



4. Potential initiatives

While behaviour change is an important component of any response to obesity, it is a complex process for individuals that extends beyond education and the provision of information. Achieving long-term, sustainable change is difficult, resource-intensive and time-consuming. To achieve substantive change in Australia's obesity problem, the following proposals require the engagement of both community and government.

4.1 Reshaping the food supply towards lower risk products and pricing

Pricing is a crucial issue to consider in shifting consumer demand. Food prices have risen significantly in Australia recently, including large increases in the price of many fresh products. (52) The majority of Australians regularly obtain their grocery requirements from supermarkets. Around 12–14% of the average Australian household post-tax income is spent on standard groceries. In 2008 the Australian Competition and Consumer Commission (ACCC) examined whether increased grocery prices were related to the level or lack of competition between major supermarket chains and other retailers such as independent supermarkets, bakeries and greengrocers. Around half of all fresh product sales (such as meat, fruit and vegetables) are sold through Australia's two largest supermarket chains, Coles and Woolworths (compared with around 70% of packaged groceries). No evidence was found to suggest that there had been broad, fresh produce price increases at the retail level by a greater margin than rises in prices at the farm gate. The ACCC found that food price rises could not be attributed solely to the market or bargaining power of the largest retailers, but were associated with a myriad of national and international factors. (52)

These include the drought, adverse weather conditions, increasing costs of raw materials and other products crucial to farm production such as petrol and fertiliser, as well as rising international food commodity prices. The ACCC recommended that mandatory unit pricing be introduced nationally (in-store and in print advertising) for all large supermarket chains and independents, to assist consumers to more readily compare product prices between different sizes, brands and stores. The ACCC considered that six to 12 months would be an appropriate timeline for implementation, and recommended an accompanying public education campaign to enhance impact and consumer understanding.

Since August 2008 the results of independent monthly surveys of typical grocery basket prices across Australia (involving around 500 products from 600 supermarkets) have been available through a dedicated website, allowing consumers to assess their cheapest locally available groceries (www.grocerychoice.gov.au).

ENSURING ACCESS TO HEALTHY FOOD

There is evidence that economic factors may pose a barrier to the adoption of healthier diets and so limit the impact of dietary guidance. (53) Low-income Australians report lower levels of consumption of fruits and vegetables, often related to difficulties in accessing, purchasing and storing these foods. (54) People on lower incomes spend a higher proportion of their income on food, (55) and are less likely to meet dietary guideline recommendations for levels of fruit and vegetable consumption than higher income consumers. (56) They are more likely to consume energy-dense foods (high in fat and sugar) and lower amounts of plant-based foods (fruits and vegetables and wholegrain bread). Energy-dense foods are often perceived as being more affordable, more filling, more acceptable to family members and more readily available in disadvantaged areas. (57)



The introduction of policy-related economic instruments, especially in the form of taxes and price policies, may reduce food consumption, including high saturated fat and other energy-dense foods, and increase the purchasing of healthy products.(58)

A tax on unhealthy foods may encourage food manufacturers to produce healthier foods by reformulating existing products or developing new ones to maintain market share.(59) In addition, as consumers are responsive to price, taxes on unhealthy foods that increase the effective price to consumers may be effective in discouraging and lowering their consumption.(60)

For example, UK research modelled the effects of several options for taxing unhealthy foods to estimate the likely impact of price rises on demand for a range of foods. Under one model, a wide range of food products would be taxed to reduce fat, salt and sugar intake to maximise health outcomes. This was estimated to prevent up to 3200 deaths from heart disease and stroke annually, and to increase food expenditure by 4.6%.(61) Further evidence on the demonstrated rather than predicted outcomes of economic policies like targeted food taxes is required, such as whether consumers' buying habits would actually change and the magnitude of resulting health gains.(58, 60, 61)

In addition, targeted taxation on unhealthy foods is considered to be regressive as it would impact disproportionately on people and families on lower incomes who spend a larger proportion of their income on food than higher-income earners.(60, 86)

Subsidising healthy foods has an advantage in comparison with the potentially regressive impact of policies (such as taxes added to unhealthy food that are aimed at increasing prices) in that the greatest benefit would go to the most disadvantaged consumers:

those with lowest incomes.(53) In addition, research supports interventions encouraging a greater intake of healthy foods rather than policies encouraging a decreased intake of unhealthy foods, as there may be more benefit in terms of weight loss in increasing the intake of healthy foods than in decreasing the consumption of unhealthy foods.(53)

Potential health benefits (reduced stroke and coronary heart disease) associated with subsidising healthy foods have been estimated by modelling consumption changes related to a hypothetical government subsidy on fruit and vegetables in the US:(60)

- Policies that lead to an ongoing reduction in the market price of all fruits and vegetables would result in a substantial decrease in the number of cases of stroke and heart disease
- A 1% retail price subsidy on all fruits and vegetables would result in an average saving of US\$1.29 million per statistical life saved
- The most cost-effective policy would involve subsidies for both fruits and vegetables together.(60)

Recent reports suggested that the French Government was considering an increase in tax on unhealthy food items by increasing the existing 5.5% value-added tax to up to 19.6%, based on recommendations by the French tax and social affairs inspectorates. Items under consideration included extra-fatty, salty or sugary products such as pizzas, hamburgers and soft drinks, and possibly alcohol. Revenue was to go in part towards a large deficit in the state healthcare system.(62) However, subsequent reports have indicated that this plan has not been adopted by the Budget Minister, due to the current economic climate, including increases in the cost of living.(63)



PROMOTING ACTIVE LIVING

While evidence of the effectiveness of subsidies for active living initiatives is still being developed, there are examples of new policies introduced in other jurisdictions that Australians can draw on in formulating policy. Since 2005, the government in Nova Scotia, Canada, has allowed a 'Healthy Living Tax Credit' to help with the cost of registering children and youth in eligible sport or recreation activities that offer health benefits.⁽⁵⁹⁾ This credit, based on a maximum annual spending of \$150 per child when introduced, was raised to an annual maximum of \$500 in January 2006. It is estimated that the tax credit costs the Nova Scotia Government \$2.2 million annually.

In its 2006 Budget, the Canadian federal government introduced a similar economic incentive: the Children's Fitness Tax Credit. Under this tax credit, starting in the 2007 taxation year, parents are allowed to claim a non-refundable tax credit of up to \$500 in eligible fees for the enrolment of a child under the age of 16 in an eligible program of physical activity. It is estimated that the federal tax credit will cost approximately \$160 million per year. Once sufficient data are available, evaluation of the effectiveness of such credits on physical activity and obesity will be possible.⁽⁵⁹⁾

Australian research that examined modes of transport to work in New South Wales in 2003 found that the majority of people drove cars (69%), while less than one-quarter used public transport, walked or cycled. People who drove were significantly less likely to undertake recommended levels of physical activity than non-car users, and driving to work was associated with being overweight or obese.⁽⁶⁴⁾

Proposals to encourage the use of active transport in Australia include encouraging workplaces to replace subsidies that promote private and company motor vehicle use (such as subsidised car parking and novated leases) with inducements that encourage employees to walk, cycle or take public transport to work (including fare rebates, shower and safe bicycle parking facilities, bicycle maintenance vouchers and bonuses for use of alternative forms of transport).

Under the current fringe benefits tax (FBT) system in Australia, private transport is encouraged, as cars of higher-income workers are subsidised. As the taxable value of the car and therefore the FBT payable is reduced with the number of kilometres travelled each year, there is incentive for people using the scheme to maximise car use during the FBT year in order to qualify for the greatest FBT benefit. Numerous groups and several parliamentary inquiries have called for this tax concession to be repealed.⁽⁶⁵⁾ There are no comparable financial incentives for people to use active transport modes such as public transport, walking and cycling. The introduction of similar tax advantages would encourage and support increased physical activity among Australian workers and is likely to have a subsequent beneficial environmental impact through a reduction in greenhouse gas emissions and urban traffic congestion.⁶

⁶ The fringe benefits tax will be raised by the Taskforce with Dr. Ken Henry, chair of the Australian Government's review of the taxation system (*Australia's Future Tax System*) announced in May 2008 and due in December 2009.



Reshape the food supply towards lower risk products and encourage physical activity:

- Review the taxation system to enable access to healthier foods and active recreation (for example, increase tax breaks for fitness-related products and recreational activities, and for schools and workplaces to provide healthy foods).
- Provide disincentives for unhealthy foods by considering increasing taxes for energy-dense foods, as taxing unhealthy foods may provide an incentive to manufacturers to change their production processes to reduce the fat, salt or sugar content in order to maintain their market share.

4.2 Food composition


The development and reformulation of existing products is one way to increase the availability and accessibility of healthy food options and help create a supportive environment for behaviour change.(66) For example, an estimated 75% of salt intake comes from foods people purchase; clearly, product reformulation by industry has a key role to play in improving health outcomes.

There are policy examples for voluntary targets for salt reduction in food associated with reductions in population salt intake. In an initiative to reduce population salt intake, the UK Food Standards Agency (FSA) set voluntary targets for the level of salt in 85 categories of food in March 2006, involving around 70 firms and trade associations, and a broad range of products. The FSA is currently reviewing the targets and considering further reductions to maintain progress towards the daily average intake target of 6g of salt.(67) Existing initiatives in Australia involve the food industry reformulating food products with lower salt options through the Heart Foundation 'Tick' program and the Australian Division of World Action on Salt and Health (AWASH) 'Drop the Salt!' Campaign.

