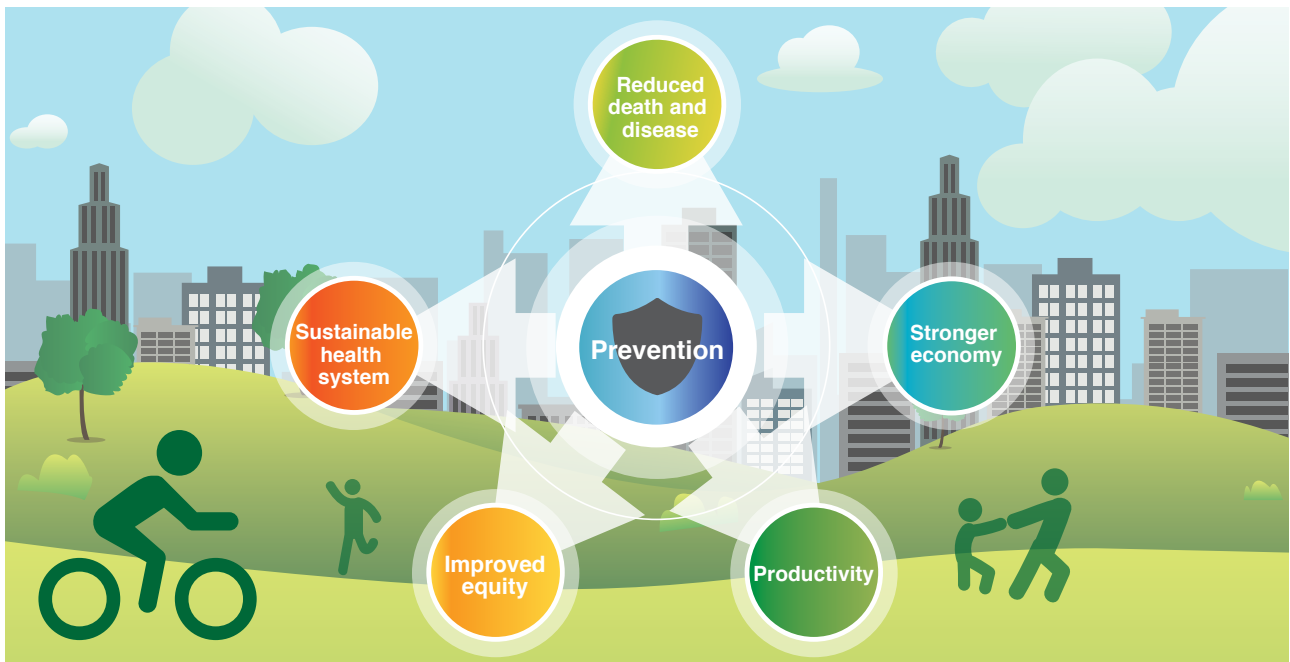


The value of prevention

Evidence confirms that investment in prevention makes economic sense and has multiple benefits for communities, governments, businesses and the country.



Key messages

- The four risk factors of overweight and obesity, unhealthy diet, physical inactivity, and tobacco use cause tens of thousands of premature deaths per year and years lived in poor health.
- These risk factors contribute significantly to Australia's burden of preventable disease, with tobacco use causing 9.3% of the burden, followed by obesity (8.4%), unhealthy diet (7.3%) and physical inactivity (2.5%).
- The economic costs of these risk factors include costs to the health system, such as hospitalisations and charges to Medicare, as well as broader economic or societal costs from reduced employment, absenteeism or reduced capacity at work due to poor health (presenteeism).
- Even small changes in the prevalence of these risk factors are likely to lead to a significant reduction in the health burden for individuals and the healthcare system, as well as a reduction in economic and societal costs for communities, businesses and governments.
- Investment in population-wide prevention strategies will result in better physical and mental health outcomes for individuals, communities and society.
- Most preventive health strategies are cost-effective; their benefits far outweigh the cost of their implementation.
- Every dollar spent on treating chronic disease that is preventable is money that could be spent elsewhere in the health sector; every year of productive life lost to premature death or disability could have been directed to a more productive and prosperous society.
- Because many prevention intervention require action outside of the health sector, effective prevention requires a collective cross-sector approach.

Our findings

1 The four risk factors of physical inactivity, overweight and obesity, tobacco use and unhealthy diet represent a significant health burden for the Australian population

Approximately one-third of Australia's entire burden of death and disability can be attributed to risk factors that can be prevented, including environmental, behavioural and metabolic risk factors.¹

This evidence review confirmed that overweight and obesity, tobacco use, unhealthy diet and physical inactivity cause a large proportion of preventable disease and years lived in poor health. They compound each other and contribute to other major risk factors for disease, such as high blood pressure and high blood plasma glucose.

