

# **OVERWEIGHT AND OBESITY PREVENTION FRAMEWORK – A HEALTH PROMOTION APPROACH**

## ***ADVOCACY FOR THE CONTROL AND PREVENTION OF OVERWEIGHT AND OBESITY***

Prepared by: Peter Howat <sup>1,2</sup>, Alexandra McManus <sup>2</sup>, Mike Daube <sup>3</sup>, Linda Burke <sup>1,2</sup>

*1. Centre for Behavioural Research in Cancer Control, Curtin University, Perth, W Australia.*

*2. WA Centre for Health Promotion Research, Curtin University, Perth, W. Australia*

*3. Curtin University, Perth, W. Australia*

*Prepared for the Public Health Association of Australia Health Promotion Special Interest Group; and the PHAA (WA Branch).*

### **ABSTRACT**

The conditions that give rise to overweight and obesity are complex, with multiple and interrelated causes. Prevention efforts benefit from an approach that relies on the combination of multiple interventions. Health promotion provides a useful framework for conceptualizing and implementing actions to reduce overweight and obesity since it involves a combination of educational, behavioral, environmental, and policy approaches. This summary draws on data from a range of settings to characterize the effectiveness of various interventions embedded within the health promotion approach. Interventions considered part of the health promotion approach include: Economic interventions; Organizational interventions; Policy interventions; and Health education interventions, including the use of media, school and community education and public awareness programs.

The behaviours central to obesity prevention and control are physical activity and nutrition. Numerous programs have been implemented focusing on either one or both of these behaviours with the aim of reducing or controlling body weight. Extensive systematic reviews have identified many interventions that influence improvements to diet and physical activity. However, relatively few strategies have been evaluated as being effective in bringing about sustained weight loss.

Programs that have been effective, or that have shown potential have generally been comprised of multiple components where health education is supported by economic, organizational and policy actions. Because each intervention builds on the strengths of every other one, ecological approaches to reducing obesity problems using all four components of the health promotion model are likely to be the most effective.

### **INTRODUCTION**

Obesity is one of the world's most important public health issues. The World Health Organization (WHO) links obesity to increases in the risk of morbidity and premature mortality due to insulin resistance and type II diabetes, high blood pressure, dyslipidaemia, cardiovascular disease, stroke, sleep apnoea, gallbladder disease, hyperuricemia and gout, and osteoarthritis (WHO, 1998; WHO, 2003). Recent epidemiological research also suggests that adult obesity is linked to elevated rates of death due to cancer of the stomach, prostate, breast, uterus, cervix, ovary, esophagus, colon, rectum, liver, gallbladder, pancreas, and kidney (Calle et al., 2003)

In 2001 it was estimated that 5.3 million Australian adults aged 18 years and over were overweight or obese (Dixon & Waters, 2003). Various recent estimates also suggest that up to 27% of Australian children are currently overweight, including up to 9% who are obese (AIHW, 2003; O’Dea, 2003; Wake et al., 2002). In 2005, 3.24 million Australians were estimated to be obese, comprising 15.1% of all males and 16.8% of all females (Access Economics, 2006).

Trend data indicate that 50% of all Australian children could be either overweight or obese by 2025 (AIHW, 2005; (Access Economics, 2006).

Recent figures in Australia suggest that the direct financial costs of obesity may be as high as \$3.77 billion per annum (Access Economics, 2006). The net cost of lost wellbeing was estimated at an additional \$17.2 billion, making the true total cost of obesity \$21 billion.

## **THE HEALTH PROMOTION FRAMEWORK**

A health promotion approach to the prevention of overweight and obesity incorporates an appropriate balance of individually-focused behavior change strategies and those that encourage supportive environments. One definition of health promotion is:

a combination of *educational, organizational, economic* and *political* actions designed with consumer participation, to enable individuals, groups and whole communities to increase control over, and to improve health through changes in knowledge, attitudes, behavior, policy, and social and environmental conditions (Howat, Maycock et al. 2003).

This definition builds on and incorporates aspects of earlier definitions of health promotion (World Health Organisation 1986; Green and Kreuter 1999) which focus on building health public policy, creating supportive environments, strengthening community action and developing personal health skills. An example of how this approach could be applied to overweight and obesity is provided Figure 1. The Figure presents a logic model and framework for how the components of health promotion (economic actions, policy actions, organizational actions, and health education) can cumulatively contribute to changes in knowledge, attitudes, behaviors, policies and social and environmental change necessary to reduce overweight and obesity, ultimately improving health status of individuals and the community.

