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Obesity prevention programs and policies: Practitioner and policy-maker perceptions of feasibility and effectiveness

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Abstract

The aims of this study were: (1) to map obesity prevention activity being implemented by government, non-government and community-based organisations; (2) to determine practitioner and policy-maker perceptions of the feasibility and effectiveness of a range of evidence-based obesity prevention strategies; and (3) to determine practitioner and policy-maker perceptions of preferred settings for obesity prevention strategies. This study involved a cross-sectional survey of 304 public health practitioners and policy-makers from government, non-government and community organisations across Victoria, Australia. Participants reported their organisations’ current obesity prevention programs and policies, their own perceptions of the feasibility and effectiveness of strategies to prevent obesity and their preferred settings for obesity prevention. Thirty-nine per cent had an obesity prevention policy, and 92% were implementing obesity prevention programs. The most common programs focused on education, skill-building and increasing access to healthy eating/physical activity opportunities. School curriculum-based initiatives, social support for physical activity and family-based programs were considered the most effective strategies, while curriculum-based initiatives, active after-school programs, and providing access to and information about physical activity facilities were deemed the most feasible strategies. Schools were generally perceived as the most preferred setting for obesity prevention. In conclusion, many organisations had obesity prevention programs, but far fewer had obesity prevention policies. Current strategies and those considered feasible and effective are often mismatched with the empirical literature. Systems to ensure better alignment between researchers, practitioners and policy-makers and identifying effective methods of translating empirical evidence into practice and policy is required.
Introduction

The increasing prevalence of obesity and its determinant behaviours, physical inactivity and poor diet, are pressing world-wide health problems. Identifying effective and feasible methods to prevent obesity and promote physical activity and healthy eating is crucial for improving population health.

To determine effective and feasible approaches to obesity prevention it is important to consider the different types of research evidence available. Brownson and colleagues (1) describe a framework for considering two different types of public health research evidence: type 1 evidence defines the causes, magnitude, severity and preventability of risk factors and diseases (etiologic research); and type 2 evidence describes the effectiveness of interventions to improve health (intervention research). Rychetnik et al (2) describe a third type of evidence, which highlights descriptive and contextual information about how something should be done and under which circumstances it may be effective. This type of evidence provides practical information such as the design and implementation of an intervention, the contextual circumstances under which implementation occurred, and how the intervention was received. Effective strategies are meaningless and unlikely to be successful if they cannot be feasibly translated into practice and policy.

An extensive literature has accumulated over many decades about the causes, magnitude and severity of obesity (type 1 evidence) (3, 4). There is also a limited but developing literature examining the effectiveness of interventions to prevent obesity (type 2 evidence) (5-10), with some strategies showing promise including those that focus on enhancing knowledge, skill and competency development, multi-factorial interventions, and intensive interventions of longer duration (7, 8, 10). Furthermore, candidate studies for these reviews are often strictly controlled and conducted in highly selective, motivated samples using resources not normally available in everyday settings. Information about current obesity prevention activity and the perceived feasibility and effectiveness of obesity prevention strategies from the perspective of local contexts (type 3
evidence) is limited. This means that little is known about current obesity prevention programs and policies, and how they are perceived in real world settings. A consideration of the experiences of public health practitioners and policy-makers, who implement obesity prevention programs and policies as part of their core business, is important for determining transferability and may provide important insights into the feasibility of strategies. Type 3 information is also helpful for practitioners and policy-makers in terms of guiding their practice, as it provides insights into the contexts where interventions are delivered. Practitioners and policy-makers bring with them a broad range of knowledge and experience and thus provide important insights into the practical realities of promoting healthy eating and physical activity (see Ballew et al) (11).

A limited number of studies have attempted to gather this type of evidence, and those that have tend to focus on regulatory and legal approaches to obesity prevention (12), or have examined perceptions of policy approaches to obesity prevention in specific settings such as local government (13) or schools (14). Most have also been qualitative in nature and as such have included only a small number of participants (13, 14). While these studies are useful, their highly specific nature provides limited insights from the diverse range of potential stakeholder organisations, such as state and local government, community health, non-government agencies, and grass-roots organisations such as neighbourhood and community houses. These types of organisations are often well-positioned to work directly with communities in identifying needs and implementing programs and policies.

