

The VicHealth Seed Challenge Background Document



SEEDChallenge
An initiative of VicHealth

www.vichealth.vic.gov.au/seedchallenge

 VicHealth



The VicHealth Seed Challenge

This document provides details of the VicHealth Seed Challenge.

This new initiative seeks innovative solutions that address the question:

How do we improve fruit and vegetable supply and access, as well as develop and promote a culture of healthy eating in Victoria?

In this document you will find:

- › an introduction to the role of healthy eating, particularly in relation to fruit and vegetables
- › an overview of the scope of issues our population faces in meeting healthy eating recommendations
- › an understanding of VicHealth's approach to food system health promotion focusing on the areas of **supply, access** and **culture**.

Why is healthy eating so important?

Healthy eating is vital for optimal growth, development and health throughout life and contributes to physical vitality, mental health and social wellbeing.¹

The evidence linking poor food choices with the considerable burden of preventable ill health is clear. Encouraging healthy eating and ensuring food and nutrition security (now and into the future) are in the public interest and are critical.

The message about healthy eating has fundamentally been the same for many years; healthy eating can prevent overweight, obesity and other diet-related conditions (such as heart disease, stroke, high blood pressure, type 2 diabetes and certain cancers). However there are reasons why this message isn't getting through.

Simply continuing to do what we have done over the last three decades is unlikely to bring about further change. A new approach is needed.

Impacts of poor nutrition

Sub-optimal nutrition is linked to more than half (over 56%) of all deaths in Australia² and is responsible for around one-sixth (16%) of the nation's total burden of disease.³

Diet-related conditions such as heart disease, stroke, type 2 diabetes and some forms of cancer are:

- ▶ the major causes of death and disability among Australians³
- ▶ often the result of an inadequate intake of nutrient-rich foods (such as vegetables, fruit and whole grains) and/or an excessive intake of high-kilojoule, nutrient-poor foods that are high in saturated fat, added salt and/or sugar³
- ▶ frequently promoted by overweight and obesity,³ which are also strongly associated with an increased risk of type 2 diabetes, heart disease and stroke⁴
- ▶ a substantial economic burden on society; for example, the overall cost of obesity to Australian society and governments was estimated at \$58.2 billion in 2008.⁵

Higher levels of food insecurity and poor health are often reported by those experiencing social inequalities, such as low income.^{6,7}

Nutrition-related ill health accounts for approximately one-fifth (20%) of the total burden of disease experienced by Indigenous Australians⁸ and is a major contributor to the health discrepancies seen between Indigenous and non-Indigenous Australians.

VicHealth: a vision towards sustainable and healthy eating for Victoria

Since its inception in 1987, VicHealth has been committed to promoting healthy eating. This has been achieved predominantly through campaign activity, investment in research, evaluation, health education, resource development and community-based projects and programs.

In recent years, the focus of investment in nutrition and food systems has moved from funding isolated interventions aimed at the individual and local community level to supporting broader systems approaches, addressing barriers to healthy food choices, ensuring systemic change and understanding the context and determinants of food choices. This approach recognises evidence that multi-layered programs addressing

the economic, social and environmental factors that contribute to healthy eating are likely to be more effective in sustaining long-term health.^{9,10}

VicHealth’s focus on nutrition and food systems is based on the vision of working to create sustainable environments that facilitate healthier food and drink choices for all Victorians. Healthy food and drink choices are determined by a complex mix of factors affected by both the individual and the wider food system. VicHealth’s work is focused on three overarching themes and involves investment in three strategic areas, all underpinned by a set of guiding principles (see Figure 1).

VISION

...work to create sustainable environments that help all Victorians to make healthy food and drink choices

OVERARCHING THEMES

A secure supply of healthy food

Access to healthier food choices

A culture that supports healthy eating

STRATEGIC AREAS

Building knowledge
To foster knowledge production and translation and support on key food and nutrition areas

Policy and regulation
To advocate for and participate in the development of policy and regulatory options that increase healthy eating and promote sustainable food systems

Cultural change and supporting communities
To build the capacity of communities to engage in and to facilitate cultural change that promotes healthy eating

GUIDING PRINCIPLES

**Population and prevention approach | A determinants focus | Innovation
Reduction in health disparities | Brokerage and partnerships
Risk taking | Complementary rather than replication**

Figure 1 Overview of the VicHealth Nutrition and Food Systems Strategic Framework

How does the Victorian population measure up?

