

Healthy Lifestyle Promotion Programs in
Western Australia: A review of evaluation
and market research into mass media
and social marketing campaigns
focussed on healthy eating,
physical activity and
healthy weight

Final Report

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Executive Summary

PROJECT BACKGROUND

This research project was designed to review existing information (including market research and campaign evaluations) derived from previous Healthy Lifestyle Campaigns conducted by the Heart Foundation and the Cancer Council WA with a particular focus on Physical Activity, Nutrition (Healthy Eating) and Obesity [PANO] and with particular reference to the Adult/Parent target group. Campaigns conducted internationally were also to be reviewed. The project outputs are threefold: (i) a main report of the review findings comprised of six sections (this document); (ii) raw materials, including an appendix with examples of physical activity, healthy nutrition, overweight/obesity prevention/healthy weight [PANO] mass media obtained beyond WA campaigns alone (provided separately); (iii) a PowerPoint presentation of the findings, suitable for a seminar or meeting (provided separately).

DEFINITIONS OF SOCIAL MARKETING & MASS MEDIA

Section one of the report outlines the differences between social marketing approaches and campaigns using purposive mass media communications as their central focus. An integrated and comprehensive mass media campaign requires a sustained base and long term planning and resources, a comprehensive health promotion approach, and eventually relevant regulatory and policy initiatives interwoven into the campaign; this is similar to the definition of a comprehensive social marketing campaign. However this is a desired goal rather than the reality of shorter term mass media campaigns that are the predominant mode of delivery.

DEFINITION OF BEST PRACTICE; REVIEW METHODOLOGY

Section two describes best practice approaches to planning, implementation and evaluation of social marketing and mass media campaigns based on the peer-reviewed scientific literature and other relevant reports. Best practice features in the implementation of PANO campaigns (the 'optimal interventions') are identified. Optimal approaches to the planning and evaluation of campaigns are also outlined with reference to contemporary models. This distillation of best practice informed the development of a typology and coding framework which is used for the international and national reviews of PANO campaigns in the subsequent sections of the report.

REVIEW OF CAMPAIGNS IN AUSTRALIA/ WA

Section three sets out a review of PANO mass media and social marketing campaigns conducted in Australia in the past decade using the defined coding framework. Most campaigns in Australia in recent years have primarily used mass media, and have not focused on all of the marketing elements of an integrated social marketing campaign, least of all on legislation, regulation and policy development. In general Australian campaigns were of a high standard complying substantially with the best practice principles embodied in the 49 categories of the 13-item coding framework, and achieving target population reach of 83% - 93%. Campaigns involving sustained, multi-phase efforts over 5 years or more delivered the best performance in target population reach and impact; those conducted in Western Australia were prominent in this category and showed the best compliance with best practice approaches for campaigns conducted at State or Territory level. This included the practice of identifying the 'cost per person reached' through campaign implementation. Notwithstanding the good practices observed in Australia and in Western Australia in particular, areas for potential improvement in planning, implementation and evaluation were also apparent. These

areas for potential improvement are incorporated within the main recommendations of the report.

REVIEW OF
CAMPAIGNS
INTERNATIONALLY
PHYSICAL ACTIVITY

Section four sets out a review of PANO mass media and social marketing campaigns conducted internationally. There is high variability in community awareness following Physical Activity (PA) campaigns, but on average, around two-thirds of a defined population is likely to recall the campaign and its main message. Smaller proportions are likely to change their attitudes or knowledge, and fewer will report changes in PA behaviour, suggesting that campaigns can best influence proximal outcomes for physical activity. Campaigns should be part of longer term approaches to increasing PA, and consistency in messaging and 'brand' description should pervade PA campaigns and social marketing efforts. Working in partnership with other agencies will facilitate concurrent work on the physical and social environment, to improve opportunities for physical activity in the community.

REVIEW OF
CAMPAIGNS
INTERNATIONALLY
NUTRITION

There were few obesity-specific nutrition campaigns, but often nutrition messages are embedded in overall healthy lifestyle programs. The best example of evaluated data related to fruit and vegetable campaigns, where small effects are produced, but campaigns need to be sustained for several years. The obvious links to influencing food policy and food environments, in a comprehensive social marketing approach, remains relatively untested.

REVIEW OF
CAMPAIGNS
INTERNATIONALLY
OBESITY

Specific reports of the results of obesity-focused mass media campaigns are rare. Campaigns from the UK, Holland, Australia are discussed. For obesity prevention almost all interventions reviewed were mass media campaigns, rather than social marketing efforts. There was often confusion in terminology in two ways, with mostly MMCs being labelled incorrectly as social marketing; and second, small scale efficacy studies with marketing components were categorised as social marketing interventions, although they were not population-focused. Counter-marketing tends to be ignored in the social marketing and mass media efforts to address nutrition and obesity prevention. Social marketing is a discipline that could contribute to counter-marketing in a more effective way, using strategies such as developing a social movement (increasing consumer pressure on Government), regulating food advertising to children, subsidise healthy foods or taxing unhealthy foods. These are future challenges in the area of obesity-related nutrition social marketing.

REVIEW OF
POPULATION
MEASURES AND
DATASETS

Section five examines measurements and indicators used in assessing and monitoring health behaviours, and in particular, those that might be relevant to the evaluation and long term monitoring of large scale MMCs and social marketing campaigns. The regular health and lifestyle surveillance systems in place at the state level may be a component of MMC evaluation, but a myriad of additional measurement tasks are needed. Careful planned approaches to campaign assessment are worthwhile at the outset, in order to provide stakeholders and funders with the best possible evidence of campaign effects. Examination of available data tends to show that WA adults have higher rates of physical activity, compared to other states, and may also suggest slightly higher fruit and vegetable consumption, but no apparent difference in obesity rates. These data are important to profile the relative comparison of WA with other states, as having healthier attributes at baseline or the start of a population intervention may make it more difficult

to achieve change, as more of the motivated in the population are already carrying out the healthy recommended behaviours.

SYNTHESIS OF
FINDINGS

Section six synthesises the previous five sections to identify areas where messages, implementation, measures or evaluation might be improved, assessed against the defined optimal criteria. Strengths and areas for improvement are described leading to a series of key recommendations as follows:

Planning recommendations

KEY
RECOMMENDATIONS

- 1) Obtain long term funding and support for developing sustained campaigns lasting at least several years
- 2) Use logic models to plan how the campaign might work, and set quantitative targets for change

Implementation recommendations

KEY
RECOMMENDATIONS

- 3) Use PR, unpaid media and 'new media' more strategically in campaigns
- 4) Conduct consistent process evaluation of primary and secondary targets, as well as stakeholders
- 5) Develop partnerships with other sectors and agencies to develop broad prevention campaigns, including education and regulation/environment change to assist the social marketing efforts

Evaluation recommendations

KEY
RECOMMENDATIONS

- 6) Use the best evaluation designs possible, ideally a cohort as well as cross sectional independent surveys
- 7) Include economic evaluation and cost effectiveness analyses
- 8) Consider segmentation research; theory testing research; and research to understand how campaigns exert their effects
- 9) Use reliable and valid qualitative and quantitative measures that are relevant to measuring the steps identified in the logic model analysis

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SECTION 1 BACKGROUND

1.1 Introduction to this project

The Heart Foundation required desk research to be undertaken in order to review existing information derived from previous healthy lifestyle campaigns conducted by the Heart Foundation and the Cancer Council WA. This was to include market research and campaign evaluations. An additional requirement was to review recent market research commissioned by Department of Health WA. The project was required to identify and summarise key information and or evidence regarding knowledge, attitudes and behaviours in relation to healthy eating, physical activity and healthy weight. This information was to be summarised with regard to the key target group of adults and parents. Campaigns conducted internationally were also to be reviewed. An additional component of the project focussed on population health data regarding parents and adults in relation to physical activity and sedentary behaviour, nutrition and weight, including

- Population prevalence estimates, identifying appropriate data sources
- Estimates of health-related knowledge and willingness to consider changes in behaviour, including identification of suitable evaluation measures

There are three main outputs from the project:

- (i) Main report of the review findings comprised of six sections;
- (ii) Raw materials, including an appendix with examples of physical activity, healthy nutrition, overweight/obesity prevention/healthy weight [PANO] mass media obtained beyond WA campaigns alone;
- (iii) A PowerPoint presentation of the findings, suitable for a seminar or meeting.

For more details, the project terms of reference are included as Appendix 1

1.2 PANO and chronic disease prevention

Physical inactivity and unhealthy nutrition together contribute to substantial morbidity and mortality globally and in Australia. In addition, they comprise the risk behaviours that lead to energy imbalance and to obesity.¹ Together, these contribute substantially more to preventable morbidity and mortality than tobacco, and are major contributors to the recent increases in non-communicable disease (NCD), including diabetes and cardio-metabolic diseases.

Effective approaches to the primary prevention of NCDs require a comprehensive range of public health strategies and interventions. An integrated program will engage with the health sector, work in partnerships outside the health sector, and develop healthy and supportive environments and policies to facilitate healthy choices by individuals and communities. Such an integrated public health framework is characterized by three major areas of public health planning and action, shown in Figure 1. Physical activity change, from a public health perspective, is used as an example, but the same approach applied to nutrition and diet, and to obesity prevention. These strategies are environmental change, individual change, and communications to influence community awareness and understanding, and to change social norms. Work in all three areas is required for a comprehensive prevention approach, and the role of communications and public education, including mass media campaigns, is a catalyst for action and contributor overall to a public health strategy.

This approach is not new, but is a development from traditional ‘integrated health promotion’ program approaches, that date back two decades¹. The best approach to influence physical activity [and similarly for nutrition] is a comprehensive approach, as shown in the diagram and described elsewhere.² Mass media campaigns are related to the left hand side of the diagram, changing community awareness and making health-enhancing behaviours more strongly socially normative.

¹Note that in New Zealand the Obesity prevention strategy was known as the HEHA initiative in the mid-2000s, ‘Healthy Eating, Healthy Action’, to demonstrate the importance of the key antecedent risk behaviours, rather than profile on obesity *ab initio*. This implies a more direct primary prevention approach, compared to ‘obesity’ which can start with clinical settings and a ‘medicalised’ problem.

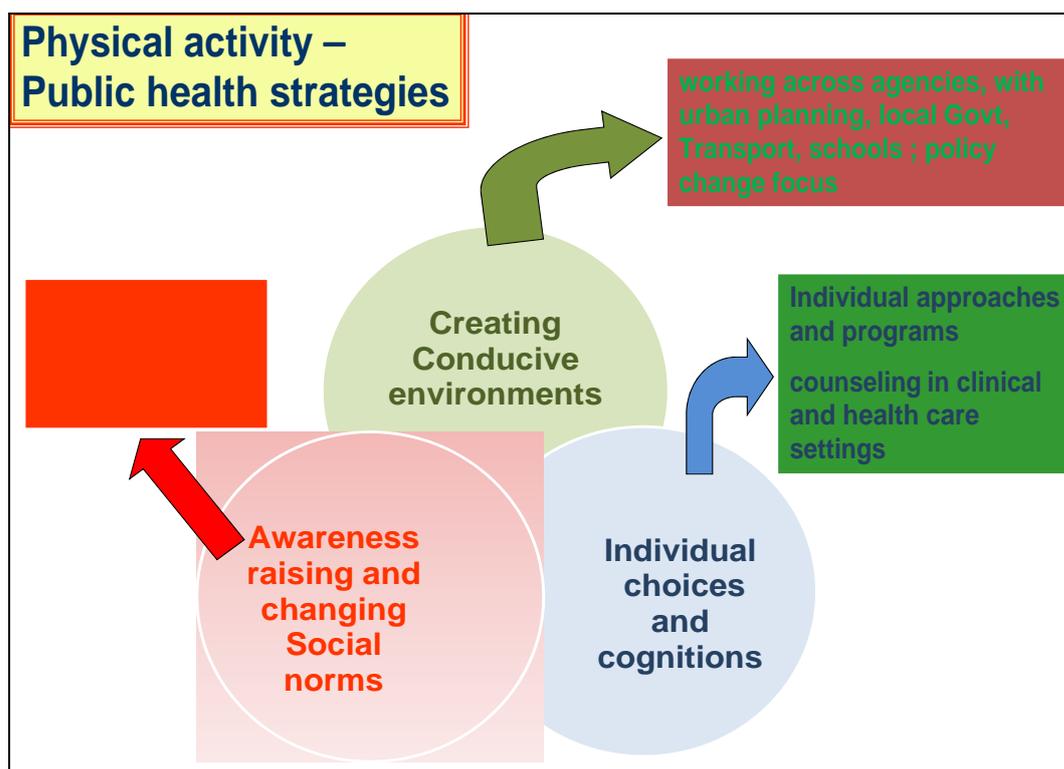


Figure 1 Three major conceptual areas of public health action for obesity prevention : (environments, individual choices and social norms)

1.3 Mass media campaigns

This section introduces the principles underpinning mass media campaigns and social marketing, defines these terms, and indicates the focus of this report. There is much confusion regarding these terms, and this report is mostly oriented to population-wide mass-reach campaigns, using paid media; in other words, ‘mass media campaigns’ (MMCs). The definitional differences are discussed below in some detail, as many MMCs are incorrectly described as social marketing, and this has implications for their expected actions, effects and outcomes.

Mass media campaigns are designed to be organised purposive interventions using mass media communications to increase community awareness about particular health-related issues. Their roles are to increase whole-community understanding, shape the agenda for change, possibly signpost a range of potential change options or information-seeking steps that could lead to health enhancing behaviours. Mass media campaigns can initiate the cognitive change process, influencing understanding and beliefs and then attitudes and then behavioural intention. The final stage would be influencing health behaviours directly, with a short term behavioural trialling, or longer term behavioural maintenance. They use mass-reach channels to access a large population or population subgroup.ⁱⁱ Effective mass campaigns usually use paid media and are expensive; this is to achieve high levels of penetration and reach into the community. In addition, ideally they should be linked to other community-wide

ⁱⁱ This is different to smaller-scale mediated interventions, which target specific individuals, and used mediated channels for intervention tailoring and delivery; these might comprise mailed materials, internet or SMS-text messaging as communication channels for the intervention.

interventions and facilities, and should be persistent [serial repeated campaigns, with sequences of relevant messages developed under an overarching campaign theme;³. Mass campaigns do not work in isolation, and should be part of long term community wide change approaches, and linked to other community interventions, trained health and other professionals, and the availability of facilities and resources to support the overall preventive program.

There is some support for the concept of a sequence or cascade of effects, namely that MMCs influence community awareness, which in turn influences understanding of an issue, beliefs, attitudes, intention and behaviour. This theoretical framework is known as the information processing model, or the 'hierarchy of effects model' (HOE)ⁱⁱⁱ. This model links to several of the underlying theoretical frameworks for campaign effects, including theories of planned behaviour / reasoned action and social cognitive theory. Irrespective of the evidence for the HOE, it is still widely use in campaign planning, and should guide the evaluation [in terms of variables and concepts to be measured in response to the campaign]. An example of this framework is shown in the Figure 2 below, adapted from Cavill and Bauman.⁴ An alternative and more recent version of the HOE model put forward by Bauman in 2008⁵ is also shown as Appendix 2, as it further links the HOE steps to the social marketing framework. Note that variables in Figure 2 are classified into those that assess the initial effects that might be observed immediately following a mass media campaign, known as proximal variables. These are indicators of immediate effects, on campaign awareness, recall, and specific message recall [for further details, see section on campaign evaluation]. Subsequent effects may, or may not be observed on intermediate and endpoint [distal] variables.

There is much debate about the HOE model, but it has rarely been tested empirically in any MMC evaluation data, although it has been proposed for several decades.^{6, 7} It is known in the advertising literature since the early 1960s,⁸ but has been mostly used as a planning and measurement tool in MMC development, and rarely assessed using appropriate analytic methods. One of the rare examples of testing of this model demonstrated its utility for summarizing part of the mechanism though which the Verb youth physical activity campaign in the USA worked;⁵ another example shows even an even stronger predictive model using data from a community-wide MMC in adults (unpublished data, Wheeling walks campaign, West Virginia). However, there is much discussion around the hierarchy of effects approach, with some communications experts deeming it to be too simplistic, as the effects of mass communications are more complex, stimulating interpersonal communications and other communications pathways, such that a direct sequence is not likely to be supported by data.^{iv}

ⁱⁱⁱ There is substantial overlap between underpinning MMC and SM theories and theoretical frameworks, and the discussion below of theory, in the social marketing section is relevant here

^{iv} This has two relevant implications for this report. First, if the communications experts are correct, then public health efforts using MMCs would be even more difficult to evaluate, as measureable outcomes would never be able to be ascertained or causally linked to campaign activity. Second, it would suggest that many planning models that use this hierarchy of effects framework in public health practice are misguided. It is the opinion of this report that the hierarchy model remains a useful framework for designing campaign messages, and for conceptualising some of the campaign impacts and outcomes.

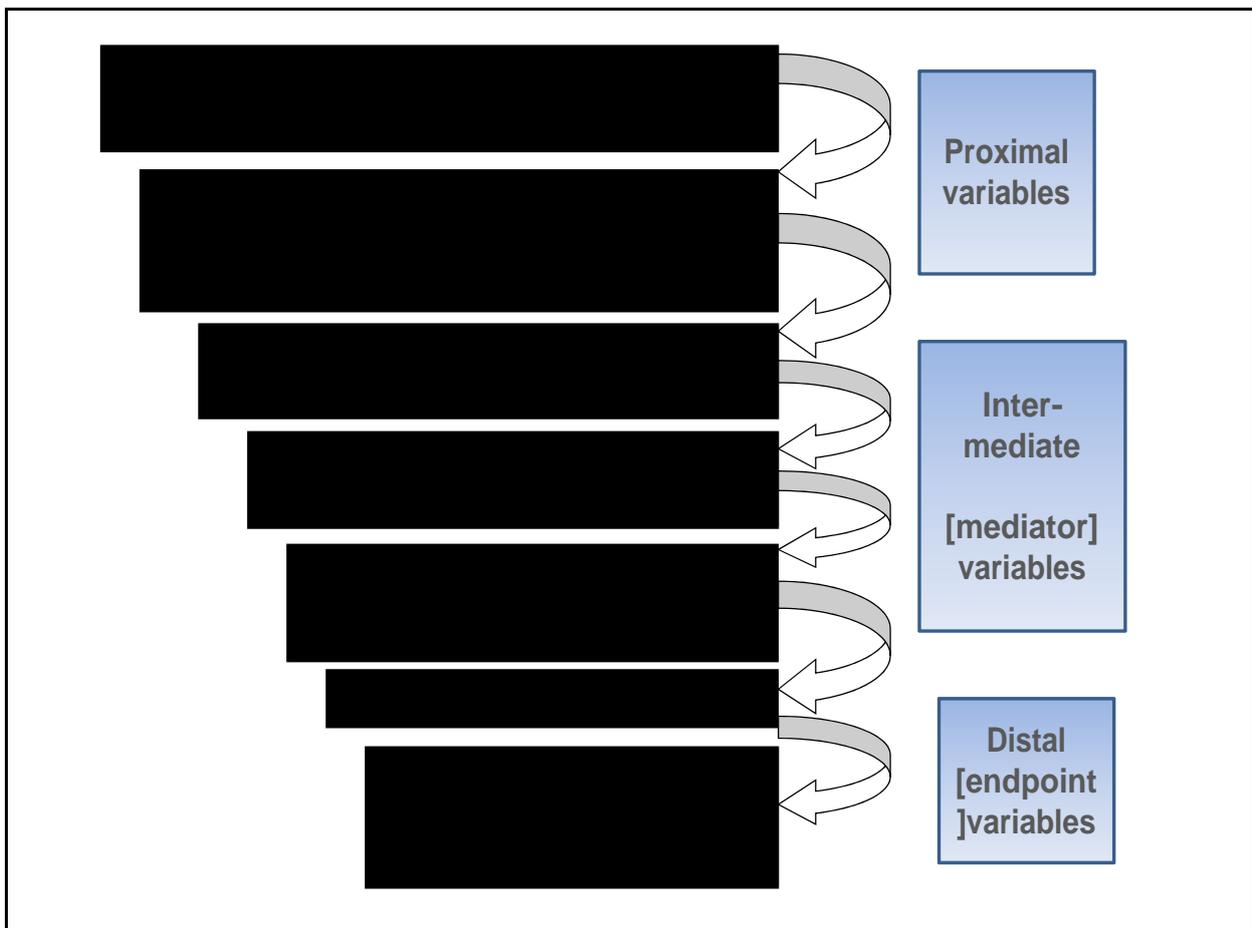


Figure 2 Conceptual framework – cascade of effects of mass media campaigns [adapted, Cavill and Bauman 2004¹]

The goal of MMCs is to have a large population exposed to mass media messages or specific campaign elements. Mass media campaigns may compete with private sector product marketing, and they may conflict with or challenge existing social norms. Examples include MMCs targeting health food choices may compete with food or beverage marketing. More difficult is the notion of challenging social norms, but this occurred gradually in tobacco prevention MMCs over several decades, with a gradual shift in towards non-smoking norms among adults and adolescents.

The population aim of MMCs are to develop and disseminate messages that are likely to reach the whole population, or population sub-groups to change community opinion, personal beliefs and lead to processes which influence health related behaviours. Mass media campaigns are planned, purposive interventions, usually using paid mass media messages placed in mainstream mass reach media. These messages are usually in mainstream media, with high volume placements in non-selective broad reach media such as television, radio and print. They may be conducted using more selective media such as specific media channels, such as targeted print, radio or e-channels. They can be in electronic formats, as described above, or can achieve mass reach through bill boards, messages on the side of buses or other transit vehicles or other wide scale outdoor advertising.

Mass media campaigns can work directly or indirectly as shown in Figure 3. The direct effect of mass media are most likely where the behaviour is quite specific and the behavioural response is very specialised, such as encouraging children to be immunised and provide immunisation service at their

school. The indirect effects pathway is more likely when mass media campaigns set the agenda for change and stimulate discussion and change social norms, which in turn lead to people accessing preventive services and possibly changing health behaviour. More distal is the concept of media advocacy and mass media campaigns that stimulate public discussion which in turn puts pressure on policy makers to develop and implement public policy that leads to preventive programs and services that in turn increases the probability of health behaviour change. The Figure shows different conceptual models for explaining media (or social marketing) campaign effects. The direct effects model suggests an approach similar to the hierarchy of effects model described above⁷, but a combination of direct and indirect effects is a more likely way in which MMCs might have an influence. Note that from the evaluation perspective, indirect effects are more difficult to capture, measure and assess, as they are more complex than mediator analyses (of individual-level variables) in usual small scale behavioural interventions.