In order to address these gaps in knowledge, the aims of this study were: (1) to map obesity prevention activity being implemented by a range of government, non-government and community-based organisations in the state of Victoria, Australia; (2) to determine perceptions of the practitioners and policy-makers about the feasibility and effectiveness of a range of obesity
prevention strategies; and (3) to determine practitioner and policy-makers’ most preferred settings for obesity prevention strategies.

**Methods and Procedures**

The project was approved by the Deakin University Faculty of Health, Medicine, Nursing and Behavioural Science Human Research Ethics Committee (HEAG-H 149/09). Written informed consent was obtained from all participants.

**Sample**

A purposive sampling method was employed to identify relevant organisations in the state of Victoria, Australia. Organisations with an interest in the development and delivery of policies and programs aimed at preventing obesity and promoting healthy eating and physical activity were identified from listings of governing or representative bodies websites (e.g. the Municipal Association of Victoria represents and maintains a list of all Victorian local governments). These included relevant state government central and regional departments (Department of Human Services, Department of Planning and Community Development, Department of Education and Early Childhood Development) (n=18); all Victorian local government areas (n=78); all Victorian community health services (n=137); all Victorian Divisions of General Practice (n=29); relevant non-government organisations (e.g. Nutrition Australia, Heart Foundation; n=29); and all Victorian Neighbourhood Houses and Learning Centres (n=337). The list of targeted organisations was refined

1 Divisions of General Practice provide services and support to general practice at the local level to achieve health outcomes for the community that might not otherwise be achieved on an individual general practitioner basis

2 Neighbourhood and community houses (also known as living and learning centres, neighbourhood centres, and learning centres) are local organisations that provide social, educational and recreational activities for their communities in a welcoming supportive environment. They are managed by volunteer committees and paid staff, and offer volunteer participation opportunities, childcare and low or no cost activities.
using a consultative process involving a project reference group (which was established to oversee a related study and consists of representatives from community health, local government, and a state-based health promotion foundation). In total, 628 potential organisations were identified.

**Protocol**

The Dillman protocols were followed for participant recruitment and survey administration (15, 16). This involved an initial contact via email, or in cases where no email could be identified, via post, with a pre-survey letter in September 2009. Approximately one week later, a survey package was sent via post to all potential participants. The package included an invitation letter, a consent form and the option of a paper-based or online survey. Potential participants who did not respond were sent a reminder approximately three weeks after the survey invitation, then a second survey package was sent to non-responders via post approximately two weeks later. Four to six weeks after the second survey package was sent, a final telephone call was made to those who had yet to respond. All communication was addressed to the health promotion manager, senior management, or general administration, and requested that the reader pass the information to a more appropriate person if they had been incorrectly targeted. Rolling recruitment was also employed with some additional participants contacted the researchers asking to take part in the study throughout the survey administration period (n=24), with 18 of these completing the survey. In total, 304 individuals completed the survey; 110 of these via the online survey, 192 via the paper-based survey, and two completed the survey via telephone.

**Measures**

All participants were asked to complete a survey collecting demographic information, information about the organisation and its programs and policies, and the perceived feasibility and effectiveness of a set of obesity prevention programs and policies. The survey contained both closed- and open-
ended response and was revised for content validity and useability with the project reference group. This involved asking the project reference group members (n=5) to complete the survey and provide feedback to ensure it was relevant, meaningful, and easy to understand. For example, the reference group members were asked ‘Were the questions easy to answer or did you need to read and re-read them?’, ‘Was it clear how to respond to questions?’, ‘Were the response categories appropriate or did you find yourself wanting a different or new category?’, and ‘Did questions flow on well from previous questions or did topics jump around too much?’. 

