, particularly primary health care, are an important setting for individual physical activity interventions. There is little evidence on the effectiveness of population-based physical activity promotion in health services. Health professionals, in particular general practitioners (GPs) are an accessible, credible source of information for patients (RACGP 2004). Approximately 85% of Australians visit a GP in any given year (Britt et al. 2005).

Brief interventions for physical activity behaviour change, often based on the trans-theoretical or stages of change model, are recommended for use in general practice (RACGP 2005). Verbal advice, written materials (such as pamphlets and booklets) and exercise prescriptions can produce short-term increases in physical activity (Smith 2004). The nature and degree of change is not unexpected given the relatively brief counselling that patients receive. This could potentially be improved by involving other health professionals (for example, practice nurses), either in partnership with GPs or independently, to reinforce health messages and provide more follow-up with patients

to help them achieve greater and more sustained behavioural changes to their habitual physical activity behaviours (Smith 2004; Brown 2006).

A number of electronic and paper-based resources are available to assist general practice to work with patients to improve physical activity, including:

- *SNAP: A population health guide to behavioural risk factors in general practice* (RACGP 2004)
- *Lifestyle prescriptions* ('Lifescrpts') (DHA 2005)
- *Guidelines for preventive activities in general practice* ('the red book') (RACGP 2005)
- *Putting prevention into practice: guidelines for the implementation of prevention activities in the general practice setting* ('the green book') (RACGP 2006a)
- *National guide to a preventive health assessment in Aboriginal and Torres Strait Islander peoples* (NACCHO 2005).

Childcare and out of school hours care

There is very little published research on the effectiveness of physical activity interventions in the childcare setting (Timperio, Salmon & Ball 2004); however health promotion programs targeting childcare centres have proven to be very popular. The demand for SunSmart Centres and Start Right Eat Right (in Western Australia) suggests that childcare is a setting very receptive to health promotion interventions.

The majority of out-of-school-hours interventions published were conducted on primary-school-aged children in the US, either as after school, summer camp or family-based interventions. Programs that involved parents were the most effective. Out-of-school-hours care is a setting that offers considerable promise, but more evidence is needed in an Australian context and for adolescents (Timperio, Salmon & Ball 2004).

Schools

Schools are frequently identified as an important setting for health promotion. Successful school-based health promotion can simultaneously improve education and health (WHO 1997). School-based physical activity interventions can be classified into three types: curriculum-based strategies, environmental change strategies and policy-based strategies (Timperio, Salmon & Ball 2004). The most successful interventions incorporated a whole-of-school approach: that is, curriculum-, environmental- and policy-based strategies (CDCP 1999). Health promotion in schools requires cooperation and collaboration with the education sector, consistent with the health promoting schools framework (WHO 1997; NPHP 2005).

Workplaces

Workplace health promotion presents enormous potential to access large numbers of people at once and improve the health and productivity of the workforce. Up to now, however, there has been limited evidence supporting the effectiveness of workplace health promotion programs (Marshall 2004). Workplaces, like other physical and social environments, provide opportunities and barriers to physical activity. Non-specific programs and policies that promote incidental physical activity appear to be more successful and sustainable than individualised or targeted programs in the workplace (Marshall 2004).

Strategies

Communication

Communication and community education include mass media (social marketing), printed material, websites, telephone interventions and community education (Marshall, Owen & Bauman 2004; NPHP 2005). Overall, mass media successfully raise awareness of physical activity, measured through recall, but have modest effects on behaviour. Individual campaigns have reported more success in changing behaviour (Marshall, Owen & Bauman 2004). Interventions using print materials have shown some success in changing physical activity behaviour in the short term, whereas telephone- and Internet-based interventions have demonstrated limited success (Marshall, Owen & Bauman 2004).

Workforce capacity

Physical activity promotion is one priority among a range of conflicting and complementary prevention activities for health professionals (RACGP 2006a; RACGP 2006b). The capacity of the workforce is limited by the number of health professionals and the time available to them. All health professionals, not just GPs or those trained in exercise science, should play a role in increasing physical activity (Brown 2006). Opportunities exist to develop training packages, both informal and formal, for health (and other) professionals in primary prevention, specifically physical activity (NPHP 2005). Complementary resources (posters, pamphlets or brochures) and online support would add value and support for those who undertake training.

Evidence, research, monitoring and evaluation

There are no national data on the current level of physical activity for Australians. The most recent data were collected, and reported, in 2000. Since 2000, individual states and territories have undertaken a range of monitoring and surveillance activities, without national coordination. Better national coordination of the available data would allow a more accurate assessment of population physical activity trends over time and evaluation of the impact of national interventions.

Evidence continues to accumulate to support the protective role of physical activity in health. Despite this there are specific research areas with conflicting or insufficient data, including the role of physical activity in cancer prevention beyond breast cancer and colon cancer and the optimal amount and type of physical activity for weight loss and disease prevention.

It is clear that there is still a need for more well-designed research to evaluate which interventions work best, particularly those tailored to specific population groups and/or settings. The research identifies areas of promise and 'best bets', but considerable work remains to implement and test these approaches on a larger scale in the Australian context.

Strategic management and coordination

Successful action on physical activity requires strategic leadership and commitment at a national level as well as a coordinated approach at national, state, territory and local levels, with good communication between all stakeholders, including the non-government sector (NPHP 2005). The development of a national framework, *Be active Australia*, is the first step to underpinning good public health practice (Bull, Bellew et al. 2004). The absence of mandated accountability and adequate resourcing at a national level limits the opportunity for successful implementation of the framework (Bull, Bellew et al. 2004).

