

# Prevention needs to be a priority

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Over one-quarter of the total health burden in Australia is estimated to be due to five key modifiable lifestyle-related risk factors: tobacco smoking, alcohol consumption, low fruit and vegetable intake, high body mass, and physical inactivity (Begg et al 2007). Internationally, governments are grasping the overwhelming importance of prioritising prevention and, although Australian data are used as examples in this Editorial, the issues and principles to rectify them are relevant to most countries. In Australia a national preventive health agency (ANPHA) has recently been established. The purpose of the ANPHA is to promote effective primary prevention by contributing to policy and practice through the better use of evidence and collaboration. The ANPHA 'Knowledge Hub' will provide links to online resources to assist physiotherapists to promote prevention to their clients, while the US Department of Health and Human Services provides tips for primary care professionals to raise prevention issues with their clients. National authorities are providing online resources aimed at the community to promote prevention. Physiotherapists have traditionally been enthusiastic advocates of healthy lifestyles and the new focus on prevention in Australia and internationally creates a window of opportunity for physiotherapy to renew efforts to improve the nation's health through prevention.

## Seven reasons to prioritise preventive health actions

Seven important factors have convinced authorities to prioritise prevention: declining life expectancy, rising disease risk, impending cost burden, broad social impact, inequity of risk, cost effectiveness, and efficacy.

1. The life expectancy at birth of Australians is very good (84 years for females, 79 years for males), ranking third internationally (AIHW 2010). Life expectancy in Australia rose from 59/55 years early in the twentieth century to 70/65 years by mid-century due to better management of infectious disease and better hygiene and living standards. However, mid-century life expectancy plateaued and actually declined for males due to chronic lifestyle diseases especially cardiovascular disease. Improved tertiary management of chronic disease has continued the increase in life expectancy since then. But once again there is downward pressure on life expectancy, with estimates that the impact of obesity alone is equivalent to a 2-year decline in life expectancy at a population level (D'Arcy and Smith 2008).

2. Lifestyle-related disorders are estimated to increase substantially over the next two decades. For example, the number of Australians with diabetes is expected to increase from 1.1 million in 2003 to 3.6 million by 2033 (Goss 2008). This is partly due to an ageing population but is also due to a near doubling of age-standardised risk.

3. The cost burden associated with increased disease is also anticipated to increase exponentially. For example, the cost burden from diabetes is expected to increase seven-fold from 2013 to 2033 (Goss 2008). Australia's total health and aged care expenditure is predicted to rise from \$86 billion

per annum in 2003 to \$246 billion per annum in 2033, and increase from 9% to 12% of gross domestic product. We simply cannot afford to continue doing business as usual in health.

4. The five key modifiable health risks discussed below often have broader social impact in addition to health burden. For example the estimated cost burden of alcohol in Australian society is \$1.9 billion per annum for health, with an additional \$1.6 billion for crime, \$2.2 billion for road trauma, \$1.5 billion for lost productivity at home, and \$3.5 billion for lost productivity at work (NPHT 2009a). These figures are only the financial cost and do not include other impacts on families and relationships.

5. The most disadvantaged in our society are also those most at risk. The social imperative to 'close the gap' between Aboriginal and non-Aboriginal health is monumental with a 17 year-life expectancy gap (AHRC 2008). However, all disadvantaged Australians are at greater risk of lifestyle disorders. For example in 2001 the most disadvantaged 20% of Australians had around double the rate of obesity of the most advantaged 20% (obesity 22% versus 12% for females; 20% versus 13% for males) (NPHT 2009b).

6. Contrasting the 'bad news' is the 'good news' – that prevention can both improve health outcomes and reduce cost burdens. American estimates are that the return on investment for every \$1 spent on preventive health is more than \$5 within 5 years (Levi et al 2009). Recent Australian estimates for the impact of five interventions to increase physical activity suggest a net cost saving of over \$600 million as well as saving 61 000 disability-adjusted life years (Vos et al 2010).

7. Early examples of effective prevention include the provision of clean water to reduce cholera and immunisation to prevent small pox. More recently improved road infrastructure, safer cars, random breath testing, and speed cameras have contributed to a halving in road deaths in Australia over the last 30 years despite increased kilometres travelled (ATC 2008). Similarly, tobacco smoking rates in Australia have been halved over the last 30 years, related to preventive actions such as bans on advertising and sponsorship of events, as well as legislated smoke-free environments (NPHT 2009a).

## Five key modifiable health behaviours

Tobacco smoking, alcohol consumption, low fruit and vegetable intake, high body mass, and physical inactivity account for an estimated 27% of the total Australian health burden (Begg et al 2007) through pathways to cancer, chronic obstructive pulmonary disease, heart disease, stroke, accidents, suicide, diabetes, and other disorders (AIHW 2010). Further, these risk behaviours often cluster together (NPHP 2001).

1. Tobacco is smoked by only about 19% of Australian adults now (AIHW 2010), but this and the legacy of prior higher rates means it accounts for ~8% of the total health burden

in Australia (Begg et al 2007). The preventive guideline is to avoid smoking.

2. Alcohol is consumed by 41% of Australian adults each week and 83% in the past year (NHMRC 2009), with ~15% reporting consumption at risky levels (AIHW 2010). Alcohol use accounts for ~3% of the total health burden in Australia (Begg et al 2007). The 'safe' levels of alcohol consumption have been revised downwards as newer research suggests that beneficial effects from alcohol occur only at very low levels or that there is no protective effect (NHMRC 2009), contrary to popular belief. The latest Australian National Health and Medical Research Council guidelines recommend that young people avoid alcohol for as long as possible and adults consume no more than two standard drinks on any day (NHMRC 2009). Of all the five key health risk behaviours, this one may be the most culturally challenging for many physiotherapists.