Participant characteristics: Demographic and job-related information collected included age, sex, job title, length of time working in the field, and organisation type (state government, local government, community health service, non-government organisation, division of general practice, community group or association).

Healthy eating and physical activity policies: Participants were asked to report if they or their organisation had any policies that related to promoting healthy eating, physical activity and/or preventing obesity in the community (yes/no). For those who responded ‘yes’, a description of policies was requested. Open-ended responses were grouped thematically by two of the authors independently into 14 categories; any discrepancies were discussed until consensus was achieved.

Healthy eating and physical activity programs: Participants were asked whether their organisation delivered any programs that promoted healthy eating (yes/no), and if so to indicate the type of program (individual treatment/counselling, support groups, education programs, skill-building programs (e.g. cooking skills, development of fundamental movement skills), healthy food access programs, other). Participants were also asked whether their organisation delivered any programs that promoted physical activity (yes/no), and if so to describe the type of program (individual
treatment/counselling, support groups, education programs, skill-building programs, physical activity access programs, active transport programs, changes to the neighbourhood, other).

Effectiveness and feasibility of potential strategies: Participants were asked to rate the effectiveness of 13 potential strategies to promote healthy eating and/or physical activity via the question ‘How effective do you feel the following strategies could be at promoting healthy eating and physical activity in your community?’ Responses were made on a Likert-type scale of 1 to 5, with 1 being ‘extremely ineffective’ and 5 being ‘extremely effective’. Participants were also asked to rate the feasibility (‘How feasible do you feel the following strategies could be at promoting healthy eating and physical activity in your community?’) of the same 13 strategies on a Likert-type scale of 1 to 5 (from ‘extremely unfeasible’ to ‘extremely feasible’). The 13 potential strategies covered a range of programs across a variety of settings that target individual, social, environmental, economic and/or policy factors, as described in a social-ecological framework (17, 18).

Settings: Participants were asked to rank from 1 to 6 (1 being most preferred and 6 being least preferred) their preferred settings for influencing healthy eating behaviours (general practice, homes, schools, workplaces, shops, general community). Participants were also asked to rank from 1 to 6 (most to least preferred) their preferred settings for influencing physical activity behaviours (general practice, homes, schools, workplaces, transport, general community).

Analysis
Descriptive statistics (number and proportions for categorical data, and mean and standard deviations for continuous data) were used to describe current obesity prevention programs and policies, and to describe the perceived feasibility and effectiveness of the 13 proposed obesity prevention interventions. Data are presented stratified by organisation type (except for policy type,
which due to the diversity of responses and resulting small numbers across categories is reported for the whole sample in the text).

**Results**

The majority of participants were female (88%) and the largest proportion were in the 45-54 year (33%) or 25-34 year age group (22%). Participants were from state government departments/agencies (n=5, 2%), local government (n=46, 15%), community health services (n=100, 33%), divisions of general practice (n=19, 6%), non-government organisations (n=15, 5%), or neighbourhood houses and community learning centres (n=119, 39%), which was generally representative of the distribution of potential participants initially approached (3%, 12%, 22%, 5%, 5% and 54%, respectively). The overall response rate was 48.9%; response was lowest from state government (26%) and neighbourhood houses and learning centres (35%); highest from community health services (80%), divisions of general practice (66%), and local government (58%); and similar from non-government organisations (48%). Surveys were most commonly completed by neighbourhood house or learning centre co-ordinators/managers (30%), health/community services co-ordinators/managers/team leaders (22%) and health/community services officers/project managers (14%), but also included senior management (9%) and dieticians (8%). Nearly all respondents (93%) reporting working with people experiencing socioeconomic disadvantage.

Thirty-nine per cent of participants reported that their organisation had a policy to promote physical activity or healthy eating or to prevent obesity (**Table 1**). The greatest proportion of participants indicating that they had a policy were from state (80%) and local (76%) government, and the lowest proportion of participants indicating that they had a policy were from neighbourhood houses and learning centres (22%) and non-government organisations (27%). By far the most common policies were those that were embedded within a strategic or organisational plan (19%), followed by those
that involved healthy eating in childcare settings (6%) and the procurement of healthy food for catering (6%). Due to the diversity of policies and resulting small numbers in each category, policy types could not be reported according to organisation type.