Health promotion approaches to overweight and obesity require a broad range of individual and community actions, fostered by education, stimulated by social norms, and encouraged through healthy public policy. Preventing overweight and obesity also requires strong community support which is not only necessary for legislative initiatives but is important for shaping personal behavior and social norms. Partnerships across a multitude of sectors (e.g. health, transport, housing) and levels (eg. with communities, local government, food suppliers, food outlets, advertisers etc) will be required for the effective implementation of a comprehensive intervention program

The prevention of childhood obesity is an important goal for the future health of Australia and attracts most attention. However, the prevention and control of obesity is a priority health action for ALL age groups, and many of the interventions listed below are likely to be beneficial across all age ranges. Nevertheless specific target groups e.g. children, youth, mothers with young children, middle aged/baby boomer groups, as well as seniors need to be considered for specific programs. Particular consideration may also be desirable for some high risk and vulnerable groups. In particular, additional work is recommended to identify specific strategies that are likely to be relevant to Indigenous communities. In addition care should be taken with any strategy to minimize the likelihood of unintended negative effects.

## HEALTH PROMOTION APPROACHES

Based on the efforts to prevent tobacco and drug use, improve nutrition, reduce alcohol related traffic crashes, and promote physical activity, four general classes of intervention approaches have been identified (World Health Organisation 1984; Pinder 1994; US Department of Health and Human Services 1997):

- Economic interventions
- Organizational interventions
- Policy interventions, and
- Health Education, School and Community Interventions.

Within each category, there is a wide range of strategies that have been or could be employed to reduce overweight and obesity. For some strategies, there is evidence that they have been effective, whereas for others, the evidence is equivocal or insufficient. This paper summarizes these strategies embedded within the components of the health promotion framework. Physical activity and nutrition interventions will generally be discussed separately under each component.

This paper is presented as a summary document where a rating is assigned to each intervention based on their effectiveness or *potential* effectiveness according to the available evidence. (Hi = High effectiveness; M = medium effectiveness; L = low effectiveness; Un = unknown or unclear effectiveness).

Many of these interventions may have limited benefit if implemented in isolation, however their potential effectiveness is likely to be substantial when implemented as part of a comprehensive plan, based on the evidence of such a 'comprehensive approach' that has been effectively applied to traffic injury {a drop of traffic deaths from 30/ 100,000 in 1970 to 9/100,000 in 2001(Howat et al., 2004)}, occupational injury, and tobacco control in Australia and other developed countries (Adult smoking has dropped from 35% nationally in 1983 to 17.4% in 2004 (15.5% in WA), smoking in past week for 12 – 15 yr olds decreased from 19% in 1984 to 5% in 2005 and for 16 – 17 yr olds it dropped from 27% to 9.8% ) . {Multiple references are available for most of the interventions listed, but are not included here}.

### Economic Interventions

#### **Price and taxation:**

##### ***Nutrition***

- Tax / levy on certain nutritionally undesirable foods (Funds to be used to promote and to subsidize nutritionally desirable foods; to fund mass media promotion of nutritionally desirable foods; and funds to replace unhealthy advertising; and fund other initiatives below ) (Hi) { \* Nutritionally desirable foods (Those providing essential nutrients or components) and nutritionally undesirable foods (those with low nutrient density and high in fat, salt, sugar or energy; These are often referred to as 'junk foods'). }
- Increased taxes/ levy on soft drinks (especially sugary drinks) (Hi)
- Reduced taxes – low fat milk and water (Md)
- Tax on food vending machines – based on fat/sugar/salt (Lo)
- Create a National Health Promotion Foundation to collect and disburse nutritionally undesirable foods tax funds to support public health research in this area (Mid)

- Health promotion professionals' advice. Encourage and subsidize GPs and other medical practitioners to give healthy lifestyle advice e.g. on weight control, physical activity and nutrition. (Hi)
- Subsidies on – fruit and vegetables that address quality, accessibility and affordability (especially in selected disadvantaged areas, rural and indigenous communities) (Hi)
- Increased government funding to schools to reduce the need for fundraising / sponsorship by companies that produce 'nutritionally undesirable foods' (e.g. confectionery especially chocolate) (Md)
- Ban fundraising / sponsorship by companies that produce 'nutritionally undesirable foods' in schools, and community sports clubs (Hi)
- Government funding to canteens to pay for extra staff/training to encourage healthy menus (Lo)
- International code of practice/guidelines to reduce/eliminate commercial promotions that target children (Hi)
- Health Insurance companies to provide rebates on prevention of overweight and obesity (not just for treatment) (Md)
- Higher life insurance premiums for obese/ overweight people (Lo)
- Discounts on life insurance premiums for 'people within a defined healthy weight range' (Md)