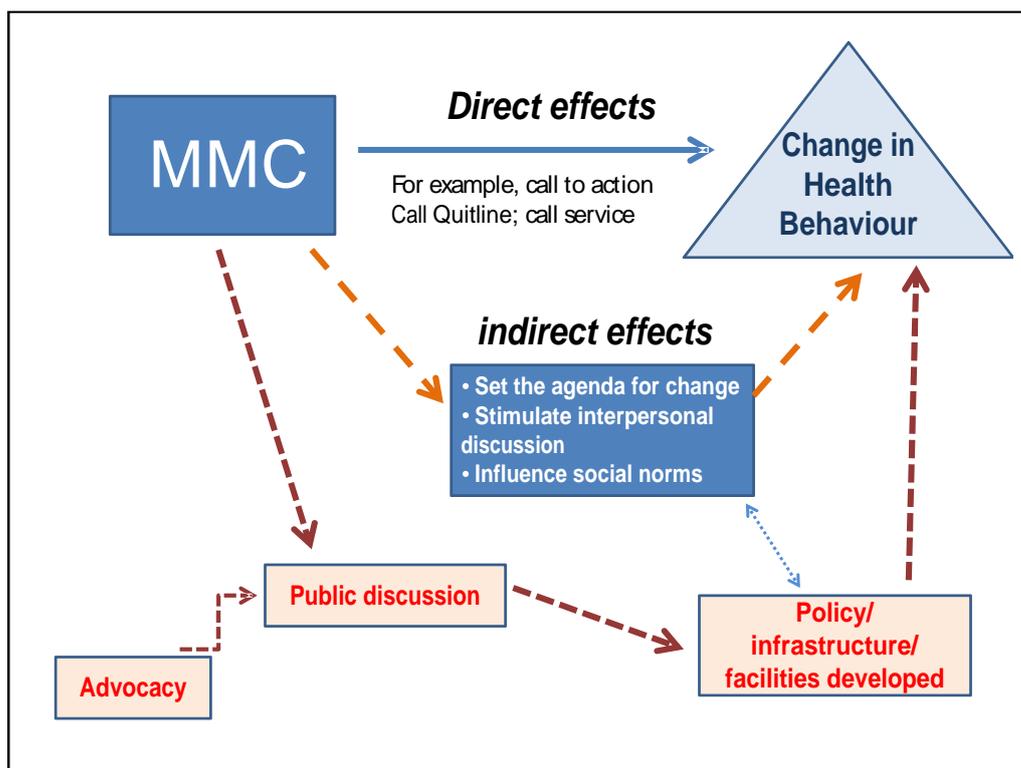


Figure 3 Direct and indirect effects of Mass Media Campaigns (MMCs)

1.4 Social marketing

The purpose of defining MMCs is to distinguish them from 'social marketing' campaigns. The latter are often misunderstood in public health, and interventions that primarily use the mass media are often misclassified or inappropriately described as social marketing campaigns. Social marketing campaigns are defined below, and distinguished from MMCs. These definitional differences have important implications for the kinds of interventions proposed and delivered, and for the anticipated effects or outcomes.

Social marketing (SM) has been defined in several different ways by public health and marketing experts. A first definition is that it is a 'program planning process that promotes voluntary behaviour change' to a target audience by offering them benefits that they want or need, and using persuasion and motivation oriented communications.⁹ A related definition is that social marketing implies the 'use of marketing principles to programs in order to influence voluntary and involuntary behaviour change of target audiences'.^{10, 11} The purposes of social marketing are to improve the welfare or health of the target

audience [as individuals], or to improve welfare or wellbeing of their community or society^v. Another definitional element is the concept of ‘voluntary exchange’, in that people will behave in particular way through self-interest, and that the target market behaviours need to be defined specifically in this way in a social marketing campaign. In this definition there needs to be a mutual exchange between the social marketer and the target audience.¹²

The four key elements of the ‘marketing mix’ that are used in the social marketing campaign include the *product* which is the desired behaviour with its benefits, advantages and relative innovation. Second is the *price*, which is the cost of the voluntary exchange in time or money in order to access the product. Third, is the *place*, the delivery channel or setting through which the communications are transmitted to the target audience. Fourth is the *promotion* which includes elements of advertising and marketing of the product, including discounting the price or making it easier to access, promoting the product in the news media and advocacy for the product in the media and in other settings.

Some have seen social marketing as a strategic framework, whereas others have described it as the specific application of marketing principles in public health. Some also asserted that the only outcome that matters in social marketing is voluntary behaviour change, and all impact measures prior to that are not relevant from a marketing perspective.^{11, 13} Social marketing campaigns deliver a package of benefits of a particular product or service or idea to the target market, or ‘consumer’ in marketing terms. The desired response from the target market is to expend effort or resources to access this ‘offer’, understand its benefits and relative advantages.^{vi}

Storey has described that many large scale health promotion programs use social marketing tactics or approaches. These marketing techniques have been used in a wide range of health promotion and disease prevention programs.¹⁵ One concern from the perspective of this report is that many are not population-wide mass reach campaigns; they can be local level health promotion programs, and hence, quite different to the MMCs of primary interest here. In all social marketing efforts it is argued that the primary focus should be on voluntary health behaviour change, although some social marketing experts also recognise the changes in knowledge attitudes, norms and values are also useful and potentially valid as social marketing *outcomes*.^{13, 16} Others¹¹ have indicated that “it’s not marketing if the impact is more proximal, only health behaviours or behaviour change should be the (only) metric of interest”. This is a major area of contention when applying social marketing in public health, as mass media campaigns recognize the limitations of focusing on behaviour change as the only outcome, and choose more proximal measures as their evidence of effects. This controversy for social marketing is shown in the text box. Another issue of importance is the concept of ‘locus of benefit’.¹⁷ This is the idea that both the social marketer and the target audience might benefit, but in true social marketing the primary focus should benefit the consumer, rather than benefit accruing to the social marketer or agency delivering the SM intervention.

^v The latter definitional element allows a public health focus for social marketing – beyond individual, to population benefit

^{vi} Here, social marketing shares some concepts in common with the Diffusion of Innovations perspective (14. Rogers, E.M., Diffusion of innovations. 5th ed. New York: Free Press. 2003.)Both see the concepts of innovation, relative advantage, and trialability as important components of a new behavior change.

A fully explicated social marketing (SM) intervention would be comprised of [i] marketing components as well as [ii] education and [iii] legal or regulatory approaches.¹⁸ This full model is the goal that describes a comprehensive social marketing campaign. The education component is the delivery of communications and information to raise awareness, and includes mass media communications and advertising. From the social marketing perspective the education component is uncontested and has no 'competition'.^{vii}

The next stage the *marketing component* often has competing alternatives in the marketplace for consumers. This component targets the relative attractiveness of different behavioural options, compared to current choices, and offers greater benefits to the target market. In marketing terms these should be immediate benefits which will result in positive reinforcement for the decision to choose them, rather more than long term promised benefits. The third component is the *law or policy or regulation* component which social marketing should also attempt to influence. An integrated campaign should influence policy and regulations relevant to making the desired health behaviour easier for the target audience to choose to adopt.

Social marketing and obligatory behaviour change – feasible for obesity prevention?

Many proponents of social marketing describe the marketing frameworks that led to the recommendation that the only metric of interest in SM campaigns is 'behavior change'. This is true of commercial marketing, where the financial bottom line is in customers adopting or switching to the purchase of a specific product or service; behaviour is the *sine qua non* of social marketing from this approach (Andreason 2006, Hastings 2007, van Trijp 2010). Behaviour change is complex, and even physical activity and nutrition campaigns may target more proximal outcomes [see parts 4.3 and 4.4]. Some describe the function of mass media campaigns as primarily to influence the information environment [Randolph and Viswanath 2004]. Others, with reference to obesity MMCs, indicate that they should initiate public discussion, raise awareness of obesity in new ways, and influence mediators [intermediate variables in the HOE model], a perspective put by Wammes (2005, 2007). Earlier writers noted that social marketing was not a public health panacea (Rothschild 1999), and that its role in public health was less certain [if behaviour change outcomes were essential]. This also brings out the discussion of individually focused SM, compared to broader SM that includes environmental change, legislation, and targeting of professionals and policymakers – with sufficient breadth and exposure, addressing behaviour change may be more possible, but even then, with PA and dietary behaviour changes, an impact on obesity rates may still be some years further away. This is a conundrum from the perspective of SM, and more broadly where policymakers expect measured obesity rates to change in response to a single relatively short SM set of interventions.

References for text box:^{11, 16, 19-22}

For example, these might include policy implemented to make physical activity easier through manipulations of the physical environment or improving the transport system, or making access to healthy food cheaper or more accessible, or restricting or regulating food labelling or access to unhealthy foods. These require regulatory or policy interventions, and unlike marketing and education there is no alternative or competing force, because once the regulation is introduced it is uncontested.

The role of these different approaches in SM is dependent on the population and their perspectives and values regarding the proposed change. Education will be most useful if the community is aware of the issue, is prone to the behavior change and has supportive environments in place for making the change. Marketing approaches, including persuasive communication, will be needed where the community needs to be more motivated to change, and the goal is to increase their propensity to carry out the desired behaviours.¹⁹ If the community is resistant, or structural factors preclude the change, then communications will need to be supported by legislative/ regulatory change.

^{vii} *In the marketplace; clearly there is a plethora of messages in which any social marketing message has to compete, but the place or locus of the message is usually uncontested, not its content, which may be competing with alternative choices for consumers.*

Social marketing can be upstream or downstream. Downstream social marketing is targeting individual behaviour change, and is the ultimate goal of social marketing. 'Upstream efforts' are used to target professionals or policy makers or target changes in infrastructure, policy or regulation [organizational change or policy change], that will lead to subsequent downstream effects. Comprehensive campaigns could target both professionals and policy and also consumers. In addition, social marketing campaigns are scalable, from contributing to small-scale health promotion programs in localised settings through to mass-reach large-scale interventions. It is the latter that form the basis of this report, and as such the concept of population-reach and large scale intervention is considered more important for this report, and is reviewed here, rather than social marketing interventions that use optimal research designs in small scale controlled trials.

Social marketing has a strong consumer focus and is built on formative audience research with members of the target market. In addition, this requires an environmental analysis and understanding of competing contexts. Fundamental to the marketing approach is the concept of segmentation of target markets, into sub groups that share qualities that make them amenable to different messages or strategies. The intervention then targets different messages or programs to different audience segments. This concept of audience segmentation is widely recommended by marketing perspectives, but may be less necessary if the prevalence of the problem being addressed is so widespread that generic approaches are possible. This may apply to inactivity or overweight/obesity, where more than half of the adult population is in the at-risk group, and non-selective mass media is an appropriate initial communication strategy. Further, a critique of segmentation is that it may be difficult to influence the most disadvantaged segments, and hence perpetuate inequalities in risk factors and risk conditions in marginalised groups.^{viii}

The different potential levels for a social marketing campaign are shown in Figure 4. This is from Evans²³ and shows the need for an integrated and comprehensive prevention program within a social marketing approach; this, as with optimal mass media campaigns²⁴ suggests that media communication is only one element, and that there could be:

- policy components, that include making the physical environment and food environment healthier;
- the media component, the central purposive paid communications components in a 'campaign', but possibly supplemented by unpaid media and media advocacy.^{25, 26}
- community-wide components, including launches, events, and large scale programs and activities offered on a mass scale; and
- more localized level programming, in Figure 4 described for schools and families; [because this example²³ relates partly to a 'nutrition in schools campaign'²⁷ this more local level health promotion is useful, may develop in slightly different ways locally, but links to the overarching campaign in theme and in timing.

^{viii} However, segmentation can work positively, to identify and target those specific disadvantaged groups with SM campaigns; but defining effective intervention components for the most difficult groups is not easy.

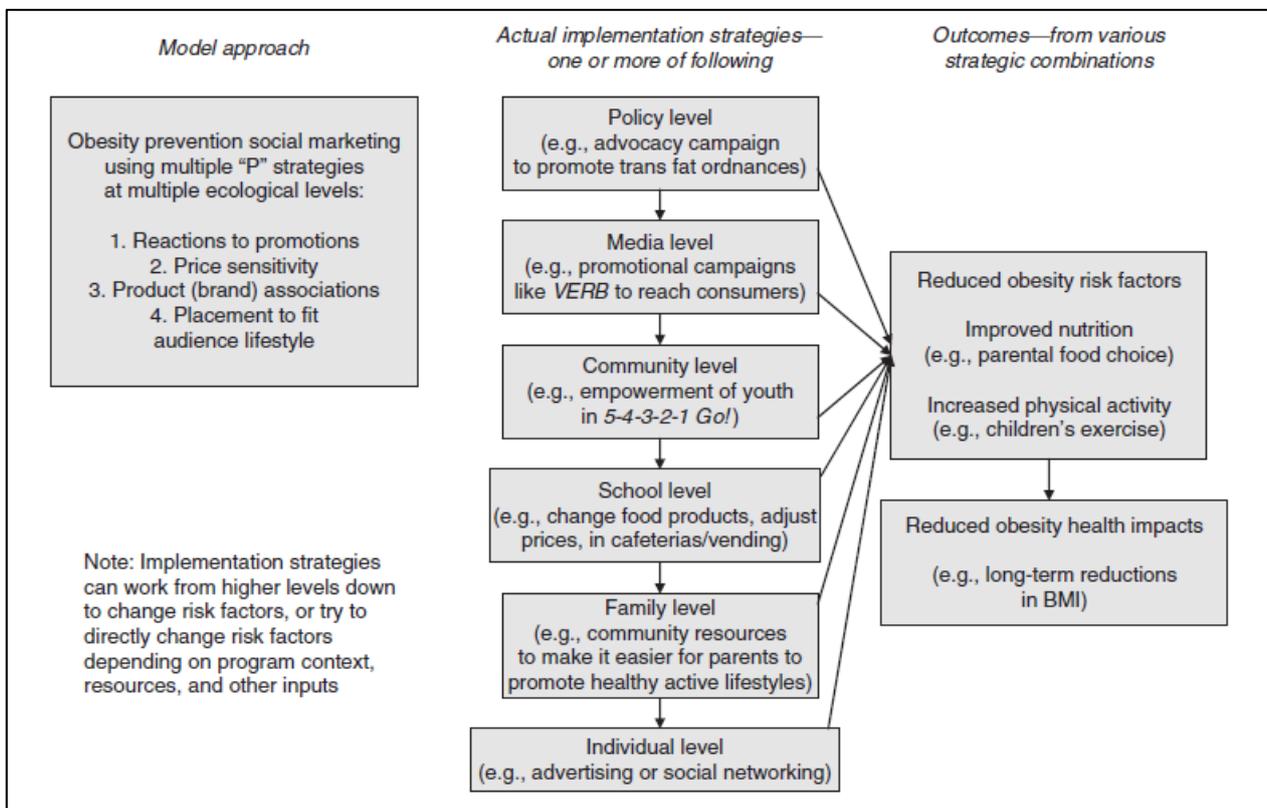


Figure 4 Social marketing for obesity prevention – an example of a comprehensive social marketing model²³

Social marketing is usually theory driven, and there are a range of behaviour change and communication theories that have been used in social marketing programs. These include the theories of reasoned action, social cognitive theory, the diffusion of innovations, and models of extended parallel processing. These are shown in Table 1. Note that these theoretical frameworks mostly apply to mass media campaigns as well as social marketing efforts.

Social marketing is part of a strategic communications framework. This means that the communications are product driven and that products have defined characteristics including a brand, slogan, or key identifying attributes that characterise a specific product. The concept of 'brand recognition', brand consistency is an important one for campaigns, but can be overarching logos or themes, in which different specific elements can be communicated. For example, an obesity theme could be comprised of sub-campaigns targeting total physical activity, sitting time, total energy intake, and fat intake in sequenced messages.

Theory / model	Benefits, motivation for action	Message frame	Target audiences
Theory of reasoned action / planned behaviour	Advantages and benefits of action outlined	Changes in beliefs, subjective norms central	Define target groups
EPPM – extended parallel processing model	Serious threat outlined	Fear arousal leads to response	Target segments based on perceived threat, response efficacy
Social learning theory / social cognitive theory	Principles of learning – efficacy; concept of personal, social & environment reinforcers	Behavioural learning; shaping of behaviour change, reinforcement	Target audiences who might benefit [this was later used by stages of change as ‘motivated, ready to change’ [including contemplators, preparation stages
Diffusion of innovations	Relative advantage, trialability, innovation, compatible with current lifestyle	How does change fit with or improve current lifestyle	Principles for dissemination of resources; stages from early to mid to late adopters characterised and targeted

Table 1 Theories used in social marketing campaigns

Finally, there are two approaches to marketing a product, the first being market driven – this implies countering competitive marketing forces acting in opposite or different directions. Examples of this could include the social marketing of alcohol, tobacco or food. The second is consumer driven, where the function of marketing is to target social norms and change the way consumers think about a particular behaviour to make it more salient for them.

Summary

This section has outlined the differences between social marketing approaches and campaigns using purposive mass media communications as their central focus. For the purposes of this report, clarity in these definitions is important, as they imply different strategies and different types of outcomes. Most campaigns in Australia in recent years used primarily mass media, and have not focused on all the marketing elements of an integrated social marketing campaign, particularly not on regulation and policy development as part of the campaign. An integrated and comprehensive mass media campaign does need a sustained base and long term planning and resources, a comprehensive health promotion approach, and eventually relevant regulatory and policy initiatives interwoven into the campaign; however this is a desired goal rather than the reality of shorter term MMCs that are the predominant mode of delivery.

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SECTION 2 OPTIMAL PLANNING, IMPLEMENTATION AND EVALUATION OF CAMPAIGNS – A DISCUSSION OF BEST PRACTICE APPROACHES

2.1 About this section

This section provides an evidence-based synthesis of what best practice approaches to planning, implementation and evaluation of social marketing and mass media campaigns comprise. The section starts with a description in Part 2.2 of ‘optimal interventions’ – the best practice features in physical activity, nutrition and obesity campaigns. In Part 2.3, optimal approaches to the planning and evaluation of campaigns is outlined with reference to current models with a clear tabulation of the key components of MMC planning and evaluation. An example of a campaign ‘logic model’ is provided through the North American ‘Verb’ physical activity campaign. Finally, Part 2.4 brings all this information together in describing the development of a typology and coding framework for this review – the ‘lens’ through which PANO campaigns will be reviewed in the later Sections of this report.

2.2 What does ‘best practice’ look like? *Optimal interventions*

The best approaches to social marketing are similar to optimal mass media campaigns. Ideally, both will be comprised of well-developed communications and messages, a comprehensive suite of community-wide program elements, appropriate inter-agency partnerships and supported by environmental and policy components. This fits with the “education, communications, legislation” directions suggested by social marketing experts, and also with the early mass media campaign writing of the 1980s, where Paisley suggested MMCs should be comprised of “education, engineering and enforcement”.²⁸ There are no systematic reviews of the elements of mass media campaigns that are effective, due to the difficulties in assessing the contributions of different elements on specific measured impact or outcome variables. There are very clear reviews of ‘best practice’, both for MMCs overall and for obesity-specific campaigns³. General conclusions support the inclusion of MMCs as one strategy in an overall approach to prevention. However, they are most likely to contribute when of sufficient duration and intensity, with sufficient resources (for media buys), are and are linked to policy and environmental strategies.²⁹

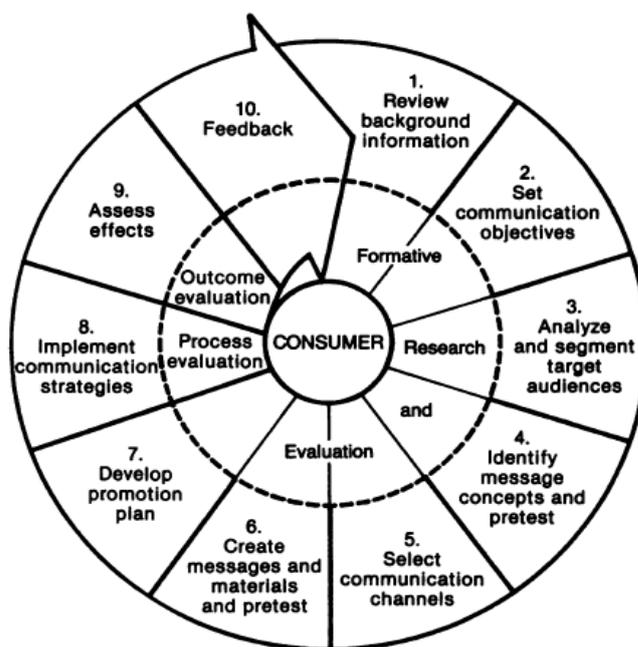
A World Health Organisation meeting in 2000 on Obesity Prevention defined ‘best practices’ in MMCs, with reference to obesity. An adapted version of these recommendations for MMCs is shown as Table 2. These guidelines are based on public health practice experience, not on demonstrable evidence. However, there is evidence that single campaigns have short term effects, and persistent repeated campaign messages are necessary for increasing and sustaining community awareness about an issue, and to catalyse movement from awareness towards intention to act. The supportive regulatory, education and interagency roles have already been discussed earlier, in the section on definitions of MMCs and social marketing.

Campaign Features	PA , nutrition , obesity campaigns
Adequacy, duration and persistence	Phased campaigns – build over time from information to ‘call to action’ to behavior change
Slow, staged approach	serial , repeated MMCs, reinforcing key messages
Legislative action [regulation, policy]	Environment and policy supports
Education	Communications to increase understanding of specific PA , nutrition and obesity prevention messages
Shared roles in campaigns	Roles for community, health professionals and health system, NGOs, other agencies, intersectoral partnerships

Table 2 Best practice features in physical activity, nutrition and obesity campaigns (*adapted from WHO 2000*)

2.3 Planning and evaluating campaigns. *Optimal approaches.*

A 10-step planning model for health communication programs has previously been proposed by the US Centers for Disease Control and Prevention (CDC).^{30, 31} Whilst further iterations have occurred in the development of conceptual/planning frameworks have occurred this remains a useful model (Figure 5). This model suggests some principles for program evaluation relevant to all campaigns. These are the need for evaluation at all stages, the need for clear measureable communication and program objectives at the outset, the need for good developmental formative evaluation, and the need to monitor implementation. This implementation monitoring is known as process evaluation, and this information is least well conceptualised, collected and reported in mass media campaigns.



planning model

Figure 5 CDC 10-step

More recently, CDC has advanced the 'CDCynergy tool'^{ix} with the assurance that it is based on best practice social marketing principles, and that it is designed to provide assistance in the development, implementation, and evaluation of an effective social marketing plan. This has been adapted with frameworks developed for obesity and physical activity MMCs (Table 3). This is also related to the CDC evaluation 10-step model in Figure 5 above.

The key elements are having a program strategy, policy and funding support base, developing a plan, and organising a logic model to identify the expected inputs and outcomes of the MMC.

