



# Obesity and healthy eating in Australia

## Evidence summary

**Promoting healthy eating is one of five strategic imperatives in the VicHealth Action Agenda for Health Promotion. VicHealth recognises the many health benefits of healthy eating.**

A healthy diet contributes significantly to healthy weight, quality of life and wellbeing, and can protect against chronic disease and premature death. Conversely, an unhealthy diet has long been recognised as a key risk factor for overweight and obesity, and related diseases such as diabetes, cardiovascular disease and cancer.

Overweight/obesity and an unhealthy diet are leading risk factors contributing to the burden of disease in Australia.

### About this summary

This evidence summary outlines current trends in obesity and healthy eating in Australia and Victoria. It also gives an overview of the impacts of an unhealthy diet, as well as barriers and enablers to changing the eating patterns of a population. It has been informed by recent studies and relevant government and non-government agency reports.

### Definitions

**Body mass index (BMI):** An index calculated by dividing a person's weight (in kilograms) by the square of their height (in metres). Throughout this document, definitions of overweight and obesity are based on BMI, with classifications consistent with international standards.

**Discretionary foods:** Foods not needed to provide required nutrients (often high in fats, sugars, salt and/or alcohol) that are recommended in small amounts or only sometimes (NHMRC 2013).

### In this report

- Overweight and obesity
- Inequities in obesity and healthy eating
- Obesity, diet and burden of disease
- Food insecurity and obesity
- What is a healthy diet?
- How many Australians are meeting dietary guidelines?
- Changing a population's eating habits

**Food environment:** Contextual factors including nutrition labelling standards, healthy food standards in specific settings, food taxes and subsidies, advertising restrictions, reformulation initiatives and incentives for healthy retail and food service environments (World Cancer Research Fund International 2016).

**Food system:** A system incorporating all elements involved in food production and consumption, including primary production, processing and packaging, retail and distribution, catering and food services, consumption and waste management (NHMRC 2013).

**Obesity:** Having a BMI of at least 30.

**Overweight:** Having a BMI of at least 25.

**Sugar-sweetened beverages:** Soft drinks and cordials, fruit drinks, vitamin waters, energy and sports drinks that are sweetened with sugar.

### ONLINE RESOURCES

For information on VicHealth's healthy eating programs, research and initiatives, visit [www.vichealth.vic.gov.au](http://www.vichealth.vic.gov.au)



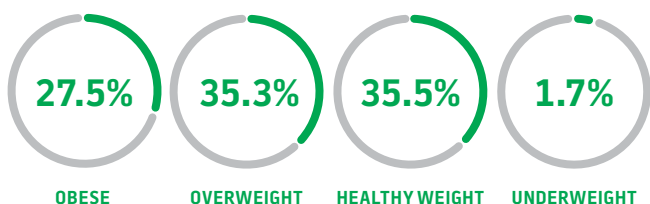
# Overweight and obesity

## Australian statistics and trends

In line with patterns observed in many developed countries, the prevalence of overweight and obesity in Australia has been increasing significantly over recent years. In 2011–12, more than a third (35.3%) of Australian adults were overweight, and more than a quarter (27.5%) were obese (see Figure 1). While there is some evidence that rates of childhood overweight and obesity have steadied in Australia, one in four children was overweight (18.2%) or obese (6.9%) in 2011–12 (Australian Bureau of Statistics (ABS) 2013).

**Victorian data mirrors these trends, with 31.2% of adults estimated to be overweight, and 18.8% obese,** throughout the state in 2014 (DHHS 2016).

**Figure 1: Overweight and obesity in Australian adults, 2011–12**



It is predicted that, if current trends in body mass index (BMI) continue, the prevalence of overweight and obesity among Australian adults will reach 73% by 2025, with 34% of the population being classified as obese (Walls et al. 2012).

## Who is most affected?

In Australia, the prevalence of obesity varies with sex and age. More men are overweight or obese (69.7%) than women (55.7%), although rates of obesity are similar. Almost three-quarters (74.9%) of adults aged 65–74 years are overweight or obese, compared with 36.4% of those aged 18–24 (ABS 2013).