Populations

Aboriginal and Torres Strait Islander peoples

The review of interventions with Aboriginal and Torres Strait Islander peoples found very little published evaluation, despite an increase in the number and diversity of programs in these communities (Shilton & Brown 2004). There remains a need for much more effort in this area, in relation to measurement and interventions in urban as well as rural and remote communities (NACCHO 2005).

Populations with special needs

Populations with special needs are those Australians who face additional barriers to being physically active. It includes people with a chronic condition, including cancer (NPHP 2005). The number of cancer survivors (including people living with cancer) in Australia continues to increase. People who have survived cancer are at increased risk of many chronic diseases and may have to contend with disability associated with cancer treatment. Population-based physical activity strategies may not be suitable; rather, small group or individual interventions would be more appropriate for these groups (NPHP 2005).

The policy context

Policies, reports and strategic plans have been produced by most state and territory governments, providing direction for improvement in physical activity levels in Australia. The Cancer Council strongly supports the work of other chronic disease prevention agencies and institutions in the promotion of physical activity.

The *National physical activity guidelines for Australians* (DHAC 1999) includes these recommendations:

- Think of movement as an opportunity, not an inconvenience.
- Be active every day in as many ways as you can.
- Put together at least 30 minutes of moderate-intensity physical activity on most, preferably all, days.
- If you can, also enjoy some regular, vigorous exercise for extra health and fitness.

Australia's physical activity recommendations for 5–12 year olds and *Australia's physical activity recommendations for 12–18 year olds* (DHA 2004a; DHA 2004b) recommend that:

- Children need at least 60 minutes (and up to several hours) of moderate to vigorous physical activity every day.
- Children should not spend more than two hours a day using electronic media for entertainment (e.g. computer games, TV, Internet), particularly during daylight hours.

This is a recommended minimum level of activity for children, youth and adults. Higher levels are likely to give greater benefits.

Colon cancer and breast cancer risk reduces with increasing levels of physical activity. The optimal risk reduction for colon cancer is achieved at 3.5 to 4 hours of vigorous physical activity or 7 to 35 hours of moderate physical activity each week (Slattery et al. 1997). The American Cancer Society recommends that 45 to 60 minutes of moderate to vigorous activity on at least five days of the week is preferable (Kushi et al. 2006).

Aims

The Cancer Council Australia recognises the strength of evidence for physical activity in the prevention of breast and colon cancer and in the reduction of risk for other diseases, particularly cardiovascular disease and diabetes.

The body of evidence on health benefits of physical activity has led to general public health recommendations for adults to have 30 minutes of regular, moderate-intensity physical activity on most days of the week (DHAC 1999). To date, there is insufficient evidence to support the development of separate public health advice for the prevention of different illnesses, thus The Cancer Council endorses the recommendations that have been put forward in a consistent fashion by federal, state and territory bodies and other agencies.

The Cancer Council's aims are to encourage the Australian population throughout life to:

- maintain at least a minimum level of physical activity: for adults at least 30 minutes of moderate-intensity activity on most days of the week, for children and adolescents at least 60 minutes
- participate in physical activity of longer duration and higher intensity, to further reduce colon cancer risk, where possible across the lifespan (consistent with the *National physical activity guidelines for Australians*)
- maintain a healthy body weight through a balance of food intake and physical activity.

What needs to be achieved	How The Cancer Council Australia and its members (the state and territory cancer councils) will do this
Increased awareness of the link between physical inactivity and cancer among the general public and key health professionals	<p>Monitor and clarify best evidence on the relationship between physical inactivity and cancer causation</p> <p>Ensure key messages are promoted to the public and relevant health professionals in publications, presentations, programs, media statements and where opportunities arise</p> <p>Promote and/or develop complementary primary health resources, specifically for general practice, to improve evidence-based interventions by health professionals</p>
Effective coordinated policy development and implementation	<p>Develop and maintain evidence-based policy positions about the relationship between physical inactivity and cancer to complement the Australian policy context</p> <p>Ensure effective and coordinated policy development and implementation</p>
Social marketing campaigns that promote physical activity	<p>Advocate for nationwide social marketing campaigns that promote physical activity across the life course which are coordinated, sustainable and far-reaching</p> <p>Encourage the Australian, state and territory governments to commit to long-term investment to increase the awareness of the health benefits of physical activity and promote increased participation</p> <p>Support and deliver effective community interventions at a local, state and national level to address physical inactivity</p>
An increased capacity to monitor epidemiological trends	Support and conduct high quality epidemiological research further clarifying the relationship between physical inactivity and cancer

An increased capacity to monitor behavioural trends	Support and conduct high quality behavioural research further clarifying the barriers and enabling factors for participation in physical activity Work towards a better understanding of the determinants of the obesogenic environment, to inform policy development Encourage the Australian Government to fund a comprehensive National Nutrition and Physical Activity Survey of children and adults, which is conducted, as a minimum on a regular five-year basis
More supportive environments that assist people to be more physically active	Encourage the Australian Government to address the broader social and environmental determinants of physical inactivity and sedentary lifestyles Continue to support and promote the Parents Jury
An increased capacity to know what works in relation to program delivery	Undertake specific research and evaluation studies to: <ul style="list-style-type: none"> • evaluate physical activity interventions • gather more evidence relating to the economic evaluation of cancer prevention • lead national understanding of what works in relation to cancer prevention • identify barriers and enabling factors for implementation of these recommendations in general practice and other health settings

Note: Refer also to the action plans of the nutrition and obesity chapters when considering promotion of physical activity.

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Physical activity

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