^{ix} CDCYNERGY <http://www.orau.gov/cdcynergy/web/default.htm> CDCYNERGY 'Lite'

<http://www.cdc.gov/healthcommunication/CDCynergy/CDCynergyLite.html>

Stages of MMC development and evaluation	Planning and evaluation processes
i. Developing the MMC	Campaign planning - epidemiological, behavioural and social assessment to describe the problem , NCDs and specific behaviours to be targeted <ul style="list-style-type: none"> - make the case for MMC as a part of the intervention mix to address NCD prevention - identifying sustainable resources, support and potential partners - Develop program plan / logic model
ii. Formative evaluation – developing campaign elements	Campaign theme, message development [Formative evaluation] <ul style="list-style-type: none"> – Concept testing – message and storyboard development and testing with target audience(s); qualitative research – identify optimal mix of communication channels – development & testing of other supportive campaign elements – [ideally] pilot test the campaign [efficacy testing]
iii. During the MMC - assessing implementation	Campaign launch events , ancillary events Roll out of campaign communications [TARPs or GRPs as measures of paid media]; assessing unpaid media, in kind support; implementing a schedule of concurrent and supportive community-based events, services and primed health and other professionals Process evaluation – assessing reach of the campaign communications and other elements; identifying barriers and facilitators to implementation
iv. MMC effects : Before and after assessment of program impact	Impact evaluation <ul style="list-style-type: none"> – assess the impact of the campaign ; proximal impact including message awareness, understanding; beliefs, attitudes, intentions; and distal impact on physical activity / nutrition / obesity related behaviours or policy and environmental changes which facilitate healthy lifestyles
v. Program outcomes	Outcome evaluation – health indicators or health status improved; community-level outcomes influenced

Table 3 Components of MMC planning and evaluation [adapted from CDCnergy Lite, and Bauman et al 2006]

As one example of the application of these planning methods and principles, the well-developed logic model from the US Verb Campaign is shown in Figure 6.³² A logic model is written *a priori*, during the campaign planning process, and after the formative work has defined the approaches to be taken. It is a hypothetical (planning) exercise that endeavours to link each component to specific outcomes. This includes the mass media purchased, the specific community events planned, and the possible community and environmental changes that are anticipated, and each element is linked to its own immediate outcomes.

As a tool, a logic model forces the planning teams to develop hypotheses about all program elements, and the consequences of each and interactions amongst them. This is different to the 'opportunistic' approach, where a core campaign is developed, and other elements occur in an unplanned and unexpected way in different settings and jurisdictions.

It is possible to develop a comprehensive logic model around a social marketing campaign, even though subsequent events may lead down slightly different paths to those initially anticipated. The figure is derived from the 3 year Verb campaign in the USA, where a planning process in 2002 preceded the campaign launch. The figure shows the outcomes that were anticipated from each element of the Verb campaign, and evaluation systems were developed to measure all of these, as part of comprehensive program assessment.

A systematic review of the literature on physical activity mass media campaigns and their evaluation has recently been conducted.³³ These components are generalizable to other campaigns for NCD prevention or risk factor reduction. The Leavy review recommended that optimal evaluation design should include:

- i. combining all intervention elements (rather than mass communications alone);
- ii. extensive formative evaluation and message development and testing;
- iii. process evaluation to monitor the implementation and reach of campaigns, and tracking of each medium used;
- iv. impact evaluation through representative target population surveys or measurements;
- v. optimal research designs, ideally longitudinal analyses using a cohort design, with comparison cohorts from regions unexposed to the MMC;
- vi. multiple evaluation data collection points are better than pre-post designs alone, to estimate secular changes, and assess whether there was longer term duration of effects; and
- vii. use of established reliable and valid measures and indicators to assess each component.

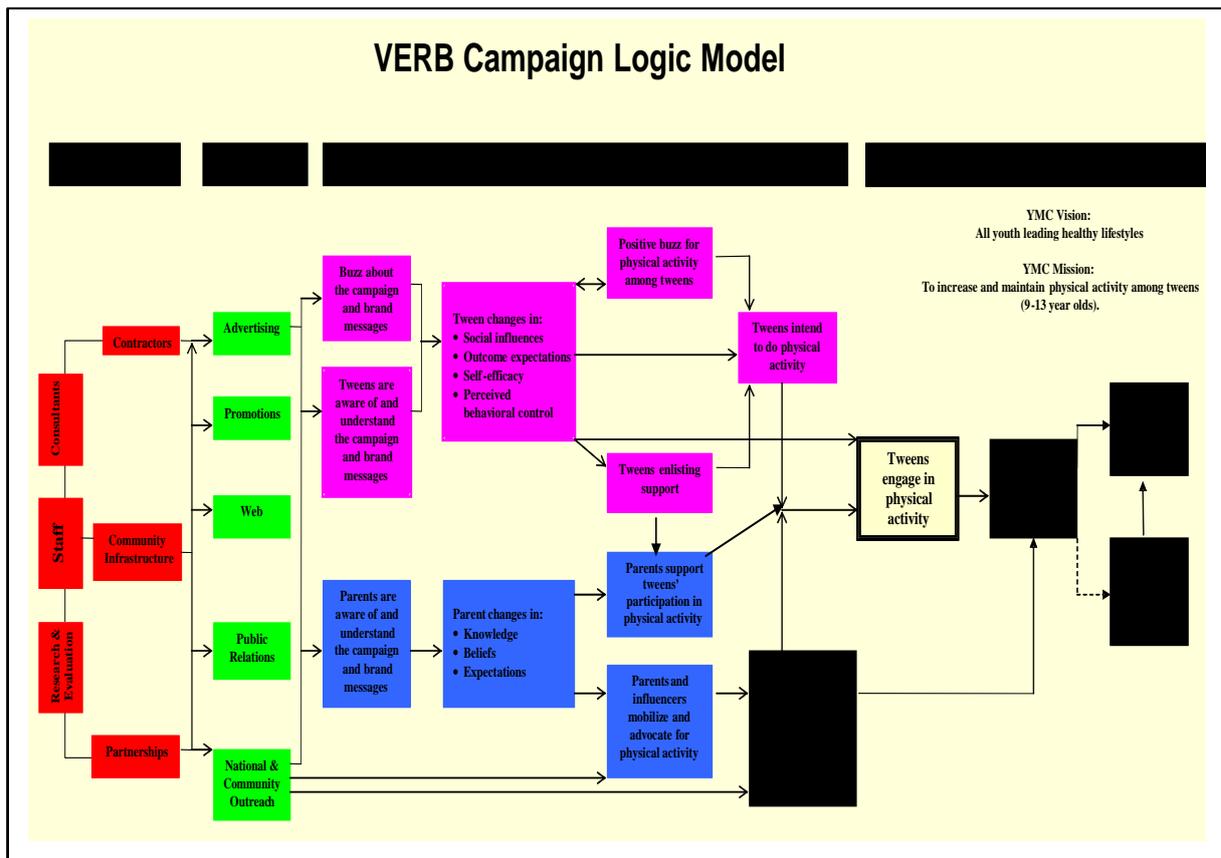


Figure 6 Logic model for the VERB physical activity campaign (USA)³²

In addition to the evaluation criteria identified by Leavy,³³ several additional ad hoc issues are worthy of consideration in any campaign evaluation. These comprise additional statistical and research tasks not often considered in media campaign evaluation. They are:

- i. Statistically verify 'audience segmentation' in the planning phases of campaign development. Most segmentation is simple, usually describes an age / sex group, such as 'young adults 25-40 years old', or similar. Marketing suggests that segments are more complex, include cognitive and affective information, and can be developed into more precise segments for message tailoring;
- ii. "Test theory"! if the campaign is premised on a particular theory, then there should be scope to test whether that model works in explaining campaign effects; for example, several campaigns are based on the Theory of Reasoned Action, an individual behaviour change theory; if this is the case, then measures of subjective norms and attitudes, and intention should be collected, and data examined to explore how well the theory fits. Similarly, the Hierarchy of effects model is often used in planning, and should be tested empirically with evaluation data; and
- iii. Ask survey questions of all responders, not using filters on previous questions - in other words, ask attitude and intention questions of all survey responders, not just as a subset of those who recalled that they saw the campaign (there are important statistical reasons for this from a population impact perspective, although this is not often considered in marketing research methods). In a public health research context, it would be better to trade off some questions, but have the full sample for all intermediate and endpoint variables.
- iv. Conduct equity-focused analyses of all campaigns, after adjustment for age and sex, are the campaign impact(s) on awareness, understanding, other intermediate and endpoint variables similar across socio-economic groups / educational gradient?

2.4 Development of the typology and coding framework for this review

Building analytic tools which embody best practice approaches

Part 2.2 of this section has described optimal interventions for PANO social marketing and mass media campaigns; Part 2.3 has described criteria for their optimal planning, implementation and evaluation. In this Part 2.4 this information is brought together to develop the 'lens' through which PANO campaigns will be reviewed. For campaigns conducted internationally, a typology is used, whilst for campaigns conducted in Australia an extensive coding framework is the preferred approach. Both approaches embody the concepts of optimal intervention (best practice) and optimal approaches to planning and evaluation. Whilst evidence-based and adapted from multiple sources, both the typology and the coding framework are original pieces of work specially developed for this review.

International review typology

In order to classify papers and documents reviewed, a typology was developed for mass media and social marketing research. This framework was used particularly in the obesity-related mass media and social marketing literature. This is shown in Figure 7. This approach represented was used to classify generic and review papers of the potential benefits of MMC and SM approaches to PANO (shown in the right hand box as category A), PANO specific campaigns (shown as Category B, including those that just described the campaign – without providing data- and those that provided data or evidence of campaign impact). The miscellaneous last group (shown as category C in the lower left box), included papers focusing on reviewing the impact of general media on PANO, research papers on audience segmentation, and interventions to promote healthy food guidelines or physical activity recommendations. This typology is further elucidated and applied in the narrative review of international evidence featured in Section 4.

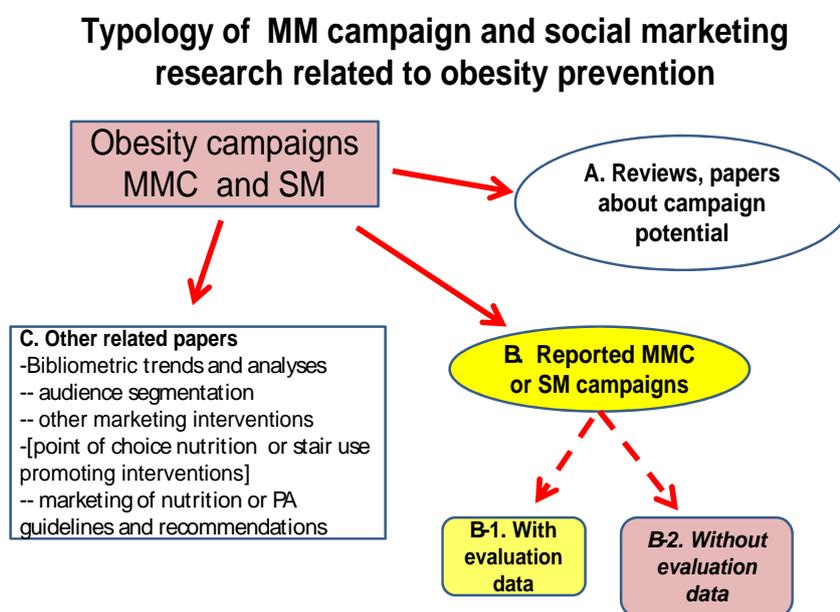


Figure 7 Typology developed for the International Review

National review coding framework

Taking account of the identified best practice features as well as the optimal components of planning and evaluation, a 13-item coding framework of specific campaign characteristics was developed to conduct the national review (Table 4). Across these 13 items, 49 defined categories were elucidated for synthesis of information (as available). The coding framework is further elucidated and applied in the national review, Section 3.

Campaign timing
Target population
Campaign planning approach
Formative evaluation used
Media modality(ies) used
Use of branding/ logo/ tagline
Linkages to policy and programs
Linkages to National (or State/Regional) health guidelines
Linkages to professional practice guidelines or protocols
Implementation 'dose'
Evaluation research design
Pre-campaign assessment of awareness in the evaluation
Peak campaign impact measures in the evaluation

Table 4 Coding framework developed for the national review

These coding categories for the review were based on the best practice principles, and the potential for these data to be extracted across campaigns and compared. The first criterion, campaign timing, describes the start date, but also indicates whether this was a multi-year phased campaign, or a single campaign. Second, is the target population, which is relevant to audience segmentation; however, it should be noted that for mass reach campaigns where the problem is ubiquitous, initial campaigns may be non-selective, and target the whole population. Review criterion 3 is to assess whether planning took place, and whether it was linked to other (disease prevention) planning, or to plans in other sectors. The elements of formative program development, media channels used and the existence of a campaign 'brand' or tagline are components 4-6.

The next elements are links to policies, programs or professional practice. These allow an estimate of whether the campaign was embedded in public health policy framework, and linked to professionals as an effector arm of campaign support in the health system. The 10th component is implementation 'dose' of media, relevant to media campaigns, as an insufficient 'dose' may result in very limited impact. Evaluation design is next, and needs to consider the optimal elements described in section 2.3. Component 12 is a specific one related to pre-campaign surveys, which infrequently ask about campaign recall before the campaign; assessing this 'spurious' or 'bogus' recall is important, especially for generic questions, as pre-campaign rates may be quite high, and are necessary to assess the impact (effects) of comparing pre to post campaign measures. In a crowded media campaign environment, omitting pre-campaign recall may make it more difficult to interpret post-campaign recall rates. The last criterion is post-campaign maximal awareness rates; this is an indicator of campaign reach, and can be used as a comparable single proximal indicator across campaigns (see section 3.3 for further details).

Summary

This section has described best practice approaches to planning, implementation and evaluation of social marketing and mass media campaigns based on an examination of the peer-reviewed scientific literature and other relevant reports. The evidence allows best practice features in the implementation of PANO campaigns (the 'optimal interventions') to be identified. Optimal approaches to the planning and evaluation of campaigns were outlined with reference to current models and with a tabulation of the key components for the planning and evaluation of PANO campaigns. This information was combined for the development of the typology and coding framework used for the international and national reviews respectively – this forming the 'lens' through which PANO campaigns are reviewed in the subsequent sections of this report.

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SECTION 3 PANO CAMPAIGNS CONDUCTED IN AUSTRALIA

3.1 About this section

A national review of PANO campaigns

This section reviews mass media and social marketing campaigns for physical activity, nutrition and obesity (PANO) conducted in Australia in the past decade (since 2000). The focus is on mass-reach large-scale campaigns, which used mass communications and/or social marketing as primary strategies. In line with the terms of reference for the review (Appendix 1), the focus was on campaigns with adults and parents as the target group. A systematic review was undertaken of evaluation reports of PANO campaigns conducted nationally and in Australian States and Territories. The resulting narrative synthesis in part 3.3 includes identification of key themes, main foci, key campaign elements, main measures used, and a summary of campaign impact.

The campaign coding framework and search methods

A 13-item coding framework of campaign characteristics was developed to conduct the national review. The framework was developed from a review of the literature, from campaign evaluation frameworks,^{34, 35} and from a consideration of this project, specifically ways of assessing and synthesising evidence across campaign evaluation reports. Across these 13 items, 49 defined categories were elucidated for synthesis of information (as available) – see Table 5

Campaign characteristics	Sub - Categories
Campaign timing	3
Target population	2
Campaign planning approach	4
Formative evaluation used	4
Media modality(ies) used	5
Use of branding/ logo/ tagline	2
Linkages to policy and programs	3
Linkages to National (or State/Regional) health guidelines	1
Linkages to professional practice guidelines or protocols	1
Implementation 'dose'	5
Evaluation research design	6
Pre-campaign assessment of awareness in the evaluation	2
Peak campaign impact measures in the evaluation	11

Table 5 Coding framework used for systematic review of Australian PANO campaigns

Electronic files of evaluation reports were provided by the Heart Foundation (WA) for campaigns conducted in Western Australia. Relevant professionals in all State and Territory Departments of Health were sent a short briefing paper on the project together with a request for information on PANO campaigns conducted in their jurisdiction within the past decade (or longer) – see Appendix 4. This information was supplemented by searches of electronic databases Medline, Web of Science, PubMed. The websites for the University of York Centre for Reviews and Dissemination, UK National Institutes for Health and Clinical Effectiveness (NICE) and the USGuide to Community Preventive Services were also examined.

In addition internet search engines were used to locate relevant reports from governments, health agencies and other organisations.

3.2 Review of PANO Campaigns conducted in Australia

Campaigns selected and excluded

Campaigns and programs which did not use a mass media component or which did not focus on adults or parents were excluded. The following campaigns were prioritised for the systematic analysis:

- **Find Thirty® – It’s not a big exercise**; and **Find Thirty® – every day** [Focus: Physical Activity; Conducted: 2002-11; Western Australia]
- **Active Australia – Phase I** (‘Regularly not seriously’); and **Active Australia Phase II** (‘Tin Man’)[Focus: Physical Activity; Conducted: 1998-2000; New South Wales]
- **Be Active Phases I - III**[Focus: Physical Activity; Conducted: 2005/2007-2013; South Australia]
- **Go for 2 & 5 campaign Phases I - III** [Focus: Healthy Nutrition; Conducted: 2002-2010; Western Australia]
- **Go for 2 & 5 campaign Phases I and II**[Focus: Healthy Nutrition; Conducted: 2005-2010; Queensland]
- **Eat Well Be Active** [Focus: Healthy Nutrition/Physical Activity; Conducted: 2007- 2009; Queensland]
- **Measure Up campaign Phases I and II** [Focus: Healthy Weight; Conducted: 2008-13; Australia (excluding Victoria) - *data taken from publicly available sources only*]
- **Draw the Line campaign** [Focus: Healthy Weight; Conducted 2009-2011; Western Australia]
- **Unplug and Play** [Sedentary Behaviour 2008-11 Western Australia]

The tabulated analysis of these campaigns is shown in section 3.3 Some Australian campaigns and initiatives not prioritised here are covered instead in the International Review - Section 4.³⁶⁻³⁹ Other campaigns not included in systematic analysis at this stage but which can be considered for later inclusion are: **Go For Your Life** (Victoria, Physical Activity/Healthy Eating foci, launched November 2004); **Get Moving** (Australia, Physical Activity, primary target audience: children aged 5-12 years, secondary audience: youth aged 13-17 years) launched February 2006).

Overall, it was possible to provide a reasonable amount of information for the selected campaigns against the 13 items in the coding framework. On the basis of the information obtained, the following observation can be made about the PANO campaigns in Australia:

Campaign timing

There are examples of sustained investment, multi-phase efforts lasting as long as 5-9 years in some cases (Find Thirty, Go for 2 & 5, Measure Up). The sustained investment over multiple phases appears to have been rewarded with good reach and impact as shown in item 10 (implementation dose) and item 13 (peak impact measures) of the analysis. In other words “we get what we pay for”. Refer to part 3.3, item 1 for further details.

Defining target populations

All campaigns defined their primary and secondary target groups clearly. This was usually done in terms of the age segment of the population, sometimes with an additional variable such as parental status (for example 25 to 50 year-old parents). More detailed audience segmentation (for example, “Motivated but insufficiently active” [Active Australia] / “Postponer”, “Help Seeker” [Measure Up] was undertaken in few campaigns. Special populations were defined in a number of campaigns as appropriate (for example, Aboriginal and Torres Strait Islander peoples). Refer to part 3.3, item 2 for further details.

Campaign planning approach

Most campaigns were linked with, or part of a broader strategic approach such as a State, Regional or National Plan. Most also involved more than one sector and there were several examples of multi-sectoral efforts (for example through State Physical Activity Taskforces). Few campaigns had specific goals and (quantitative) targets for population level change in any variables targeted. All campaigns appeared to be based on dedicated new investments for a specified period rather than 'existing resources'. Refer to part 3.3, item 3 for further details.

Formative evaluation

Most campaigns used one or more from a variety of models, theories and frameworks. These included social cognitive theory (Bandura), Trans-theoretical model (Prochaska and DiClemente), Theory of Reasoned Action (Ajzen and Fishbein), Health Belief Model (Rosenstock), Programmatic Logic Models, Communication Hierarchy (McGuire). With the exception of logic models and social cognitive theory, these campaigns, despite typically being described as 'social marketing', were very much based on theories which focussed at the level of the *individual*. Epidemiological assessments were a common feature and most campaigns incorporated message design, formative testing and concept development. Formative qualitative (as well as quantitative) research was commonly used and reported. Whilst qualitative research methods used in formative campaign evaluation appear to be appropriate, the review noted the recent publication of a *Comprehensive Guide for Designing, Writing, Reviewing and Reporting Qualitative Research* (by the Robert Wood Johnston Foundation⁴⁰) which may inform future quality assurance in this area of work.

Refer to part 3.3, item 4 for further details.

Media modalities used

Campaigns commonly used paid electronic media (especially television) and paid print media. Cinema was used infrequently. Some campaigns included specific strategies for public relations (PR) / earned media that went well beyond the more typical launch and occasional press release. Strong use of PR and earned media appeared to be relatively underutilised as a strategy. Websites were almost universally used, with some campaigns also incorporating the brand or tagline in the URL (e.g. www.unplugandplay.com.au, www.findthirty.com.au, www.gofor2and5.com.au). Some campaigns used out-of-home or outdoor media such as signage on taxi tops, billboards, bus shelters, stairs, trams (Find Thirty), campaign product placement via newsagents and point-of-sale prompts (Gofor2and5). More recently campaigns have used webmail, social networking sites, Google and Yahoo! search marketing, and digital TV websites (Measure Up). The review noted that the US Centers for Disease Control and Prevention (CDC) has published Social Media Tools, Guidelines & Best Practices. These guidelines are designed to assist in the planning, development and implementation of social media activities, and although developed in a North American context, they may be useful for Australian and other jurisdictions.^{41, 42} This represents an area for potential quality improvement. Refer to part 3.3, item 5 for further details.

Use of branding/ logo/ tagline

Attempts to develop and use a brand and or logo were inconsistent. Campaigns such as Active Australia, Be Active, Gofor2and5, Eat Well Be Active incorporated deliberate attempts to develop and utilise a brand so that it could embrace wider programmatic elements and provide a unifying effect under the communication umbrella provided by the mass media strategy. Other campaigns were less explicit about their brand development. As might be expected, campaign slogans and taglines were used universally. Refer to part 3.3, item 6 for further details.

Linkages to policy and programs

Overall, there were attempts to link campaigns with programs or services which were supportive of the campaign goals and objectives. There were examples of supportive environmental changes which made the 'healthy choice the easier choice' such as the provision of bicycle lockers, cycle paths, better pedestrian walkways, signage to provide cues at points-of-decision such as stairs, elevators, bus-stops; in-store fruit and vegetable promotions at point-of-sale, Health Impact Assessments (HIAs) which focussed on planning and development. New laws or regulations targeting the desired behaviours/ outcomes were not evident in the analysis. Refer to part 3.3, item 7 for further details.

Linkages to National (or State/Regional) health guidelines

Campaigns featured strong linkages to Dietary Guidelines for Australian adults (Gofor2and5, Eat Well Be Active, Measure Up), National Physical Activity Guidelines for Australians (Find Thirty, Active Australia, Be Active, Eat Well Be Active) and National Physical Activity recommendations for children (Unplug and Play). In a few cases, the campaign objectives made this explicit. See Part 3.3, item 8 for further details.