The UK Government is using the achievements in salt intake reduction by FSA and sectors of the food industry as a model for achieving reductions in levels of saturated fat and sugar in food.(35) The Code is intended to be voluntary; however, 'the Government will clearly continue to examine the case for a mandatory approach where this might produce greater benefits'.(35)

Interventions to reduce population-wide salt intake have been shown to be highly cost-effective.(68) The most recent survey evidence (July 2008) indicates the UK's average daily salt consumption has fallen from 9.5g to 8.6g since 2000.(69)

The North Karelia Heart Health Program in Finland is an example of the successful use of an integrated food policy approach in significantly improving population health. (151-157) The program was a comprehensive population intervention that led to significant improvements in risk factors and lifestyles, and favourable changes in chronic disease rates and population health. It involved a large-scale community-based intervention that began in the early 1970s to address regionally high rates of coronary mortality by targeting critical causal risk factors and their relationships with community lifestyles. While strategies were focused on tobacco use and the typical dietary habits of the population (high saturated fat and salt intake, low vegetable and fruit consumption), physical activity, weight, diabetes, alcohol consumption and psychosocial factors were also taken into account. The program incorporated an integrated food policy approach and combined general health education (through media, campaigns and meetings), local health service measures and training of personnel with environmental changes (smoking restrictions, collaboration with food manufacturers and retailers, and promotion of vegetable growing).



Crucial components of the intervention included expert advice, evaluation, coordination of activity and media information. Interventions included:

- Health information and nutrition counselling for the regional population
- Health agencies working nationally with the food industry to reformulate food, leading to low-fat dairy and meat products, and the reduction of salt in a range of food items
- Close collaboration with national vegetable oil product manufacturers to produce healthier spreads.

The regional success of the project led to nationwide nutrition education to target the rest of the country, leading to significant changes in the North Karelian and Finnish diet such as:

- Increased consumption of fish, vegetable, fruit and berry consumption over 20 years
- Increase in proportion of people using mainly vegetable oil for cooking between 1972 and 1997
- Decreased consumption of salt and energy from saturated fats between 1972 and 1997, with an associated drop in cholesterol levels by 18% over 25 years.

Changes were substantial. Notable health impacts included a decrease in heart disease rates nationally by 65% between 1971 and 1995. Trends in stroke and cancer mortality also showed a downward turn, with impacts on life expectancy and diminished mortality. Evidence suggests that most of the decrease in coronary heart disease mortality can be explained by changes in the target risk factors, and that the reduction in serum cholesterol level has been the strongest contributor.

Regulate the amount of trans fats, saturated fat, salt and sugar content in foods.

4.3 Food subsidies

THE COST OF FOOD

There is increasing evidence that food is more costly in rural areas compared to metropolitan areas across Australia.(70-72) There is also increasing evidence that the availability, accessibility and costs of nutritious food influence consumers who are socially or geographically disadvantaged and their ability to consume healthy food.(73) In the 1995 and 2001 NHS surveys, around 5% of adults reported that there had been times in the previous year when they had run out of food and could not afford to buy more. Australians at particular risk of food insecurity include older people, those living in rural and remote areas, and those with a disability.(2) In 2006 a healthy food basket cost on average 29% more (ranging from 24% to 56%) in remote areas of the Northern Territory compared with Darwin.(74)

The 2006 Queensland Healthy Food Access Basket Survey compared food price movements at 47 stores throughout the state between 2000 and 2006 for a standard basket of food containing such items as bread, cereals, fruit and vegetables, milk, steak, chicken, rice and pasta. Results revealed regional price differences:(72) in Brisbane, the price of a fortnight's groceries increased between 2000 and 2006 from \$299 to \$443 (48%); in regional Queensland, prices increased by 54% in Cairns, Townsville, Bowen, Emerald and Goondiwindi. The same basket of food cost up to \$113 more in very remote areas of Queensland than in Brisbane. Price increases have been attributed to the drought, increasing costs of production and rising fuel prices.

A study in a remote Northern Territory Aboriginal community found that food in general cost 50% more than in Darwin, and that families spent an average of 38% of their income on food and non-alcoholic beverages, compared with 14% for the average Australian household and 30% for low-income non-remote Australian households.(74)



At least 44% of household income and significant changes in purchasing patterns would be required to achieve dietary recommendations. While community members reported a preference for fresh produce, more than half the average energy intake in the community came from white bread and flour, sugar and milk powder, products that provide most calories for least cost, store well and divert hunger. However, when factors including store management and leadership, workforce development and improved infrastructure were addressed through a whole-of-store approach, sales of fruit and fresh vegetables increased. Thus, while still facing significant economic barriers, people in the community purchased more fruit and vegetables when given the opportunity.

IMPROVING ACCESS TO HEALTHY FOODS IN REMOTE AREAS

Strategies that have been suggested to improve access to healthy foods among rural and remote Indigenous Australians include.

- The provision of vouchers to buy a weekly basket of nutritious foods.
- The examination of patterns of transport and marketing to reduce barriers to the trade of fresh local foods.
- The support of economic development opportunities such as agriculture and horticulture, and the development of traditional food resources.
- The provision of adequate remote food storage infrastructure.
- The development of the Indigenous workforce in remote and rural stores.(74)

Evidence suggests that subsidising the transportation of healthy foods in remote regions is an effective means of promoting healthy eating; for example, an evaluation

of the Canadian Food Mail Program, which subsidises the cost of transporting nutritious perishable foods to isolated communities, found that increasing the freight subsidy from 30 to 80 cents per kilogram for healthy products like fruits, vegetables and dairy as part of a pilot project in three communities resulted in a significant increase in the purchase of these products.(59)

While there is a need to ensure access to fresh produce in remote areas, it should be noted that the availability of healthy frozen and canned foods (such as 'low salt' or 'no added salt' varieties of canned goods) is also important. These can provide convenient and economical access to fruit and vegetables for consumers. These foods can be as nutritious as fresh forms: frozen vegetables picked and frozen within hours of harvest, for example, may actually retain more nutrients than the unprocessed form.(75) There is also a need to ensure that key messages around dietary guidelines (eg. the consumption of two servings of fruit and five servings of vegetables a day) include information about the range of ways in which these intake levels can be met, such as through the intake of canned or frozen foods.

However, frozen vegetables require freezer transport, which is likely to be more expensive than chilled freight for fresh fruit and vegetables and unchilled freight for canned goods/non perishables. In addition, remote community household infrastructure may not support measures to improve access to healthier food, be it fresh or frozen. For example, evidence indicates that in the Northern Territory less than half of houses surveyed in remote communities had a functioning fridge,(76) while only 6% of 4343 houses in Aboriginal communities across Australia assessed between 1999 and 2006 had functional nutritional hardware (storage space for food, preparation, functional stove and sink).(77)



To address this lack of basic amenities, other initiatives may be appropriate and more urgent, such as subsidies for refrigerators or other infrastructure in remote communities for better storage of fruit and vegetables; or schemes to improve household infrastructure for the preparation and storage of food at home (such as hardware rental programs). It is critical to ensure the implementation and maintenance of relevant recommendations from the National Indigenous Health Equality Summit,⁷ such as the target that healthy living practices like the ability to store, prepare and cook food are available in three-quarters of all houses by 2013.⁽¹⁷¹⁾ Poor quality diet in the Indigenous population is a significant risk factor for three of the major causes of death (cardiovascular disease, cancer and type 2 diabetes).⁽⁷⁸⁾ Poor nutrition among many Indigenous people is associated with disadvantaged socio-economic circumstances. In order to improve nutrition in Indigenous communities, it is necessary to acknowledge and address the role of poverty.

Provide subsidies for rural and remote area transport of fresh foods.

4.4 Protect children and others from inappropriate advertising of unhealthy foods and beverages

Television advertising has significant reach, and has been shown to independently influence children's food preferences and purchasing requests.^(79, 80) Food advertising to children affects food choices and influences dietary habits.⁽⁷⁹⁾ A ban on advertising unhealthy foods to children during peak viewing periods would help to reinforce and normalise healthy eating for Australian children, and enable them to make healthier food choices.

THE AUSTRALIAN EXPERIENCE

Australian children's exposure to television food advertising is amongst the highest in the world,⁽⁸¹⁾ and a high proportion of these advertisements are for non-core or extra (energy-dense, nutrient-poor) foods.^(83, 158, 159) Australian children watching 20 hours of television or more per week (two hours and 51 minutes per day) are twice as likely to be overweight or obese as children who watch less television.⁽⁸²⁾ Evidence indicates higher rates of high-fat/high-sugar food advertisements on Australian television during children's compared with adults' viewing hours; and during popular children's programs.⁽⁸³⁾

Australian research that models television food advertising under different regulatory scenarios suggests that simple regulatory restrictions such as restricting content and timing of advertisements would reduce children's exposure to advertisements for non-core foods.⁽⁸⁴⁾

The new draft of the Children's Television Standards was released by the Australian Communications and Media Authority (ACMA) in August 2008 for public and industry comment.⁸ General restrictions on food and beverage advertising were not proposed.