Figure 2 shows how nutrition-related disease risk factors contribute a large burden of disease in Victoria. Dental decay, which shares common diet-related risk factors with childhood obesity (such as consumption of sugar-sweetened beverages), also contributes a significant burden of disease (3.2%) in children aged 0–14 years.^{11, 12}

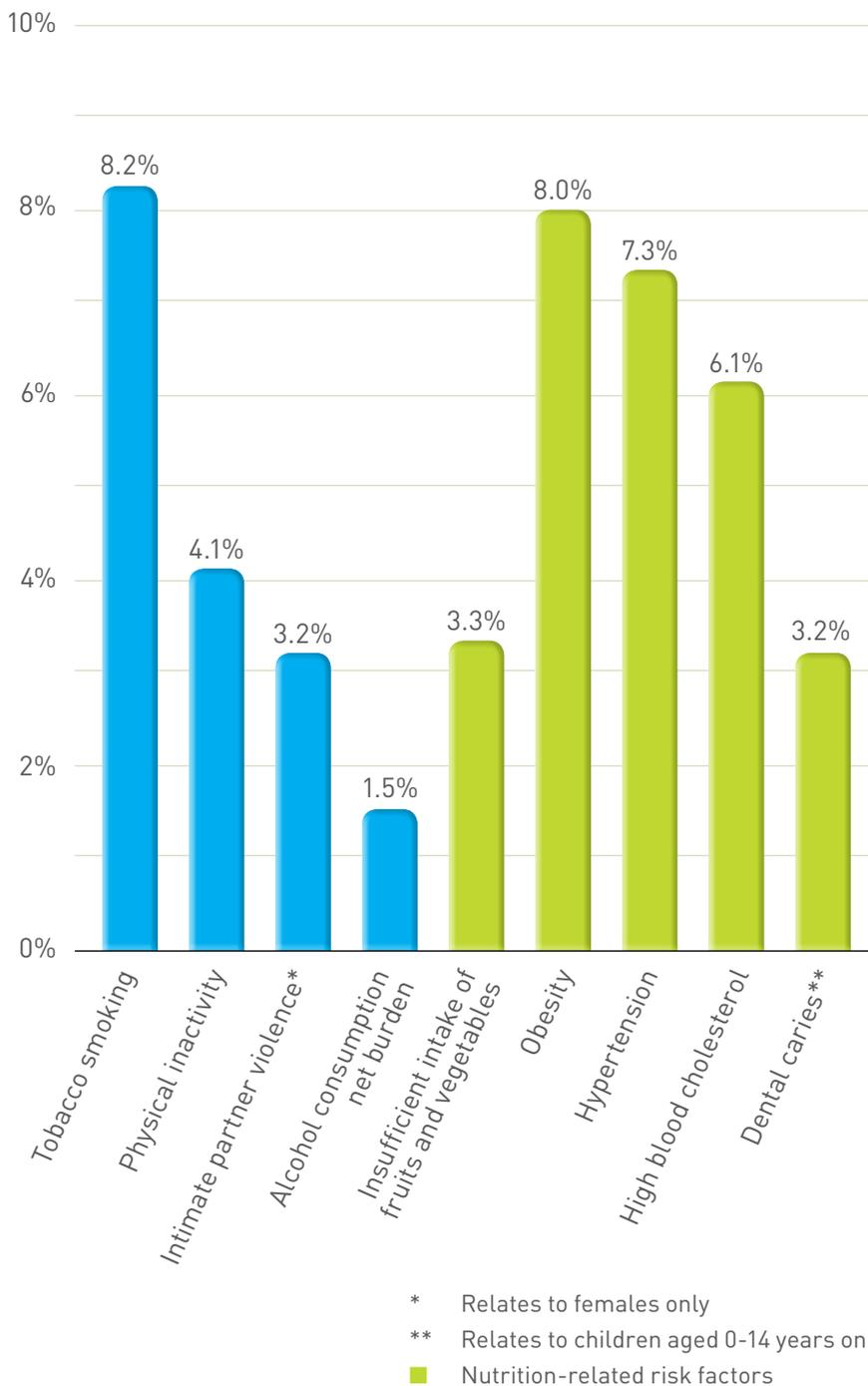


Figure 2 Total disease burden attributed to selected risk factors, Victoria, 2001¹²

The most recent health data for Victorian adults and children paints a grim picture:

ADULTS

- ▶ Victorian adults appear to be becoming more obese over time; more than half (62.6%) are classified as overweight or obese. This equates to about 2.4 million Victorians.¹³
- ▶ Around a quarter of Victorian adults have high blood pressure. This equates to just under one million Victorians.¹³
- ▶ Over half of the Victorian adult population has abnormal cholesterol levels and/or are taking medication to normalise their cholesterol levels. This equates to approximately 2.2 million Victorians aged 18–75 years.¹³
- ▶ Just under a quarter (24%) of the Victorian population had untreated dental decay in 2004–2006, with around one in six (16.9%) saying they'd avoided some foods due to dental problems.¹⁴