The impact of these preventable risk factors is spread inequitably across the Australian population. Some groups, such as lower income groups, people living in rural and remote Australia, Aboriginal and Torres Strait Islander peoples, and people with disability, experience a much higher burden of risk factors and chronic disease.

The evidence shows that the risk factors also place a significant burden on governments, businesses and communities through death and disease burden, annual productivity loss and attributable health expenditure (table below).

	Deaths per year in 2015 (Australia) ²	Attributable % of overall disease burden (DALYs) ^{2*}	Annual productivity loss ^{3**}	Attributable health expenditure ³
Tobacco use and smoking	20,933	9.3%	Up to \$10.5 billion	\$415 million to \$1.7 billion
Overweight and obesity	14,165	8.4%	\$840 million to \$14.9 billion	\$1.5 to \$13.7 billion
Unhealthy diet	19,876	7.3%	Not available	\$243 million to \$2.2 billion
Physical inactivity	7,079	2.5%	Up to \$15.6 billion	\$681 to \$850 million

* Disability-adjusted life year (DALY) encompasses both premature death (years of life lost) and losses in quality of life (years lived with disability).

** Estimates of productivity loss and attributable health expenditure vary due to elements that are included/excluded and the timeframe of analysis.

2 Preventing and managing these risk factors is of critical importance for both health and economic reasons

The evidence suggests that even small changes in the prevalence of overweight and obesity, tobacco use, unhealthy diet and physical inactivity are likely to lead to significant reductions in the health burden for individuals and the healthcare system, as well as a reduction in economic and societal costs for communities, businesses and governments.

3 Prevention has numerous co-benefits

Prevention benefits health and produces mental wellbeing, social and environmental benefits. Preventive strategies are also likely to be cost-effective and economically beneficial.

Prevention has numerous co-benefits

Prevention benefits overall health and is associated with mental wellbeing, social and environmental benefits.

Preventive strategies are also likely to be cost-effective and economically beneficial.

Physical health benefits

Improved

- Years lived in good health
- Quality of life
- Physical activity levels
- Healthy body weight (BMI), waist circumference, cholesterol
- Dietary patterns (more fruit and vegetables, less unhealthy foods)

Reduced

- Premature death
- Preventable disability
- Pain
- Sedentary behaviour
- Prevalence of overweight and/or obesity
- Injuries

Mental health benefits

Improved

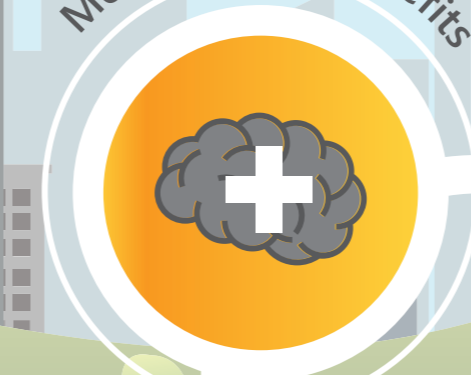
- Mental and psychological wellbeing
- Self-esteem
- Cognitive function
- Quality of life

Reduced

- Mental health conditions (e.g. depression and anxiety)
- Stress
- Psychological distress
- Substance misuse



Mental health benefits



Physical health benefits



Social benefits



Economic benefits



Social benefits

Improved

- Health and social equity
- Neighbourhood safety and amenity
- Social participation
- Social connection
- Walkability and urban connectivity
- Access to employment
- Behaviour in school
- Air quality

Reduced

- Inequity
- Loneliness
- Road traffic collisions and accidents
- Carbon emissions
- Air pollution

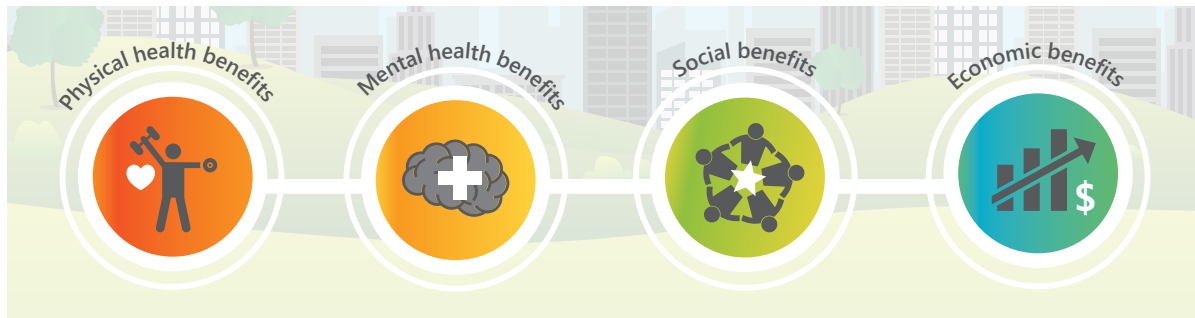
Economic benefits

Improved

- Sustainable healthcare system
- Productivity
- Attendance at work
- Productive years in the workforce
- Gross Domestic Product

Reduced

- Hospitalisations
- Absenteeism and presenteeism
- Income lost due to disease and premature death



What is prevention?

