# Cycling and Health

Australians don't get enough exercise. This represents an enormous burden to our individual lives in terms of our sense of physical and mental health and our length and quality of life. It also represents a burden to our economic and civic prosperity and burden on our health care systems and funding thereof. It comes at a financial cost from the individual, to the community, economy, and tax payer and represents a substantive cost across all levels of government and therefore the taxpayer.

People want to be fit and healthy and enjoy mental and emotional wellness. The cacophony of wellbeing diets, apps, instagram accounts, TV programs, selfcare hacks, demonstrate the aspirations we have personally and collectively. Unfortunately despite these aspirations and intentions people don’t get enough exercise because it is hard to dedicate specific time in our modern busy schedules. It is hard to find and justify this time in our “Hi, I’m busy” lifestyles. For this reason it is essential that we build movement and exercise into our lives as incidental to our other daily and weekly tasks and activities.

A well connected active transport network that facilitates safe, easy, user-friendly and pleasant mobility, is the single most effective way to exponentially increase people's physical activity. Cycling infrastructure allows the most valuable and highest payback of health benefits to be gained, via incidental and spontaneous exercise as a bonus in undertaking other daily and weekly tasks.

* Cycling as an incidental activity has the following benefits:
	+ Improved physical health
	+ Improved mental/emotional health
	+ Improved mobility and agency for people who are unable to walk sufficient distances or can’t/don’t drive a motor vehicle (ie those living with a disability and/or ageing)
	+ Improves the health, wellbeing, resilience and educational outcomes of children and young people
	+ Lowest cost and greatest benefit to both the individual and across all levels of government from infrastructure provision through to reduced health cost burden
	+ Facilitates public wellbeing through behaviour and culture change in levels of physical activity and increases community connection and social capital through spontaneous and incidental interaction which also mitigates loneliness and isolation.

## Individual determinants of health

Physically active people are less likely to become overweight or obese, and to develop cardiovascular disease, type 2 diabetes, colon cancer, breast cancer, osteoporosis and depression[[1]](#footnote-0). Physically active adults in the workforce have lower rates of absenteeism and increased job satisfaction[[2]](#footnote-1).

Despite these benefits, more than a third of Australian adults (34.6%) are classified as sedentary. Physical inactivity is responsible for 6.6% of the total burden of disease and injury in Australia[[3]](#footnote-2) , resulting in an estimated direct gross cost to the Australian health budget of $1.49 billion per annum[[4]](#footnote-3).

## Healthy Communities

Low levels of physical activity are a major risk factor for ill health and mortality from all causes and contribute to excess weight and obesity leading to diseases such as cardiovascular disease, Type 2 diabetes, some musculoskeletal conditions and colon and breast cancer. The direct cost of inactivity is estimated at over $10 billion per annum

Being physically active improves mental and musculoskeletal health and reduces risk factors such as overweight and obesity, high blood pressure and high blood cholesterol[[5]](#footnote-4).

Currently more than 1 in 2 people aged 18 and over (56%) do not meet physical activity guidelines with a higher proportion of women (58%) than men (53%) not meeting their physical activity guidelines[[6]](#footnote-5). Physical inactivity increases with age (Figure 1). For those aged 18–24, 42% of men and 51% of women do not meet physical activity guidelines. For those aged 75 and over, 67% of men and 81% of women do not meet physical activity guidelines.

*Figure 1: Physical Inactivity of Adults in Australia*



While in Australia cycling is still a popular leisure time activity it has been neglected in terms of funding for many decades and in terms of being able to help address physical activity levels. The lack of infrastructure and facilities means that people, and especially young people, have limited opportunities to address the lack of physical activity.

Whilst the Australian government has produced physical activity guidelines for all age groups, nationally there has been little improvement in population-wide levels of physical activity. The physical, emotional and economic well-being of the majority of children and young people is being compromised by poor levels of physical activity.