Similar patterns are evident in Victoria, with older adults reporting significantly higher prevalence of both overweight and obesity compared with state averages. Men are more likely to report being overweight (39.4%) or obese (20.4%) than women (24.3% and 17.2%, respectively) (DHHS 2016).

In addition, important patterns of inequity exist, meaning that the burden of obesity is not shared evenly across our population. Some of these are highlighted next.

## Locality

Across Australia, adults living in inner regional, outer regional and remote areas are more likely to be overweight or obese compared to adults living in major cities (ABS 2013).

In Victoria, **there is a significantly higher prevalence of obesity (but not overweight) among women living in rural Victoria compared with metropolitan areas** (DHHS 2016). Analysis of data from the 2014 Victorian Population Health Survey by local government area showed significantly higher rates of obesity in the Grampians, Hume and Loddon Mallee regions, and significantly lower rates in the Eastern Metropolitan region, compared with the Victorian population overall (DHHS 2016).

## Socioeconomic status

While the national prevalence of overweight and obesity is higher for women living in areas of most disadvantage (63.8%) compared with those living in areas of least disadvantage (47.7%), men have similar rates across both settings (69.0% and 68.6%, respectively) (ABS 2013).

**In Victoria, the proportion of both men and women who are obese declines with increasing household income (one measure of socioeconomic status).** Other markers of socioeconomic status are also associated with increased prevalence of obesity for men (unemployment, educational attainment) and women (educational attainment and total household income) (DHHS 2016).

## Indigenous people

When combined, overweight and obesity rates are similar among Indigenous and non-Indigenous Australians. However, the prevalence of obesity is significantly higher among Indigenous people older than 15 years, with this population 1.5 times as likely to be obese. Three in ten Indigenous children aged 2–14 years were overweight (20%) or obese (10%) in 2012–13 (ABS 2014).

## INEQUITIES IN OBESITY AND HEALTHY EATING

Health inequities are differences in health status between populations that are socially produced, systematic in their unequal distribution across the population, avoidable and unfair (VicHealth 2015a).

Socioeconomic inequalities in overweight and obesity have persisted among Australian adults since 1980 (Gearon et al. 2015) and, if current trends in weight gain continue, are likely to widen over the next 10–15 years (Backholer et al. 2012).

Similarly, data shows that dietary risk factors may be more prevalent in certain populations. For example:

- among Australian adults, a greater level of education, higher income and living in areas of greater socioeconomic advantage are associated with higher diet quality (Backholer et al. 2016)
- individuals living in areas of socioeconomic disadvantage are more likely to consume sugar-sweetened beverages than those living in less disadvantaged areas (ABS 2015).

Conversely, people in higher income groups, non-Indigenous Australians and people living in more advantaged neighbourhoods are most likely to eat a healthy balanced diet, to have a healthy weight and have better health outcomes (VicHealth 2015).

Indigenous Australians experience the greatest impact from diet-related illness, with higher rates of overweight and obesity, cardiovascular disease, type 2 diabetes, chronic kidney disease, dental decay and dementia than other Australians (VicHealth 2015a).

Population-wide initiatives to reduce rates of obesity and the prevalence of diet-related risks should maintain a focus on health equity. Specific tailored interventions may also be required for populations experiencing the greatest disadvantage from diet and obesity-related disease in order to address current risk factors and health inequities.

## Obesity, diet and burden of disease

Serious health problems are associated with overweight and obesity, including chronic disease, poor mental health, poor oral health, sleep breathing problems (sleep apnoea) and decreased overall wellbeing (Australian Government Department of Health 2009).

Poor diet also contributes to the risk of chronic disease, both through overconsumption of energy and through the independent effects of individual dietary risk factors (Table 1) (AIHW 2016).