Linkages to professional practice guidelines or protocols

Some Physical Activity campaigns (Find Thirty, Active Australia, Be Active) featured strong linkages with the Primary Care setting, providing factsheets, prescription tools, support materials, and even (Be Active, SA) recruiting dedicated Lifestyle Advisors/Lifestyle Support officers. The Measure Up campaign provided special support through medical centres, peak health bodies (general practice, health services) as well as dedicated resources for health professionals. Gofor2and5 (Qld) developed resources for teachers and health professionals. Unplug and Play specifically targeted out of school day care providers, primary school teachers. For the linkage to the Primary Care setting, most of the campaigns may have benefitted implicitly from national PHC initiatives such as Lifescripts[9] however the analysis did not find explicit linkages other than those noted above. Refer to part 3.3, item 9 for further details.

Implementation 'dose'

Given that it can be difficult for staff involved in campaign management and support to find the time to ensure good documentation in general, and budget/ specific media schedule and spend in particular, it was pleasing to find that a substantial amount of the desired information was available on implementation 'dose'. Total campaign investment was available across the board, investment by media modality was available for some and in quite specific detail in some cases (see item 10 in the tabulation laid out in part 3.4). The weight of media schedule achieved in TARPS was specified clearly for six campaigns, whilst estimated target audience reach based on total promoted recall was available for eight campaigns. Further follow up is being undertaken for missing items. Estimated value of earned media was rarely noted. All campaigns using television advertising achieved a very good peak audience reach of more than 80% (Table 6).

AUDIENCE REACH	CAMPAIGN IDENTITY
➤ 93%	Measure Up (Australia)
➤ 91%	Gofor2&5 (WA)
➤ 84%	Find Thirty (WA)
➤ 65%-87%	Active Australia (NSW, Australia)
➤ 85%	Be Active (SA)
➤ 84%	Gofor2&5 (Qld)
➤ 82.6%	Draw The Line (WA)

Table 6

Peak audience reach of campaigns implemented in Australia

In general, the campaigns achieving good audience reach **which were also sustained for five years or more** delivered the best population level impacts on behaviour change-related variables. Refer to part 3.3, items 10 and 13 for details.

Evaluation research design/ Pre-campaign assessment of awareness

Pre-campaign baseline measures were usually undertaken. In some, but not all cases, these allowed an assessment of bogus (or 'spurious or 'ghost') awareness.^x This is in addition to the typical assessment of general awareness of media messages relating to the campaign thematic area.

Repeat cross-sectional surveys using Computer Assisted Telephone Interviewing (CATI) was the most commonly used approach (Be Active, EVBA, Measure Up, Draw The Line). Representative random sampling methods were used, data typically being weighted using Census information. In some instances CATI was used to provide continuous tracking of campaigns (GoFor&5 in WA and Qld). A combination of cross sectional and longitudinal (cohort) tracking survey designs with pre-campaign baselines were used in the evaluation of two campaigns (Find Thirty, Active Australia). As noted in Section 2, a recent systematic review of the evaluation of mass media campaigns has recommended best practice approaches as follows:³³

- extensive formative evaluation and message development and testing;
- process evaluation to monitor the implementation and reach of campaigns, and tracking of each medium used;
- impact evaluation through representative target population surveys or measurements;
- optimal research designs, ideally longitudinal analyses using a cohort design, with comparison cohorts from regions unexposed to the MMC;
- multiple evaluation collection points are better than pre-post designs alone, to allow for sufficient duration of effects; and
- use of established reliable and valid measures and indicators to assess each component.

We can conclude that whilst evaluation approaches in Australia do illustrate several of these best practice themes, longitudinal analyses using a cohort design, with comparison cohorts from unexposed regions, is underused. Further, the use of representative population samples is important, and varying sampling frames may provide different kinds of individuals across surveys, and this may make inter-campaign comparisons less useful. Advocates of continuous tracking (weekly) data collection argue that this method lends the ability to provide considerably more in-depth, robust and accurate grounding for analysis and interpretation. This is because it allows for analysis of what happens *during* a campaign support period, and not simply a snap shot of before campaign launch and after.⁴³ Tracking during surveys is widely practiced in marketing evaluation, as product sales can fluctuate sufficiently to demonstrate intra-campaign effects. In public health campaigns this is rarely possible, so that sufficient sample size should be considered in advance, if tracking is to be optimally used and provide interpretable data. An advantage of the longitudinal cohort design is that it allows intra-individual modelling which provides an opportunity to obtain stronger evidence of the effects resulting from exposure to campaign messages. If these longitudinal changes are observed the scope for arguing that the campaign has been effective is greatly increased.³⁴ A methodological critique of cohorts is that pre-test sensitisation may occur, with people responding better

^x defined as baseline campaign recall, also known as 'spurious recall'; this is an important and sometimes overlooked evaluation element, as generic recall of obesity messages or attitudes to weight or diet could be quite high pre-campaign, and efforts are needed to disentangle attributable campaign impact, compared to pre-campaign levels

because of previous question exposure. Thus, the absolute best design allows for this, incorporating both a cohort design, and separately, serial cross sectional population surveys. The latter estimates population impact better, and the former, cohort designs, allow for evaluation of *how* the campaign exerted its effects. Refer to part 3.3, items 11 and 12 for more details on evaluation of the Australian campaigns.

Peak campaign impact measures in the evaluation

Campaign impact measures in the evaluation were analysed against a category comprising Awareness, Knowledge, Saliency, Attitudes/Beliefs, Self-Efficacy, Intention and Behaviour. Overall, these campaigns benefitted from the application of a wide range of impact measures consistent with the concept of a 'cascade effect' (see Fig 2). The Conceptual framework here implies a cascade of effects of mass media campaigns), appropriately focussed on proximal variables and inclusive of changes in intention and in short term behaviour change.

General and prompted awareness measures were reported for all campaigns which used television advertising. Knowledge measures were clearly used in seven campaigns, some measures of saliency in five, whilst measures of intention and behaviour were used in all campaigns. In discussion of best practice approaches in Section 2, we noted from a recent systematic review on evaluation, the recommendation to combine all intervention elements [rather than mass communications alone].³³ It is reasonable to conclude from the evidence obtained in this review that campaign evaluation in Australia does tend to focus narrowly on mass media communication alone rather than the potential breadth of the social marketing approach. Other measures than those noted could be incorporated for evaluation of a broader social marketing approach within existing research items and/or through other supplementary evaluation procedures. This is an area for potential development in the future planning and evaluation of campaigns in Australia. Refer to part 3.3, item 13 for more details on peak impact measures.

PANO Campaigns conducted in Western Australia

This review found that Australian campaigns were generally of a high standard. Those involving sustained, multi-phase efforts over 5 years or more delivered the best performance and were effective in achieving population reach estimated to be in the range 83%- 93%. Inasmuch as the 13-item coding framework was designed to embody best practice approaches (as described in Section 2), these campaigns showed good compliance with the 49 categories contained within the framework. All of these findings were true to a greater extent for the campaigns implemented in Western Australia than in Australia generally (although Measure Up Phases I and II at the national level does illustrate many aspects of good practice.

As shown in Table 6, campaigns implemented in Western Australia achieved some of the best performances in terms of audience reach – for example Gofor2&5 (91%), Find Thirty (84%) and Draw The Line (82.6%). Whilst Australian campaigns in general have been lacking in the broader strategic approach required to live up to the name 'social marketing campaign', the Western Australian campaigns have come closest to the mark especially through Gofor2&5 and Find Thirty.

Like other State based campaigns in Australia, these efforts have sometimes coincided with national level campaigns. These coincidences may sometimes result in apparently positive reinforcement; for example time series data from Queensland indicate that the National ABHI campaign "Measure Up" may have influenced a positive recovery in spontaneous awareness for the "GoFor2&5" campaign recorded between February-March 2010.⁴⁴ The far right hand side of Figure 8 illustrates this phenomenon, with an otherwise unexplained lift in awareness of "GoFor2an&5" coinciding with the airing of "Measure Up". WA could usefully consider monitoring these interactions in future evaluations especially given that the expertise to conduct such analyses is locally available in the State.

Spontaneous Campaign Recall

BASE: All respondents

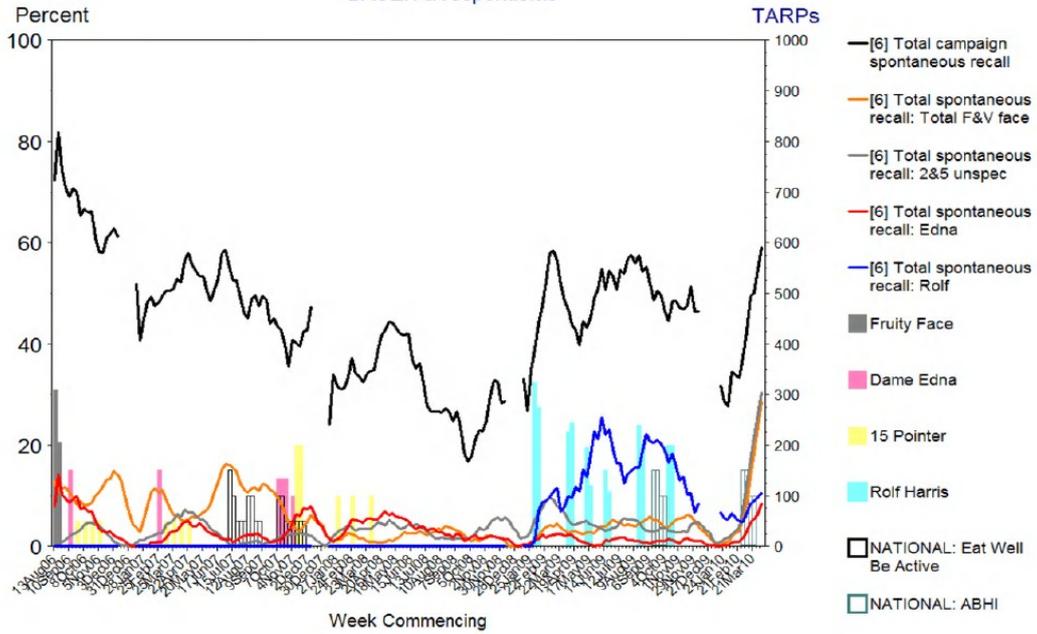


Figure 8

Whilst

WA might learn a lesson from the Queensland evaluation of the (WA developed) GoFor2&5 campaign, one lesson that all jurisdictions and countries can learn from WA is the rigorous approach to recording campaign implementation 'dose' both in terms of investment and in terms of the TARP weights achieved.

An additional good practice of note is the additional analysis to estimate the ‘cost per person reached’; this is shown in Table 7 below, which provides clear information on timing, target group, investment in the TV schedule, TARPs achieved, cost per TARP, % audience reach, number of persons reached and on the far right column, the **cost per person reached**.⁴³

Time Period	Target Market	Size of Market ¹	Cost of TV Schedule	Total TARPs ²	Cost per TARP	Net reach (prompted awareness)	Total number of persons reached	Cost per schedule per adult reached
Oct-Dec '02	Adults 25-45 years	584,043	\$306,849.00	4730	\$64.88	84%	490,596	\$0.63
Oct-Dec '03	Adults 25-45 years	584,043	\$191,098.00	3146	\$55.95	91%	531,479	\$0.36
Jan – Jun '04	Adults 25-45 years	584,043	\$198,597.60	6008	\$33.06	87%	508,117	\$0.39
Jul – Sept '04	Adults 25-45 years	584,043	\$68,062.00	930	\$73.18	89%	519,798	\$0.13
Oct – Dec '04	Adults 25-45 years	584,043	\$414,231.67	4359	\$95.03	89%	519,798	\$0.80
Feb – Jun '05	Adults 25-45 years	584,043	\$214,266.00	3749	\$57.15	89%	519,798	\$0.41
Sept – Oct '06	Adults 25-45 years	584,043	\$127,855.00	1031	\$124.01	77%	449,713	\$0.28
May-June '07	Adults 25-45 years	588,495	\$209,160.00	1900	\$110.10	66%	389,067	\$0.54

Table 7 Cost per person reached – GoFor2&5 Campaign Evaluation 2008⁴³

Refer to the tabulation in part 3.3 for more specific details on campaigns implemented in WA.

3.3 Tabulation of PANO Campaigns in Australia

Campaign Characteristics	Find Thirty® – It’s not a big exercise Find Thirty® – every day [PA; 2002-11; Western Australia]	Active Australia – Phase I (‘Regularly not seriously’) and II (‘Tin Man’) [PA; 1998-2000; New South Wales]	Be Active [PA; 2005/2007-2013; South Australia]
<p>1 Campaign timing</p> <p><u>Category Definition</u> Specifies 3 items:</p> <p>(i) when the campaign was first launched (ii) whether single or multi-phased and (iii) duration of the phase(s) as applicable</p>	<p>Phase I- 2002-2006 annual Find Thirty® community-wide social marketing program commenced with first wave TVCs April-May 2002</p> <p>Phase II 2007-2011 Find Thirty® – every day program; first wave TVCs May-June 2008;</p>	<p>Phase I – 1998 social marketing program commenced with first wave TVCs Feb-March 1998</p> <p>Phase II- 1999 TVC launched beginning of March for 4 weeks to coincide with Seniors Week (22-26 March).</p>	<p>Phase I - 2005: Radio and Outdoor advertising Phase II - 2007: August to December Outdoor advertising, Bus interior advertising, 4 x TVCs March/April 2008 Phase III 2009 (Mainstream media/Outdoor advertising); 2010 (3 TVCs, Radio, Outdoor, Print Advertising - April 2010 – June 2010.) Additional burst of media October-November 2010 Phase IV [Planning underway for new 2011-2013 Phase of Be Active social marketing campaign. Likely to target 35-55-year-olds, especially women]</p>
<p>2 Target population</p> <p><u>Category Definition</u> Specifies 2 items</p> <p>(i) How the primary target population for the campaign was defined[if any] (ii) How any secondary or complementary target population(s) were defined</p>	<p>Primary target group was Western Australian adults aged 20-54 years (25-54 years Phase II)</p> <p>Secondary target group was primary care physicians and other health professionals.</p>	<p>Primary target group for Phase I was NSW adults aged 25-60 years (55-75 years Phase II)</p> <p>Secondary target group, both Phases was primary care physicians, health professionals, sport, recreation and fitness professionals</p>	<p>Phase II objective was to increase awareness of the Be Active message and the necessary levels of physical activity for health benefit for children/young people and adults. Phase III (2010) Primary Target ‘All South Australians’ especially insufficiently active. Secondary Targets Parents/Carers, 18-29-year-olds, Workers (workplace setting), Low SES, Regional populations. Objectives were to increase: awareness of the Be Active brand; understanding of the amount of time required for adults and children/younger people to be sufficiently physically active; awareness of local, everyday opportunities to be active; hits on the Be Active website; people’s intentions to be more active.</p>

Campaign Characteristics	Find Thirty® – It’s not a big exercise Find Thirty® – every day [PA; 2002-11; Western Australia]	Active Australia – Phase I (‘Regularly not seriously’) and II (‘Tin Man’) [PA; 1998-2000; New South Wales]	Be Active [PA; 2005/2007-2013; South Australia]
<p>3 Campaign planning approach</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 4 items as to whether campaign planning was</p> <ul style="list-style-type: none"> (i) part of a State, Regional or National Plan; (ii) single sector or multi-sectoral engagement; (iii) inclusive of specific goals and targets for population level change in any variables; [iv] based on new investment for a specified period or assumed to be ‘within existing resources’ 	<p>Linked to 10 year strategy of cross Government Physical Activity Taskforce; embedded in state-wide policy for PA and walking. Multi-sectoral; good links to walking/cycling messages with Transport sector</p> <p>Phase I conducted by the West Australian Department of Health (2002-2006). Subsequently contracted to be conducted by the National Heart Foundation in Western Australia (2007-2011). No specific quantitative targets for media. Dedicated budget, new investment.</p>	<p>Linked to 5 year strategy of inter-sectoral NSW Physical Activity Taskforce; embedded in work program; multi-sectoral; multiple agencies & sectors contributed to campaign components.⁴⁵</p> <p>Phase I managed by NSW Health in partnership – notably with State Dept. of Sport & Recreation and (Federal) Australian Sports Commission (ASC). Phase II coordinated by NSW Health Department with stronger leadership role played by ASC and State Dept. Sport & Recreation. No specific quantitative targets for media. Dedicated budget, new investment.</p>	<p>Linked to 5 year PA strategy for SA 2004-2008,⁴⁶ Ministerial Physical Activity Forum (MPAF) and inter-sectoral Physical Activity Council (PAC). Also linked to The Eat Well Be Active Healthy Weight Strategy for South Australia 2006 – 2010⁴⁷ with commitment to strategic and well-resourced social marketing campaigns to promote healthy eating and physical activity. Phases I and II were managed by the Office for Recreation and Sport (ORS), representing the whole-of-government. Promotion of the Be Active message occurred through various State Government Departments, engaged via the Physical Activity Council. No specific quantitative targets for media New investment.</p>
<p>4 Formative evaluation used</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 4 items as to whether campaign formative evaluation</p> <ul style="list-style-type: none"> (i) used any defined logic model, theory(ies) or framework; (ii) included any epidemiological assessment; (iii) included campaign message design, formative testing and development; (iv) included testing and development of any other campaign component(s) 	<p>Campaign explicitly based on social cognitive theory. Epidemiological data used. Additionally, enablers and barriers to being active examined by population segments especially insufficiently active, low SES, rural and Aboriginal people</p> <p>Formative research on suitability of creative concepts, advertising executions enjoyment and perceived salience of the proposed communications (2002).</p> <p>Formative research was also used to inform the development of sequential phases of the Find Thirty® program⁴⁸.</p>	<p>Campaign implicitly based on social cognitive theory and explicitly on Transtheoretical model (stages of change). 10-step planning model used.^{30, 31}</p> <p>Extensive use of population PA data and qualitative focus group to develop messages for both Phases 1 and 2</p> <p>Baseline survey (Phase I) incorporated items allowing measure of audience segments by PA level and PA stage of readiness. Target group was defined as ‘motivated, but insufficiently active’</p>	<p>Campaign implicitly based on social cognitive theory. Social Marketing approach used throughout.</p> <p>Programmatic Logic Model for both Physical Activity and Healthy Eating is set out in the Eat Well Be Active Healthy Weight Strategy for South Australia 2006 – 2010⁴⁷</p> <p>Both quantitative and qualitative research used to inform campaign development.</p>

Campaign Characteristics	Find Thirty® – It’s not a big exercise Find Thirty® – every day [PA; 2002-11; Western Australia]	Active Australia – Phase I (‘Regularly not seriously’) and II (‘Tin Man’) [PA; 1998-2000; New South Wales]	Be Active [PA; 2005/2007-2013; South Australia]
<p>5 Media modality(ies) used</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 5 items</p> <p>(i) <i>electronic media</i> (ii) <i>print media</i> (iii) <i>public relations /earned media</i> (iv) <i>internet/ ‘new media’</i> (v) <i>other media ?</i></p>	<p>Three TVCs in first campaign wave April - May 2002. 15 and 30 second versions shown again in October 2002 (walking the family dog). Campaign Signage on taxi tops, billboards and bus shelters. Strong use of public relations media.</p> <p>Campaign website was developed; consumer interaction on ways to ‘Find Thirty® www.findthirty.com.au ; Used paid spaces in weather bulletins</p>	<p>Phase I: Two 15 sec TVCs ; paid print advertisements metropolitan and rural press; advertising in ethnic press, ethnic radio i/views and advertisements);</p> <p>Campaign merchandise produced.</p> <p>Phase II: TVC featuring a tin-man character, poster and brochure. Evidence review for Healthy Ageing and Physical Activity produced and widely disseminated.</p>	<p>Phase I</p> <p>Suite of radio commercials combined with outdoor advertising (billboards, bus shelters, bus interiors, back and sides)</p> <p>Phases II and III</p> <p>Outdoors– Posters at Bus shelters/major shopping centres: 'Walk to the Next Stop', 'Get off a Stop Earlier', get 'On your bike' and 'Park further away'. Bus interior posters: 'Get off a stop earlier'. 4 TVCs– opportunities to be active in everyday life. Radio: breakfast sponsorship on Nova 919 FM. Merchandise, signage, promotion through sub-state infrastructure of various govt. depts. Phase III added print advertising in community newspapers, & ambient media for stairs, rail, and car parks.</p>
<p>6 Use of branding/ logo/tagline</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 2 items;</p> <p>(i) <i>whether a deliberate attempt was made to establish a specific brand and or logo for the campaign/health issue</i></p> <p>(ii) <i>what tagline or slogan was used</i></p>	<p>Find Thirty® was conceived as a <i>social marketing program</i>, not merely MMC.</p> <p>Tag line ‘it’s not a big exercise’ used to communicate that PA could be easily incorporated into the day/ it is easy to find 30 minutes needed for good health. In 2004 new materials introduced to communicate that PA can be accumulated in bouts of 10+ minutes</p>	<p>Active Australia was conceived as a <i>social marketing program</i>, not merely MMC. Deliberate intention to establish ‘Active Australia’ brand and logo as umbrella for all communications and program activity. Tag line “Exercise you only have to take it regularly, not seriously” used consistently to communicate 30 minutes PA, moderate intensity, accumulated sufficient for health; emotional appeal and portrayal of incidental physical activity.</p>	<p>Deliberate attempt to create a ‘Be Active’ brand Explicit objectives within successive campaign phases to further build the brand awareness. Implicitly aiming to be a social marketing program; strong portrayal of incidental PA and strong outdoor components to give prompts at the point of choice. Theme of Phase II campaign was ‘take every opportunity to be active’; reinforced in Phase III.</p>