CHILDREN

- ▶ Around a quarter of Victorian school-aged children are classified as overweight or obese. Children from families of a lower socioeconomic background are more likely to be overweight, as are males.¹⁵
- ▶ Over 12 per cent of school-aged children have had one or more teeth extracted, 26.6 per cent have had their teeth filled and 7.1 per cent have undergone dental treatment that required general anaesthetic in hospital.¹⁶

Adequate fruit and vegetable intake: vital for good health

Health benefits of eating fruit and vegetables

People who eat larger quantities of fruit and vegetables are healthier than those who don't.

- Eating a variety of fruit and vegetables ensures an adequate intake of vitamins and minerals, dietary fibre and various plant chemicals shown to be beneficial to health (such as lycopene in tomatoes).^{3,17}
- Fruit and vegetables contain relatively few kilojoules compared with other foods (e.g. snack foods high in salt, sugar and fats). Most people tend to eat a similar amount of food every day, regardless of how many kilojoules that food contains. Increasing the amount of fruit and vegetables in a person's diet helps the person to feel full without greatly increasing the number of kilojoules they consume. They may even replace some of the high-kilojoule, nutrient-poor foods previously in their diet as a result. All this assists with losing weight or maintaining a healthy weight.¹⁸
- Fruit and vegetables are naturally low in salt and high in potassium, which may assist with preventing and treating high blood pressure.¹⁹
- Consumption of fruit and vegetables is linked with reduced risk of:
 - stroke
 - mouth and throat cancers
 - coronary heart disease.
- There is also evidence that links:
 - one to two serves per day of tomato with reduced risk of prostate cancer
 - one or more servings of spinach per week with reduced risk of colorectal cancer
 - cruciferous vegetables (e.g. broccoli, cabbage and Brussels sprouts) with reduced risk of lung cancer.³

What level of fruit and vegetable intake is considered adequate?

The Australian Dietary Guidelines³ recommend that adults consume at least five serves (75g per serve) of vegetables and two serves of fruit (150g fresh or 30g dried per serve) each day. Quantities recommended for children and adolescents vary depending on age and gender.

How does where we live make a difference to fruit and vegetable intake?

People in Australia who live in areas of most disadvantage (with regard to income, unemployment and educational attainment) were less likely to eat two or more serves of fruit per day (49%) than people in areas of least disadvantage (57%) and were almost twice as likely to eat no fruit at all (7% compared with 4%).²⁰

Impact of insufficient intake of fruit and vegetables

- Worldwide, insufficient intake of fruit and vegetables is estimated to cause around 14 per cent of gastrointestinal cancer deaths, about 11 per cent of ischaemic heart disease deaths and about 9 per cent of stroke deaths.¹⁷
- Low fruit and vegetable intake is among the top 10 risk factors for premature death globally.¹⁷
- In Australia, low fruit and vegetable intake was responsible for 2.1 per cent of the total burden of disease and injury in 2003, with 81 per cent of this burden due to death.²¹



“ **Increasing fruit and vegetable intake in Australia by just one serve a day would save \$8.6–24.4 million per year in direct health care costs relating to cancer and a further \$150 million relating to health care costs associated with heart disease.** ”²²

Current intakes of fruit and vegetables



Are Victorians eating enough fruit and vegetables?

No, Victorians are a long way off eating enough fruit and vegetables to meet their needs (see Figure 3).

In 2009–2010, less than 15 per cent of adults ate at least five or more serves of vegetables or two or more servings of fruit per day. Alarminglly:

- 61.5 per cent ate less than three serves of vegetables daily
- almost 60 per cent usually ate less than one serve of fruit daily.²³

Although Victorian children were more likely than adults to meet their targets, only a third of all 5–12 year olds actually ate enough fruit and vegetables to meet their daily requirements, with this number dropping considerably as they got older (see Figure 4).¹⁶