Eighty-one per cent of participants indicated that they or their organisation delivered programs that promoted healthy eating in the community (Table 2). The most commonly reported healthy eating programs were education programs (57%), skill-building programs (42%) and programs that increase access to healthy food (41%). Education programs were the most common healthy eating strategy reported by participants from community health (78%), divisions of general practice (74%), non-government organisations (40%) and neighbourhood houses and community learning centres (43%), while programs that aimed to increase access to healthy food were the most commonly reported strategy for state (60%) and local (57%) government participants.

Eighty-nine per cent of participants indicated that they or their organisation delivered programs that promoted physical activity in the community (Table 2). The most commonly reported physical activity programs were skill building programs (52%), education programs (43%) and programs that aim to increase access to recreation and exercise opportunities (37%). Education programs were the most common healthy eating strategy reported by state government (40%), divisions of general practice (58%), and non-government organisations (27%), while programs that aimed to increase access to recreation and exercise opportunities were most commonly reported as strategies delivered by state government (40%), local government (80%), and non-government organisations (27%). Individual treatment and counselling was the most common strategy reported by community health service participants (71%).
Programs most commonly perceived as extremely effective included curriculum-based initiatives to promote healthy eating and physical activity in schools (38%), social support for physical activity (32%) and family-based programs to improve healthy lifestyles (30%) (Table 3). Programs most commonly rated as not effective were cues to use stairs in buildings (43%), specific campaigns promoting healthier lifestyle options (30%) and general practitioner and health professional advice on diet and exercise behaviours (27%). Programs that were perceived to be extremely feasible were curriculum-based initiatives in schools (35%), active after-school programs for school-aged children and adolescents (32%) and access to and information about physical activity facilities (28%). Programs most commonly rated as not feasible were cues to use stairs in buildings (31%), urban planning for mixed-land use (30%) and pricing, point-of-sale labelling and promotion of healthier food options where food is sold (26%).

The most preferred setting for both healthy eating programs and physical activity programs was schools (Table 4). The school was the most preferred setting for healthy eating programs for participants from local government, community health, divisions of general practice, and neighbourhood houses and community learning centres. State government participants rated the general community as the most preferred setting for healthy eating programs, while participants from non-government organisations preferred the home setting. The school was also the most preferred setting for physical activity programs for participants from local government, divisions of general practice, non-government organisations and neighbourhood houses and learning centres. State government and community health participants rated the general community as the most preferred setting for physical activity programs.
Discussion

This study aimed to map obesity prevention activity underway across a range of government, non-government and community organisations in Victoria, Australia, and to determine practitioner perceptions of the feasibility and effectiveness of a range of obesity prevention strategies. It provides important ‘type 3’ evidence about the beliefs of practitioners who are implementing obesity prevention policies and programs. The findings suggest that many programs are currently being undertaken, with more than three quarters of respondents reporting that they were currently implementing programs to promote healthy eating or physical activity in the community. In contrast, less than half of respondents reported having a policy around promoting physical activity or healthy eating, which may be a reflection of the predominant service-delivery role of many of the organisations involved in this study.