Campaign Characteristics	Find Thirty® – It’s not a big exercise Find Thirty® – every day [PA; 2002-11; Western Australia]	Active Australia – Phase I (‘Regularly not seriously’) and II (‘Tin Man’) [PA; 1998-2000; New South Wales]	Be Active [PA; 2005/2007-2013; South Australia]
<p>7 Linkages to policy and programs</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 3 items as to whether the campaign is supported (whether explicitly or implicitly) by:</p> <ul style="list-style-type: none"> (i) any new laws or regulations targeting the desired behaviours/outcomes (ii) any other policy and/or (social, physical) environmental changes which make the ‘healthy choice the easier choice’ (iii) any deliberately linked programs which are supportive of campaign goals and objectives 	<p>Strong engagement of walking / transport messages; linked to a cross-government PA taskforce. TravelSmart program was delivered to a target population of 418,500 residents in Perth since 2000 and achieved an average 10% reduction in car trips and 13% reduction in car kilometres across the targeted suburbs; an average of 69 less car trips per person per year. The reductions in car trips were largely transferred to more walking, bicycle and public transport trips^{49, 50}</p>	<p>Linked to community level programs through support from NSW Area Health Services and NSW Sport & Recreation Regions (including a ‘13’ telephone line).</p> <p>Active Australia (national) networks for Schools and Local Government were established. 500 bike lockers installed in 27 public transport locations by Dept. Transport. Pedestrian Access and Mobility Plans developed in Local Government Setting. Code of Practice for Fitness Centres developed. Local grants program made available to enable grassroots support for campaign.</p>	<p>Strongly linked to policy and programs. 5 year PA strategy for SA 2004-2008,⁴⁶ incorporates Goals (and related strategies) to Ensure all relevant government policy, planning and legislation enhances opportunities for physical activity participation; Develop and maintain supportive environments that foster a diversity of physical activity opportunities.</p>
<p>8 Linkages to National (or State/Regional) health guidelines</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 1 item: (i) whether the campaign explicitly linked with or reinforced National (or Regional) guidelines (for example National Physical Activity Guidelines/Healthy Eating Guidelines)</p>	<p>Implicit linkage to National PA guidelines [NPAG] first phases; explicit link to in objectives Initial objectives were to increase awareness of the type and frequency of PA necessary for good health; demonstrate how moderate intensity PA could be incorporated into everyday life; and re-frame 30 minutes of PA as relatively easy to achieve.</p>	<p>Australia's first National Physical Activity Guidelines were not launched until May 1999 (Phase II); NSW PA policy/campaign manager chaired National Guidelines Committee so that campaign had an ‘anticipatory’ (implicit) linkage to guidelines (moderate intensity, 30 minutes, accumulation, and incidental).</p>	<p>Earlier phases had implicit linkage but no obvious mention of PA guidelines.</p> <p>Planning for Phase IV stipulates the linkage explicitly:</p> <p>“Increased recall of the PA guidelines e.g. how much activity is needed for good health? 30 minutes a day at least 5 times a week”</p>

Campaign Characteristics	Find Thirty® – It’s not a big exercise Find Thirty® – every day [PA; 2002-11; Western Australia]	Active Australia – Phase I (‘Regularly not seriously’) and II (‘Tin Man’) [PA; 1998-2000; New South Wales]	Be Active [PA; 2005/2007-2013; South Australia]																			
<p>9 Linkages to professional practice guidelines or protocols</p> <p><i>Category Definition</i> Provides detail, as applicable and available, on 1 item: (i) whether the campaign is supported explicitly or implicitly by new or existing professional practice guidelines or protocols (for example guidelines for family physicians about risk assessment and counselling of patients)</p>	<p>Campaign information was sent to primary care physicians and other health professionals. Synergies existed with other national PHC initiatives such as Lifescrpts⁵¹ Website provides link to Heart Foundation fact sheets for General Practitioners on PA and selected conditions [Depression, Management of Overweight and Obesity in adults, Prevention of Type Two Diabetes, Healthy Ageing, Heart disease].</p>	<p>Synergies existed with other PHC initiatives, Heart Foundation/ NSW Health/Divisions of General Practice provided PHC physicians with physical activity prescription tools and support materials, linked to Division’s Outcomes Based Funding (OBF) programs.</p>	<p>Eat Well Be Active Healthy Weight Strategy for South Australia 2006 – 2010⁴⁷ refers to the Do It For Life program - a lifestyle behaviour change program and targets high risk individuals (adults age 18+) to reduce their modifiable SNAPS risk factors (Smoking, Nutrition, Alcohol, Physical Activity and Stress). 50 FTE Lifestyle Advisors/Lifestyle Support officers recruited over 4 years and working in the SA health regions</p>																			
<p>10 Implementation ‘dose’</p> <p><i>Category Definition</i> Provides detail, as available, on 5 items (i) total campaign investment (ii) investment by media modality (iii) weight of media schedule achieved in TARPS/GRPs (iv) estimated target audience reach (v) estimated value of earned media</p>	<p>Phase I \$700,000 invested in TVCs 2002-2006 across six media waves Average of 800 TARPs across three media waves per year. Lower TARPs in Maintenance periods.</p> <p>Phase II</p> <table border="0"> <tr> <td>Wave 1</td> <td>1544.5 TARPS</td> <td>(May/June 08)</td> </tr> <tr> <td>Wave 2</td> <td>1147.9 TARPS</td> <td>(Aug-Nov 08)</td> </tr> <tr> <td>Wave 3</td> <td>916.3 TARPS</td> <td>(Mar 09)</td> </tr> <tr> <td>Wave 4</td> <td>581.0 TARPS</td> <td>(May 09)</td> </tr> <tr> <td>Wave 5-7</td> <td>1840.6 TARPS</td> <td>(Aug 09-Feb 10)</td> </tr> </table> <p>Peak audience reach 84% achieved (year 1) 4 year funding period for phase 1. Find Thirty® has been adopted by two other state jurisdictions in Australia (ACT and TAS)</p>	Wave 1	1544.5 TARPS	(May/June 08)	Wave 2	1147.9 TARPS	(Aug-Nov 08)	Wave 3	916.3 TARPS	(Mar 09)	Wave 4	581.0 TARPS	(May 09)	Wave 5-7	1840.6 TARPS	(Aug 09-Feb 10)	<p>Phase I \$700,000 invested Electronic/Print media</p> <p>Phase II \$640,000 total investment for implementation and evaluation; \$277,000 production of TVC and all print media; \$225,000 TV media buy; 800 TARPS reaching 65% of the target audience in prime time (Phase I) 600 TARPS reaching 87.5% of target audience, average frequency 7.2 Phase I used dedicated PR strategy to generate publicity (separate PR agency) Value of resulting unpaid media coverage was estimated at \$300,000 3 years of funding over Phases I and II; campaign was adopted by other states jurisdictions in year 2 and 3</p>	<p>Phase II \$150,000 in 2007/08 (Total TV media buy: \$99,757 Mar/April 08; Radio buy \$31,020 April 08; Outdoor Advertising \$11,211 Aug-Dec 07)</p> <table border="0"> <tr> <td>Estimated Reach 1+</td> <td>85%</td> </tr> <tr> <td>Average Frequency</td> <td>8.24</td> </tr> </table> <p>Phase III \$302,000+ invested in 2010 (TV \$77,500; Radio \$120,000; Print \$5000, Outdoors/ambient \$99,600) Additional burst of Phase III media October-November 2010 to the value of \$50,000 (\$22,000 radio, \$27,000 outdoor/ambient). TVCs 11th April – 10th May 2010 [4 week burst]. Radio various 4-8 week segments Apr-Jun 2010.</p>	Estimated Reach 1+	85%	Average Frequency	8.24
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11 Evaluation research design <u>Category Definition</u> <i>Provides detail, as available, on the research design established for impact evaluation of the campaign on 6 items</i> <ul style="list-style-type: none"> (i) <i>sampling frame used, sample and response rate(s) achieved;</i> (ii) <i>whether a population representative sample</i> (iii) <i>whether quantitative, qualitative or mixed methods</i> (iv) <i>whether cross-sectional or longitudinal design used</i> (v) <i>whether a pre-campaign (baseline) assessment was undertaken</i> (vi) <i>timing of campaign evaluation efforts relative to the campaign timeline</i> 	<p>Phase I: impact evaluation of the Find Thirty® campaign 2002-2006 used a campaign “tracking survey” - weekly Computer Assisted Telephone Interviews (CATI) Random samples of adults. 14 small sample serial cross sectional “tracking surveys” from 2002 (year 1) to 2006</p> <p>Phase II: Cross sectional and Cohort tracking survey design with pre-campaign baselines. Sample weighted using census data⁵²</p>	<p>Phase 1- independent population samples in NSW; comparison in rest of Australia; and cohort pre-post only in NSW, representative sample of 1185 with a response rate of 87.2%^{53, 54}</p> <p>Phase II - before and after surveys within a cohort design, obtained from a random telephone survey of NSW adults aged 55 to 75 years.⁵⁵ Sample size 1268 adults; 1102 agreed to be followed up 6-8 weeks later; 94% response rate for the post campaign survey.</p> <p>Sample weighted using census data</p>	<p>Phase II Health Monitor survey, conducted by SA Health; telephone survey, random sampling of electronic white pages</p> <p>Phase III Health Monitor survey (as above) conducted 3/5/2010 – 10/6/2010</p> <p>Phase IV will use the South Australian Monitoring and Surveillance system (SAMSS) SA Health Data set. Monthly monitoring reports. Target will be Increase in the % of SA adults 35-55 who report achieving sufficient level of PA as measured by SAMSS</p>																								
12 Pre-campaign assessment of awareness in the evaluation <u>Category Definition</u> <i>[Applies where a pre-campaign baseline assessment has been undertaken] Provides detail, as applicable and available, on the initial awareness of the campaign using 2 items:</i> <ul style="list-style-type: none"> (i) <i>Prompted (bogus^{xi}) awareness of campaign message(s) (% of total sample)</i> (ii) <i>Unprompted (general) awareness of campaign message(s) (% of total sample)</i> 	<p>Phase I Pre-campaign baseline not used</p> <p>Phase II Baseline April/May 2008</p> <table border="0"> <tr> <td>General awareness any TVCs PA</td> <td>44%</td> </tr> <tr> <td>Prompted recall</td> <td>8%</td> </tr> <tr> <td>Prompted recognition</td> <td>31%</td> </tr> </table>	General awareness any TVCs PA	44%	Prompted recall	8%	Prompted recognition	31%	<p>Phase I Pre-campaign baseline</p> <table border="0"> <tr> <td>General awareness PA</td> <td>3%</td> </tr> <tr> <td>Prompted recall</td> <td>13%</td> </tr> <tr> <td>Prompted recognition (theme)</td> <td>3%</td> </tr> </table> <p>Phase II Pre-campaign baseline</p> <table border="0"> <tr> <td>General awareness PA (any)</td> <td>57%</td> </tr> <tr> <td>Prompted recall (campaign)</td> <td>3.9%</td> </tr> <tr> <td>Prompted recognition (tagline)</td> <td>31.5%</td> </tr> </table>	General awareness PA	3%	Prompted recall	13%	Prompted recognition (theme)	3%	General awareness PA (any)	57%	Prompted recall (campaign)	3.9%	Prompted recognition (tagline)	31.5%	<p>Phase II Pre-campaign baseline</p> <table border="0"> <tr> <td>Unprompted recall (campaign)</td> <td>4.3%</td> </tr> <tr> <td>Prompted recall (campaign)</td> <td>53.2%</td> </tr> <tr> <td>Be Active Website Hits</td> <td>42,181</td> </tr> </table>	Unprompted recall (campaign)	4.3%	Prompted recall (campaign)	53.2%	Be Active Website Hits	42,181
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^{xi} whilst by definition unexposed, a proportion of the population will nonetheless report (bogus or ‘ghost’ recall) awareness at baseline or pre-campaign; this, together general awareness of relevant messages is a useful measure of the background noise’

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<p>13 Peak campaign impact measures in the evaluation</p> <p><i>Category Definition</i> Provides detail, as applicable and available, on the measured impact of the campaign using 11 items:</p> <p>AWARENESS</p> <p>(% of total sample)</p> <p>(i) Prompted awareness of campaign message(s) Unprompted (general) awareness of campaign message(s)</p> <p>(ii) Unprompted awareness of campaign brand or ‘tagline’</p> <p>(iii) Prompted awareness of campaign brand or ‘tagline’</p> <p>KNOWLEDGE</p> <p>(iv) Accurate understanding/acceptance of key campaign knowledge elements</p> <p>SALIENCY</p> <p>(v) Saliency (personal relevance) of the issue/ target behaviour</p> <p>ATTITUDES/BELIEFS</p> <p>(vi) Attitudes and beliefs about the issue/ target behaviour</p> <p>(vii) Social norms; usual or expected behaviour</p> <p>SELF-EFFICACY</p> <p>(viii) Specific confidence in own ability to undertake the targeted/promoted behaviour</p> <p>INTENTION</p> <p>(ix) Intention to undertake the targeted/promoted behaviour</p> <p>BEHAVIOUR</p> <p>(x) Behaviour change trialled [short term]</p> <p>(xi) Behaviour change maintained [long term]</p>	<p>PHASE I (TVC Campaign)</p> <p>AWARENESS</p> <ul style="list-style-type: none"> Unprompted tagline recall end Yr 1: 22% Subsequent median (Sq Mn) 17% Unprompted recall Year 1: 43%; (Sq Mn): 45% Prompted recall Yr 1: 84%; (Sq Mn) 77% <p>KNOWLEDGE</p> <ul style="list-style-type: none"> Understand message Yr 1 44%, (Sq Mn) 57% <p>BEHAVIOUR</p> <ul style="list-style-type: none"> Sufficient PA for health Yr 1 51.0% (Sq Mn) 65.5% <p>-----</p> <p>PHASE II March 2011; (May 2008)</p> <p>AWARENESS</p> <ul style="list-style-type: none"> Unprompted recall: 48%; (8%) Prompted recall: 59%;(31%) <p>KNOWLEDGE</p> <ul style="list-style-type: none"> Understand message 59%; (31%) Accept message 58%; (23%) <p>SALIENCY</p> <ul style="list-style-type: none"> Personal relevance 84% (80%) <p>INTENTION</p> <ul style="list-style-type: none"> Intention to take action 37% (11%) <p>BEHAVIOUR (ST)</p> <ul style="list-style-type: none"> Behaviour change 24% (5%) 	<p>PHASE I (baseline in parentheses)</p> <p>AWARENESS</p> <ul style="list-style-type: none"> Unprompted general awareness 21% (3%) Prompted recall 51% (13%) <p>KNOWLEDGE</p> <p>Statistically significant increase in 3 out of 4 PA knowledge items</p> <p>INTENTION</p> <p>Statistically significant increase in mean self-efficacy score</p> <p>BEHAVIOUR (ST)</p> <ul style="list-style-type: none"> Adequate PA 52.8% (50.4%) 686 MET-minutes 52.4% (50.9%) 5 + 150 minutes 46.1% (45.4%) <p>-----</p> <p>PHASE II (baseline in parentheses)</p> <p>AWARENESS</p> <ul style="list-style-type: none"> General awareness PA (any) 57% (57%) Prompted recall (campaign) 49% (3.9%) Prompted recall (tagline) 65.8%(31.5%) <p>KNOWLEDGE</p> <ul style="list-style-type: none"> Agree blocks of 10 minutes 87% (82%) OK for health <p>INTENTION</p> <ul style="list-style-type: none"> Intention to take action 33% (27%) <p>BEHAVIOUR (ST)</p> <ul style="list-style-type: none"> Walking (mean hours) 1.94 (1.87) 	<p>PHASE II (baseline in parentheses)</p> <p>AWARENESS</p> <ul style="list-style-type: none"> Unprompted recall 14.5% (4.3%) Prompted recall 59.7% (53.2%) Website Hits/Mnth 97,685 (42,181) <p>INTENTION</p> <ul style="list-style-type: none"> Do not exercise/thinking 6.5% (5.8%) <p>about starting next 12 months</p> <p>BEHAVIOUR (ST) (compd. Nov 2007)</p> <ul style="list-style-type: none"> Walk to the next bus/train/tram stop 12.2% (10.8%) Get off the bus/train/tram a stop earlier 10.1% (8.2%) Parked further from destination and walked 29.9% (29.4%) Walked to the shops or video store 47.4% (40.3%) <p>-----</p> <p>PHASE III (baseline in parentheses)</p> <ul style="list-style-type: none"> Unprompted recall 14.3% (10.2%) Prompted recall 65.8% (62.5%) Website Hits/Mnth 22,767(105,000) <p>INTENTION</p> <ul style="list-style-type: none"> Do not exercise/thinking 8.3% (5.7%) <p>about starting next 12 months [intention data - 30-34-year-olds]</p> <p>BEHAVIOUR (ST)</p> <ul style="list-style-type: none"> Stairs rather than elevator 18.9% (15.1%) Parked further from destination and walked 17.5%(13.9%) Walked to the shops 15.9% (12%)

Campaign Characteristics	Go for 2 & 5 campaign [Healthy Nutrition; 2002-2010 Western Australia]	Go for 2 & 5 campaign [Healthy Nutrition; 2005-2010 Queensland]	Eat Well Be Active [Healthy Nutrition/Physical Activity 2007- 2009 Queensland]
<p>1 Campaign timing</p> <p><u>Category Definition</u> Specifies 3 items:</p> <p>(i) when the campaign was first launched (ii) whether single or multi-phased and (iii) duration of the phase(s) as applicable</p>	<p>Developed by Health Department WA Launched 2002; multi-phased - some mass media investment every year from 2002-2010 inclusive except 2007</p> <p>[see 10: implementation dose]</p> <p>Phase I 2002 – 2005</p> <p>TV campaign ceased June 2005; Health Department WA outsourced campaign. Recommenced in September 2006 managed by The Cancer Council (WA) and Diabetes Australia (WA).</p> <p>Phase II 2006</p> <p>2006: September (4 weeks)</p> <p>Phase III 2008-2010</p> <p>2008: May/June (5 weeks) launch of new “Rolf” TVC; second burst October/November</p> <p>2009: September</p> <p>2010: 20 June to 28 August 2010 (9 weeks) 6 x 15-second TVCs aired</p> <p>27 June to 28 August (8 weeks) Radio advertisement aired on metropolitan and regional statewide networks</p>	<p>Queensland Health launched the Go for 2&5® campaign in October 2005. This four and a half year, \$4.4 million campaign, focused on increasing awareness of the recommended serves of fruit and vegetables, and encouraging and supporting Queenslanders to achieve this target.⁴⁴</p> <p>2006 TVCs, Press, Outdoor 2007 TVCs, Press 2008 TVCs 2009 TVCs</p>	<p>Queensland Government implemented the Eat Well Be Active (EWBA) campaign from February 2007 to late 2009. [Nutrition component 2007-2009 is synonymous with the Go for 2&5® campaign described previously]</p> <p>2007 2008 2009 <these data were not available></p>

Campaign Characteristics	Go for 2 & 5 campaign [Healthy Nutrition; 2002-2010 Western Australia]	Go for 2 & 5 campaign [Healthy Nutrition; 2005-2010 Queensland]	Eat Well Be Active [Healthy Nutrition/Physical Activity 2007- 2009 Queensland]
<p>2 Target population</p> <p><u>Category Definition</u> Specifies 2 items</p> <p>(i) <i>How the primary target population for the campaign was defined[if any]</i></p> <p>(ii) <i>How any secondary or complementary target population(s) were defined</i></p>	<p>Primary: female and male adults aged 25 to 45, particularly those incorrectly believe they are eating enough fruit and vegetables.</p> <p>Secondary: shoppers and meal preparers of the household, as it was believed these people have a key influence on fruit and vegetable consumption in the household.</p>	<p>Primary female and male adults in Queensland aged 25-54 years</p> <p>Secondary: (implicit although not stated in evaluation report): shoppers and meal preparers of the household</p> <p>Aboriginal and Torres Strait Islander people specific campaign (evaluated separately)</p>	<p>Second year of the campaign components were segmented into Find Your 30 and Go for 2 and 5 with EWBA branding</p> <p>Aboriginal and Torres Strait Islander people specific campaign (evaluated separately)</p>
<p>3 Campaign planning approach</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 4 items as to whether campaign planning was</p> <p>(i) <i>part of a State, Regional or National Plan;</i></p> <p>(ii) <i>single sector or multi-sectoral engagement;</i></p> <p>(iii) <i>inclusive of specific goals and targets for population level change in any variables;</i></p> <p>[iv] <i>based on new investment for a specified period or assumed to be 'within existing resources'</i></p>	<p>Managed by health sector with engagement of fruit and vegetable industry through information sharing, consultation, working groups and joint promotions. Health sector provided incentive, endorsement and policy direction.</p> <p>Greatest success when participants' contributions were closely aligned to their core business and there was a body responsible for co-ordinating action.⁵⁶ Aim to Increase awareness of the need to eat more fruit and vegetables; encourage increased consumption.</p> <p>No specific quantitative targets for media. New investment.</p>	<p>Managed by health sector with engagement of fruit and vegetable industry – strong joint promotions (see 5 Media modalities used).</p> <p>Strategy evolved between 2006 and 2009. Initial communication objectives were: to demonstrate to target audience (i) that they were not eating enough vegetables, (ii) that it was easy to increase their intake through offering them easy solutions; and to encourage people to build on their existing consumption by adding an extra serve of vegetables.</p> <p>Objectives from 2007 (Rolf TVC) were: (i) raise awareness of the need to eat more fruit and vegetables (ii) increase perceived value and importance of eating 2 serves of fruit and 5 serves of vegetables every day (iii) encourage people to consider their actual fruit and vegetable consumption in relation to the daily targets.</p> <p>No specific quantitative targets for media. New investment.</p>	<p>Target was set for PA - to increase by 6% the proportion of Qld adults engaging in physical activity levels for health benefits [results showed an increase of nearly 4% at population level]</p>

Campaign Characteristics	Go for 2 & 5 campaign [Healthy Nutrition; 2002-2010 Western Australia]	Go for 2 & 5 campaign [Healthy Nutrition; 2005-2010 Queensland]	Eat Well Be Active [Healthy Nutrition/Physical Activity 2007- 2009 Queensland]
<p>4 Formative evaluation used</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 4 items as to whether campaign formative evaluation used any defined logic model, theory(ies) or framework;</p> <p>(i) used any defined logic model, theory(ies) or framework;</p> <p>(ii) included any epidemiological assessment;</p> <p>(iii) included campaign message design, formative testing and development;</p> <p>(iv) included testing and development of any other campaign component(s)</p>	<p>Campaign explicitly a social marketing campaign – aiming more to influence proximal variables/social norms rather than behaviour directly. Conceptual framework used- included Theory of Reasoned Action (TRA 1975). Theory, pre-campaign research, formative evaluation described in peer-reviewed paper, published 2008.⁵⁷ Qualitative research to inform strategy refinement conducted.⁵⁸ Recent formative research described in peer-reviewed paper published in 2011.⁵⁹</p>	<p>Social Marketing Campaign. Conceptual framework used- included Theory of Reasoned Action (TRA 1975) as in WA. Conceptual framework used- included Theory of Reasoned Action (TRA 1975). Epidemiological assessment: Qld Health baseline CATI survey n= 1941, conducted between January and March</p> <p>2005, indicated that Queensland adults ate, on average, only 1.4 serves of fruit and 2.1 serves of vegetables per day. Used materials already tested and developed in WA.</p>	<p><these data were not available></p>
<p>5 Media modality(ies) used</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 5 items</p> <p>(i) electronic media</p> <p>(ii) print media</p> <p>(iii) public relations /earned media</p> <p>(iv) internet/ 'new media'</p> <p>(v) other media ?</p>	<p>Predominantly TV - commenced with 4 TVCs. Characters faces made of fruit & vegetables. 'Aristos': (Celebrity Chef) - build on existing daily f +v by adding an extra serve; ideas through recipe suggestions; 'Noni' (Noni Hazelhurst) - 'solutions' by promoting 'Healthy Food Fast' cookbook, via news agents; 'Dame Edna' (TV personality)/ 'Ernie Dingo' (TV personality) promoted awareness of true actual daily consumption of vegetables via a 'self-assessment' message. Also included radio, press and point-of-sale, public relations events, publications, a website (www.gofor2and5.com), and school and community activities</p>	<p>The major advertising medium was television. Between 2006 and March 2010, the campaign included 30 second TVC 'Fruit and Veggie Man'; 15 second 'pointer' TVCs (solutions); 30 second 'Dame Edna'; 30 second 'Rolf Harris'. Local program support by community nutritionists; food demos, shopping centre tours, community garden projects. Cooking demonstrations: 21 May-11 June 2007 (229 x 4 hours), 5-26 April 2010 (200 x 4 hours), based in larger regional and metro areas via Coles, Woolworths, IGA, fruit / vegetable stores. Public relations activities. Published support material – recipe cards, brochures, posters. Website section within Nationally coordinated website.</p>	<p>EWBA involved paid advertising via a number of communication channels including</p> <ul style="list-style-type: none"> * TVC, with a call to action to visit the EWBA website, * Innovative household 'pink' pack containing evidence-based information, quizzes, tips and hints <p>Pack was distributed to every single one of Queensland's 1.3 million homes</p>