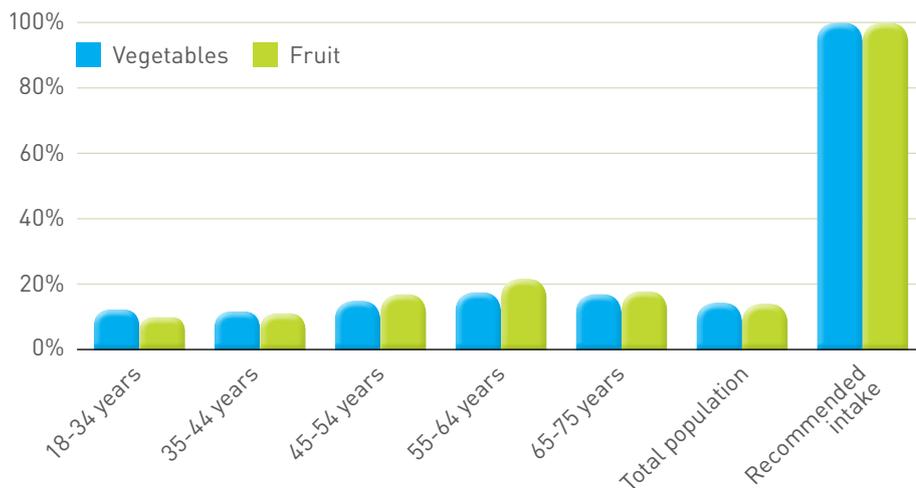


Figure 3 Mean percentage of adult Victorian population achieving the vegetable and fruit recommendations, by age group²³

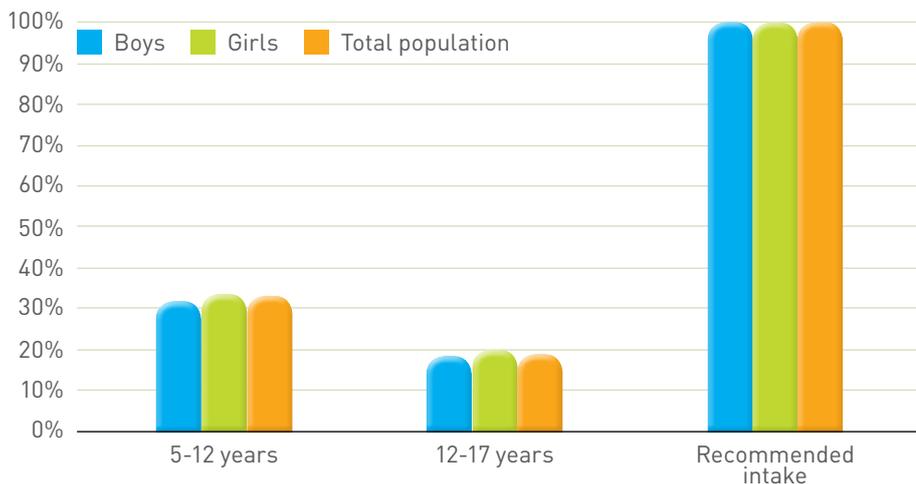


Figure 4 Mean percentage of children and adolescents meeting both fruit and vegetable guidelines, by age group and sex, 2009¹⁶

How much do we spend on fruit and vegetables?

In 2010, the average Australian household spent only \$10.96 on fruit and \$13.70 on vegetables per week. By contrast, the largest average weekly food costs were takeaway and fast foods (\$30.50) followed by meat (\$24.86) and dairy products (\$15.07). A further \$11.77 was spent on confectionary (including potato crisps) each week and only \$4.89 was spent on fish and other seafood.²⁴

Households in the lowest income bracket spent less than half as much on fruit and vegetables as households in the highest income bracket:

- Lowest income households: \$15.74/week (fruit: \$7.06, vegetables: \$8.68)
- Highest income households: \$36.17/week (fruit: \$16.38, vegetables: \$19.79).²⁴

The Victorian Healthy Food Basket (VHFB) survey measures the cost of the 'ideal' diet for Victorian families. In 2008, an average family of two adults and two children would have needed to spend \$49.68/week on vegetables and \$41.49/week on fresh fruit just to meet nutrition recommendations.^{25,26}

Fruit and vegetable costs varied widely, depending on where they were purchased across the state, unlike unhealthy food items whose prices were relatively consistent.^{27,28}

The large differences in current household fruit and vegetable expenditure and the amount required to ensure enough fruit and vegetables are purchased to meet nutrition recommendations suggest that the Victorian population has much room for improvement.

What determines fruit and vegetable consumption?

Individual food choices and consumption are determined by an interaction of multiple factors (see Figure 5). Most of these factors are beyond the control of individuals and families.²⁹ It is difficult to know which factors or combinations of factors are most important.³⁰

Figure 5 provides a simplified visual representation of the role of these factors and their contribution to food choice across the food system, from production to consumption. For example, government policies, along with consumer demand and trade and market issues, will determine the types and varieties of foods available in Australia and the affordability of these choices. At the consumption end, food advertisers and marketers understand that taste, cost, accessibility and social acceptance are some of the key factors driving individual food choice.