**Table 1: Some dietary risk factors for chronic disease**

| Dietary risk factors include  |   |
|---|---|
| Low intake of healthy foods/nutrients   | High intake of unhealthy foods/nutrients  |
| e.g. fruits, vegetables, fibre, milk, nuts and seeds, calcium, whole grains and omega-3 fatty acids | e.g. salt (sodium), saturated fat, red meat, sugar-sweetened beverages and processed meat |

While both are preventable and modifiable, unhealthy BMI and dietary risks were recently identified as the factors causing the greatest burden of disease in Australia (IHME 2016).

According to recent Australian estimates:

- more than 5% of the total disease and injury burden is attributable to overweight and obesity (defined by high BMI), with high BMI making significant contributions to the burden associated with diabetes (52%), chronic kidney disease (38%), cardiovascular disease (23%) and stroke (17%)
- 2% of the total burden is attributable to low fruit consumption, with other dietary risks (low vegetable, whole grains, nuts/seeds and fibre intake and high consumption of processed meats) each contributing to at least 1% (AIHW 2016).

Modelling performed in 2008 suggested that the total cost of overweight and obesity to the Australian community in that year was \$58.2 billion, including direct costs to the healthcare system and other indirect costs such as lost productivity, decreased wellbeing and carer costs. In Victoria alone, the economic cost of obesity was estimated to be \$14.4 billion (Access Economics 2008).

### FOOD INSECURITY AND OBESITY

Around one in 20 Victorians (4.6%) live in a household experiencing food insecurity (Department of Health 2014) – that is, they have limited or uncertain availability of (or ability to acquire) affordable, nutritious, safe and culturally appropriate foods (VicHealth 2015).

Indigenous Australians, minority cultural groups, people living with disabilities and those living in remote and/or socioeconomically disadvantaged areas are more likely than other populations to experience food insecurity (VicHealth 2015).

While socioeconomic disadvantage is a key contributor to food insecurity, many of these populations also have a higher incidence of obesity (Turrel et al. 2006), with the risk of obesity being 20–40% higher among those living in a household that ran out of food in the last 12 months and not able to afford to buy more (Burns 2004).

To explain this phenomenon, it has been suggested that food insecurity may lead to greater consumption of inexpensive, energy-dense and nutrient-poor foods, or that low-income households may live in areas with poor access to affordable, healthy food (VicHealth 2016).

These findings highlight the need to tackle the food environment and systems that help shape dietary choices, as well as the knowledge and skills that contribute to individuals' behaviours.

“**High BMI and unhealthy dietary factors are leading risk factors contributing to the burden of disease in Australia.**”

(IHME 2016)

## What is a healthy diet?

A healthy diet contributes significantly to healthy weight, quality of life and wellbeing, and protects individuals against chronic disease and premature death (NHMRC 2013).

The *Australian Dietary Guidelines* provide recommendations to address the dietary risks that contribute to obesity and related disease (NHMRC 2013). The Guidelines group together foods that share similar nutrients to create **five core food groups**:

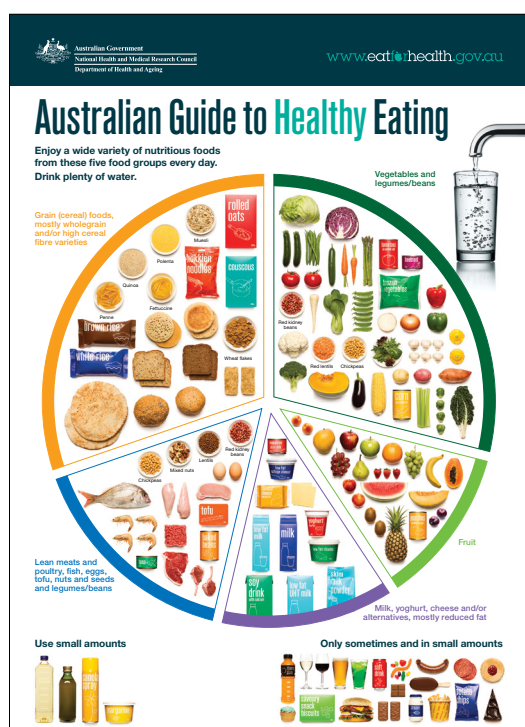
- **grains and cereals**
- **vegetables**
- **fruit**
- **dairy (and alternatives)**
- **lean meats and alternatives (poultry, fish, eggs, tofu, nuts, seeds and legumes/beans).**