Campaign Characteristics	Go for 2 & 5 campaign [Healthy Nutrition; 2002-2010 Western Australia]	Go for 2 & 5 campaign [Healthy Nutrition; 2005-2010 Queensland]	Eat Well Be Active [Healthy Nutrition/Physical Activity 2007- 2009 Queensland]
<p>6 Use of branding/ logo/tagline <i>Category Definition</i> Provides detail, as applicable and available, on 2 items;</p> <p>(i) <i>whether a deliberate attempt was made to establish a specific brand and or logo for the campaign/health issue;</i></p> <p>(ii) <i>what tagline or slogan was used</i></p>	<p>Explicit logo and brand developed. Core tagline/slogan synonymous with logo – go for 2 & 5 (two serves of fruit and five serves of vegetables every day). Prompted recognition of the slogan had incremental growth between 2002 and 2005 while the campaign was supported reaching 88% in June/Aug 2004 and 91% in March 2007.⁴³</p>	<p>Explicit logo and brand/slogan used (as in WA); 2010 evaluation of campaign strongly recommended “Go for 2 and 5” brand should be retained in any future strategy.⁴⁴ Slogan “Go for 2 and 5” was used strategically and achieved high recognition - between 2006 and 2010, an average of 72.8% of target audience either recalled the slogan spontaneously or recognised it when prompted. Just over one in ten (11.9%) were able to recall it spontaneously. Refer also to EWBA →</p>	<p>Deliberate creation of Eat Well Be Active brand. In the second year of the campaign components were segmented into ‘Find Your 30’ and ‘Go for 2 and 5’ with consistent Eat Well Be Active branding.</p> <p>← Refer also to Go for 2 and 5 (Qld)</p>
<p>7 Linkages to policy and programs <i>Category Definition</i> Provides detail, as applicable and available, on 3 items as to whether the campaign is supported (whether explicitly or implicitly) by:</p> <p>(i) <i>any new laws or regulations targeting the desired behaviours/outcomes</i></p> <p>(ii) <i>any other policy and/or (social, physical) environmental changes which make the ‘healthy choice the easier choice’</i></p> <p>(iii) <i>any deliberately linked programs which are supportive of campaign goals and objectives</i></p>	<p>Extensive program support. Point-of-sale, publications, website (www.gofor2and5.com), school and community activities supported the campaign. One TVC promoted/linked to ‘Healthy Food Fast’ cookbook, via news agents. Joint promotion with the fruit & vegetable industry.</p>	<p>Extensive program support. Food cooking demonstrations, shopping centre tours, promotions in major supermarket chains and vegetable stores, publications, brochures. Resources developed for teachers and health professionals.</p>	<p>EWBA campaign was strongly supported by public policy approaches including.⁶⁰ The TravelSmart program; Action Plan for Pedestrians (local government infrastructure focus); Queensland Cycling Strategy; Health Impact Assessments (HIAs) (focus on planning and development); community demonstration (‘showcase’) sites involving comprehensive strategic approaches.</p>
<p>8 Linkages to National (or State/Regional) health guidelines <i>Category Definition</i> Provides detail, as applicable and available, on 1 item: (i) whether the campaign explicitly linked with or reinforced National (or Regional) guidelines (for example National Physical Activity Guidelines/Healthy Eating Guidelines)</p>	<p>Campaign had an overriding aim of increasing the prevalence of healthy eating behaviours consistent with the National ‘Dietary Guidelines for Australians’. These were initially published in 2003 and were thus virtually concurrent with campaign inception.^{61 62} Nutrition criteria consistent with Australian dietary guidelines were developed, linked explicitly to the campaign.⁶³</p>	<p>Campaign implicitly linked with the National ‘Dietary Guidelines for Australians’</p>	<p><these data were not available></p>

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<p>11 Evaluation research design</p> <p><u>Category Definition</u> Provides detail, as available, on the research design established for impact evaluation of the campaign on 6 items</p> <ul style="list-style-type: none"> (i) sampling frame used, sample and response rate(s) achieved; (ii) whether a population representative sample (iii) whether quantitative, qualitative or mixed methods (iv) whether cross-sectional or longitudinal design used (v) whether a pre-campaign (baseline) assessment was undertaken (vi) timing of campaign evaluation efforts relative to the campaign timeline 	<p>Pre-campaign baseline telephone survey of 300 adults in the Perth metropolitan area was undertaken.⁵⁷</p> <p>From November 2002 ‘continuous tracking’ conducted via weekly Computer Assisted Telephone Interviews (CATI), representative data, random sampling; weighting applied using census data.⁶² For 2010 Pre and Post Computer Assisted Telephone Interview (CATI) surveys used. Households randomly selected from WA Electronic white pages. Quotas used for two age groups (i.e., 25-39 years; 40-55 years).⁶⁴</p>	<p>Continuous tracking methodology, data collected via telephone surveys among Queenslanders aged 18 to 54 years. Tracking focussed on the mass media component and does not evaluate the entire social marketing strategy. Five years of data collected between January 2005 (Baseline) and March 2010.</p>	<p>Random sampling n= 1000; CATI system; external research agency provider. Repeat cross-sectional surveys with Baseline July 2006, and follow up in March 2007, October 2007 and July 2008. Nutrition and PA components evaluated discretely at process and impact level. ‘Pink’ pack evaluated by the return of completed pre-paid cards (random distribution of cards - 11,000 responses). Year 2 + evaluation of PA components (Find Your 30) was managed by DSR Qld. Data obtained using new survey methods October 2007 and July 2008 are not directly comparable with data for earlier years.</p>
<p>12 Pre-campaign assessment of awareness in the evaluation</p> <p><u>Category Definition</u> [Applies where a pre-campaign baseline assessment has been undertaken] Provides detail, as applicable and available, on the initial awareness of the campaign using 2 items:</p> <ul style="list-style-type: none"> (i) Prompted (bogus^{xii}) awareness of campaign message(s) (% of total sample) (ii) Unprompted (general) awareness of campaign message(s) (% of total sample) 	<p>Pre-campaign baseline telephone survey of 300 adults in the Perth metropolitan area was undertaken.⁵⁷</p> <p>No measures of general/spontaneous or prompted awareness are reported (although knowledge, perceptions and ‘actions’ are reported)⁵⁷</p>	<p>Baseline CATI survey n=1941, conducted between January and March 2005.⁴⁴</p> <p>General/prompted awareness not reported for 2005 baseline</p> <p>General awareness 28% in launch period (Jan-Mar 2006)</p> <p>Net awareness (general and prompted awareness combined) 69% in launch period (Jan-Mar 2006)</p>	<p>Baseline survey conducted in July 2006,</p>
<p>13 Peak campaign impact measures</p>	<p>(2002 baseline in parentheses)</p>	<p>Peak level for 2005-2010 shown⁴⁴</p>	<p>‘Pink’ Pack process evaluation</p>

^{xii} whilst by definition unexposed, a proportion of the population will nonetheless report (bogus or ‘ghost’ recall) awareness; this, together general awareness of relevant messages is a useful measure of the background noise’

Campaign Characteristics	Go for 2 & 5 campaign [Healthy Nutrition; 2002-2010 Western Australia]	Go for 2 & 5 campaign [Healthy Nutrition; 2005-2010 Queensland]	Eat Well Be Active [Healthy Nutrition/Physical Activity 2007- 2009 Queensland]
<p>in the evaluation</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on the measured impact of the campaign using 11 items:</p> <p>AWARENESS (% of total sample)</p> <p>(i) Prompted awareness of campaign message(s) Unprompted (general) awareness of campaign message(s)</p> <p>(ii) Unprompted awareness of campaign brand or 'tagline'</p> <p>(iii) Prompted awareness of campaign brand or 'tagline'</p> <p>KNOWLEDGE</p> <p>(iv) Accurate understanding/acceptance of key campaign knowledge elements</p> <p>SALIENCY</p> <p>(v) Saliency (personal relevance) of the issue/ target behaviour</p> <p>ATTITUDES/BELIEFS</p> <p>(vi) Attitudes and beliefs about the issue/ target behaviour</p> <p>(vii) Social norms; usual or expected behaviour</p> <p>SELF-EFFICACY</p> <p>(viii) Specific confidence in own ability to undertake the targeted/promoted behaviour</p> <p>INTENTION</p> <p>(ix) Intention to undertake the targeted/promoted behaviour</p> <p>BEHAVIOUR</p> <p>(x) Behaviour change trialled [short term]</p> <p>(xi) Behaviour change maintained [long term]</p>	<p>Peak level for 2002-2010 shown Main sources Pollard⁵⁷ and Jalleh⁶⁴</p> <p>AWARENESS</p> <p>Prompted 90.8% [2003/4] 96% [2010]⁶⁴</p> <p>General 66.4% [2003/4] 92% [2010]⁶⁴</p> <p>KNOWLEDGE</p> <p>≥ 2 servings fruit 92.8% (77.7%) ≥ 5 servings veg 47.2% (20.4%)</p> <p>SALIENCY</p> <p>Personal relevance 38% [2010]⁶⁴</p> <p>INTENTION/[PERCEPTION]</p> <p>I should eat more Fruit 59.5% (59.1%)</p> <p>I should eat more Veg 42.5% (35.2%)</p> <p>BEHAVIOUR</p> <p>Mean servings of Fruit 1.6 (1.4) Mean servings of Veg 3.0 (2.5)</p> <p>The net effect, in terms of population increases in self-reported fruit and vegetable consumption before and after the intervention, was 0.8 servings (0.2 servings of fruit and 0.6 servings of vegetables, or 75 g).⁵⁷</p>	<p>AWARENESS</p> <p>Prompted 'Net awareness' (general and prompted awareness combined) 88% (69% at launch 2006)</p> <p>General 55% (28% at launch 2006)</p> <p>KNOWLEDGE</p> <p>'We/ people should'</p> <p>≥ 2 servings fruit 7.9% (0.1%) ≥ 5 servings veg 6.8% (1.1%) ≥ 2 fruit & ≥ 5 veg 19.9% (19.9%)</p> <p>SALIENCY</p> <p>Personal relevance 54.6%</p> <p>INTENTION/[PERCEPTION]</p> <p>We/people should - eat more Fruit /& Veg 66.1% (58.2%) {comparison is Aug-Dec 2006}⁴⁴</p> <p>BEHAVIOUR</p> <p>Mean servings of Fruit 1.54 (1.46) Mean servings of Veg 2.77 (2.17) {comparison is Jan-Mar 2005}⁴⁴</p> <p>Peak consumption was in Jan-Mar 2008 with a combined F/V increase of 0.87 serves relative to baseline. Mean fruit serves increased from 1.46 to 1.64 mean veg serves increased from 2.17 to 2.86. This peak level was not maintained and declined to mean 1.54 serves fruit, 2.29 serves veg by Jan/Mar 2010. These results remain ahead of pre-campaign 2005 benchmarks.</p>	<p>85% agreed/strongly agreed information easy to understand 61% agreed/strongly agreed it would help them improve eating habits 58% said it would help them be more active 70% planned to keep pack as reference. 63% of those who opened said they would share pack with others <0.5% provided negative comments</p> <p>AWARENESS</p> <p>Confirmed message recall 52% Appropriate for Govt to provide this information 89% Website page views 209,000 (35,000) March (Feb)</p> <p>INTENTION</p> <p>Intend to improve diet 51% Intend to be more active 50%</p> <p>BEHAVIOUR</p> <p>Target was to increase the proportion of Qld adults engaging in PA for health benefits by 6%; an increase of nearly 4% was achieved. Reported duration and intensity of PA increases during the Eat Well Be Active (EWBA) campaign but about half of the increase occurred amongst those, particularly women, who were already sufficiently active for health benefits. PA rates for Qld have reportedly increased since 2004.</p>

Campaign Characteristics	Measure Up campaign [Healthy Weight 2008-13 Australia]	Draw the Line campaign [Healthy Weight 2009-2011 WA]	Unplug and Play [Sedentary Behaviour 2008-11 WA]
1 Campaign timing <u>Category Definition</u> <i>Specifies 3 items:</i> (i) when the campaign was first launched (ii) whether single or multi-phased and (iii) duration of the phase(s) as applicable	Phase I Launched October 2008; Four flights of communication activity to 2010. Phase II Launched 13 March 2011 to June 30 2011; scheduled to run to July 2013	Single Phase 2009-11 Launched February 2009; Six flights of media; concluded February 2011.	Phase I 2008/09 Launched February 2008 by National Heart Foundation throughout WA Phase II 2010/11 Seven flights of media over the three year period 2008 through 2011
2 Target population <u>Category Definition</u> <i>Specifies 2 items</i> (i) How the primary target population for the campaign was defined[if any] (ii) How any secondary or complementary target population(s) were defined	Primary target group 25 to 50 year old parents; in particular those classified as members of the “Postponer” and “Help Seeker” attitudinal segments. Secondary target group people aged 45 to 60 years, particularly those from the “Help Seeker” attitudinal segment.	Primary target group Western Australian adults 22 years and over. Priority groups included those living in regional and remote areas, in low socioeconomic circumstances, and Aboriginal people.	Primary target group (Phase 1 2008) parents/guardians of children (10-12 years); metro and regional areas of WA. (Phase II 2010) target group included parents/ guardians of school aged children 6 – 12 years. Secondary target group out of school day care providers, primary school teachers.
3 Campaign planning approach <u>Category Definition</u> <i>Provides detail, as applicable and available, on 4 items as to whether campaign planning was</i> (i) part of a State, Regional or National Plan; (ii) single sector or multi-sectoral engagement; (iii) inclusive of specific goals and targets for population level change in any variables; [iv] based on new investment for a specified period or assumed to be ‘within existing resources’	Phase I part of ABHI funded 2006-2010 Phase II part of National Partnership Agreement on Preventive Health (NPAPH), announced COAG Nov 2008. Health sector driven, various cross-sectoral approaches to PA and nutrition established at State and Territory level. Short term & long term objectives specified. No specific quantitative targets for media. New investment.	Consolidation planning approach: goal was to integrate the Find Thirty every day and Go for 2&5 campaign messages and complement the Commonwealth ‘Measure Up’ campaign. State-wide healthy weight campaign to prevent unhealthy weight gain among West Australian adults. Objectives, to: <ul style="list-style-type: none"> • increase awareness of the benefits associated with maintaining a healthy weight/ preventing unhealthy weight gain; • increase awareness of the steps (healthy eating and physical activity) that can be taken to prevent unhealthy weight gain; • increase positive attitudes, intentions and behaviour in relation to the steps to prevent unhealthy weight gain and maintain a healthy weight. 	Campaign objectives linked to National PA recommendations re children’s use of electronic media for entertainment. ⁶⁵ Intersectoral approach. Phase I: DOH (WA) funded the campaign; delivered in a collaborative approach led by the Heart Foundation, supported by The Cancer Council WA, Diabetes WA, Department of Education and Training (DET) and Premier’s Physical Activity Taskforce (PATF). Phase II: From 2010 the campaign has been delivered by the Heart Foundation, with support from the PATF and DET
4 Formative evaluation used <u>Category Definition</u> <i>Provides detail, as applicable and available, on 4</i>	Labelled as a ‘Social marketing campaign’; used Transtheoretical Model and Health	Integrative model: rationalise existing campaigns. McGuire communication	Epidemiological assessment based on 2008 Child and Adolescent Physical

Campaign Characteristics	Measure Up campaign [Healthy Weight 2008-13 Australia]	Draw the Line campaign [Healthy Weight 2009-2011 WA]	Unplug and Play [Sedentary Behaviour 2008-11 WA]
<p><i>items as to whether campaign formative evaluation used any defined logic model, theory(ies) or framework;</i></p> <p>(i) <i>included any epidemiological assessment;</i></p> <p>(ii) <i>included campaign message design, formative testing and development;</i></p> <p>(iii) <i>included testing and development of any other campaign component(s)</i></p>	<p>Belief Model. Phase I: formative qualitative research in 2007⁶⁶ and formative quantitative research in 2008⁶⁷ (benchmark current beliefs, attitudes and lifestyle behaviours, audience segmentation) conducted.</p> <p>Phase II: formative qualitative research in March 2010.⁶⁸</p>	<p>hierarchy cited in evaluation report.⁶⁹</p> <p>Epidemiological assessment a strong feature (>54% WA adult population overweight or obese. 1995-2008 % obese adults in WA almost doubled from 10.1% to 19.5%</p> <p>Extensive formative research undertaken.</p>	<p>Activity & Nutrition Survey (CAPANS).</p> <p>Phase I: Three creative concepts tested with members of the primary target group using face to face interviews.⁷⁰</p> <p>Phase II: formative research undertaken using focus groups and surveys.⁷¹ Concept testing was undertaken using a mix of qualitative focus groups and an online survey for regions.⁷²</p>
<p>5 Media modality(ies) used</p> <p><u>Category Definition</u></p> <p><i>Provides detail, as applicable and available, on 5 items</i></p> <p>(i) <i>electronic media</i></p> <p>(ii) <i>print media</i></p> <p>(iii) <i>public relations /earned media</i></p> <p>(iv) <i>internet/ 'new media'</i></p> <p>(v) <i>other media ?</i></p>	<p>Phase I National Campaign</p> <ul style="list-style-type: none"> • 2 x TVCs: 1 x 60-sec TVC explaining 'why' change is necessary; 1 x 30-sec TVC describing 'what' is necessary. • Radio ads: 45-sec and 30-sec ads mirroring TVCs; ads tailored for CALD backgrounds, Aboriginal and Torres Strait Islanders and print handicapped. • Print ads magazines and newspapers. • Out-of-home media: street furniture, shopping centres, and medical centres. • Digital ads: news, entertainment, webmail, social networking sites; also Google and Yahoo! search marketing, digital TV websites. Also: paper tape measure, consumer booklet, recipe book, website. Distribution via ABHI website, state/terr govts, general practice, health services, NGOs. <p>Phase II national campaign</p> <p>TV, Print, Online, Radio, Out-of-home</p> <p>2 x TVCs (Become a swapper, how to be a swapper). Cinema, 2 x Radio Ads mirroring TVCs. Media range similar to Phase I with addition of cinema.</p>	<p>Campaign included television advertising, supporting media, public relations activity, educational resources and community-based strategies.</p> <p>TV, press, outdoor advertising), support resources, website.</p> <p>Campaign aired 4 x TVCs each flight:</p> <ul style="list-style-type: none"> • 30 sec TVC introduced idea of 'drawing the line on further weight gain' in variety of scenarios (taking stairs instead of an escalator, soft drink vending machine, opting out of deep-fried chips, lounge chair with remote and a lolly jar on a kitchen bench) • 15 sec TVC on sitting less (car use, sitting in office chair, sitting on couch) • 15 sec TVC on portion control (large piece of lasagne being cut in half) • 15 sec TVC on eating less fat and sugar (comparison of two meals in terms of their fat and sugar content). <p>3 x press ads reflected the three 15 second TVCs</p>	<p>Campaign included print and radio advertisements. Unpaid media coverage was also sought to extend the reach of the paid media. A school brochure was disseminated to parents through state, catholic and independent WA primary schools.</p> <p>Website with downloadable resources.</p> <p>Phase I: The same materials were used in media flights 1-5;</p> <p>Phase II: 1 x new radio and 2 x new print ads were used for flights 6 and 7; school brochure was updated.</p>
<p>6 Use of branding/ logo/tagline</p> <p><u>Category Definition</u></p> <p><i>Provides detail, as applicable and available, on 2</i></p>	<p>No explicit attempt to create a brand in Phase I or II although Phase II 'Eric' and</p>	<p>Goal was one of integrating existing campaigns/brands.</p>	<p>"Unplug+Play" logo used consistently</p>

Campaign Characteristics	Measure Up campaign [Healthy Weight 2008-13 Australia]	Draw the Line campaign [Healthy Weight 2009-2011 WA]	Unplug and Play [Sedentary Behaviour 2008-11 WA]
<p>items;</p> <p>(i) <i>whether a deliberate attempt was made to establish a specific brand and or logo for the campaign/health issue;</i></p> <p>(ii) <i>what tagline or slogan was used</i></p>	<p>family of animated 'balloon' characters arguably provide strong visual identifier. Phase I: 60- and 30-second TVCs used tagline 'How do you measure up?' (focus: healthy weight and waist circumference as a key indicator). Phase II tagline 'Swap it – Don't Stop it' (focus: 'to help lose centimetres' via manageable changes in healthy eating and physical activity)</p>	<p>Awareness of slogan used as a performance indicator in campaign evaluation. (Baseline awareness 3.1%; Peak awareness 56.9%)</p>	<p>Phases I and II Press Ads.</p> <p>Phase II linked the logo (typographically) to Heart Foundation website – Press Ads included call to action – visit website for family solutions at unplugandplay.com.au</p>
<p>7 Linkages to policy and programs</p> <p><i>Category Definition</i> Provides detail, as applicable and available, on 3 items as to whether the campaign is supported (whether explicitly or implicitly) by:</p> <p>(i) <i>any new laws or regulations targeting the desired behaviours/outcomes</i></p> <p>(ii) <i>any other policy and/or (social, physical) environmental changes which make the 'healthy choice the easier choice'</i></p> <p>(iii) <i>any deliberately linked programs which are supportive of campaign goals and objectives</i></p>	<p>Strongly linked to policy and programs as elucidated in the National Preventative Health Strategy.⁷³ [Especially linked to component on Obesity - First phase (2010–2013) as noted on pp. 13 et seq.] Phase I of the campaign is framed as the "Why" and Phase II as the "How"</p>	<p>Extensive linkages to policy and programs already established in WA through Find Thirty and Go for 2 & 5 campaigns (described above). This campaign aimed to integrate these along with the Commonwealth's 'Measure Up' campaign.</p>	<p>Campaign made practical tools for parents available online, including:</p> <ul style="list-style-type: none"> • 100 ways to Unplug and Play • Unplug + Play brochure • Electronic Entertainment Tally • Tips on Setting Family Rules around Screen Time • Electronic Entertainment Family Agreement Template <p>Linked with the State Premier's Physical Activity Taskforce Strategic Plan 2007-2011⁷⁴</p>
<p>8 Linkages to National (or State/Regional) health guidelines</p>	<p>Explicit objectives to increase awareness of: Dietary Guidelines for Australian adults</p>	<p>Explicit linkage to Dietary Guidelines for Australian adults and The National</p>	<p>Explicit linkage of campaign objectives to the National PA recommendations for</p>