Given the complexity of food choice, it is helpful to organise the multiple factors into three overarching themes of supply, access and culture. For the purposes of describing the factors affecting fruit and vegetable consumption, these are:

- › a secure and reliable supply of fruit and vegetables
- › access to affordable fruit and vegetables
- › a culture that supports the adequate consumption of fruit and vegetables.

Of course the supply, access and culture of food do not occur in isolation and are all influenced by elements of the others. It is important that any intervention to improve fruit and vegetable intake considers how it will impact on all three factors.

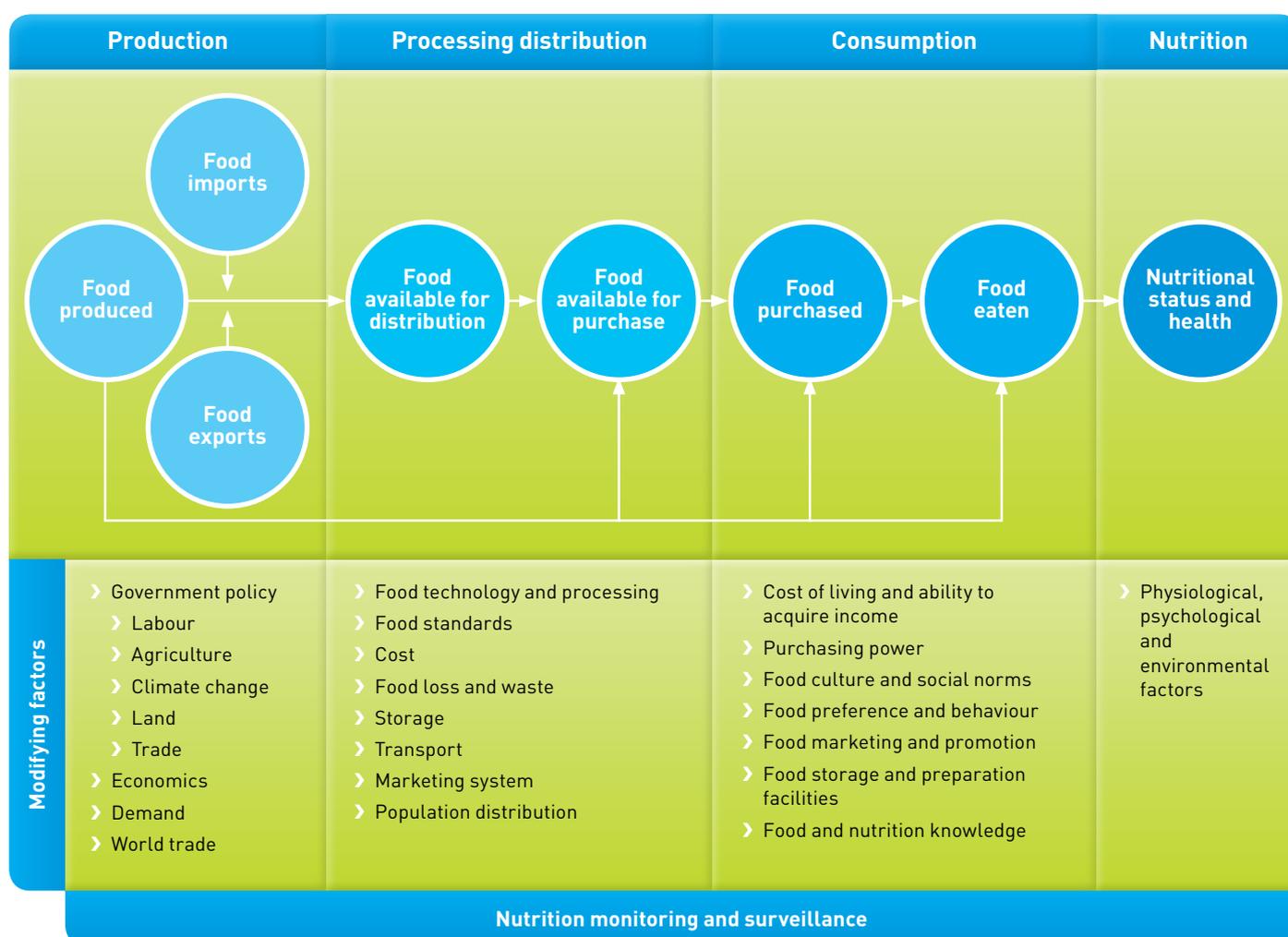


Figure 5 Factors affecting food choice³¹



What is the challenge we face in Victoria? – Supply

Unlike many other health factors, poor nutrition doesn't adversely affect others in the community. Equally, it's not dramatic or acute in its effects on the individual in the way that passive smoking, road safety, alcohol-related harms or intimate partner violence are. In addition, the effects of poor nutrition may not be seen for many years.