* Over 70% of children and 91.5% of young people do not meet physical activity recommendations[[7]](#footnote-6).
* Declining rates of physical activity are contributing to accelerating rates of childhood overweight and obesity. Over one-quarter of Australian children are overweight or obese[[8]](#footnote-7)
* 9.7% of school children have been measured as vulnerable in their physical health and wellbeing domain in the Australian Early development Census, a three yearly survey of children entering their first year of school [[9]](#footnote-8)
* Regular physical activity is recognised as improving academic performance[[10]](#footnote-9)
* Active travel is one of the easiest ways to incorporate physical activity into everyday life

## Cycling Impacts on Health

Cycling is mainly an aerobic activity, which means that your heart, blood vessels and lungs all get a workout. People who cycle will breathe deeper, perspire and experience increased body temperature, which will improve your overall fitness level. The specific health benefits of regular cycling include:

* Increased life expectancy
* increased cardiovascular fitness
* increased muscle strength and flexibility
* improved joint mobility
* decreased stress levels
* improved posture and coordination
* strengthened bones
* decreased body fat levels
* prevention or management of disease
* reduced anxiety and depression
* cognitive functioning,
* social connectedness, and
* independent living for older adults.[[11]](#footnote-10)

A meta- analysis of the extant literature on the health benefits of cycling was undertaken by both Oja et al.[[12]](#footnote-11) and the World Health Organization WHO[[13]](#footnote-12). Both studies found a strong inverse relationship between all-cause mortality and cycling as a form of physical activity, meaning the more physically active you are the longer you live.

Cycling has the potential to encourage moderate and vigorous intensity exercise, an option not available to walking. As the Australian Health Guidelines state, some physical activity each week should be moderate or vigorous in intensity. Vigorous intensity physical activity generally provides increased health benefits[[14]](#footnote-13). However, the Australian Medical Association emphasise that it is important to recognise that some of the largest gains in health and wellbeing are made by people who shift from being physically inactive (sedentary) to moderate amounts of physical activity as illustrated in Figure 2. This suggests sedentary people who take up bicycle riding for the first time are likely to derive the most benefit.

*Figure 2: Relationship between physical activity and health benefits*

## What gets people cycling

Incidental ‘lifestyle’ physical activity such as cycling is more cost‐effective than structured exercise programs[[15]](#footnote-14) , and the regular short trips most people take to get around in their communities are ideal for accumulating the recommended three 10‐minute periods of moderate to vigorous physical activity on most days. Frequent short trips can also contribute to low intensity physical activity and reduced periods of sedentary behaviour.

| **Policy / Action** | Result |
| --- | --- |
| **Urban planning policies**  | Pro‐cycling transportation provision has a greater impact on cycling than urban density, street patterns and mixed land use  |
| **Policies that restrict car use7** | Increased cycling  |
| **Traffic calming**  | Increased cycling  |
| **Traffic safety policies that emphasise driver responsibility for avoiding crashes with pedestrians and cyclists**  | Little evidence to support these policies.  |
| **Public transport provision**  | When highly coordinated can significantly increase both public transport and cycling |
| **Active transport infrastructure in general**  | Increased cycling  |
| **Separated facilities such as off‐road paths**  | Substantial evidence of increased cycling, provided facilities enable direct access to trip destinations.  |
| **On‐street bicycle lanes, wide curb lanes, and other non‐intersection specific treatments**  | Considerable evidence shows almost no increase. *Perceptions* of increased safety may be an important factor.  |
| **Bicycle loan programs**  | Some evidence of increased cycling.  |
| **Improving access and safe bicycle parking at train stations.**  | Some evidence of increased cycling.  |
| **Behaviour change programs, including ‘one‐off’ walk to work days**  | Some, but not all, effective in short‐term. ‘One‐off’ events effective on the specified day(s). Some evidence of sustained changes.  For programs directed at reduced car use (eg TravelSmart), increases in public transport use and walking exceed increases in cycling.  |
| **Skills training** | Some evidence of increased cycling |
| **Integrated multi component strategy** | Increased cycling at the population level |

Half measures are ineffective in changing lifestyle habits. Substantive pedestrian and cycling infrastructure is necessary to move our communities to adopt bike riding as a mode of transport embedding physical activity into their lives. If undertaken in a deliberative way the benefits will far exceed the cost and the returns on investment will vastly improve our health and wellbeing.

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