Campaign Characteristics	Measure Up campaign [Healthy Weight 2008-13 Australia]	Draw the Line campaign [Healthy Weight 2009-2011 WA]	Unplug and Play [Sedentary Behaviour 2008-11 WA]
<p><u>Category Definition</u> Provides detail, as applicable and available, on 1 item: (i) whether the campaign explicitly linked with or reinforced National (or Regional) guidelines (for example National Physical Activity Guidelines/Healthy Eating Guidelines)</p>	<p>and The National Physical Activity Guidelines for Australians; the causal link between chronic disease and lifestyle risk factors; the high prevalence of chronic disease and its preventability through lifestyle change; and what constitutes a healthy/lower risk waist circumference.</p>	<p>Physical Activity Guidelines for Australians already in place through State and Federal campaigns.</p>	<p>children.⁶⁵ Campaign Objectives: • raise awareness of the National Physical Activity Recommendations; • raise awareness of the reasons for parents limiting their children’s usage of electronic media for entertainment; • increase awareness of alternatives to sedentary activity such as active play and provide solutions; • increase awareness of the different solutions available to parents to reduce electronic media for entertainment.</p>
<p>9 Linkages to professional practice guidelines or protocols</p> <p><u>Category Definition</u> Provides detail, as applicable and available, on 1 item: (i) whether the campaign is supported explicitly or implicitly by new or existing professional practice guidelines or protocols (for example guidelines for family physicians about risk assessment and counselling of patients)</p>	<p>Support through medical centres, peak health bodies (general practice, health services). Dedicated resources for health professionals (online ordering):</p> <ul style="list-style-type: none"> • Posters to hang in the practice • Practice detailing card that outlines waist circumference guidelines • Aluminium tape to measure patients • DL (½ A4) brochures for waiting rooms • Paper tape measures and 12-week planners for patients to use at home 	<p>Campaign builds on linkages established through Find Thirty, Go For 2 & 5 and Measure Up. Strong linkages to healthcare settings.</p> <p>Resources also provided for the Workplace Setting.</p>	<p>No apparent explicit linkage with practice guidelines or protocols.</p> <p>Campaign brochure distributed through key settings schools, childcare centres and other relevant organisations. The campaign website offered a range of practical tips (for parents).</p>

Campaign Characteristics	Measure Up campaign [Healthy Weight 2008-13 Australia]	Draw the Line campaign [Healthy Weight 2009-2011 WA]	Unplug and Play [Sedentary Behaviour 2008-11 WA]																																				
10 Implementation 'dose' <u>Category Definition</u> <i>Provides detail, as available, on 5 items</i> (i) <i>total campaign investment</i> (ii) <i>investment by media modality</i> (iii) <i>weight of media schedule achieved in TARPS/GRPs</i> (iv) <i>estimated target audience reach</i> (v) <i>estimated value of earned media</i>	Phase I \$30m total investment ⁷⁵ <table border="1"> <thead> <tr> <th></th> <th>TARPS</th> <th>Reach^{xiii}</th> </tr> </thead> <tbody> <tr> <td>Flight 1</td> <td>600</td> <td>n/a</td> </tr> <tr> <td>Flight 2</td> <td>450</td> <td>94%</td> </tr> <tr> <td>Flight 3</td> <td>582</td> <td>90%</td> </tr> <tr> <td>Flight 4</td> <td>582</td> <td>93%</td> </tr> </tbody> </table> Phase II \$2.17M (July '10- May '11) ⁷⁷		TARPS	Reach ^{xiii}	Flight 1	600	n/a	Flight 2	450	94%	Flight 3	582	90%	Flight 4	582	93%	<table border="1"> <thead> <tr> <th></th> <th>TARPS</th> <th>Reach</th> </tr> </thead> <tbody> <tr> <td>Flight 1 Feb 2009</td> <td>840.6</td> <td>77.7%</td> </tr> <tr> <td>Flight 2 Jun 2009</td> <td>1438.2</td> <td>79.8%</td> </tr> <tr> <td>Flight 3 Oct 2009</td> <td>1535</td> <td>81.3%</td> </tr> <tr> <td>Flight 4 May2010</td> <td>1615.5</td> <td>82.6%</td> </tr> <tr> <td>Flight 5 Oct 2010</td> <td>1875</td> <td>80.8%</td> </tr> <tr> <td>Flight 6 Feb 2011</td> <td>1799</td> <td>81.7%</td> </tr> </tbody> </table>		TARPS	Reach	Flight 1 Feb 2009	840.6	77.7%	Flight 2 Jun 2009	1438.2	79.8%	Flight 3 Oct 2009	1535	81.3%	Flight 4 May2010	1615.5	82.6%	Flight 5 Oct 2010	1875	80.8%	Flight 6 Feb 2011	1799	81.7%	Phase I \$78,447 Duration Reach Flight 1 Feb/Mar 08 4wks 42% Flight 2-5 2008-10 3wks - Phase II Flight 6 2010 3wks - Flight 7 Feb 11 3wks 64%
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Flight 5 Oct 2010	1875	80.8%																																					
Flight 6 Feb 2011	1799	81.7%																																					
11 Evaluation research design <u>Category Definition</u> <i>Provides detail, as available, on the research design established for impact evaluation of the campaign on 6 items</i> (i) <i>sampling frame, sample and response rate(s);</i> (ii) <i>whether a population representative sample</i> (iii) <i>whether quantitative, qualitative or mixed methods</i> (vi) <i>cross-sectional/longitudinal design used</i> (v) <i>whether pre-campaign assessment undertaken</i> (vi) <i>timing of campaign evaluation efforts relative to the campaign timeline</i>	For evaluation of Flights 3 & 4, two waves of (cross-sectional) Computer Assisted Telephone Interviews (CATI) with national samples of adults aged 18 to 65 years. The sample sizes for these surveys were 2,161 (Wave 3) and 2,193 (Wave 4); fieldwork conducted between 27 October and 23 November 2009 (Wave 3) and from 6 April and 6 May 2010 (Wave 4)	Pre-campaign baseline telephone survey conducted, followed by four surveys conducted after four of the six media waves (cross-sectional). Random sampling; weighted using census data. In addition post-implementation qualitative focus group research was undertaken. ⁶⁹	No pre-campaign baseline survey. Telephone survey conducted using quota sampling, n=202 parents/guardians of 10-12 year old children, mid-March 2008 following the first flight of media. Survey repeated in 2011 n=203 (Phase II media included new material and target group included parents of children aged 6-12 years. ⁷⁸																																				
12 Pre-campaign assessment of awareness in the evaluation <u>Category Definition</u> <i>[Applies where a pre-campaign baseline assessment has been undertaken] Provides detail, as applicable and available, on the initial awareness of the campaign using 2 items:</i> (i) <i>Prompted (bogus) awareness of campaign message(s) (% of total sample)</i> (ii) <i>Unprompted (general) awareness of campaign message(s) (% of total sample)</i>	Pre-campaign baseline survey measured general awareness of advertising about lifestyle, healthy weight and chronic disease: 71%	Promoted (bogus) awareness 8.4% General awareness 44.7% ⁶⁹	No pre-campaign baseline																																				

^{xiii} 1 Prompted awareness 76. The Social Research Centre, *Evaluation of the Australian Better Health Initiative Measure Up Social Marketing Campaign Phase 1, August 2010*

[report prepared for the Department of Health and Ageing] 2010.

Campaign Characteristics	Measure Up campaign [Healthy Weight 2008-13 Australia]	Draw the Line campaign [Healthy Weight 2009-2011 WA]	Unplug and Play [Sedentary Behaviour 2008-11 WA]
13 Peak campaign impact measures in the evaluation <i>Category Definition</i> <i>Provides detail, as applicable and available, on the measured impact of the campaign using 11 items:</i> AWARENESS <i>(% of total sample)</i> (i) <i>Prompted awareness of campaign message(s) Unprompted (general) awareness of campaign message(s)</i> (ii) <i>Unprompted awareness of campaign brand or 'tagline'</i> (iii) <i>Prompted awareness of campaign brand or 'tagline'</i> KNOWLEDGE (iv) <i>Accurate understanding/acceptance of key campaign knowledge elements</i> SALIENCY (v) <i>Saliency (personal relevance) of the issue/ target behaviour</i> ATTITUDES/BELIEFS (vi) <i>Attitudes and beliefs about the issue/ target behaviour</i> (vii) <i>Social norms; usual or expected behaviour</i> SELF-EFFICACY (viii) <i>Specific confidence in own ability to undertake the targeted/promoted behaviour</i> INTENTION (ix) <i>Intention to undertake the targeted/promoted behaviour</i> BEHAVIOUR (x) <i>Behaviour change trialled [short term]</i> (xi) <i>Behaviour change maintained [long term]</i>	[Peak level for Phase I 2008-2010] (baseline in parentheses as available) AWARENESS • Prompted 94% • General 87% (71%) KNOWLEDGE waist measurement ≤ 80cm for women 94cm 66% (56%) for men important in preventing chronic disease later in life INTENTION (next month) • Increase the amount of fruit you eat 29% • Increase the amount of vegetables you eat 30% • Increase the amount of exercise you do 35% • Measure your waist 23% • Try to reduce your waist measurement 28% • Seek information about healthy lifestyles 17% BEHAVIOUR (ST) Measured waist in last 6 months 39% (29%) Tried to lose weight last 6 months 60% (50%) Tried increase veg Last 6 months 43% (36%) Tried increase PA 54% (49%)	[Peak levels for 2009-2011] (baseline in parentheses as available) AWARENESS (% of all respondents) • Prompted 63.8% (8.4%) • General 57.0% (44.7%) KNOWLEDGE [COMPREHENSION] (% of those aware) • Comprehension 91.1% SALIENCY [ACCEPTANCE] (% of those who comprehended) • Acceptance 99.7% INTENTION (% of those who accepted) • Intention 57.3% BEHAVIOUR (ST) (% of those with intention) • Action 68.5%	Peak levels 2011 (vs. 2008 levels) ⁷⁸ AWARENESS Prompted 64% (42%) SALIENCY Agree with messages a lot 92% (90%) Very relevant/relevant 77% (70%) Very believable 60% (41%) KNOWLEDGE Thought a lot about reasons to limit electronic media use 43% (33%) INTENTION Intend encouraging play outside and reducing screen time 37% (16%) BEHAVIOUR (ST) Discussed screen time with children 12% (4%) Reducing overall screen time 28% (14%)

Campaign Characteristics	Measure Up campaign [Healthy Weight 2008-13 Australia]	Draw the Line campaign [Healthy Weight 2009-2011 WA]	Unplug and Play [Sedentary Behaviour 2008-11 WA]
	past 6 months		

Summary

This section has reviewed PANO mass media and social marketing campaigns conducted in Australia in the past decade using a 13-item coding framework. Campaigns analysed were primarily mass media-based, and although frequently put forward as 'social marketing campaigns' tended not to focus on all of the requisite marketing elements of an integrated social marketing campaign. In particular, it was apparent that legislative and regulatory strategies are not being utilised in connection with campaign strategies. In general Australian campaigns were of a high standard. All campaigns defined their primary and secondary target groups clearly often having dedicated strategies for special populations. Most campaigns were part of a broader strategic approach, usually involving more than one sector and often multiple sectors. Campaigns featured strong and appropriate linkages to National Dietary and Physical Activity Guidelines and Recommendations. Pre-campaign baseline measures were usually undertaken and evaluation efforts benefitted from the application of a wide range of impact measures consistent with the concept of a 'cascade effect'. Measures of general and prompted awareness, intention and behaviour were used in all campaigns involving television advertising. Measures of knowledge and saliency were used less consistently. Campaigns involving sustained, multi-phase efforts over 5 years or more delivered the best performance in target population reach and impact. These Australian campaigns were effective in achieving population reach estimated to be in the range 83% - 93%.

SECTION 4 PANO CAMPAIGNS CONDUCTED INTERNATIONALLY

4.1 About this section

This section reviews mass media and social marketing campaigns for physical activity, nutrition and obesity (PANO). A focus is on mass-reach large-scale campaigns that used mass communications and/or social marketing as primary strategies. Within each content area, a generic review is provided to outline the general approach taken, and summarise the editorial literature that identifies MMC/SM campaigns as a 'worthwhile component of a public health strategy' to address PANO. The approach taken is to emphasise primary prevention campaigns; the secondary and tertiary prevention areas of screening, high risk detection and management are more closely linked with clinical service access and delivery. However, primary prevention campaigns, as illustrated in the introductory sections, should be comprehensive, and link to appropriate services, so that a population strategy for PANO could start with primary prevention, and link to primary care for screening and high risk group identification, and to clinical and hospital settings for the delivery of care, for example, therapeutic obesity management.

Obesity campaigns – is the message 'HEHA for all'?

The first step is developing appropriate and relevant messages for PANO communications campaigns. Although this is beyond the scope of this report, a brief approach to the conceptual framework underpinning these messages is provided here.

There is an overlap between PANO communication elements, based on the causes of obesity at the population level. Increases in obesity rates are likely due to unhealthy changes in dietary intake in combination with decreases in total energy expenditure. Obesity is not a behavioural risk factor itself, but is the product of total energy imbalance, 'moving too little and consuming too much'. Therefore the messages in the primary prevention of obesity are essentially 'HEHA'.^{xiv} The relevant nutritional message is related to healthy choices, but in particular, focused on decreasing energy intake. It is not focusing on fruit and vegetable intake alone for their micronutrient benefits [for example in cancer prevention], but emphasizes their potential as healthy options to replace more energy dense foods. Appropriate media messages here would include awareness of portion size, understanding 'snacking' behaviours and becoming aware of alternate food choices and options for everyday consumption. Awareness should be increased regarding 'everyday' versus 'occasional' foods, understand food labelling, and help people to make informed choices around food purchase and consumption. Dietary messages may target specific groups, for example, differences by cultural background, age group or setting.

The physical activity contribution to obesity prevention is through declines in total energy expended over recent decades.⁷⁹ These are due to social and cultural changes, including industrialization and mechanization, and likely due to declines in daily energy expended at work, as well as reductions in domestic and active commuting settings.⁸⁰ This means that the quantum of total physical activity required

^{xiv} This was the name given to the Obesity policy framework in New Zealand, in 2004, "healthy eating, healthy action" or HEHA; it was not called an 'obesity' strategy, as the preventive components for public health focus were HE and HA – this bold decision has not been replicated elsewhere, as there is policy pressure in most jurisdictions to label the strategic framework as an 'obesity strategy' or obesity prevention strategy.

for population-level obesity prevention is more than the minimum health recommendation of moderate intensity physical activity for overall health and disease prevention. Importantly, this implies a different physical activity message, needing larger shifts in population (walking) behavior for obesity prevention campaigns⁸¹, compared to the generic '30 minutes moderate PA each day' message for general health and cardiovascular disease prevention. It is likely that 60-90 minutes daily of at least moderate-intensity physical activity is required for population weight loss or obesity prevention, and achieving this is a major challenge for habitually sedentary adults.⁸² For this reason, efforts to prevent obesity usually employ a combined message, including both HE and HA, and either provide both messages together, or sequence the communications under a broader umbrella of 'obesity prevention'.

When did we start thinking about MMCs for obesity prevention?

There is a thirty year history of considering MMC as a component of public health strategies for obesity prevention. This approach started with the large scale communitywide cardiovascular prevention programs in North America and Finland. The first use was as early as the 1970s, with the Stanford 3 City Heart Disease prevention program, and was followed a decade later by the Stanford 5 city Disease Prevention Program,⁸³ the Pawtucket Heart Health Program,⁸⁴ and the Minnesota Heart Health Program.^{85, 86} All of these used quasi-experimental designs, with exposed and unexposed communities, and all used multiple prevention strategies, including sequenced mass media campaigns, with different message themes across the multi-year interventions. Mostly the mass media messages focused on nutrition, screening for blood pressure and cholesterol, and tobacco control. Only the Minnesota Heart Disease Prevention Project specifically reported the impact of their MMC specifically on obesity, and showed no differences between intervention and comparison communities, as both increased their average BMI over time.⁸⁶ These interventions occurred in the late 1980s and early 1990s, with the latest follow up data occurring at the start of the major 'obesity epidemic' increases in prevalence in the USA.

The effective Finnish North Karelia intervention occurred a decade earlier, and focused on smoking, hypertension and cholesterol control, healthy nutrition and physical activity.⁸⁷ The North Karelia project is considered to have been a major contributor to declines in cardiovascular disease in Finland. The healthy nutrition messages were focused more on cancer and CVD prevention, with an emphasis on fresh foods, fruit and vegetables, and on lowering cholesterol in the population. Note that this intervention preceded any population increase in obesity in Finland. Hence it had a comprehensive CVD prevention focus, but obesity was not a major issue at the time, and was not included in the intervention components. As a postscript, Finland has subsequently experienced a marked increase in obesity over the past two decades, similar to that seen elsewhere in Europe; of interest, Finland also reported concomitant increases in adults participation in leisure time physical activity over the same time period, but clearly not enough to prevent obesity. Specific mention of MMCs to address obesity was noted in the late 1990s, with a World Health organisation report suggesting that MMCs should form part of the intervention mix for obesity prevention [Table 8].

In 1998, the WHO noted that the mass media represents a potentially effective avenue for obesity prevention [6]. The mass media provides a highly cost-effective means of reframing a particular health issue as a public health problem and promoting relevant health behaviour change solutions to a large audience, to manage and prevent chronic disease [22–26]. To date, locally and internationally

Table 8 WHO on mass media /obesity prevention 1998-2000

In addition, this included an expert review that described the attributes of potentially effective mass media campaigns, and that could be applied to obesity prevention. These are shown in Table 9, and are described in terms of the MMC feature, and what an integrated campaign would need to look like. Note that this review was based on the principles of MMC in general, as apart from the communitywide CVD prevention efforts, there were no obesity MMCs as evidence to draw upon. Nonetheless the attributes described are a description of approaches that are still current – campaigns need to be multi-year, not single MMCs; and they have an information function, but need to be supported by environment and policy supports and intersectoral partnerships. This is very similar to the expanded current social marketing definition, but preceded its use in this context.

MMC Features	Campaign Component
Adequacy, duration and persistence	Phased campaigns
Slow, staged approach	Serial , repeated campaigns
Legislative action	Environmental and policy campaign supports
Education	Understanding of the specific message
Shared roles in campaigns	Roles for community, NGOs, other agencies

Table 9 WHO consultation 1998-2000 with recommendations for MMCs for obesity prevention

4.2 Classification framework for the literature and search strategies used

In order to classify papers and documents reviewed, a typology was developed for mass media and social marketing research. This framework was used particularly in the obesity-related mass media and social marketing literature. This is shown in Figure 7 [same as previous figure 7, repeated here]. This approach represented was used to classify generic and review papers of the potential benefits of MMC and SM approaches to PANO (shown in the right hand box as category A), PANO specific campaigns (shown as Category B, including those that just described the campaign – without providing data- and those that provided data or evidence of campaign impact). The miscellaneous last group (shown as category C in the lower left box), included papers focusing on reviewing the impact of general media on PANO , research papers on audience segmentation, and interventions to promote healthy food guidelines or physical activity recommendations. These miscellaneous studies are relevant to and can inform MMCs and SM efforts to address obesity, so are discussed in this section.

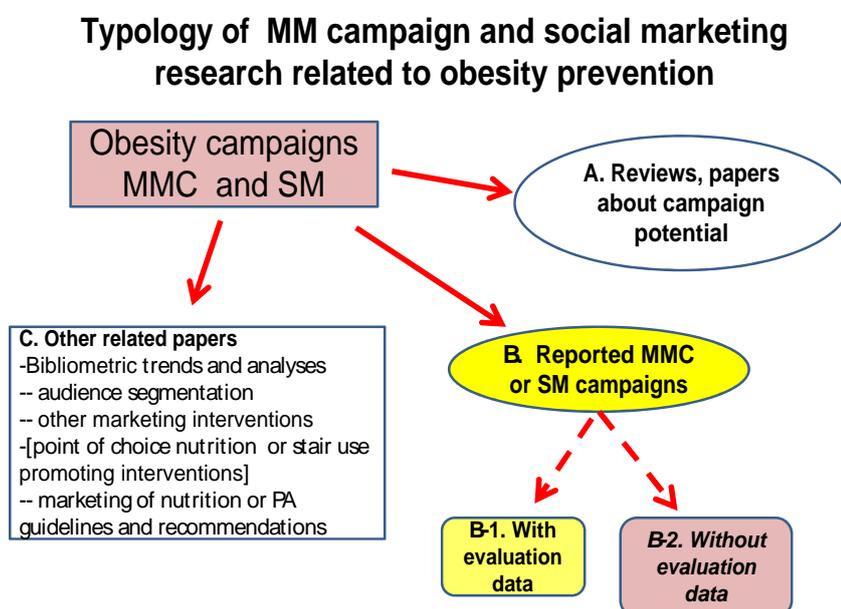


Figure 7 Typology developed for the International Review

4.3 MMCs and social marketing efforts targeting obesity

A. The findings from generic reviews of obesity prevention through MMCs or social marketing (papers categorised as 'A' in Figure 7).

To date, there are more reviews of the potential for MMCs and social marketing to prevent obesity than reported results of actual mass-reach campaigns. There are over a dozen papers reviewing the evidence on MMCs and SM for obesity prevention, and key papers amongst these are discussed here. Some of them, such as van Trijp (2010)¹⁹ are really distillations of the generic social marketing area, already described in section 1, and has only passing reference to obesity. Van Trijp describes obesity prevention as a social goal, and suitable for social marketing approaches, with the SM framework of identifying the benefits of healthy eating and activity, and trying to persuade individuals and communities that these benefits outweigh current lifestyle choices.¹⁹ In particular, SM is concerned here with changing community values and social norms, as these complex attributes are fundamental to active living and nutritional choices.¹⁹ This is challenging, given the countervailing forces and marketing that is promoting less healthy choices. The dogma of audience segmentation is re-stated,^{19, 23} but may be more difficult since these values and norms are non-selective, in other words pervasive and apply to the whole population. The voluntary exchange concept is not always clear to consumers, and this may require integrated SM programs, including education, marketing and legislation. In addition, programs to 'nudge' behaviour in a healthful direction may be useful, making small changes and shaping the whole population's behaviour in gradual ways.⁸⁸ This approach is similar to the 'small steps' concept.

Another recent paper reviewed '*social marketing for obesity prevention*'.⁸⁹ However, almost all the interventions reviewed were mass media campaigns, rather than social marketing efforts. Cismaru pointed out that most nutrition and physical activity campaigns are focused on obesity (but omitted the important ones that are not, for example nutrition campaigns are sometimes focused on cancer prevention, healthy infant feeding, breastfeeding or other issues unrelated to obesity; and physical activity campaigns can be focused on falls prevention, mental health, well-being or functional status, unrelated to obesity).