Issues with fruit and vegetable supply

The foods we eat in Victoria reflect global trends and markets.³²⁻³⁴ The modern food system has brought a wide range of food products and an unprecedented array of fresh produce. Our diet now transcends seasonality and local growing conditions.^{35,36}

“ A secure supply of nutritious foods is a key determinant of food choice. The presence of sufficient choice and quantity of nutritious foods is an essential precursor to food security and health.”

THREATS TO FOOD SUPPLY

The security of our food supply (both now and into the future) is heavily reliant on the ability of our food system to respond to converging threats.^{1,38-41}

These threats originate from:

- › an over-reliance on naturally existing capital (resulting in less available land, water constraints, exploited fish stocks, phosphorus depletion, soil acidity and soil erosion)
- › intensive fossil fuel inputs
- › the impact of biodiversity decline
- › low farm gate prices
- › population growth
- › climate change
- › sudden supply interruptions such as extreme weather events.⁴²⁻⁴⁹

Of these, the key threats to Victoria's fruit and vegetable supply have been identified as:

- › low farm gate prices
- › loss of agricultural land
- › water and fertiliser availability
- › climate change
- › waste.

Further details about these issues in the Victorian context can be found in the Food Alliance report, *A resilient fruit and vegetable supply for a healthy Victoria: working together to secure the future.*⁴³



FACTORS AFFECTING HEALTHY FOOD SUPPLY

The complex array of factors that affect food supply obviously influences the ability of people to consume healthy foods such as fruit and vegetables. In addition, the function of markets and trade (including the location of food outlets and the availability, price, quality, variety and promotion of food within them) also greatly impact on people's food security, choice and consumption.⁵⁰

In October 2011, the Food Alliance hosted a Victorian Fruit and Vegetable Roundtable, *Addressing the barriers to a viable Victorian fruit and vegetable industry*, to discuss issues raised in their report.^{43,51} Stakeholders from multiple sectors identified the need to increase the availability and accessibility of fruit and vegetables across multiple settings. Food supply strategies to do this included:

- › trialling new methods of purchasing fruit and vegetables that reconnect people with farmers and with local, seasonal produce
- › introducing government food procurement standards
- › developing state/national nutrition and food policies
- › increasing the fruit and vegetable content of convenience foods.⁵¹

What is the challenge we face in Victoria? – Access

Issues with fruit and vegetable access

Most Victorians generally have access to healthy food, although this access can be influenced by several factors. For example, people living in low-income areas may have less access to supermarkets but disproportionately higher access to fast food outlets.^{3,52} Location of food stores can present problems with physical access for people with mobility problems or for 'car less', low-income households in areas with scant local public transport.^{53,54}

FACTORS THAT INFLUENCE ACCESS TO HEALTHY FOODS

The factors that influence access to healthy foods can be grouped broadly into the categories of **physical accessibility**, **affordability** and **capacity**.

“ Evidence shows that access to good, affordable food makes more difference to what people eat than health education.⁵⁵ ”



Physical accessibility

Physical accessibility takes into account a person's environment and whether it is conducive to eating healthily.

Physical barriers to accessing fruit and vegetables may include:

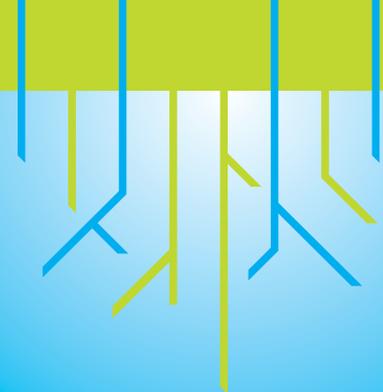
- few accessible food stores from which to purchase fruit and vegetables (which, in turn, can be affected by a person's physical mobility and/or access to transport to get to food stores) – this type of inaccessibility can be particularly problematic for people living in new and/or under-resourced areas
- little variety or lack of quality produce on offer in local shops and/or work cafeterias
- the high cost of fruit and vegetables, particularly in low-income areas.^{50,56,57}

Affordability

Affordability of healthy foods such as fruit and vegetables is also intrinsic to access and depends on an individual's financial resources, including disposable income and household expenditure. An important association exists between food price, nutritional quality and the risk of chronic disease, with cost posing a substantial barrier to the consumption of fruit and vegetables.⁵⁸

A number of other factors impact the affordability of healthy foods:

- Food prices have generally increased faster than the CPI; the cost of healthy food has increased even more than the price of other foods⁵⁹ so that the cost of a healthy food basket is higher than that of a less healthy basket.⁵⁸
- Food already accounts for around one-fifth of household expenditure for welfare-dependent families (21% for those whose primary income source is the aged or disability pension and 19% for those whose primary income is other welfare payments).⁵⁹
- A reasonably healthy meal plan requires that a welfare-dependent family spend almost half (47%) of their disposable income, compared with only one-sixth (16%) for an average-income family.⁶⁰



Capacity

A person's access to good nutrition is also affected by their capacity to acquire, store, prepare and consume healthy foods. This relates to knowledge, skills and facilities.