Within each core food group, the Guidelines recommend a minimum number of daily serves (based on sex, age and other factors such as pregnancy and breastfeeding), and provide examples of what constitutes a single serve. These examples highlight serve sizes of different foods that provide approximately the same amounts of key nutrients and kilojoules (see Department of Health and Ageing 2013).

The Guidelines provide comprehensive recommendations for all Australians and are visually summarised in the *Australian Guide to Healthy Eating* (Figure 2), a food selection guide that demonstrates healthy daily proportions of each core food group. The *Australian Guide to Healthy Eating* also highlights 'discretionary foods', which are not needed to provide required nutrients. Discretionary foods are often high in fats, sugars, salt and/or alcohol and are recommended only sometimes and in small amounts (NHMRC 2013).

**Figure 2: Food selection guide in the Australian Guide to Healthy Eating**

Source: National Health and Medical Research Council.



## How many Australians are meeting dietary guidelines?

Given the contribution of dietary risks to the burden of disease in Australia it is important to understand not only what constitutes healthy eating (as outlined in the Guidelines) but also current population eating patterns in Australia.

The 2011–12 National Nutrition and Physical Activity Survey (for Australians aged two years and over) found that most Australians did not usually meet the recommended minimum number of serves for any of the five core food groups described in the Guidelines (ABS 2016a). The survey results highlight that:

- less than 4% of adults – and less than 1% of children aged 2–18 years – usually consume the minimum recommended serves of vegetables and legumes
- less than a third of those over the age of two years meet the recommendations for fruit
- nine out of ten Australians aged two years and over do not meet the recommendation for dairy and alternatives
- around 14% of Australians meet the recommendations for consumption of lean meats and alternatives
- less than a third of Australians meet the recommendations for grains and cereals.

Similar patterns are demonstrated by Victorian data from the Victorian Population Health Survey. In 2014 only 4.4% of adults met both the fruit and vegetable dietary guidelines, with 6.4% meeting the vegetable guideline and 47.8% meeting that for fruit (DHHS 2016).

While the Guidelines note that discretionary foods should be enjoyed in small amounts or only sometimes, more than a third (35%) of Australians' energy intake (for those aged two years and older) was found to come from these foods and beverages (ABS 2016a). Figure 3 highlights that **Australians are over-consuming discretionary foods and not eating enough of the foods that contribute to health and wellbeing** (ABS 2016b).

While consuming an average of 6.4 serves of discretionary foods daily (36.3% of total energy), Australian men are only eating:

- less than half the number of recommended serves of vegetables (2.8 serves)
- just over half the recommended serves of fruit (1.2 serves)
- two-thirds the number of recommended serves of dairy (1.6 serves)
- three-quarters the number of recommended serves of meat and alternatives (2.2 serves).