⁷ On 18–20 March 2008, the National Indigenous Health Equality Summit was held in Canberra. The outcome was a statement of intent and a report detailing a series of targets aimed at achieving health status and life expectancy equality between Indigenous and non-Indigenous Australians by 2030. In December 2007 the Council of Australian Governments (COAG) agreed to a partnership between all levels of government to 'close the gap' on Indigenous disadvantage; notably, to close the 17-year gap in life expectancy within a generation and to halve the mortality rate of Indigenous children within 10 years. The report is available at www.hreoc.gov.au/social_Justice/health/targets/index.html

⁸ See www.acma.gov.au/WEB/STANDARD/pc=PC_310262



ACMA cited limited evidence on the benefits of banning food advertising and questioned the body of research linking weight and television advertising. It considered that restricting food advertising without a tool to identify foods high in fat, salt and sugar (HFSS) would be a blunt form of regulatory intervention. ACMA indicated it would consider reviewing its position should a stronger association between food advertising and obesity be found or when there is a more established body of research illustrating the benefits of banning food and beverage advertising; and when an Australian-appropriate food identification standard is successfully introduced.

As part of the review, ACMA assessed the economic impact of restrictions on television food and beverage advertising. It should be noted that ACMA based its cost-benefits analysis on figures from the 2006 Access Economics report on the cost of obesity in Australia.(86) Since ACMA released its draft standard, these estimates have been revised by Access Economics.(13) As the more recent report estimated significantly higher costs to the Australian community of obesity, this would significantly alter the cost-benefit outcomes calculated for the ACMA review. The Taskforce believes that further research needs to be undertaken utilising the most recent Access Economics data to help us understand the association between advertising and children's weight.

International recommendations conclude that restrictions on food and beverage marketing directed to children should form part of a comprehensive and multifaceted strategy to address the growing problem of childhood obesity. The World Health Organization has recognised that food marketing to children, particularly television advertising, is an important area for action to prevent obesity(51) and has called upon governments to implement policies and strategies that reduce the impact of foods high in fat, sugar and salt and promote the responsible marketing of foods and beverages to children.(87)

There is growing international consensus that food advertising works by influencing children's food preferences, diet and health, and that this influence is harmful to children's health, as most advertising to children is for products high in salt, sugar and fat.(85) International reviews have concluded that heavy marketing of fast-food outlets and energy-dense micronutrient-poor foods and beverages is likely to be causative in weight gain or obesity.(51) Statistical evidence indicates that exposure to television advertising is associated with adiposity or body fatness in children aged 2–11 years and young people aged 12–18 years.(80) While current evidence is not sufficient to conclude a causal relationship between television advertising and adiposity, even a small association would have significant impact across the entire population of children and young people.(80)

Following the release of the new standards by ACMA, the South Australia and Queensland governments announced consultations into television food and drink advertising for children to consider bans or regulations on marketing of unhealthy food and beverages. In South Australia, the government has indicated a preference for voluntary restrictions from the advertising and food industries, as well as a preference for national action. However, the South Australian Government will consider the introduction of state-based restrictions if national agreement is not reached. In addition, at the national level, the Senate has recently referred the 'Protecting Children from Junk Food Advertising (Broadcasting Amendment) Bill 2008' to the Community Affairs Committee for inquiry and report by 25 November 2008.

Among other effects, it has been suggested that regulation may lead to lower levels of funding for children's programs. While the evidence remains limited on the effects of advertising bans, impacts need to be assessed in practice and over a significant time period. However, there is some evidence from international jurisdictions where advertising restrictions have been enacted.



THE INTERNATIONAL EXPERIENCE

There are extensive legislative prohibitions on advertising to children in Sweden and Norway, and the Canadian province of Quebec. In Sweden and Norway, commercial advertising directed to children on television is prohibited, while in Quebec the commercial advertising (of all products and services, not just food) targeted at children via any medium is prohibited. It has been argued that childhood obesity rates increased in Sweden and Quebec following the introduction of advertising restrictions to children, and that this provides evidence that food advertising is not a contributor to the obesity epidemic, and that the regulation of food advertising would not be effective in reducing obesity. These claims have been refuted for a range of reasons:⁽⁸⁸⁾

- The argument fails to take into account the fact that there are multiple factors that contribute to the obesity crisis, and that restricting advertising targeted at children is proposed as only one of a large range of measures required to address obesity. It is not expected that the introduction of advertising bans alone would lead to significant reductions in obesity prevalence among children.
- There are several limitations to the advertising restrictions in these jurisdictions, including:⁹
 - Restrictions do not apply to broadcasters and advertisers outside the jurisdiction. As a consequence, significant levels of food advertising to children remain on Swedish television, since two of the three commercial television stations received in Sweden are broadcast from the UK. A similar situation occurs in Quebec.

- The bans apply to advertisements that are *directed at children* in Sweden, or *designed to attract the attention of children* in Quebec. These stipulations allow advertisements with any component deemed to be 'adult' or in any way not designed for children to be considered exempt from the bans.
- Lack of resources for the monitoring and enforcement of bans.
- It is not known what childhood obesity rates would have been in these jurisdictions if advertising bans had not been introduced: prevalence may have increased at an even greater rate.
- There is evidence that French-speaking children in Quebec have lower rates of obesity than English-speaking children, who can watch commercial television broadcast from outside the province.

THE UK EXPERIENCE

In the UK, Ofcom has introduced restrictions on broadcast food and drink advertising to children. These apply to the advertising of food products high in fat, salt and sugar within programming aimed at children aged under 16 years. The first review of these restrictions commenced in July 2008 and will be based on six months of data. Industry has also introduced new content rules for all food and drink advertising to children in non-broadcast media, with fruit and vegetable promotion excepted, under the Advertising Standards Authority (ASA). ASA is reviewing its advertising codes and will put out revised codes for public consultation later in 2008. The Institute of Standards in British Advertising (ISBA) has published best practice principles for advertiser-owned websites for marketing to children.⁽³⁵⁾

9 Goldberg (1990) and Caron (1994), cited in Ofcom: Childhood Obesity – Food Advertising in Context, 22 July 2004, www.ofcom.org.uk/research/tv/reports/food_ads/report.pdf.



THE US EXPERIENCE

In the US, the Federal Trade Commission was asked by Congress to undertake a study of food and beverage marketing to children and adolescents in response to marked increases in childhood obesity.(89) The research examined expenditures and activities in 2006 across traditional media such as radio, television and print, as well as activities on the internet and in previously unmeasured marketing arenas such as packaging, in-store, event sponsorship and school promotions.

The 44 companies surveyed were the primary marketers to youth (2–17 years old) in categories including beverage manufacturers and bottlers; packaged/processed food producers; dairy marketers; fruit and vegetable growers; and quick-service restaurants. The survey found that food and beverage companies spent US\$1.6 billion in 2006 on marketing their products to children; advertising to 2–17-year-olds made up 17% of their total 2006 marketing budgets. The majority (63%) of the total spent on advertising to youth was for soft drinks, breakfast cereals and restaurant foods. Television advertising was the dominant marketing technique used to promote foods and beverages to youth, comprising 46% of all reported youth marketing expenditures. Over half of this television advertising was targeted at children under 12; this was mostly advertising for breakfast cereals and restaurant food.(89)

While just over half of the spending was on traditional media forms of print, radio and television (53%), the remainder was concentrated in areas such as internet and digital promotions, expenditure on speciality items and prizes for children and adolescents (excluding toys distributed with children's meals at quick service restaurants), packaging and in-store display materials, and other media such as event sponsorships; celebrity endorsement fees; cinema, video and video game advertisements; and product placements in films, television and video games.

Spending on cross-promotions comprised 13% of all reported youth marketing – this included the use of licensed characters and associations with television programs, movies, toys or other entertainment events. For some food categories, such as restaurant food and fruits and vegetables, cross-promotions represented almost half of spending targeted at children.(89)

This report and evidence from the UK highlights the increasing importance of non-traditional media and promotional activities in the marketing of food and beverage products to children and adolescents, including the use of the internet (for example, company-sponsored websites), digital promotions (for example, email and text messaging) and word-of-mouth/viral marketing. For example, large food companies in the UK are using social networking sites and text messaging competitions to market unhealthy food to children. A recent report by the Consumer group 'Which?' found that some companies that had pledged to stop marketing unhealthy food to children under 12 years have not done so, but have continued to use cartoon characters, film tie-ins, celebrity endorsements and free offers to target children aged under 12 years.(90)

Curb inappropriate advertising and promotion, including consideration of banning advertising of energy-dense, nutrient-poor foods on free-to-air television during children's viewing hours (i.e. between the hours of 6.00am and 9.00pm), and reducing or removing such advertising in other media such as print, internet, radio, in-store and via mobile telephone.



4.5 Improve public education and information

4.5.1 Social marketing

An effective and coordinated long-term public education campaign is needed to increase physical activity levels and improve eating habits. The campaign should include evidence-based media advertising and targeted education for priority population groups. National campaign messages and resources should be integrated with advice on healthy weight, healthy eating and physical activity within the community setting, in order to establish healthy social norms.

The best evidence on the effectiveness of mass media campaigns, such as that derived from tobacco control, indicates that long-term, well-funded, sustained, hard-hitting campaigns are necessary to achieve behaviour change. For example, a recent study found a significant reduction in smoking prevalence associated with a televised antismoking advertising campaign.(91)

It should be noted that, unlike campaigns to stimulate smoking cessation behaviour that are implemented in an environment in which tobacco advertising had been banned, healthy eating campaigns will need to compete and achieve cut-through (i.e. awareness and exposure) in an environment that is dominated by food advertising.