In the past, nutrition campaigns have focused on educating individuals on the importance of healthy eating. These campaigns generally have limited success in increasing consumption of fruit and vegetables, primarily because:

- › a lack of knowledge and/or cooking skills can prevent people from buying and preparing meals from basic ingredients
- › information on how to increase fruit and vegetable consumption in an affordable way (with regard to money or effort) is not always provided – this may actually be the case or may be how the situation is perceived.⁶¹

Strategies to increase access to healthy foods

Strategies to address issues with fruit and vegetable access were identified by experts at the Victorian Fruit and Vegetable Roundtable.⁵¹

These included:

- › increasing skills and interest in fruit and vegetable preparation among young people by re-introducing home economics as a core subject in secondary education and expanding kitchen garden programs in primary education, such as the Stephanie Alexander Kitchen Garden Program
- › increasing the fruit and vegetable content of convenience foods such as pre-prepared foods and foods purchased from the food service industry (including cafes, restaurants, takeaways and vending machines)
- › increasing the availability and accessibility of fruit and vegetables throughout communities by trialling new modes of access such as food hubs and mobile fruit and vegetables stalls (in locations such as schools, universities and train stations).

“ Low-income households can struggle to afford the healthier foods because it may be more expensive than foods that are filling but less nutritious.”⁵³



What is the challenge we face in Victoria? – Culture

Issues with fruit and vegetable eating culture

Culture has been called ‘the way of life’ for a society. This embraces lifestyles, value systems, traditions, attitudes and beliefs, and the social and environmental context in which they occur. Cultures can be changed by forces that work within a society, such as policies, marketing and social movements, as well as by changes in the physical environment.⁶²

A culture that supports healthy eating would include:

- an environment with positive health promotion messages in media and marketing
- people who value, understand and have sufficient time for the preparation and enjoyment of healthier food
- communities that are socially inclusive and supportive of healthy eating.⁵²

In contemporary society, promotion of unhealthy food choices far outweighs promotion of healthier options, with discretionary foods rarely carrying adequate information about the health consequences of their consumption.⁶³ For example, food advertising shown in children’s viewing periods during the *Go for 2&5* fruit and vegetable promotion in 2005 (which excluded Victoria) comprised 4.6 per cent fruit and vegetable advertisements, yet advertisements of high-fat, high-sugar foods during the same period accounted for 81.5 per cent of food advertising screened.⁶⁴ Indeed, the WHO Director General has made the point that “...marketing approaches matter for public health. They influence our own – and in particular our children’s – patterns of behaviour. Given that they are designed to succeed, they have serious consequences for those at whom they are targeted”.⁶⁵