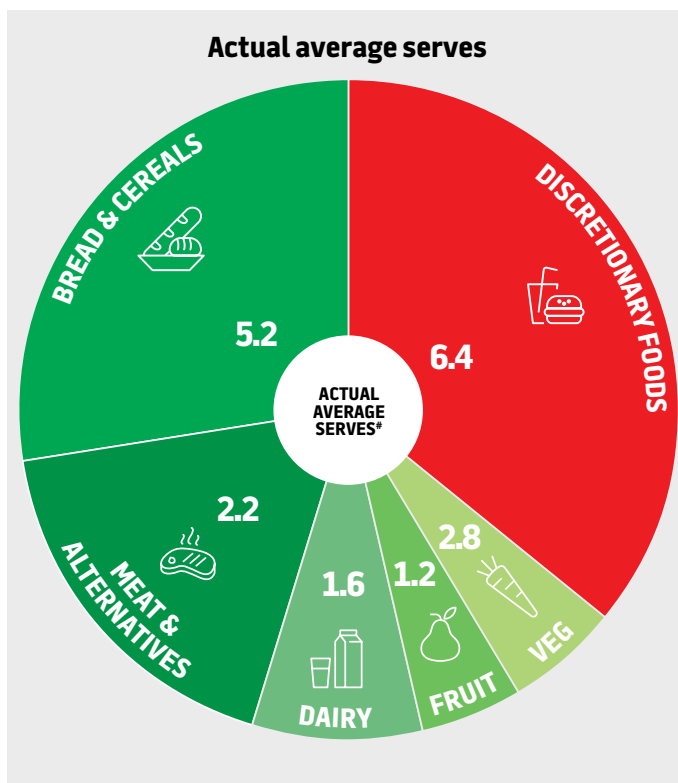
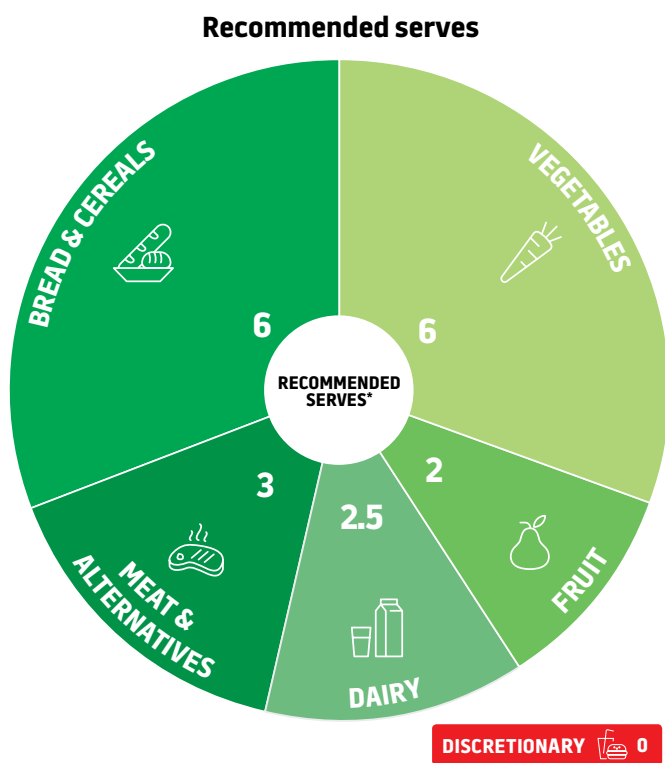
Similarly, Australian women are consuming an average of 4.2 serves (32.6% of total energy) of discretionary foods daily, but only eating:

- just over half the number of recommended serves of dairy (1.3 serves), fruit (1.1 serves) and vegetables (2.7 serves)
- less than two-thirds the number of recommended serves of meat and alternatives (1.6 serves) and breads and cereals (3.7 serves).