Considered in a social marketing framework, advertising for energy-dense, nutrient-poor products generally promotes behaviours that compete with public health recommendations and services, and strengthens potentially negative or challenging behaviours.(92, 93) The advertising supports behaviours that are typically more appealing to the target audience than the behaviour that is the focus of the intervention (in this case, increased intake of fresh fruit and vegetables, and decreased consumption of unhealthy food options).

Potential competing factors therefore need to be considered in the development of interventions, and sustained strategies to recognise and remove or minimise the potential impact of such competition must be incorporated into the program design.(94, 95)

THE EFFECTIVENESS OF SOCIAL MARKETING IN IMPROVING HEALTH BEHAVIOURS

There is increasing evidence that social marketing can substantially enhance the impact and effectiveness of public health and health promotion interventions.(92-94, 160, 161) A study examining 17 European health campaigns concluded that the campaign effects, while small, were positive.(92) A meta-analysis examining 48 health promotion campaigns in the US estimated there was an average 9% level of behaviour change associated with the campaigns.(96) Even small estimates of behavioural change associated with health programs can translate into significant impacts at the population level.(92) It is important to note that funding for these health campaigns was very limited and this probably explains the limited campaign outcomes.

A recent report on a series of three systematic reviews selected only interventions that applied six key social marketing features in their design.(95) All interventions were aimed at improving healthy eating behaviour, increasing physical activity or targeting substance abuse. The review concluded that social marketing interventions can be effective in these three areas: in nutrition and substance use the evidence was reasonably strong, while in physical activity the results were more mixed. In addition, the interventions were successful among different target groups and in diverse settings, from family- and community-based settings to clinical practice and the workplace.



Evidence from other health-related campaigns indicates that appropriately targeted investment in social marketing can provide health and economic gains; compelling evidence is available from areas including tobacco control, drink-driving/road safety, immunisation, sun protection and HIV/AIDS, as well as the commercial sector.(162-165) Lessons from these areas are transferable to obesity management and prevention.

Tailoring key campaign messages and interventions to specific target audiences will enhance campaign effectiveness.(92-95, 160)

Key elements of social marketing include:

- Identifying the target audience and tailoring interventions and key messages accordingly
- Using market research to identify and segment target audiences, to develop effective messages (including comprehensive pilot-testing) and determine dissemination channels.

THE NEED FOR A CAMPAIGN IN AUSTRALIA

Social marketing campaigns involving public education and the engagement of healthcare professionals can help to raise community awareness about relatively fundamental issues, such as what constitutes healthy weight for adults and for children, as well as providing information and resources about healthy eating and activity. This is important in addressing misperceptions about healthy levels of weight in the Australian population. For example, with the increasing prevalence of overweight and obesity nationwide, it appears that Australians may perceive being overweight as 'normal' and hence many overweight people may not consider that they have a problem. Only around one-third of Australian adults in the 2004–2005 National Health Survey considered themselves to be overweight (32% of males and 37% of females).(45)

This was substantially lower than the actual rates based on BMI calculated from self-reported height and weight: 62% of males and 45% of females in the survey were classified as overweight or obese. Trends also suggest that this is becoming increasingly likely: the proportion of overweight or obese Australians who perceived themselves as having an acceptable weight increased from 37% in 1995 to 41% in 2001 and 44% in 2004–2005.(5)

INTERNATIONAL INITIATIVES

Initiatives can be simple and cost-effective. For example, French schemes to tackle obesity have included posters suggesting that metro train passengers use stairs instead of escalators, and advisories prominently displayed on advertisements for fast foods telling people to eat at least five fruits and vegetables a day.(62)

The UK 'Healthy Weight, Healthy Lives' strategy seeks to reverse the increasing rates of obesity and overweight in the population through 'enabling everyone to achieve and maintain a healthy weight'.(40) This is reflected in the strategy's approach to a social marketing campaign that aims to 'recruit' people to change the lives of themselves, their children and their families. It is based on research that indicated that people want help to live healthier lives and want to be broadly supported to do this, including by government and commercial organisations.

The social marketing aim is therefore 'to act as a catalyst for a societal shift in English lifestyles, helping bring about fundamental changes in those behaviours that lead to people becoming overweight and obese'. Rather than merely telling people what to do through an education campaign, the strategy aims to motivate them to participate in a supportive social movement designed to make lives healthier. The aim is to engage stakeholders from the public and commercial sectors, and create a practical healthy living campaign driven by ordinary people.(40)



Several international models of community engagement are using large-scale sporting events in specific cities to create a focus for improving community health. In Canada, the province of British Columbia is hosting the 2010 Olympic and Paralympic Winter Games and is using the preparation in promoting their aim to be the healthiest region ever to host these events. Similarly, in the UK, the upcoming 2012 Olympic Games and Paralympic Games in London are being used as an opportunity (via the national strategy to tackle obesity) to develop a range of physical activity initiatives inspiring people to be more active in the lead-up to the games and beyond.(35)

Develop effective, adequately funded and long-term media advertising and public education campaigns to improve eating habits and levels of physical activity, with specific media advertising and targeted public education for priority population groups.

4.5.2 Food Labelling

A food labelling scheme that is clear and comprehensible can be effective in enabling consumers to make informed purchasing decisions and influence consumer behaviour, as well as providing incentives for food companies to improve the nutritional composition of products. In order to be effective, a food labelling system needs to guide people to healthier food and drink choices rather than further confuse them or provide insufficient information on important nutritional messages.

Presenting nutrient information on menu boards at the point of purchase also provides incentives for the food industry to reformulate healthier products and provides significant benefits to consumers.

For example, most people substantially underestimate the energy content of restaurant food, including professionals such as dietitians. Including energy content information on menu items for which people tend to underestimate energy levels has been demonstrated to reduce the likelihood of product purchase and to lead to more negative attitudes towards the product.(48)

INTERNATIONAL EVIDENCE

Consultations conducted in the development of UK policy suggest that front-of-pack labelling 'is influencing consumer shopping patterns and helping to accelerate the reformulation of foods by the industry' moving the retail market towards foods that are lower in fat, salt and added sugar.(67) In conjunction with salt reduction targets, the salt content of products in the UK is now flagged more prominently through the current voluntary front-of-pack nutritional labelling scheme. This may strengthen incentives for the food industry to reformulate their products, as there is evidence that an increasing number of consumers are looking at this information.(67) For example, the number of people looking at labels for salt content in the UK rose by 48% between 2004 and 2007. (67, 97, 98)

THE ROLE OF THE FOOD INDUSTRY

To achieve a change in the food supply there is a need to work with the food industry. The World Health Organization sees interaction with food manufactures as fundamental to the success of strategies aimed at reducing, for example, the level of salt in food products.(68) Current UK policies involving the industry include working with food manufacturers to expand the range of products that count towards the daily fruit and vegetable intake requirements;(67) work with industry to reduce saturated fat and added sugar levels in foods and reduce portion sizes where appropriate;(35) and work in partnership with the convenience stores sector to increase the availability of healthier food, particularly fruit and vegetables in retail outlets in deprived areas.(40)



The work to reduce levels of saturated fat and sugar in food is initially via a voluntary Code of Good Practice. However, the UK Government has indicated that it will 'continue to examine the case for a mandatory approach where this might produce greater benefits'. (35)

TRANS FATS AND LABELLING: INTERNATIONAL REGULATIONS

Internationally there are some examples of legislation introduced to mandate menu labelling and to ban trans fat use. For example, in two US jurisdictions, New York City (NYC) and King County, Washington, regulations have recently been introduced requiring chain restaurants with 10–15 or more outlets nationally to display calorie counts on their menus. The NYC Health Department estimates that this regulation could reduce the number of people who suffer from obesity by 150,000 over the next five years and prevent over 30,000 cases of diabetes. (99) King County requires restaurants to list calories, carbohydrates, saturated fat and sodium on printed menus. As in a growing number of other US cities and counties, these jurisdictions have also banned the use of artificial trans fats in restaurant meals. Many other US states are now considering legislating to ban the use of trans fats in food service establishments and to introduce restaurant menu labelling. (100)

Evidence suggests that displaying information about restaurant menu items at point of sale or on menus is more effective than making this information available to the public via other means such as on the internet, and may be associated with lower calorie purchases by consumers who see the information. For example, a study in NYC before menu labelling regulations were introduced surveyed patrons of 11 fast-food chains that provided calorie information publicly, either on site or on the internet. Customers of the only chain that voluntarily displayed calorie information at point of purchase reported seeing calorie information significantly more often than other customers.

Over one-third of these customers reported that this information influenced their purchase. Customers of this chain who observed the calorie information purchased significantly fewer calories than other patrons of the same venue. (101)

Enhance food labelling by introducing a national system of food labelling to support healthier choices, with simple and comprehensible information on trans fat and saturated fat as well as sugar and salt and standardised serve size. This would apply to food for retail sale as well as on food purchased when eating out, and be available in settings such as restaurants, food halls and takeaway shops.