There is currently limited evidence to guide practitioners about which obesity prevention programs or policies may be most effective. For instance, systematic reviews of the effectiveness of obesity or weight gain prevention strategies among pre-schoolers (10), children (6) and adults (7, 8) have been unable to make firm conclusions based on the limited number of methodologically sound studies available. Despite the evidence being limited and equivocal, strategies which appear to show some promise include those designed to impact not only on knowledge but also on skills and competencies (suggesting a social behavioral theory underpinning) (10); the inclusion of parents in child-focused interventions (10); multi-factorial interventions that combine diet, physical activity and behaviour change components including self-monitoring of weight, general messages or more personalised advice (8); and intensive and longer-term implementation including groups sessions and monitoring of diet and/or physical activity (7). In the current study, two-thirds of participants reported that their organisation implemented three or more obesity prevention programs, and participants had clear opinions of whether programs were effective or feasible. These perceptions
however did not necessarily match the recommendations suggested in the limited scientific
literature as most promising. The reasons that organisations select the particular programs they
implement are unclear, but could be related to knowledge of local needs (particularly for
neighbourhood houses and learning centres, who work closely with communities at the ‘grassroots’
level), past experiences or preferences of the organisation, or for historical reasons. The
implementation of programs that do not match the available empirical evidence of effectiveness, or
the ‘disconnect’ between research and practice, could be related to poor research translation and
dissemination activities, and/or limited human and economic resources. These latter points could
potentially be addressed by increasing the capacity of researchers to dedicate greater emphasis to
translational activities (e.g. through workforce training, better acknowledgement by funding bodies
of the need for dedicated resources for dissemination and translation activities), and developing
stronger partnerships with ‘knowledge brokers’ to promote evidence-based knowledge to
practitioners and policy-makers in accessible and relevant ways. Further research to explore the
reasons for program preferences, selections, and perceived feasibility and effectiveness is
warranted.

Nearly one quarter of local government respondents reported that they had no policies in place to
promote healthy eating and physical activity or prevent obesity. This is of concern, given local
governments’ prime position and key role in public health in Australia, but suggests that there is
further scope for local government to play a role in establishing policies for locally-targeted obesity
prevention initiatives. Acknowledging that the capacity of local government to act may be limited by
budgetary constraints or competing strategic priorities, there are a number of recommendations for
obesity prevention action within local government that involve establishment of policy. These
include introducing nutrition or physical activity policies across early years settings, ensuring access
to healthier foods through equitable land-use mix and zoning, and working with planners to ensure
that new developments give priority to active living (19). In the current study, only a small number of the 46 local government participants reported childcare healthy eating policies (n=5) or childcare physical activity (n=2) policies (data not shown), with the most common policy type related to recreation and open space (n=13). This suggests there is room to develop policies across other settings, such as childcare, and through land-use and planning provisions.

Despite the broad range of organisations represented, curriculum-based initiatives to promote healthy eating and physical activity in schools were most commonly perceived as highly feasible and highly effective, and schools were rated as the most preferred setting for healthy eating and physical activity programs. This is despite the fact that little is currently known about the most effective strategies to prevent obesity among children in the school setting (20). This finding may reflect that the school setting provides a ‘captive audience’ for obesity prevention, whereas other settings, such as the community or home, may pose greater difficulties in terms of access, recruitment and targeting. Obesity prevention in childhood is important, because most overweight or obese children remain overweight or obese into adulthood (21, 22). Research into the effectiveness of obesity prevention programs in other settings such as early childhood centres and preschools is gaining increasing attention, and may represent an important and underutilised opportunity for obesity prevention programs (10, 23). Nonetheless, targeting obesity prevention initiatives at school settings, as is suggested by high practitioner ratings of feasibility, effectiveness and setting preference, excludes the adult population, who are at greater risk of obesity, and hence despite its appeal, investment in this setting would need to comprise only one component of a comprehensive obesity prevention approach.

*Limitations and Strengths*
While organisations were purposefully targeted and an extensive sampling frame that allowed for rolling recruitment was employed, it is plausible that there are other organisations implementing obesity prevention programs or policies that we were unaware of and were not invited to participate. We achieved a response of approximately 50%, and although participation was generally representative of the distribution of the organisations approached, there was some differential response across organisations, with the lowest response from state government (26%) and the highest from community health services (80%). Reasons for non-response are unknown, but could be related to disinterest, lack of time, targeting of recruitment material being misdirected (e.g. letters were directed to roles within organisations, rather than to specific individuals), or, of particular relevance to state government, lack of permission from the organisation to participate. It is likely that some obesity prevention activities and practitioner and policy-maker perceptions were not captured. It is also plausible that those who did not respond had fewer or no policies/programs, which would mean that the data presented are an overestimate of the true prevalence of obesity prevention policy/program activity. Given that only 40% of participants reported that their organisation had an obesity prevention policy, this is a cause for concern.