### *Physical activity*

- Subsidies (rather than tax rebates) – recreation centre memberships, sports club memberships, sports footwear (Md)

## **Organizational Interventions**

### *Nutrition*

- Provide credible, reliable nutrition communication, education, training and resources promoting the Australian Dietary Guidelines and food selection guide (Hi).
- Local council regulations – control the establishment of new fast food outlets? Licensing? (Lo)
- Strict regulations on school canteen foods – limited nutritionally undesirable foods, provide after lunch treats (ice-creams, etc) on a limited basis (e.g. monthly) (Hi)
- Restrictions on placement of soft drink/ snack food vending machines (e.g. supermarkets at end of checkouts) (Hi)
- Restrictions on the placement of nutritionally undesirable foods near checkouts (nutritionally undesirable foods free checkouts) (Hi)
- School lunch policies (especially lower primary schools) to dissuade nutritionally undesirable foods in home produced lunches (Hi)
- Strict regulations on health care facility canteen/food outlets foods – limit nutritionally undesirable foods (Hi)
- Strict regulation of food prepared/provided by child care centres (Hi)
- Strict regulations on worksite canteen foods/ food outlets foods – limit nutritionally undesirable foods (Md)
- Work with fast food outlets/chains – to reduce fat, sugar, salt, energy, portion sizes (e.g. low fat, low sugar, low salt burgers) (Hi)
- Work with food industry to increase proportion of foods with low or reduced fat and sugar levels (Md)
- Work with private sector food services (lunch bars / takeaway food outlets etc) to increase nutritionally desirable foods and decrease nutritionally undesirable foods available (Md)

- Nutritionally desirable foods supplies in rural and remote communities to be available and at reasonable cost (low fat and low sugar products, fruit and vegetables) (Hi)
- Food security (poorer access to healthy foods (possibly) related to high consumption of fast foods, particularly in low SES areas) (Hi)
- Packaging control (as packet size increases, consumption increases dramatically, bigger packets encourage over consumption) (Md).
- Control the use of marketing terms ( e.g. ‘diet’, ‘light’ ) (Hi).

### *Physical activity*

- Physical activity equipment in parks increased for both children and adults (Md)
- Worksite physical activity and health promotion programs (Hi)
- Cycle paths, and cycle storage to encourage cycling to schools, shops and work (Md)
- Work with urban planners, local and State Government to increase physical activity ‘friendly’ / supportive built environment (e.g. Increase footpaths, aesthetics street-scapes, parks etc; locate shopping centres and schools to enable/facilitate walking and cycling access (Hi)
- Education and training courses to include nutrition and physical activity modules aimed at overweight and obesity control. (e.g. For childcare workers, teachers K-12, Aboriginal health workers; GPs; *ID others* (Md)
- Physical activity equipment in self-care lifestyle and seniors complexes (Md)

### **Policy Interventions**

**Restrictions on advertising and promotion:** In addition to direct advertising via television, radio, newspapers, magazines and billboards, the food and beverage industry has vigorously promoted its products through indirect advertising. Advertising and marketing strategies similar to those used by the tobacco industry have been employed to increase the market share of foods high in fat, sugar, salt and energy. Promotion of these foods is aggressively displayed in the form of direct and indirect advertising with the product placement on vehicles, clothing and venue advertising at public events, especially sporting events. An aim of such promotion is to ‘normalize’ the consumption of such foods and beverages to encourage non-consumers to try their products, and to encourage current consumers to consume more.