'Prevention' can be defined as any action taken to protect and promote the health of populations.⁴ Prevention aims to prevent poor health, illness, injury and early death from occurring, and increase the likelihood that people will stay healthy and well for as long as possible.⁵

Effective preventive actions and strategies decrease the risk of experiencing a disease, condition or injury.⁴ Prevention also supports people to effectively manage existing diseases and conditions, so their health does not worsen.

Need for a systems approach

Prevention requires that individuals, communities, organisations and governments work together in a coordinated way to create solutions from different perspectives.⁶ This includes sectors beyond the health system – such as education, transport and town planning – to create health-promoting opportunities and healthy environments where people live and work.

A systems approach to prevention can support preventive interventions or strategies that are effective at promoting large scale, systems-level changes that lead to long lasting health, social and economic benefits for all.⁷

Need for multiple strategies

The evidence shows prevention is most effective when multiple strategies are used to target multiple risk factors. The following prevention strategies are particularly effective and/or cost-effective:⁸

- Regulation and policies – such as plain packaging of tobacco products, improved food labelling, limiting unhealthy food advertising to children, smoke free policies
- Fiscal interventions – such as taxing harmful products including tobacco, sugar-sweetened beverages and alcohol
- Healthy lifestyle programs – including some mHealth (use of mobile and wireless technology) and eHealth (use of information and communication technology) programs
- Health promotion in different settings to create health supporting environments – particularly in schools, early childhood, workplace and maternity service settings
- Built environment and transport – such as supporting active travel, more walkable communities, and access to green space
- Social marketing and mass media campaigns to support regulatory, fiscal and environmental initiatives – particularly campaigns to promote physical activity and prevent smoking uptake.

About this evidence check

We conducted a rapid review to provide a summary of the evidence base on the value of prevention. This builds on the Prevention Centre's previous work on the health and other benefits of prevention and the cost-effectiveness of preventive health interventions for chronic disease prevention (preventioncentre.org.au).

The review summarised the health burden and economic costs of four risk factors: physical inactivity, overweight and obesity, tobacco use, and unhealthy diet. It identified the relevant evidence about the health, social, economic and other benefits of primary prevention strategies. Primary prevention strategies are those that aim to protect the health of the community through reducing exposure to these risk factors.

Methodology

The review questions were:

1. What are the economic and health costs of high body mass, poor diet, insufficient physical activity and tobacco use?
2. What are the health, social and economic benefits of primary prevention strategies which address high body mass, poor diet, insufficient physical activity and tobacco use; and which strategies are most cost-effective?

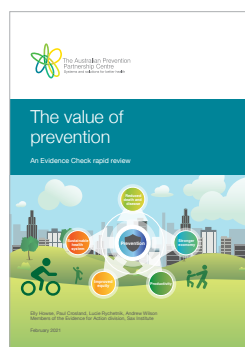
We conducted searches of the peer-reviewed (published) literature and relevant grey literature documents published between 2015 and 2020. We conducted two systematic searches, one for each review question, using four scientific databases for both searches for a total of eight searches of the peer-reviewed literature. For the grey literature, we undertook advanced searching using Google for key government and organisational websites.

A total of 86 peer-reviewed studies and grey literature documents were included in this review, 14 studies for review question 1 and 72 for review question 2.

Limitations

This was a rapid review and is not graded the same as a systematic review. The prioritisation of umbrella reviews and systematic reviews due to the breadth of literature may mean that some individual studies were missed. There may be additional relevant grey literature documents that were not identified during the searching or screening process. Additional evidence on non-health or social benefits may exist but may have been missed by the focus of the present study on high level evidence and inclusion criteria of umbrella reviews for review question 2.

Due to the breadth of the review, the large number of results and extensive areas covered, synthesis and analysis were difficult and definitive answers could not be obtained to all questions.



This review builds on the Prevention Centre's previous work on the health and other benefits of prevention and the cost-effectiveness of preventive health interventions for chronic disease.

To read the full report, please visit the Evidence Reviews page on our website.

<https://preventioncentre.org.au/resources/evidence-reviews/>

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