Another potential limitation is that the participants who completed the questionnaires may not have been aware of all of the organisation’s policies and programs, so underreporting may be an issue. Alternately, participants may have provided socially desirable affirmative responses (e.g. responding ‘yes’ to the presence of a policy because they believe it is something their organisation should be doing), although given that these participants were then asked to describe policies/programs in further detail, it seems unlikely that there would be fabrication of this more detailed information.

While it is possible that the structures, roles and responsibilities of health care, schools and government organisations differ both between and within countries, which may affect the generalisability of our findings, settings-based approaches to promoting health have been commonly
employed across the world for decades. Many of the issues encountered by practitioners and policy-makers in this field (e.g. resource limitations, insecure funding arrangements, program participant recruitment) are likely to be universal and applicable to other settings and countries, and it is important to share the insights gained in a variety of settings so that key issues and solutions can be identified.

In this study, the effectiveness of specific policies or programs was not evaluated, as this was not our intention. Given the limited data in this field, our intention was to describe, or ‘map’, local policy and program activity, which provides novel insights into the current state of obesity prevention activity in Victoria. However, it is possible that whether effective or not, the very presence of policies may be important in terms of raising the profile of obesity prevention efforts more broadly. For example, the presence of a policy may ‘plant the seed’ in organisations and amongst their leaders, allowing them at a later date to establish their role with the obesity issue and providing the opportunity or leverage for more effective policies to be implemented. It is likely that having a policy in place would be a necessary precursor to any organisation allocating resources.

This study also had a number of strengths. It is one of the first to map obesity prevention policies and programs across a diverse range of organisations, which is important for gaining an understanding of current activity and how this relates to recommended activity. It is also one of the first studies to examine practitioner perceptions of the feasibility and effectiveness of a range of commonly-promoted obesity prevention programs and preferences for settings for obesity prevention activity, which contributes ‘type 3’ evidence from the perspective of those implementing programs and policies in ‘real world’ settings.

Conclusions
This study found that a broad range of obesity prevention programs are currently being implemented in Victoria, Australia, although fewer obesity prevention policies were reported. There is currently scope to further develop obesity prevention policies, particularly in local government, organisations that are ideally placed in Australia to work with communities at a local level to prevent obesity and promote healthy behaviours. There appears to be a disconnect between practitioner perceptions of the feasibility and effectiveness of programs and evidence-based obesity prevention recommendations, particularly around obesity prevention in school settings. This may be due to limited or ineffective research translation activities, which could result in a lack of awareness of this evidence-base amongst practitioners and policy-makers. This study highlights gaps between intervention research (type 2) evidence and actual practice (type 3 evidence), suggesting that a need for both further empirical research into obesity prevention strategies that are deemed as feasible in real-world settings; as well as more effective methods of translating empirical obesity prevention evidence to practice. The study also demonstrates the limited number of organisations with clearly-defined obesity prevention policies. Gaining a deeper understanding of the drivers of obesity prevention policy and program development will be an important next step towards the development and delivery of effective obesity prevention strategies.
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Disclosure Statement

The authors have no conflicts of interest to declare.

Table Legends

Table 1: Practitioner and policy-maker reports of organisational policies to promote healthy eating and physical activity

Table 2: Number (%) of practitioners and policy-makers reporting that their organisation delivers programs to promote healthy eating and physical activity and the type of program delivered, by organisation type

Table 3: Practitioner and policy-maker perceptions of effectiveness of strategies to promote healthy eating and physical activity

Table 4: Practitioner and policy-maker mean (standard deviation) ratings of settings to promote healthy eating and physical activity (1=most preferred, 6=least preferred), by organisation type
References


13 Allender S, Gleeson E, Crammond B, *et al.* Policy change to create supportive environments for physical activity and healthy eating: which options are the most realistic for local government? *Health Promot Int* 2011.