### *Nutrition*

- Labelling - clearer, simpler system re fat, salt, energy etc. Use of ‘traffic light’ symbols for all packaged and takeaway foods (Hi)
- Labelling – bans on labeling high sugar foods as fat free (Hi)
- Complete advertising bans on nutritionally undesirable foods ( *as the parents / adults are important targets of the advertising aimed at children’s consumption; AND healthy food social marketing campaign are overwhelmed by nutritionally undesirable foods advertising*) (Hi) [*nutritionally undesirable foods tax to fund replacement advertising revenues, as above*]
- Promotion bans on nutritionally undesirable foods at point of sale (Hi)
- Fad diet promoters to be controlled via strict licensing to control dishonest or misinformation in advertising (and provide proof of any interventions advocated) (Md)
- Nutritional information on all fast foods (Md)
- Subsidise fruit and vegetables (Hi)
- Ban super-sizing of meals; and ‘upsizing’ (e.g. fast food outlets)

### ***Physical activity***

- Daily physical education and sport in primary schools that accommodates all children (Hi)
- Regular physical education and sport in secondary schools that accommodates all children (Hi).
- Structured play for children in preschool and child care (Md).
- Valid and reliable data collection instruments and methodology essential to develop effective policies and interventions, particularly with lower income and high-risk groups (Md).
- National nutrition and physical activity monitoring system to monitor changes over time (Hi).

### **Health education**

#### **School health education:**

The effectiveness of school-based programs when implemented in isolation is not clear, with many designs and evaluations suffering from methodological limitations. Many school-programs have been short term and have operated in isolation from other nutrition and physical activity initiatives in the broader community.

- Increase the emphasis on health education on physical activity and nutrition in schools especially primary schools (Md)
- School programs. Promote: reduced TV viewing, reduced soft drink and high sugar fruit drink consumption, walking and cycling to school (Md).

#### **Mass media campaigns:**

There have been no well-funded, sustained, hard-hitting mass media campaigns to address overweight and obesity. It is reasonable to assume that, as with tobacco and drink driving, such campaigns may have a significant impact in isolation, but would be most effective as part of a comprehensive approach.

Mass media campaigns can play an important role in:

1. Raising awareness about physical activity and diet issues
  2. Generating public debate
  3. Reinforcing health related messages
  4. Changing perceived norms regarding physical activity and nutrition, and
  5. Complementing and providing support for other health promotion initiatives, including policies and environmental and organizational changes.
- On going community wide social marketing / media campaigns to promote nutritionally desirable foods, to replace advertising for nutritionally undesirable foods (as part of a comprehensive overweight and obesity control program) (Hi).
  - Community wide social marketing / media campaigns to be linked to on the ground activities (Hi).
  - Tailor health education messages to target groups (Hi)
  - Promote exclusive breastfeeding for the first 6 months via ante-natal education, and mass media campaigns (Md)

#### **Community mobilization:**

There is some evidence that community mobilization or community action projects involving local groups have been effective in contributing to changes related to reducing harmful alcohol-use and

other health related behaviours (Howat, O'Connor et al. 1992; Hanson, Larrison et al. 2000; Hingson, Zakocs et al. 2005).

- Engage parents and new parents in advocacy for measures listed above – (*eager to do what's right for their children and open to advice*) (Md)
- Engage parents who are already concerned about or trying to do something about their children's health e.g. members of The Parents Jury (Md)
- Engage grandparents/seniors willing to share their knowledge, experience and time (cooking, growing fruit and vegetables) (Lo)
- Engage sedentary people in multi-faceted interventions to increase physical activity (Hi)
- Conduct comprehensive needs assessments to inform interventions and maximize effectiveness (Hi)
- Use mixed methods models in developing nutrition- and physical activity-based programs/ interventions, particularly with low literacy, high risk and CALD groups (Md)
- Develop culturally sensitive policies, programs and interventions (e.g. some cultures encourage overeating) (there is a correlation between culture, low SES, overeating and consumption of fast foods) (Md)
- Partnerships between Aboriginal communities, food suppliers and community stores.

## **Conclusions**

A large proportion of the interventions implemented to reduce or control overweight and obesity appear to bring about only modest gains at best, when implemented in isolation. Similarly, for traffic safety and tobacco control many of the interventions when implemented in isolation yielded little gain. However, when implemented in combination and over a long period, substantial benefits resulted.

Due to organisational and funding constraints there have been no comprehensive interventions that incorporate a large proportion of the obesity interventions listed above at any single period in any single community. Based on the effectiveness of such comprehensive approaches in traffic safety and tobacco control, it appears that such an approach offers the only way forward to control the obesity epidemic.

It is encouraging that State Governments throughout Australia are now supporting some of the interventions listed above. However, a massive effort is required by both the Federal Government in collaboration with all State Governments and Territories to implement a truly comprehensive, across the life span, multifaceted and well funded program involving a variety of sectors as well as Health, and planned for a long period (at least 10 years in the first instance). Such a program needs multiple elements in each of the four domains of economic interventions, organizational interventions, policy interventions, and health education including school and community interventions.