3. Australian guidelines recommend two serves of fruit and five serves of vegetables per day for adults and three serves of fruit and four serves of vegetables for adolescents (DHA 2009). Around 90% of Australian adults consume less than two serves of fruit and five serves of vegetables each day (AIHW 2010). Around 8% of primary school children consume insufficient fruit, rising to 76% of adolescents (DHA 2008). Around 82% of primary school children consume insufficient vegetables, rising to 95% of adolescents (DHA 2008). Low fruit and vegetable

consumption accounts for ~2% of the total health burden in Australia (Begg et al 2007).

4. Around two-thirds of Australian adults are overweight, including one-quarter who are obese (AIHW 2010). Also of concern is that the proportion of Australian children who are overweight and obese has doubled in the last 25 years, from one-eighth to one-quarter (NPHT 2009a). Obesity (not including overweight) is estimated to account for ~8% of the total health burden in Australia (Begg et al 2007). Australian guidelines recommend adults maintain a BMI < 25 and a waist circumference < 80 cm for women and < 94 cm for men (DHA 2006). Around two-thirds of Australian adults have insufficient moderate/vigorous physical activity (AIHW 2010).

5. Around one-third of Australian children have insufficient moderate/vigorous activity (DHA 2008). Insufficient moderate/vigorous physical activity is estimated to account for ~7% of the total health burden in Australia (Begg et al 2007). National guidelines recommend adults accumulate 30 minutes or more of moderate activity on most, preferably all, days along with some vigorous activity (DHA 2005a). For children, the recommendation is for 60 minutes of moderate/vigorous activity each day (DHA 2005b, DHA 2005c). This activity could be in the form of sport or 'exercise' or any other activity that requires a moderate or greater physiological load. Recently, new evidence has shown that total accumulated sedentary behaviour, and

**Box 1.** Examples of preventive actions by physiotherapists.

**Individual**

Enhance your own health by maintaining healthy behaviours

Model good health habits for family, friends, colleagues, and clients

Give flowers or a dance music download voucher rather than alcohol

Provide interesting non-al drinks at social gatherings

Bring tasty salad/veggie dishes to social gatherings

Meet friends for a walk-and-talk rather than cake and coffee

Enhance your credibility when discussing with clients by modeling good habits

**Local with clients**

Raise key health issues with clients, in addition to dealing with their presenting complaint

Add standard screening questions about lifestyle factors to your assessment

Do some preparation so you are comfortable to raise key health issues with clients

Put up prevention posters in clinic waiting room

Run monthly themes in your practice highlighting a key modifiable health issue

Provide a weight, height and BMI calculation station in clinic waiting room

Provide pamphlets on resources for clients wishing to address a key health issue once raised

Add links from your practice website to resources for clients on preventive issues

Include tips for 5 key health issues on specific handouts to clients such as exercise sheets

**Local with students**

Review course materials to link to key prevention actions where possible

Encourage consideration of client's general health and potential preventive actions by students and junior colleagues

**Local with workplace and community**

Create a 'fruit club' at work to encourage 2 fruits a day

Walk for meetings of 2-3 people, stand for meetings with more people

Advocate for safe active transport routes to school

Support good food options at school shop

Flash your car lights randomly to encourage safe driving speeds

Promote mass media prevention campaigns through your social media network

Offer advocacy in this area with local businesses

Write to your local council member or community newspaper supporting initiatives like smoke-free public areas or better cycling and walking paths

**National/International**

Write or, better still, go to see your local member to support preventive legislation such as speed cameras, cigarette plain packaging, tobacco tax, and food labeling

in particular uninterrupted sustained periods of sitting, increase cardiometabolic risk independent of moderate/vigorous physical activity habits (Healy et al 2011). Thus a sedentary office worker not only needs a daily moderate/vigorous activity such as a morning run, but also needs to reduce overall time sitting and to break up sustained periods of sitting. This is creating an interesting convergence of musculoskeletal and cardiometabolic health. Currently, the only Australian national guidelines regarding sedentary behaviour recommend keeping leisure screen-based activity to less than 2 hours per day for children (DHA 2005b). Musculoskeletally-focused computer use guidelines have recommended postural variety and active breaks away from seated computer use every 30–60 minutes (Straker et al 2010). Thus national guidelines can now be refined and extended to recommend reduction in total daily sedentary behaviours and avoidance of uninterrupted sedentary periods of more than 30–60 minutes.

### Opportunity for physiotherapists

Despite advances in tertiary care, the health of populations in affluent countries is declining. The impending cost burden of dealing with lifestyle-related health disorders will overwhelm current health service delivery models. Therefore we must prioritise prevention now to optimise the health of the population.

Currently there is a window of opportunity created by government urgency to reform health systems and support other preventive initiatives to reduce the impending disease burden. Physiotherapists *could* play a major role in preventive health – but if we don't there are many other groups who will take on this vital role for our society.

A desire to help people live healthier, happier, and more functional lives by reducing the burden of disease and injury is a driving motivation to enter the physiotherapy profession and to remain a physiotherapist. As a profession we have long promoted the notion to 'move well, stay well'. We now have a wonderful opportunity to leave the world a better place by: modelling healthy behaviours, teaching our students the importance of prevention, raising the issue of health behaviours with our clients regardless of their presenting condition, and taking other preventive actions at individual, local, and broader community levels (NPHP 2006). The National Preventative Health Strategy provides an extensive roadmap for preventive actions at all levels (NPHT 2009a) and Box 1 provides some examples of preventive actions physiotherapists could take. Given our knowledge and skill base and our respected status in society, physiotherapists can be at the forefront of the renewed international prioritising of prevention. For your own health, for the health of your clients and students, and for the health of the human race, I urge you to prioritise prevention.

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