4.6 Reshape urban environments towards healthy options: A 'settings' approach

Interventions to counter obesity are premised on the need for simultaneous action at the structural environment – through legislation and regulation – and at the local community and individual level. The notion of a 'settings' approach becomes particularly important. The 'setting' has long been seen as a way of reaching a captive audience, providing entry points and access to specific populations as well as channels for delivering health promotion programmes. Settings are also understood as 'creating supportive environments' to 'make healthy choices easy choices'. A setting is a context – and a complex set of relationships and structures – within which people live, work, trade and socialise. (102) Consequently, settings may also exert direct and indirect effects on health, and acting on community-level influences may need to parallel interventions with individuals. (166-168)



For these reasons, it will be important to undertake a combination of interventions in schools and workplaces, as well as in local government areas to make local environments healthy and active. Local governments are in a position to shape the local natural and built environment and integrate efforts in different sectors. The linking of the work within these settings at the local level may particularly benefit disadvantaged communities.

4.6.1 The school setting

Schools are able to influence the nutrition and physical activity environment, and to educate children, families and the broader community about healthy lifestyles. Promotion of healthy eating in schools may be weakened by a high level of unhealthy foods and beverages available in school canteens, and the presence of soft drink and confectionery vending machines.(103) Recent Australian data indicate that children purchasing foods from school canteens had a higher energy intake from energy-dense foods than those who did not use the canteen.(103)

Evidence-based guidelines recommend ensuring that all school policies and the school environment help children and young people to maintain a healthy weight, eat a healthy diet and be physically active. This includes policies relating to building layout and recreational spaces, catering (including vending machines) and the food and drink children bring into school, the curriculum (including physical education) and school travel plans (including provision for cycling).(1) The UK has recently announced that it will implement a ban on fizzy drink and junk food in school vending machines.(104) France banned vending machines in schools in 2005.(62)

The European Commission recently announced a European Union-wide scheme to provide free fruit and vegetables to school children from 2009, with funds of 90 million annually for the purchase and distribution of fresh fruit and vegetables to schools.(105)

This would be matched by national funds in Member States choosing to participate. The scheme is based on the analysis of existing national policies and expert consultations that demonstrated that the benefits of such a scheme can be enhanced if the provision of fruit is accompanied by awareness-raising and educational measures. It also requires participating states to set up national strategies in conjunction with public health and education authorities, and to involve industry and interest groups. The proposal will now go before the Council and European Parliament.

School communities support initiatives in schools that enable healthy eating and physical activity, such as healthy breakfast and lunch programs, removal of unhealthy foods from vending machines and walking school bus programs.

4.6.2 The community setting

There is a range of community-wide interventions under way in Australia and Pacific countries that aim to control childhood obesity. One of the controlled intervention demonstration projects, 'Eat Well Be Active', recently published results following several years of community implementation in Colac, in regional Victoria.(106) The program was designed to build the community's capacity to address childhood obesity through the promotion of healthy eating, physical activity and healthy weight in 4–12-year-olds and their families.

The action plan was designed and implemented by local organisations, including schools and parents, and local health, housing and government services. The program used nutrition strategies such as support from school-appointed dietitians, canteen menu changes, training for canteen staff and healthy breakfast days, while physical activity strategies included walking to school programs, sporting club equipment and coach training.



Project objectives included reducing television viewing, sugary drinks and energy-dense snacks, and increasing water and fruit intake, active play out of school and active transport to school.

While overweight and obesity levels in children from both the campaign and the nearby comparison areas did not differ significantly and increased over time, children in the project area gained less weight and had smaller waist circumference measures (about 3cm) after several years of the project. Project results were also promising in reducing obesity-related health inequalities: in Colac, changes in weight and other measures were not related to children's socio-economic status, while in the comparison group the more disadvantaged children experienced greater unhealthy weight gain.(106)

INTERNATIONAL EXPERIENCE

Ensemble prévenons l'obésité des enfants (EPODE) ('together, let's prevent obesity in children') is a community-based, family-oriented nutrition and lifestyle education program in France. The initiative involves local physical activity and healthy eating initiatives aimed at parents and children, with engagement of influential community groups and individuals, including education and health professionals, retailers and the media. The program was launched in 2004 and involves over 110 French towns in 10 pilot communities, and is now being extended into Belgium and Spain.(35)

The program was launched following the success of a similar campaign in two French towns between 1992 and 1997, which involved a nutritional program intended to change children's eating habits; 80% of the population participated. The program included a school breakfast program and curriculum changes, and was supported by local doctors and dietitians, including lectures for parents on healthy eating.

The results indicated significant modification of eating habits (for example, the number of families eating chips weekly fell from 56% to 39%), while childhood obesity did not increase between 1992 and 2000. In comparison, in the rest of the region where childhood obesity doubled. Mothers in the participating towns also gained less weight than those in other towns.(107)

The program is led by an expert committee with the support of the Ministry for Health and Family, with private sector partners (including food and insurance companies) that have committed human and technical resources as well as US\$1 million.(107) In the current program, height and weight is monitored in the target group (5–12-year-olds), with feedback provided to parents. Overweight/at-risk children are encouraged to see a doctor, while each town receives suggestions for activities, diets and community initiatives such as safe routes for walking to school, learning about vegetables at school, inviting food professionals to talk in schools and organised games at playtime.(107) While results from the 10 pilot towns will be published in 2009, initial results appear promising; for example, in one town, the prevalence of overweight children decreased markedly between 2004 and 2005 (from 19% to 13.5%).(35)

The North Karelia project is another excellent example of a community-based intervention. (See section 4.2 in this paper).

Implement comprehensive community-based interventions that encourage and support healthy lifestyles among all population groups, particularly in areas of disadvantage and among groups at high risk of unhealthy weight gain.



4.6.3 The workplace setting

As a setting of particular importance in obesity prevention, the workplace represents an arena for social leadership and peer support in tackling behavioural change, while work and employment policies and practices can enable or inhibit positive change.

A recent review of the effectiveness of workplace weight loss programs concluded that outcomes show modest short-term improvements in body weight, but that there is a paucity of long-term health and economic data.(108) Common factors of worksite health promotion programs with successful outcomes (such as small decreases in BMI) include regular participation, intervention intensity, the inclusion of dietary advice, supervised physical activity, support for physical activity outside the workplace, counselling and plant reorganisation.(109)

A review of workplace-based interventions targeting dietary behaviours through various education and environmental initiatives that were focused around the work canteen found positive but modest changes in diet and food purchases or no impact.(110)

Reviews of workplace initiatives promoting physical activity (interventions included health checks, motivational prompts and physical activity programs) have found inconsistent or inconclusive evidence.(111, 112) with some strong evidence for increased physical activity behaviour but inconsistent or no evidence for improvements in cardiovascular outcomes, body weight or general health.(112) More comprehensive interventions, incorporating individual approaches and changes in workplace culture and organisational structure, were more successful.(111)

'WorkHealth' is an initiative of the Victorian Government which began in July 2008.¹⁰ It is a five-year, \$218 million program aimed at improving the health and wellbeing of Victorian workers through workplace-based health checks and providing access to advice and education programs to help workers reduce their risk of chronic disease. The aims are to reduce absenteeism, improve productivity, reduce injuries and reduce the burden of chronic disease on the Victorian health system. The voluntary initiative uses the workplace as an opportunity for health promotion and disease prevention; partnerships between government, employers and workers to develop effective health solutions; and links to existing health initiatives and services. Through the initiative, every Victorian workplace (involving up to 2.6 million workers across the state) will be given the opportunity to participate in staff health programs. All workers will be provided with information on how to improve their health and will initially be offered two types of free on-site screening tests. These include a self-assessment chronic disease test to identify physiological and lifestyle issues contributing to their level of risk of developing a chronic disease; and the collection of physical and biomedical measurements, such as height, weight, cholesterol, blood pressure and blood sugar. The health provider will assess the information collected, provide the worker with individualised information and advice, and, where appropriate, provide the worker with recommendations for a general practitioner (GP) follow-up. The initiative also involves co-contribution grants for larger workplaces for screening, and for the expansion of existing or new health and wellbeing programs.

10 See www.workhealth.vic.gov.au/wps/wcm/connect/WorkHealth/Home



These programs will provide information and advice, and facilitate free on-site screening services for chronic disease. A chronic diseases prevention program will also be developed through the initiative; those workers identified as most at risk and those newly diagnosed with chronic diseases such as type 2 diabetes will be provided with access to services such as a free lifestyle change program to help them adopt healthier eating and physical activity behaviours, and information and education programs.

These kinds of programs and opportunities could be provided to Australian employees more broadly as a standard condition of employment. For example, workplaces could offer risk assessment and risk modification programs, nutritional education for workers and families, and physical activity embedded in or in association with regular daily work practice. In addition, incentives could be provided to employers to reduce the chronic disease risk profile of their employees.