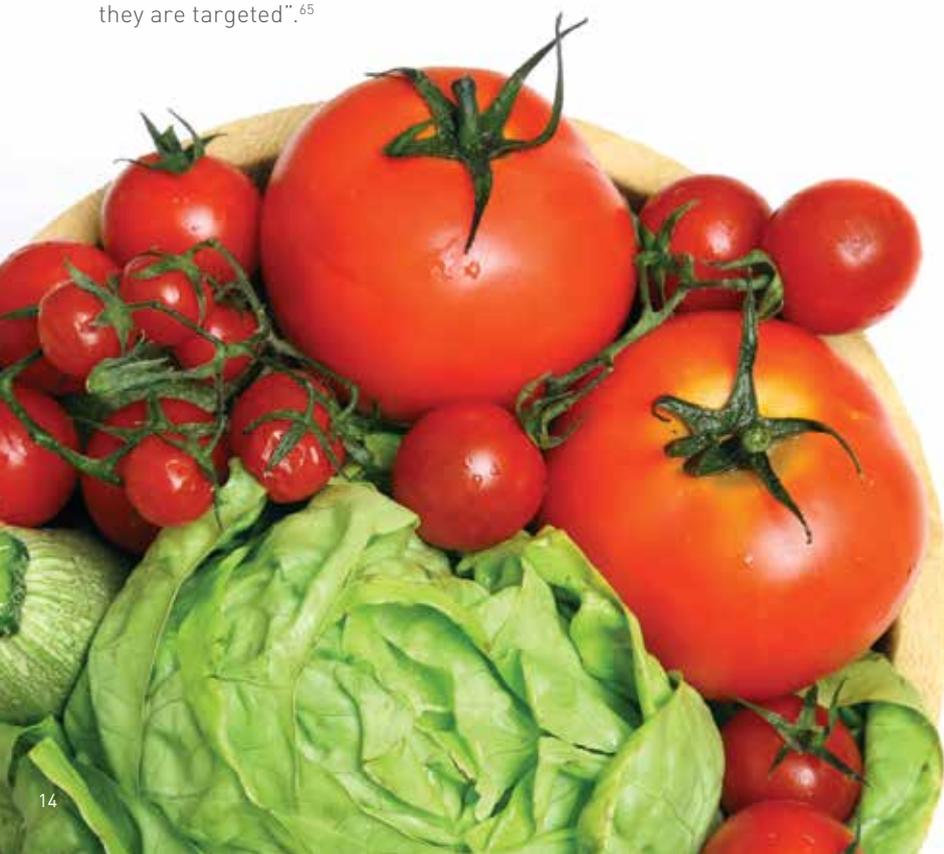


VALUING FRUIT AND VEGETABLES

Programs directed at the general public that promote fruit and vegetable consumption (e.g. through social marketing) have been popular in the past. However, there are often perceived barriers around the involvement of the health sector (where promotional budgets are small and social marketing funding is generally not sustainable) with the fruit and vegetable industry (where mixed support for generic fruit and vegetable promotion often exists).⁵⁴

Inherent to improving levels of consumption of fruit and vegetables in Victoria is a paradigm shift in the way we, as a society, value fruit and vegetables. Considerable barriers must be addressed to achieve such cultural change, including:

- personal and family eating habits that are often deep-seated
- perceptions that fruit (particularly) and vegetables are expensive, time-consuming and/or difficult to cook and prepare
- variations in fruit and vegetable prices
- insufficient skills in preparing appetising and convenient dishes using fruit and vegetables
- perceptions that individuals already eat adequate amounts to meet their requirements.^{54, 66, 67}



USE OF POLICY TO DRIVE CULTURAL CHANGE

Policies can also drive cultural change and are most effective when used to **enable, encourage, engage** and **exemplify**.⁶⁸

Enable

Policies to enable people to eat more fruit and vegetables would focus on:

- removing barriers (such as high cost or inability to obtain good-quality produce)
- establishing support services (such as groups of like-minded people to garden/cook/eat with or networks that assist with the provision of fresh produce)
- developing skills (such as how to choose, store and prepare produce from scratch to create healthy, tasty meals that are cost and time effective).

Encourage

Policies to encourage people to eat more fruit and vegetables would focus on:

- incentives to increase the amount of fruit and vegetables people eat (such as having fruit and vegetable choices readily available within different places in the community – for example, sports clubs – and introducing subsidies on fruit and vegetables)
- regulation to discourage unhealthy food choices (such as increasing taxes on nutritionally poor snack foods and restricting their advertising).

BARRIERS TO CULTURAL CHANGE

Addressing cultural barriers to the consumption of fruit and vegetables is imperative for increasing the fruit and vegetable consumption. In addition to examples listed above, it was suggested at the Victorian Fruit and Vegetable Roundtable that a national fruit and vegetable promotion campaign be run to increase demand for fruit and vegetables. This should be implemented consistently across all states and developed as a collaboration between government and industry (producers, wholesalers, processors and retailers).

Given the importance of eating fruit and vegetables, the consequences of not eating enough and Victorians' inadequate intake compared to dietary recommendations, VicHealth is seeking innovative solutions that address the challenge:

How do we improve fruit and vegetable supply and access, as well as develop and promote a culture of healthy eating in Victoria?

Engage

Policies to engage people in improving the culture around fruit and vegetables would focus on:

- creating opportunities for people to discuss and debate issues surrounding fruit and vegetables (such as evoking a cultural movement to increase interest in the sustainability of our fruit and vegetable supply, using seasonal, less processed foods that are produced locally and challenging year-round availability of produce from around the globe)
- using social marketing techniques to foster increased fruit and vegetable intake of the Victorian population (such as media campaigns).

Exemplify

Policies to exemplify increased fruit and vegetable consumption would focus on:

- using consistent messages to reduce confusion
- having organisations (such as government) lead by example.



Useful resources

Carey, R & McConnell, K 2011, *Fruit and Vegetable Roundtable Summary: addressing the barriers to a viable Victorian fruit and vegetable industry*. A report by the Food Alliance. Available here: <http://www.foodalliance.org.au/Submissions/Fruit%20and%20Vegetable%20Roundtable%20Report.pdf>

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