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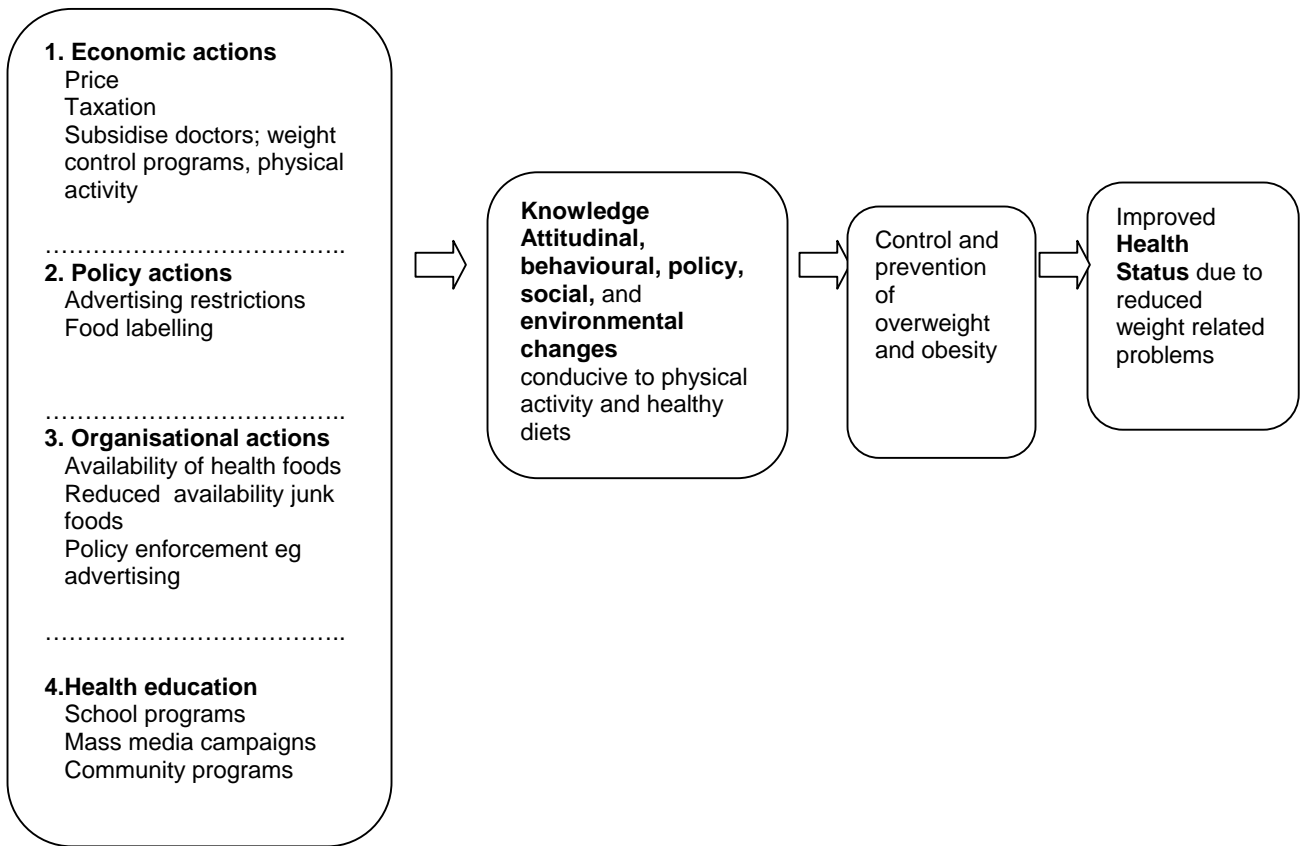


Figure 1. A Health Promotion Framework for the Control and Prevention of Overweight and Obesity

*Interventions for prevention and control of overweight and obesity.*

*(Overall this needs to consider all people as part of a comprehensive approach. However specific target groups e.g. children, youth, mothers of young children, middle aged/baby boomer group, seniors should also be considered)*

ID interventions that:

*1. Immediate advocacy is appropriate- for 1. PHAA National and 2. for PHAA WA State branch*

*2. Long term advocacy is appropriate- for 1. PHAA National and 2. for PHAA WA State branch*