SEDENTARY BEHAVIOUR IN THE WORKPLACE

The workplace represents an ideal opportunity to reduce sedentary behaviour among the population. Prolonged inactivity such as sitting is now common during working, domestic and recreational time, and typically comprises over half of waking time activity.(113, 114) Over one-quarter of Australians (26%) report sitting for eight or more hours during a typical day.(43)

Recent Australian research has demonstrated the benefits of avoiding prolonged uninterrupted periods of sedentary (mainly sitting) time,(114) interspersing periods of inactivity with breaks, and substituting (at minimum) light-intensity activity for sedentary time.(113, 114) These benefits include improved weight and metabolic outcomes. For example, the amount of sedentary time, time spent in light-intensity physical activity and time spent in mean activity intensity were found to be significantly associated with waist

circumference and metabolic risk factors, independent of time spent in moderate-to-vigorous-intensity activity. On average, each 10% increase in sedentary time was associated with a 3.1cm larger waist circumference.(113) Evidence also indicated that people who took more breaks in sedentary time had significantly lower measures of obesity (waist circumference and BMI), and improved blood triglyceride and glucose levels, regardless of total sedentary time and moderate-vigorous physical activity. Those in the group who had the most breaks had a waist circumference on average 5.95cm smaller than those in the group who took the least breaks.(114)

While it is important to continue to promote the significant health benefits of regular moderate-vigorous physical activity, this research indicates that extended periods of sedentary time (as are common among office workers) may undo the benefits of such activity. The results suggest that simple interventions that can be implemented in the workplace and domestically to decrease passive sitting time and increase the number of breaks can also lead to substantial health improvements. The evidence highlights behaviours that may be more appealing and feasible for some people to undertake, which can still result in improved weight and metabolic effects; for example, the importance of lower-intensity activity throughout the day (including incidental activity such as standing) rather than a focus on more purposeful moderate- to vigorous-activity such as going to the gym or jogging. Simple and sustainable strategies include:

- Standing up while on the telephone or watching television
- Using a telephone headset at the office to keep moving during phone calls
- Holding walking or standing meetings when appropriate
- Arranging regular (for example, half-hourly) short breaks during sit-down meetings.



Employers and workplaces (both large and small) develop comprehensive programs that support healthy eating and physical activity. Evidence-based guidelines recommend ensuring policies and building design encourage healthy eating and physical activity, such as travel expenses promoting walking or cycling to work; improved stairwells to encourage use; and the provision of shower and bike parking facilities.(1) Incentive schemes to encourage healthy behaviours and weight management include contributions to gym memberships, including active travel in expense policies, and the availability and promotion of competitively priced healthy food choices on-site (including vending machines).

4.6.4 Town planning and building design

While interventions based on improved nutrition and increased physical activity can be effective in addressing overweight and obesity in individuals, shifting the population distribution of obesity requires interventions that target elements of the environment that promote or support weight gain. Solutions to address the obesity-promoting environment such as changes in transport infrastructure and urban design can be more difficult and expensive than interventions targeting groups, families or individuals. However, these kinds of strategies are more likely to support and encourage healthy eating choices and physical activity among the greatest number of people in the population in the long term.(33)

Urban planning approaches influence community levels of physical activity and driving behaviours, and are also associated with health outcomes.(115)

Meta-analyses have quantified the effects of environment on physical activity.(116)
For example:

- Good community-scale urban design and land use policies and practices in promoting physical activity are associated with higher levels of physical activity (for example, proximity of residents to shops and schools, connectivity of streets, population density, green spaces).
- Good urban design and land use at a street level increase physical activity levels by 35% (improved lighting, ease and safety of street crossings, pathway continuity, presence of traffic calming structures, aesthetic enhancements).
- Having access to places for physical activity increases physical activity by 48.4% (trails, facilities, parks, safety, affordability).

The urban environment also has significant association with some health outcomes. For example, a large US study across more than 400 counties found that people living in more sprawling counties (i.e. a widely dispersed population in low-density residential developments; the rigid separation of homes, shops and workplaces; a lack of thriving distinct activity hubs such as town centres; and a network of roads with large blocks and poor access between places) were less likely to walk during leisure time, weighed more and had a greater prevalence of hypertension, after demographic and behavioural covariates were taken into account.(115)

In Australia, a national planning guide is being developed that addresses the relationship between people's health and the built environment. The planning group includes the Australian Local Government Association, the National Heart Foundation of Australia and the Planning Institute of Australia.¹¹

11 See www.healthactive.gov.au/internet/healthactive/publishing.nsf/Content/healthy-spaces-index



The 'Healthy Spaces and Places Project', with funding assistance from the Department of Health and Ageing, aims to promote ongoing development and improvement of built environments to facilitate lifelong active living and promote good health outcomes for Australians. Long-term planning, policy and infrastructure measures are required to address the urban obesity-promoting environment. This requires reorientation of transport policy to prioritise and enable walking, cycling and public transport options, and the development of policies to support increased urban density. At a neighbourhood level there is a need to build new, and redevelop existing neighbourhoods to provide infrastructure and services for recreational physical activity, including accessibility for pedestrians and cyclists to shops, workplaces, public transport and services. It is also important that there are high-quality and usable public open spaces that cater for different target groups such as children, adolescents, adults and older Australians. These spaces should enable walking as well as active recreation and sport.

A number of reviews have shown that access to neighbourhoods characterised by higher density, mixed-use zoning, interconnected streets and access to public transport increases walking.(169, 170) There is also reasonably strong evidence of an association between parks and open spaces and walking. While having access to public open spaces is associated with walking as a form of transportation and achieving recommended levels of walking, it also appears necessary to have good communication and promotion of available facilities; access alone does not guarantee improved outcomes.(117, 118) Young people who live in more walkable, pedestrian-friendly neighbourhoods, with reduced exposure to traffic, are also more likely to walk.(119)

Evidence-based recommendations on how to improve the physical environment to encourage and support physical activity, based on effectiveness and cost-effectiveness studies, are available from the UK National Institute for Health and Clinical Excellence (2008).(120)

Facilitate the adoption of consistent town planning and general building design that encourage greater levels of physical activity, and reorient urban obesity-promoting environments through appropriate infrastructure investments. For example, develop state and municipal plans to re-orient public transportation and increase urban density, support farmers' markets, build bicycle paths and footpaths, and protect open spaces.

4.6.5 Active environments

Community and neighbourhood environments influence walking, cycling and public transport use, as well as recreational physical activity. There are some good policy precedents and some encouraging research findings on the links between environment and physical activity.(121, 122) People who have access to safe places to be active and neighbourhoods that are walkable are likely to be more active.(123) Creating more 'liveable' neighbourhoods has the potential to produce significant sustainability benefits by reducing car use, improving access to local services and through more efficient land use.(124)

Approaches involving multiple settings and multilevel strategies appear to have the greatest effect on physical activity behavioural change. A greater focus on active transport to and from work is a potential strategy that could increase opportunities for physical activity among working populations.(125) This is reflected in the UK Healthy Weight Healthy Lives 'Walking into Health' initiative.(35) Results from the pilot of an existing UK program, 'Sustainable Travel Towns', in three towns suggest walking has increased by around 20% and cycling by almost 50% in two years, accompanied by reductions in car and public transport use.(35)



Research has examined the community design correlates of obesity.(126) For example:

- Time spent in a car as passenger or driver: every additional 60 minutes per day spent in a car increased the odds of being obese by 6%
- Walk distance: each kilometre walked reduced the odds of being obese by 4.8%
- Land use: each quartile increase in land use mix (i.e. mixing residential with other uses such as retail, workplaces etc) associated with 12.2% reduced odds of being obese.

Development in countries such as the US has traditionally been based on the assumption of long-distance, private car trips and thus long-term planning is required to modify current practices and infrastructure to facilitate the widespread community adoption of active and public transport. In addition, barriers to the implementation and adoption of active transport must be considered: these include poor health, weather, time of travel and access to showers.(127)

ACTIVE LIVING, CLIMATE CHANGE AND ENVIRONMENTAL SUSTAINABILITY

There are many areas in which improving health is entirely compatible with increasing environmental sustainability, such as walking and cycling for transport. Both obesity prevention and climate change require societal change with cross-governmental action and long-term commitment, as well as partnership between government, science, business and the community/individuals.(33) It is clear that measures to design sustainable communities, reduce traffic congestion and increase active transport such as walking and cycling are all initiatives that would address both problems; addressing them together would enhance the effectiveness of action.

While we must wait for hard evidence to emerge from future initiatives, research has already begun to consider the association between environmental sustainability objectives and the promotion of active living.

For example, a US study calculated the travel distances equated with recommended daily walking and cycling levels, and modelled the effects of this type of active transport on weight loss, oil consumption and carbon emissions. (127) Results indicated that if all Americans aged 10–74 years met daily recommended physical activity targets through one hour of walking (5km) or cycling (20km), replacing car travel over the same distances, oil consumption in the US could be reduced by up to 38%; the average individual would expend around 12.2kg of fat annually for walking and 26.0kg of fat for cycling; and carbon dioxide emissions would be significantly reduced. The potential level of weight loss was concluded to be sufficient to eliminate obese and overweight conditions in a few years for all but extreme cases without reducing food intake. The subsequent financial savings were estimated to be substantial, based on reductions in healthcare expenditure and productivity losses related to ill health. While based on simplified calculations, the results nonetheless illustrate the great potential of active transport to reduce energy demand and carbon emissions, as well as to provide extensive health benefits to individuals and society.

In recent years the community has embraced a range of activities addressing climate change, such as reduction in water and energy use; installation of home rainwater tanks; the use of low-energy light bulbs and green products in the home; increased recycling; greater awareness of food supply concepts such as 'food miles'; and limiting detrimental environmental impacts associated with agricultural methods, food transport and packaging processes by purchasing local produce. Sustainability initiatives could be used to harness community support to address the obesity crisis; for example, the promotion of physical activity with the message that people can save petrol money, help the environment and incidentally get healthier through the adoption of exercise-based transport (cycling and walking) and public transport use to reach schools, workplaces, shops, community centres, and by shopping locally at fresh produce markets.