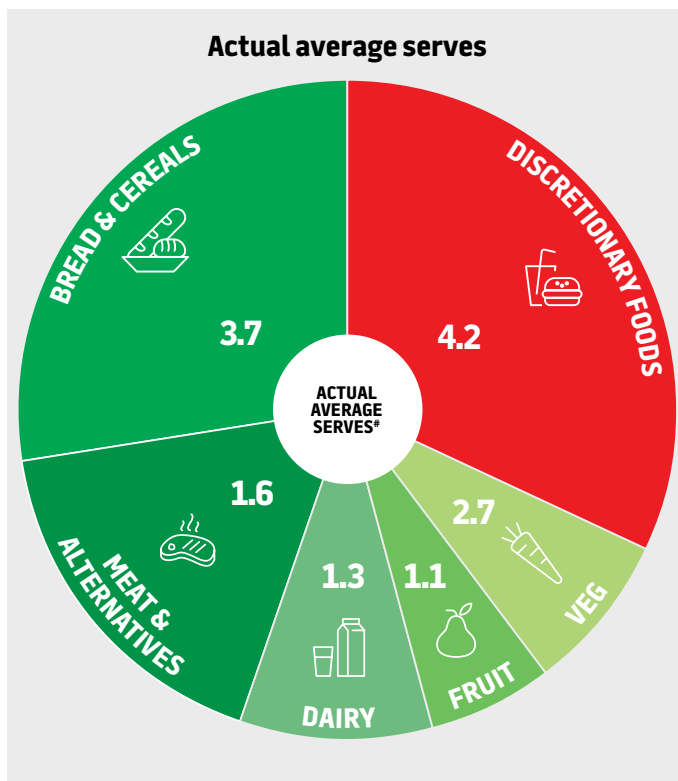
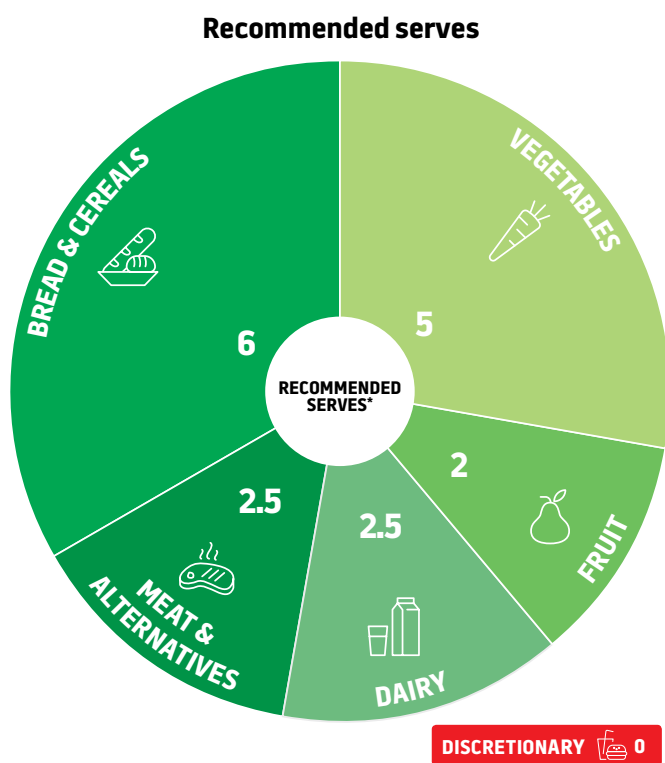


Figure 3: Serves of food groups: recommended vs actual<sup>1</sup>

### AUSTRALIAN MALES AGED 19–50 YEARS



### AUSTRALIAN FEMALES AGED 19–50 YEARS



<sup>1</sup> Proportions are based on energy (kJ) which vary across food groups.

\* Based on the Australian Guide to Healthy Eating (Department of Health and Ageing 2013)

# Based on Australian Health Survey (ABS 2016b)

## Changing a population's eating habits

A combination of food system factors (e.g. the increased availability of highly processed, high-kilojoule foods), environmental factors and individual behavioural factors are likely to be contributing to the global obesity epidemic. In many countries, an increase in food energy supply appears to be a key driver of increasing obesity rates (Vandevijvere et al. 2015), and large portion sizes and the availability and heavy marketing of energy-dense foods and high-energy drinks (e.g. sugar sweetened beverages) contribute to 'passive overconsumption' (Swinburn et al. 2004).

Both in Australia and internationally, it is recognised that broad and strategic policy actions and efforts from government, the food industry and the broader society will be required to halt the obesity epidemic (National Preventative Health Taskforce 2009; World Health Organization 2015).

A multifaceted approach, recognising the three layers of VicHealth's Fair Foundations framework (VicHealth 2015b) (the socioeconomic, political and cultural context, daily living conditions and individual health-related factors) is required to address issues of overweight and obesity and diet-related risk across the population, as well as to tackle issues of inequities suffered by subsections of the community.

Such an approach is echoed in the NOURISHING Framework (World Cancer Research Fund International 2016), in which policy actions are described under three broad domains of activity. This approach acknowledges that systemic changes

through food environments and food systems are required to produce sustainable health outcomes. In particular, systems and structural changes may be less likely to exacerbate socioeconomic inequities than information and knowledge-based interventions aimed at influencing individuals' behaviour (Beauchamp et al. 2014).

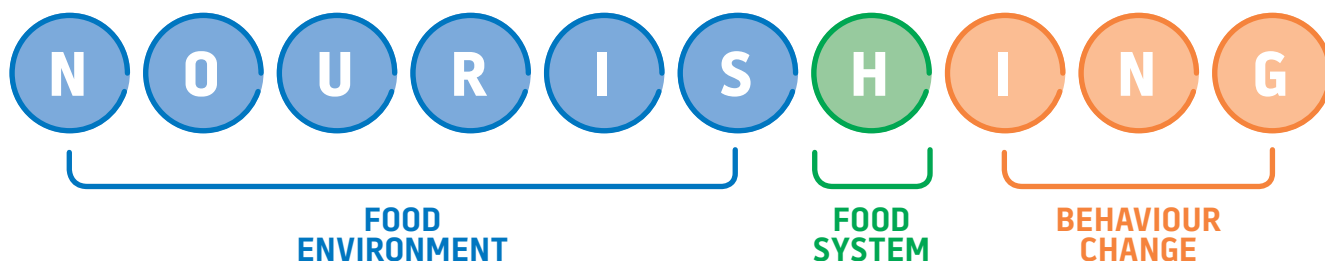
Specifically, the NOURISHING Framework highlights the importance of:

- the food environment, including nutrition labelling standards, healthy food standards in public institutions and other specific settings, economic approaches such as food taxes or targeted subsidies, restriction of food advertising, reformulation initiatives to improve the quality of the food supply and incentives for healthy retail and food service environments
- the food system, including all links in food supply chains and policies and strategies that promote health outcomes across and between all relevant sectors
- behaviour change communication to inform and empower individuals to make healthy eating choices.

The NOURISHING Framework is presented in Table 2, with some current Australian and international policy examples.

**Table 2: World Cancer Research Fund International NOURISHING Framework:  
Food policy package for healthy diets and the prevention of obesity and diet-related disease**

This material has been adapted from the World Cancer Research Fund International NOURISHING Framework and Policy Database. See [www.wcrf.org/NOURISHING](http://www.wcrf.org/NOURISHING) for further information.



|   | POLICY AREA  | EXAMPLES OF POTENTIAL POLICY ACTIONS  | REFERENCES AND LINKS  |
|---|--|---|---|
| N | Nutrition label standards and regulations on the use of claims and implied claims on foods | <ul style="list-style-type: none"> <li>Nutrient lists on food packages</li> <li>Clearly visible 'interpretive' and calorie labels</li> <li>Menu and shelf labels</li> <li>Rules on nutrient and health claims</li> </ul>  | <a href="#">Health Star Rating System</a><br><a href="#">Food Standards Australia New Zealand</a><br><a href="#">Mandatory Kilojoule Labelling for Healthy Food Choices</a>             |
| O | Offer healthy foods and set standards in public institutions and other specific settings   | <ul style="list-style-type: none"> <li>Fruit and vegetable programs</li> <li>Food standards in education, work and health facilities</li> <li>Award schemes</li> </ul>  | <a href="#">Healthy Eating Policy and Catering Guide for Workplaces</a><br><a href="#">2010 National Healthy School Canteens Guidelines</a>   |
| U | Use economic tools to address food affordability and purchase incentives                   | <ul style="list-style-type: none"> <li>Health-related food taxes</li> <li>Targeted subsidies</li> <li>Price promotions at point of sale</li> <li>Unit pricing</li> <li>Increasing import tariffs for unhealthy foods</li> </ul>   | <a href="#">WCRF: NOURISHING Framework</a>  |
| R | Restrict food advertising and other forms of commercial promotion                          | <ul style="list-style-type: none"> <li>Restrict advertising to children that promotes unhealthy diets in all forms of media</li> <li>Sales promotions and packaging</li> <li>Sponsorship</li> <li>Marketing restrictions in school</li> <li>Voluntary industry pledges</li> </ul> | <a href="#">Protecting children from unhealthy food advertising and promotion</a>   |
| I | Improve the nutritional quality of the whole food supply                                   | <ul style="list-style-type: none"> <li>Reformulation to reduce salt and fats</li> <li>Elimination of trans fats</li> <li>Reduce energy density of processed foods</li> <li>Portion size limits</li> </ul>   | <a href="#">WCRF: Improve nutritional quality of the whole food supply</a>  |
| S | Set incentives and rules to create a healthy retail and food service environment           | <ul style="list-style-type: none"> <li>Incentives for shops to locate in underserved areas</li> <li>Planning restrictions on food outlets</li> <li>Incentives to increase the availability of healthy food</li> <li>In-store promotions</li> </ul>                                | <a href="#">WCRF: Set incentives and rules to create a healthy retail and food service environment</a><br><a href="#">Healthy fast food: a resource for remote stores and takeaways</a> |