4.7 Strengthen, upskill and support primary health care and public health workforce to support people in making healthy choices

4.7.1 Health workforce

The public and primary health workforce is an essential component of any public health program to reduce obesity and promote health. While not the frontline in tackling obesity-promoting environments, the primary healthcare setting is the frontline for dealing with many individuals and represents a valuable opportunity to intervene in the prevention of unhealthy weight gain across a broad spectrum of the Australian community.

Around 85% of Australians visit a doctor at least once a year.⁽²⁾ However, there is currently no systematic screening for metabolic risks in primary care. There is also a lack of funded referral pathways to allied health professionals, as well as a lack of primary care engagement with the range of risk modification and healthy living programs provided by, for example, non-government organisations, the fitness industry and the commercial weight loss sector. In order to enable these systems and networks to operate in coordinated and effective partnerships, there is a need to develop standards, accreditation requirements and directories, and to provide appropriate education and training to primary and public healthcare professionals.

Having an appropriate level of public and primary health workforce is important to support population and community-based activities, such as working with local schools to assist them in implementing school canteen guidelines; working with local governments to assist in making their local plans supportive of health; and working with community groups to promote activities such as walking groups. The public and primary healthcare workforce is also crucial to the success of any comprehensive social marketing campaign, by helping to direct messages to identified target groups and

providing additional knowledge and support in the community. The workforce would consist of a range of health professionals, including public health nutritionists based in regional centres, health promotion officers specialising in physical activity, based in regional centres, and generalist health promotion workers in towns and rural centres. These officers could be employed in a range of settings including local governments, state/territory governments and non-government organisations. This level of capacity is currently lacking in most jurisdictions in Australia.

There is a range of Health Equality Targets from the 'Close the Gap' report that aim to provide an adequate workforce to meet Aboriginal and Torres Strait Islander health needs. We need to ensure the implementation of these targets in order to increase the recruitment, retention, effectiveness and training of health practitioners working within Aboriginal and Torres Strait Islander health settings, and to build the capacity of the health workforce. This includes establishing programs that increase the availability of a multidisciplinary workforce in Aboriginal and Torres Strait Islander health at the local level.⁽¹⁷¹⁾

Further research on the role of multidisciplinary teams in the treatment of overweight and obesity is needed. There is evidence that programs delivered by multidisciplinary teams may be more effective at maintaining weight loss⁽¹²⁹⁾ when typically there is a high degree of relapse in weight loss for overweight and obese people.^(128, 130) There are clear benefits of team care in improving chronic disease management,^(131, 132) and sub-optimal management of chronic disease in general practice has been attributed to the absence of multidisciplinary teams within many general practices.⁽¹³³⁾

Multidisciplinary patient care teams may include health professionals from a range of areas, such as a physician, dietitian, exercise expert, nurse and behavioural therapist/psychologist.⁽¹³²⁾ Such teams are proposed



in the Australian Government's Super Clinics policy with GPs and allied health professionals providing lifestyle modification advice and promoting better multidisciplinary care, located in one facility. Similarly, the New South Wales state government recently announced a \$36 million state-wide strategy to address obesity, which includes the establishment of nine specialised Medical and Surgical Clinics across the state to provide multidisciplinary medical programs and bariatric surgery for those who are morbidly obese. Staff will include specialist physicians, diabetes nurses, psychologists and physiotherapists. Bariatric surgery will be considered for patients who fit certain criteria if all medical treatment options have been tried unsuccessfully.

The New South Wales strategy also includes a state-wide social marketing campaign promoting healthy eating and physical activity; a healthy advice telephone line providing information and coaching including follow-up calls and tailored counselling, based on the Quitline model, to be staffed by trained health professionals such as dietitians, nurses and exercise scientists; a parenting program to support parents of overweight and obese children; and the establishment of an Obesity Prevention Research Centre.(134)

Research among GPs has found that the impact of existing incentives to encourage a multidisciplinary approach to patient care (i.e. the Enhanced Primary Care (EPC) Chronic Disease Management (CDM) Medicare items) is restricted by:

- A lack of available community allied health services.
- Limited funding and eligibility of services under Medicare.
- Waiting times for state allied health services (as these services are now increasingly concentrated on recently hospitalised patients).(133)

GPs also perceive significant barriers to the implementation of the EPC: administrative requirements; the complexity of incentives and initiatives; being too limited to significantly change GP practice for as complex a problem as obesity (i.e. only five sessions per year from any of the range of allied health practitioners covered).

Expand the supply and support training of relevant health workers such as primary healthcare workers, health promotion workers, nutritionists and dietitians.

4.7.2 Guidelines and training

The NHMRC 'Clinical Practice Guidelines for the Management of Overweight and Obesity in Adults' and 'Clinical Practice Guidelines for the Management of Overweight and Obesity in Children and Adolescents' have not been updated since 2003. Limited training and a lack of appropriate knowledge and skills among family doctors and other primary healthcare professionals are common barriers to providing care to overweight and obese individuals. (32, 135, 172, 173)

Research has identified a range of areas in which health professionals working with overweight and obese patients could benefit from training in evidence-based approaches to the management of overweight and obesity in clinical practice. Professional education should reflect the rise in prevalence of obesity in Australia.(135) A recent study of Australian university medical, dietetic and nursing curricula found that, among the limited number of courses surveyed, while most of the undergraduate courses appeared to provide a reasonable number of hours related to training on obesity, professional training by the specialist medical colleges was less comprehensive and not specific to obesity.(135)



A Cochrane systematic review examined studies of providers' management of obesity or the organisation of care to improve provider practice or patient outcomes.(136) Reminder systems, brief training interventions, shared care, in-patient care and dietitian-led treatments may all be worth further investigation to improve obesity management.

Develop and disseminate evidence-based clinical guidelines and other multidisciplinary training packages for health and community workers.

Expand community placements for training of primary healthcare workforce.

4.7.3 Primary healthcare settings

In tackling obesity, it is crucial to target patients in primary care settings, at all levels of prevention: that is, to reduce the chance that excess weight will affect a patient, to interrupt, prevent or minimise the progress of unhealthy weight gain at an early stage, and to attempt to halt and reduce existing disability and damage associated with unhealthy weight gain. Given the prevalence of overweight and obesity in the community, adults, adolescents and children who are overweight or obese need to be offered services and support to ensure that they at least do not continue to gain weight and ideally to ensure that they lose weight. The Taskforce has considered policy initiatives in primary healthcare settings such as the implementation and monitoring of brief interventions about nutrition, physical activity and management of overweight and obesity, including an expansion of the 'Lifescrpts' (lifestyle prescription) program in primary care.

The importance of access to culturally appropriate primary healthcare services (both mainstream and Aboriginal and Torres Strait Islander services) at a level commensurate with need is highlighted in the National Indigenous Health Equality Targets in the 'Close the Gap' report, and these must be implemented.(171)

Brief GP interventions incorporating verbal advice and written materials can lead to short-term modification of physical activity behaviours.(111) Common factors in improved, more consistent changes in physical activity behaviours include:

- GPs and other health professionals working together
- Patients receiving counselling outside usual GP appointments.

GPs want to see their role supported through community education campaigns, so that people expect them to provide advice as part of routine medical care.(137) A key component of an effective and comprehensive social marketing campaign is linkage with community agencies such as health professionals to support and reinforce key messages (such as through the provision of campaign information and resources). GPs also want clear referral pathways to dietitians and physical activity providers, with simple systems for people to be reimbursed for weight management referrals.(137)

The 'Lifescrpts' program is a national, evidence-based initiative that promotes risk factor management in GP and primary healthcare services. Lifescrpts resources provide GPs with a framework for:

- raising and discussing lifestyle risk factors with patients
- advice in the form of a written script and associated patient education
- referral to other providers to support healthy lifestyles.



This comprehensive approach to encourage achievable health behaviour change is needed for sustainable population health behaviour change. Behavioural changes need to be easy to make; for example, following the health promotion message of making healthy choices, easier choices.(117, 124, 129, 169, 174, 175)

'Lifescrpts' requires additional funding to expand the program, provide linkages to local services and to integrate it with national campaigns. As a widely adopted, dedicated general practice-based lifestyle program, 'Lifescrpts' would have the potential to improve the identification and management of people who are or are at risk of being obese or overweight and thus reduce associated healthcare costs.

Fund programs to educate patients in primary healthcare settings about nutrition, physical activity and management of overweight and obesity.

4.8 Maternal and child health

PREGNANT WOMEN

There are serious adverse effects of overweight during pregnancy, with the risk of complications increased for both mother and baby.(138)

Obstetric risk increases with BMI among overweight and obese women.(139) Programs targeting pregnant women in healthy eating, activity and weight could enhance obstetric outcomes and reduce healthcare costs of obesity-related increases in maternal and neonatal morbidity. Initiatives such as the UK Child Health Promotion Programme aim to identify families most at risk due to child weight issues through a series of health reviews, including assessments in the early stages of pregnancy, allowing health professionals to identify and provide mothers who are already obese or overweight with advice on healthy weight gain in pregnancy.(35)

BREASTFEEDING

In addition to the protective role breastfeeding may have in several chronic diseases, breastfeeding (including delaying weaning until babies are six months old) plays an important role in helping to prevent obesity in children.(2) This has been attributed to physiological factors in human milk as well as feeding and parenting patterns associated with breastfeeding.