|   | POLICY AREA  | EXAMPLES OF POTENTIAL POLICY ACTIONS   | REFERENCES AND LINKS  |
|---|--|--|---|
| H | Harness the food supply chain and actions across sectors to ensure coherence with health | <ul style="list-style-type: none"> <li>• Supply-chain incentives for production</li> <li>• Public procurement through 'short' chains</li> <li>• Nutrition standards for public procurement</li> <li>• Health-in-all policies</li> <li>• Governance structures for multi-sectoral engagement</li> </ul> | <a href="#">SA Health: Health in all policies</a><br><a href="#">ACT Govt: Towards zero growth</a><br><a href="#">NSW Healthy eating and active living strategy</a><br><a href="#">WCRF: Harness food supply chain and actions across sectors to ensure coherence with health</a> |
| I | Inform people about food and nutrition through public awareness                          | <ul style="list-style-type: none"> <li>• Education about dietary guidelines</li> <li>• Mass media</li> <li>• Social marketing</li> <li>• Community and public information campaigns</li> </ul>   | <a href="#">Live Lighter</a><br><a href="#">WCRF: Inform people about food and nutrition through public awareness</a>   |
| N | Nutrition advice and counselling in health   | <ul style="list-style-type: none"> <li>• Nutrition advice for at-risk individuals</li> <li>• Telephone advice and support</li> <li>• Clinical guidelines for health professionals on effective interventions for nutrition and weight counselling</li> </ul>   | <a href="#">WCRF: Nutrition advice and counselling in health care settings</a><br><a href="#">DAA: Best practice guidelines for the treatment of overweight and obesity in adults</a>   |
| G | Give nutrition education and skills  | <ul style="list-style-type: none"> <li>• Nutrition and cooking/food production skills on education curricula</li> <li>• Workplace health literacy programmes</li> </ul>  | <a href="#">Get up &amp; grow: Healthy eating and physical activity for early childhood</a><br><a href="#">Kitchen Garden Foundation</a><br><a href="#">WCRF: Give nutrition education and skills</a>   |

## Conclusion

Dietary risk factors and over weight and obesity contribute significantly to disease burden and health costs in Australia, particularly among regional and remote, low socioeconomic and Indigenous populations.

While comprehensive Australian dietary guidelines exist, Australians' actual diets have a high intake of discretionary foods (often high in fats, sugars, salt and/or alcohol) along with inadequate intake of foods that contribute to health and wellbeing. These are both significant dietary risk factors for chronic disease.

Multi-sector collaboration targeting food systems, the food environment and individual behaviour change is required to facilitate sustainable change in Australian dietary patterns and reduce the burden of disease attributed to unhealthy diets, overweight and obesity. Population-wide initiatives should maintain a focus on health equity, but specific interventions may also be required for populations experiencing the greatest disadvantage.

## ACKNOWLEDGEMENTS

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