While the proportion of Australian infants ever breastfed was around 86–88% between 1995 and 2005, in 2001 less than half (48%) of all infants were receiving any breast milk at the age of six months, and none were being exclusively breastfed.(2) The proportion of children receiving any breast milk declines steadily with age.(140)

Australian recommendations for breastfeeding reflect the international recommendations of exclusive breastfeeding for the first six months of life, with the introduction of complementary foods and continued breastfeeding from six months of age.(2)

In 2001, the proportion of Australian children receiving breast milk was higher among more highly educated and older mothers (aged over 30 years).(140) Indigenous mothers in non-remote areas appear to be less likely to initiate and continue breastfeeding than other Australian mothers.(2) These data suggest the need for targeted interventions among urban Indigenous mothers, as well as younger and less educated mothers to increase levels and duration of breastfeeding.

The Australian Government has announced funding to upgrade the existing breastfeeding helpline to a national 24-hour toll-free helpline, and to provide training for health professionals and research to support breastfeeding, including barriers and enablers to breastfeeding, indicators of breastfeeding rates and the development of dietary guidelines for pregnant and breastfeeding women.¹²

12 <http://www.health.gov.au/internet/ministers/publishing.nsf/Content/mr-yr08-nr-nr105.htm?OpenDocument&yr=2008&mth=7>



New UK strategies to enhance breastfeeding behaviours include: promotion of breastfeeding as the norm for mothers (as part of a comprehensive healthy development marketing program); the implementation of the UNICEF 'Baby-Friendly Initiative' in hospitals and communities with low breastfeeding rates; a code of best practice for employers and businesses on how to support and facilitate employees and customers who breastfeed; guidance for relevant professionals to encourage breastfeeding; and establishing parental support groups. (35)

Due to the susceptibility of Indigenous women to obesity compared with non-Indigenous women, it is crucial that relevant National Indigenous Health Equality Targets from the 'Close the Gap' report are met, (171) such that all Indigenous women and children have access to appropriate mother and baby programs within 5–10 years; 75% of all Indigenous pregnant women present for first antenatal assessment within the first trimester; and there is national coverage of maternal and child health services for Aboriginal and Torres Strait Islander people.

Develop targeted programs to encourage healthy eating for pregnant women and breastfeeding for newborns.

4.9 Close the gap for disadvantaged communities: Indigenous and low-income Australians

In developed countries, the prevalence of obesity is higher among people of lower socio-economic status. (32) This differential is observed in the Australian population: in 2004-05, Australians aged 18+ years in the most socio-economically disadvantaged fifth of the population had the highest rates of overweight and obesity (50%, compared with 45% of

adults in the least disadvantaged fifth of the population). (2) Similarly, Indigenous Australians are almost twice as likely as other Australians to be obese (after adjusting for differences in population age structures), with these differences greatest among women. In the 2004-2005 National Health Survey, Indigenous females were around one and a half times as likely to be overweight or obese as non-Indigenous females, whereas the rates were similar among Indigenous and non-Indigenous males. (2)

These striking differences demand strategies to address the underlying social determinants. For example, the physical activity and eating behaviours of low-income people may be more dependent on the default choice (often the unhealthy choice in an obesity-promoting environment). (32)

There are several National Indigenous Health Equality Targets from the 'Close the Gap' report, which, if achieved, would help address Indigenous disadvantage; for example, access to healthy, affordable food choices for over 90% of Aboriginal and Torres Strait Islander families by 2018. (171) An existing initiative supporting this target is the Remote Indigenous Stores and Takeaway (RIST) project, which aims to improve access to healthy food in remote Indigenous community stores and takeaways through the development, implementation and evaluation of a common set of guidelines and resources promoting access to healthy foods; discourage the promotion of energy-dense, nutrient-poor food and drinks; and endorse guidelines and resources by key stakeholders to influence their uptake. Currently, each state and territory has their own implementation strategy; Queensland Health, for example, is funding the state-wide implementation and evaluation of the resources. Project resources include guidelines, marketing ideas and optimal storage tips for healthy food in remote



community stores, and a toolkit to improve the freight transport of healthy foods to remote stores. The 'Buyer's Guide 2008 for managers of remote Indigenous stores and takeaways' developed by the Heart Foundation identifies specific brands of foods and beverages that remote stores and takeaways are encouraged to stock in order to improve the available range of healthier items.(141) The 'Close the Gap' report recommends this resource to community stores in their commitment to healthy nutrition and financial goals and targets.(171)

While it is too early to assess the uptake and use of the resources nationally, results are available from a six-month pilot of a selection of the RIST resources in 2007 in seven remote communities across Australia. The best outcomes (such as substantial increases in sales of fruit and vegetables between 2006 and 2007) were observed in communities where strategies consistent with those recommended in the RIST resources were implemented within a supportive environment.(142) The results illustrate the need for community-based initiatives to involve far more than the provision of resources, including broad community engagement and consultation, and relevant infrastructure and funding.

In the participating Kururrungku community in the east Kimberley region of Western Australia, for example, increased sales of fruit, seafood, lean meat and recommended fats and oils were observed, in conjunction with the community participating as a COAG Trial site for a nutrition program supporting major changes being made to the community store. (143) These included structural changes, such as the provision of a nutritionist in the community, the establishment of a weekly freight delivery of perishable items to the store and the provision of 12 commercial display fridges.

Support ongoing research on effective strategies to address social determinants of obesity in Indigenous and low-income communities.

Develop tailored approaches and services to reach Indigenous and low-income groups, particularly through partnerships with local governments that focus on obesity-promoting environments and mobilise programs in schools and other community settings.

4.10 Build the evidence base, monitor and evaluate effectiveness of actions

There is a clear need to increase the evidence base regarding obesity prevention and management through research, evaluation, monitoring and surveillance. This requires a much higher investment in the research and evaluation of weight reduction interventions and the causes of obesity. There is a need to develop a comprehensive national research agenda for obesity. It is also vital to develop an agreed national assessment tool and reporting levels for overweight and obesity, particularly as they relate to children, young people and minority groups. A specific research agenda needs to be developed with appropriate levels of public and private funding, which must be supported by improved monitoring and harmonisation of surveillance systems across Australia. Existing and future interventions require well-designed, rigorous evaluation (including economic analysis such as the assessment of cost-effectiveness) if the relative lack of evidence on obesity prevention and management is to be addressed.



The Taskforce has identified the need to establish a comprehensive national surveillance system focused on the behavioural, environmental and biomedical risk factors for chronic disease (including factors such as food availability and food composition) to track and report on performance and outcomes, including the impact on health inequalities. Expanding the national nutrition and physical activity survey program through the inclusion of biomedical data would be an important input to such a system.

Develop a comprehensive national research agenda for overweight and obesity.

Expand the national nutrition and physical activity survey to cover adults, children and the Indigenous population, and ensure the inclusion of biomedical risk factors for chronic disease. This survey needs to become a permanent national five-yearly study.

NATIONAL DATA COLLECTION - ADULTS

Australia's major investment in monitoring the nutrition, physical activity and weight patterns of the Australian population is currently undertaken through the now triennial National Health Survey (NHS), conducted by the Australian Bureau of Statistics (ABS). The last three surveys were conducted in 1995, 2001 and 2004–2005. Data is collected through personal interviews with all respondents, except for children (parents/carers are interviewed on the child's behalf). Among a range of health data, the NHS collects information on nutrition (fruit and vegetable intake), leisure time physical activity, and height and weight (self-reported).

The most recent National Health Survey (the 2007–2008 survey, for which data collection was completed in July 2008) collected both self-reported and measured height and weight information from all participants aged over five years, as well as measured waist and hip data. Results from this survey are expected to be released in March 2009.

Measured height and weight from a sample representative of the population and for which data is currently available was last collected in 1999–2000 (the Australian Diabetes, Obesity and Lifestyle study, AusDiab). This is a longitudinal population-based study that was repeated in 2004–2005. There are plans for a 10-year follow-up to the initial survey in 2009–2010, inviting all previous participants to take part once again, as well as recruiting another cohort of new respondents from the general population.

Prior to this, the 1995 National Nutrition Survey was the largest and most comprehensive Australian survey of food and nutrient intake, dietary habits and body measurements (height, weight, waist and hip circumference, and blood pressure). It was conducted by the ABS in 1995–1996 among around 13,800 respondents from across Australia. Information on food and beverage intake, the usual frequency of intake, food-related habits and attitudes, and physical measurements were collected from people aged two years or more.

The difference between measured and self-reported height and weight is important, as measured data are likely to be more accurate and self-report data will likely underestimate true BMI.(2)



NATIONAL DATA COLLECTION - CHILDREN

The latest national-level data collected on children's weight occurred through the Kids Eat, Kids Play survey, the first national survey of Australian children's nutrient intake since 1995 and the first national children's physical activity survey since 1985. The survey involves 4000 children aged 2–16 years. Field work was completed in September 2007. Food, beverage and dietary supplement intake information were collected to calculate nutrient intake, while activity patterns and physical measurements (weight, height and waist circumference) were also recorded. Results were released in October 2008.

NATIONAL DATA COLLECTION - ADOLESCENTS

An ongoing national survey to commence in 2009 (funded by state Cancer Councils, the Cancer Council Australia and the National Heart Foundation of Australia) aims to monitor overweight/obesity prevalence, diet and activity among a nationally representative sample of around 20,000 secondary school students from year levels 8 to 11. Measured height, weight and waist circumference, food intake, dietary habits, physical activity, sedentary behaviour, barriers and enablers of physical activity and data on the school food and activity environment will be collected.