Other papers assessed social marketing interventions, but most were not mass-reach public health programs. An example is the review paper by Gracia-Marco (2011)⁹⁰ that systematically reviewed 'social marketing strategies used in childhood obesity prevention programs'. The term 'strategies' just implied that some elements of social marketing were used in the interventions reported. These were not campaigns with population-wide reach. Gracia-Marco found 41 interventions using social marketing components, reported that only 9 had objective behavioural outcomes measured, and reported that adhered to comprehensive social marketing principles did better in influencing weight loss. This provides theoretical evidence that social marketing elements contribute to behaviour change, but most of these studies were very small scale controlled behaviour change trials, and tested highly specific intensive behaviour change interventions. This review adds to the science of social marketing research, but does not add to the evidence base for public health approaches to obesity prevention.

Another review took a completely different perspective on social marketing for obesity prevention.⁹¹ This review assessed the issue of counter-marketing, from a conceptual perspective, and provides a useful notion of relevance to social marketing campaigns in this area.⁹² The issue of counter-marketing is ignored by public health approaches to obesity social marketing, but is common in commercial marketing (and also has a long history in tobacco-related mass media and public health campaigns). The central idea is that commercial marketing is concerned with marketing obesogenic products, including fast food brand

marketing, and ubiquitous food advertising , especially to children.^{xv} Social marketing is a tool that could contribute to counter marketing in a more strategic way, using SM strategies such as developing a social movement^{xvi} (increasing consumer pressure on Government), regulating food advertising, subsidise healthy foods or tax unhealthy ones. These strategies would target consumers and decision makers, informing them about healthy choices, and using comprehensive SM approaches. More radical extensions of this argument were proposed by Hoek and Gendall (2006)⁹³ who suggested that the usual social marketing components should be implemented in reverse – regulate first to create a healthy food environment, and then sell that to the consumers post hoc !

B. Specific MMC or social marketing campaigns focused on obesity (category 'B' in Figure 7).

Specific reports of the results of obesity focused mass media campaigns are rare. There are more numerous nutrition and physical activity campaigns, but these emphasize the generic health benefits of nutrition or activity, for example, increasing serves of fruit and vegetables in adults and children.

One of the first specific to obesity was the BBC 'Fighting fat and fit' campaign in England, based around a seven part BBC television documentary series.⁹⁴ The programs focused on obesity prevention, and were linked to regional health authorities, a call line, and an action pack that could be sent to interested people with further behavioural strategies for weight loss. The impact of this documentary series were recognition by around one fifth of adults, but less than 1% responded to the 'call to action', in this case, seeking further resources or registering for the weight loss and lifestyle program; nonetheless, at the population level, a 1% change reflects a large population reach. Interestingly , closer inspection of these data suggest a hierarchy-of-effects impact of the campaign, with decreasing proportions of the population responding across different outcomes, form awareness through to less than 1% showing a behavioural response (see Figure 9).

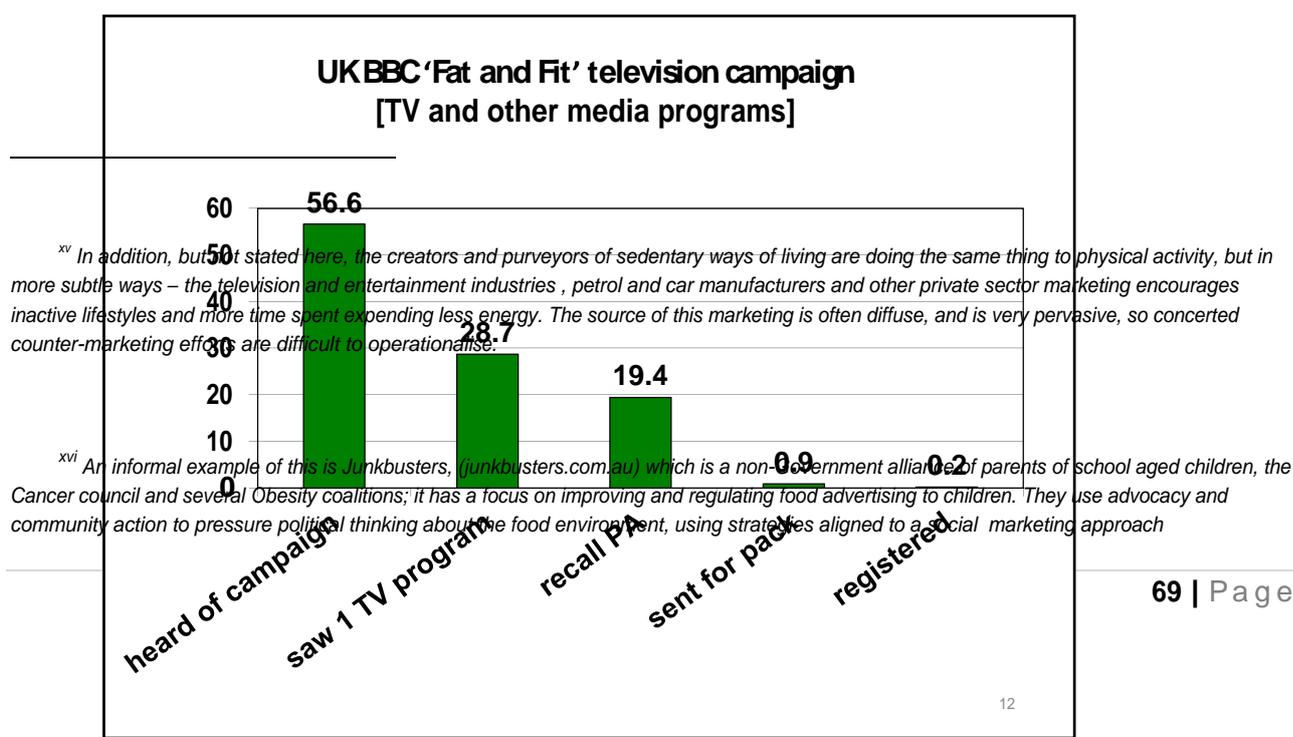


Figure 9 Demonstrating the outcomes 'hierarchy of effects' from the Fighting Fat fighting Fit evaluation in the UK (Wardle 2001)⁹⁴

A more recent intervention in the Netherlands^{21, 22} evaluated a three year weight gain prevention campaign targeting young adults. This was the most comprehensive evaluation of an obesity-related (mass media) campaign reported in the literature. This national Dutch campaign ran from 2002-2005; although it was originally planned for five years (see Figure 10). It was sponsored by the National Nutrition Board, had a defined target of young adults, and clear tagline and brand.^{xvii} Process evaluation was through hits on the website, distribution of resources and campaign materials.²¹ The impact evaluation was through a series of 11 cross-sectional representative population surveys (around n=500 non-obese adults aged 25-40 years in each survey). Two surveys were pre-campaign, and the remainder followed each campaign wave over three years.



Figure 10 Dutch obesity prevention mass media campaign 2002-2005

^{xvii} Tagline was "Maak je niet dik", which means both 'don't get fat', and also, colloquially, 'don't worry about it'.

The campaign initially used radio and print, but by Wave 5, used paid television as well. The surveys asked about a full range of measures consistent with the Hierarchy-of-effects cascade.^{xviii} Not surprisingly, this mass media campaign showed no impact on body mass index, but did show marked improvements in awareness of the campaign, message recall and attitudes to obesity. Messages recalled varied over time, as different phases emphasised different elements of healthy eating and physical activity. The specific improvement in outcomes at wave 5 was attributed to a change to include paid television messages, compared to earlier waves of radio and print media communications only. For the first few waves, socio-economic gradients were examined, and messages had good SES reach across the population, but were less likely to reach non-Dutch speaking ethnic minorities.²¹

In summary, this Dutch campaign resulted in increased awareness and attitude shift, especially in response to high-reach television messages. Small effects were noted on self-efficacy or motivation, but a ceiling effect was present, with baseline values already high. The strength was phased and sequenced messages over a three year campaign and a careful evaluation allowing a better understanding of campaign impact. Some elements of the campaign continued until 2008, but with less emphasis on paid media.^{xix}

An important Australian campaign was the 'Piece of String' campaign in Victoria in 2007 (Morley 2009; see Figure 11)³⁶. This campaign was developed by the Anti-Cancer Council of Victoria, and aimed to increase awareness of waist circumference [obesity] as a marker of cancer risk. This campaign was grounded in social learning theory, focusing on behavioural self-assessment, measurement and monitoring. The campaign ran in 2007, with a media dose of 170 TARPS, targeting adults aged over 30 years at risk of obesity-related cancers. The campaign elements included a television message (TVC), a help line, website and a mailed kit including a tape measure for self-assessment.³⁶

Evaluation of the 'Piece of String' campaign was reported in one scientific paper, and described the pre-post impact of a laboratory-based exposure to the TVC, followed by exposure to the real community MM campaign two weeks later. Message recall increased significantly in the lab-based study to 10.6% unprompted recall and 54.4% prompted recall following lab based exposure to the messages; this increased further to 76% in the sample subsequently exposed to the community MMC. An increase in message understanding and the link between obesity and cancer was significant among those exposed to the message [9% to 21% could report the cancer link], and was five times more likely than those unexposed to the message. In terms of a behavioural response, waist measurement was reported by 13.9% immediately following the lab based study, increasing further to 25% following the community campaign. There was no change in reported self-classification of weight status. In summary, this was an important pilot study, a precursor to some of the messages used in Measure Up Phase 1, and good evidence of positive effects of exposure to a waist circumference / 'abdominal obesity risk' framed mass media message.

^{xviii} Measures included demographic characteristics, self reported weight and height, campaign awareness, message source, campaign understanding, and psychometrically reliable and valid questions as intermediate HOE variables (attitudes, subjective norms as Health Belief Model and Protection Motivation Theory related variables; self-efficacy, motivation and behavioural actions taken).

^{xix} For further details (only in Dutch), see : <http://www.communicatieonline.nl/nieuws/bericht/start-campagne-maak-je-niet-dik/> and Wammes B, Breedveld B, Brug J. *Eerste conclusies over campagne effect: Mensen zijn zich bewust van overgewicht* (First results of the campaign aimed at prevention of overweight: people are aware of their personal body weight). *Voeding Nu* 2003, 11: 26-27.



Figure 11 ACCV “How long is a piece of string” campaign 2007 targeting waist circumference as a cancer risk factor

A paid MMC in the USA, called ‘Steps to a Healthier New Orleans’ was carried out in 2004-5.⁹⁵ This obesity prevention effort focused on fruit and vegetable consumption and on increasing walking among African-American adults. The campaign was informed by extensive formative development. Implementation used high-dose paid media [with GRPs up to 588 in week 1, a level suggesting that on average, each adult had seen the message five times]. The repeat cross-sectional population surveys asked about message awareness, attitudes and the behaviours of fruit/vegetable consumption and walking. Results showed a clear increase in awareness of the campaign brand and logo [from 2% to 23% post campaign], with increased recognition of fruit and vegetable and walking messages. Campaign recall was higher among the target audience, African Americans, compared to other adults. There were significant effects on attitudes to healthy eating and to physical activity, but no effects seen on these behaviours. The campaign demonstrated short term impact on proximal variables in the HOE cascade, but not on endpoint target behaviours.

Mass reach ‘mediated’ interventions

Another kind of large-scale obesity intervention is partly MMC, partly up-scaling of behavioural interventions. This is state-level or large scale program delivered to individuals recruited using mass media messages. A good example is ‘Shape Up Rhode Island’,⁹⁶ which is a state-wide program to reduce weight. The intervention is a web-based behavioural intervention, supported by State level services, and conducted in teams, and through worksites, so it has elements of a SM campaign. The media and communications component is only there to encourage participation.

The actual interventions are part of a cluster of ‘mediated’ behaviour change interventions, which include web, internet and new technology interventions, and are generally outside of the scope of this report. However, as an example, the Shape up Rhode Island program is discussed. This program attracted 7000 adults to sign up, 3000 completed the 16 week intervention on line, and a mean weight loss of 3.2 kg for participants [or 2.3 kg for the whole sample] was reported at the end of the intervention; this level of weight loss [2.4 kg] was maintained at six months; the mean BMI reduction was around 0.8 BMI units, and 30% lost 5% of their body weight, sufficient as a diabetes prevention goal.⁹⁶ This is a mass-reach intervention, but the selection biases are not known – would the people that enrolled have lost weight

anyway, and do these interventions make a difference at the whole population level, a question difficult to answer.

Another example of this kind of mass-reach obesity prevention program is the Liverpool (UK) Challenge, which has been developed since 2008 with the Merseyside Primary care Trust. This is another community-wide program, included here as it has a strong social marketing orientation (Thomas 2009).⁹⁷ The project was informed by extensive consultations, defined its adult target audience, and aims to lose “750,000 pounds” of body weight across the city by 2011. Like the Rhode Island program, it is centred around a website and ‘challenge’ for weight loss, but is supported by substantial marketing efforts, and by inter-agency partnerships with local government, local agencies, and Weight Watchers from the private sector.^{xx} Enrolment is high in terms of absolute numbers [1500 enrolled in the first week], and initial results in terms of weight loss are encouraging, but it is not clear how much this will impact on obesity across the whole city. Worryingly, they report that “the campaign will be fully evaluated in 2010”, suggesting an uncertain but possibly post-only design.⁹⁷

There are many other mass-reach mediated interventions, including the Get Healthy Service in NSW, an evidence based telephone coaching intervention for obesity and lifestyles. This is a state-wide service in NSW, and has been adopted in 2010 by the ACT and Tasmania. Messages to cue people to ring the Get Healthy Service in NSW were aired at the end of Measure-up Phase 1 campaign messages in 2010, and directed people to consider calling the service. Initial results show that the program recruited adults from across SES groups, rural and remote residents, and other disadvantaged populations (O’Hara 2011, O’Hara 2011a)^{38, 39}, suggesting the program has achieved good reach into at-risk populations in NSW. Unpublished data from the first 18 months show impact results on weight loss that were very similar to the Shape up Rhode Island intervention. However, the mass media component is only one element of this intervention, driving recruitment to the program, and in a dose-response manner [unpublished data; when MMCs were aired, calls to the service were much higher than at other times when no MMCs were aired].

^{xx} Note that there are many community wide obesity prevention programs in Australia and elsewhere; for example the Colac, Victoria interventions to address childhood obesity, and the Welling-tonne community wide program in Wellington, NSW (Lyle 2008). This latter intervention engaged with 10% of the target group, and participants initially lost around 3kgs, similar to the studies reviewed here. These community interventions are beyond the scope of this review, although they were often complex interventions using “best practice in comprehensive health promotion program” principles. However, they were not MMCs, and did not describe their interventions as social marketing [even though that is sometimes quite close in scope to comprehensive communitywide health promotion].

Other campaigns for obesity prevention

There are several obesity-related prevention campaigns without published evaluation data; these may be large scale, but may not use paid media (type B-2 in the typology shown as Figure 7). Sometimes these focus on physical activity or nutrition, but are summarised here to locate them in one section; they all have had an expressed obesity-related purpose. They vary in funding and planning, in scope and in population reach. They are included here as they do not appear in the published scientific literature (or where they do, they are discussed elsewhere in this section). These include some of the following:

- Change4life,^{xxi} a large scale UK campaign 2009-2010, highly funded £75 M, mass media campaign and partnerships with British Heart Foundation, and with private sector; was reduced substantially in 2011 (?disbanded). Message focus was on making small changes in physical activity and nutrition to reduce the health risks of obesity. Evaluation data not located; impact now known. The message “Jack the Porky” 2009 is very similar to the Australian Measure up 2 campaign (Jack the Porky was a plasticine character, but almost identical to the Measure Up phase 2 ‘Eric the blue blow up balloon character’). A recent paper questioned whether the omission of labelling the problem as ‘obesity’ was warranted (Piggin 2011);⁹⁸ the Change4life campaign just focused on lifestyle, not on the potentially stigmatising ‘O word’. Recent changes occurred to this initiative, with a Government move to outsource this campaign to private sector sponsors and businesses, including to the food industry, but this has been met with some public health opprobrium.⁹⁹
- Michelle Obama, wife of the US President, launched a mass campaign and resource centre called ‘**Let’s Move**’ to address childhood obesity.^{xxii} This has obesity-related resources, a website, links to regional and local community events, and a suite of low cost PSAs that can be used by any practitioner. Evaluation is not reported, so the effects of this intervention are not known. Large scale sponsors include the Men’s and Women’s basketball organisations in the USA.
- Throughout the world there are one day mass events, single events to focus on healthy nutrition or physical activity or obesity prevention; an example is the Australian Cancer Council’s support to ‘Walk to Work’ day, August 2011. This recent campaign was not evaluated specifically, but has previously demonstrated short term campaign impact, when carefully examined for acute effects on travel mode.¹⁰⁰ The measureable effects of these acute one day events are usually less clear.¹⁰¹
- There are many private sector (or private –public partnership) campaigns in the NCD prevention area, usually focusing on physical activity, sometimes nutrition, and rarely specifically on obesity prevention; these include, for example, McDonalds’ “Get Active” campaign (formerly goactive.com); a much more integrated example was ‘Canada on the Move’ 2004-2005 (a better evaluated and effective MMC, funded in a partnership between the Canadian Institutes of Health and Kelloggs)¹⁰² There are a range of public sector, usually Government, initiatives which are ‘disseminated’ in a variety of ways, are sometimes described as ‘campaigns’. Examples of these include the ‘Small Steps’ campaign, part of the CDC and Health and Human Services Federal

^{xxi} See: <http://www.nhs.uk/Change4Life/Pages/change-for-life.aspx>

^{xxii} <http://www.letsmove.gov/>

Department of Health in the USA, as a website and promotional idea^{xxiii} (without really having any actively funded paid and time-limited campaign components)

- There are public health guidelines relevant to obesity prevention – usually through the national release of developed ‘healthy eating guidelines’, or ‘physical activity guidelines’. The release of these is sometimes described as a campaign, but seldom resourced with paid mass media or ancillary marketing; it is usually just a release to health agencies and health professionals on a wide scale, and the impact, where it has been measured, may be small or negligible.¹⁰³
- There are many guidelines, including Dietary guidelines for Australians: A guide to healthy eating;⁶¹ Australian National Physical Activity Guidelines for Adults;¹⁰⁴ US National Physical Activity Guidelines;¹⁰⁵ Canadian National Physical Activity guidelines;¹⁰⁶ Canadian Sedentary Behaviour Guidelines;¹⁰⁷ among others. In the case of the French National Nutritional Guidelines (Herberg 2008) reported that communications, marketing, education and regulation were required to turn them into public health action, an exact [but inadvertent] explication of optimal social marketing principles]¹⁰⁸
- Non-Government organisations conduct ‘campaigns’, and these can be purposive, planned and funded MMCs or SM campaigns for physical activity, nutrition or obesity prevention. Many of these meet the criteria for full campaigns,^{xxiv} directly or with NGOs in partnership with other agencies and governments. At other times, these are labelled as ‘campaigns’, but are essentially unfunded, but are still marketed through these organisations. An example would be the Heart and Stroke Foundation of Canada campaign called ‘5 to 10 a day’, focusing on healthy fruit and vegetable intake (www.5to10aday.com); these latter unfunded initiatives often use public service announcements (PSAs, or community service announcements, CSAs, which are unpaid mass media). These efforts need to be distinguished from more purposive, planned and well-funded MM and SM campaigns supported by these NGOs.

^{xxiii} <http://www.smallstep.gov/>

^{xxiv} Such as the ‘Draw the Line’, and ‘Find 30’ campaigns in WA – these are discussed in section 2, but are fully developed MMCs/ SM campaigns.



Figure 12 Diverse media campaigns to address obesity (with limited or no population-level evaluation available): Change4life, UK; Walk to work day, Australia; Let's Move (US schools)

One paper compared and contrasted 'obesity prevention campaigns' in the USA with those in Germany.¹⁰⁹ This paper used the late 1990s CDC 'campaigns' as the US examples, which were information-only, provided resources for State health departments, and were not planned MMCs using paid media. These included the 'Healthy Lifestyle Guide', the 'Small Steps' campaign.¹¹⁰ There were PSAs shown, and some unpaid media generated, but for the reasons discussed above, were not organised campaigns. By contrast, Werder¹⁰⁹ describes the German 'campaigns' to prevent obesity as distinctly different, mostly emanating from Health Insurance funds to provide lifestyle information to their members. There were partnership elements here, with the 'Germany on the Move' campaign having co-sponsorship from sporting goods manufacturers and the food industry. Werder describes these as having no major mass media support, and participation as being 'very low', but no formal evaluation information are provided.¹⁰⁹

C. Other related papers relevant to obesity campaigns (papers categorised as 'C' in Figure 7)

A miscellaneous set of research papers is described here, related to obesity prevention and to campaigns. These are not central to large-scale mass media or social marketing campaigns, but can inform them, or are confused or conflated with them. These include bibliometric studies or studies of portrayals of obesity in the media; audience segmentation research; other marketing interventions, especially point of choice interventions; and the release of prevention 'guidelines' as campaign activity.

There are several examples of studies of the mass and selective media and the way that they portray obesity in children and adults. These studies examine trends in the portrayal of issues in the media or in academic discourse, using techniques known as bibliometric analyses. Obesity relevant research in Australia, in recent years, can inform MMC/ SM campaign development and messages. For example, Bonfiglioli (2011) demonstrated that there is still positive framing of sweetened carbonated drinks and fruit juice in the Australian media – a message that would require re-framing in campaign development.¹¹¹ Other studies have examined the low reporting of physical activity for health, compared to obesity (Chau 2009),¹¹² but have noted increases in media stories about cycling as a form of health enhancing physical activity (Rissel 2010).¹¹³ Others have examined the way obesity is portrayed (Bastian 2011),¹¹⁴ and demonstrated that academic publication usually frames the causes of childhood obesity as being structural and environmental, whereas newspapers and popular print media portray childhood obesity as the individual responsibility of parents. A review of this literature is relevant to message development and framing as formative research in mass campaign development.

Limited audience segmentation research is published in the health literature, and much is not published, but exists in the grey literature of Government and NGO reports. Since the food industry regularly uses this approach to define marketing segments for unhealthy products, it should become part of the public health armamentarium in response. Kolodinsky (2009) examined audience segments with respect to obesity prevention in a US dataset, and identified five profiles of risk perception and behaviour.¹¹⁵ These clusters were those at “highest risk” [overweight, think they are eating correctly, low PA, high television consumption], “high risk” [overweight, don’t read food labels], those with “right behaviour wrong results” [overweight but report eating healthfully], and two groups doing the right things [overweight but active, low fat intake, and read food labels].¹¹⁵ This process of audience segmentation is central to SM efforts, and research in this area will precede campaign development; however, a synthesis of the published and unpublished audience segmentation research could further inform these processes.

Finally, some interventions are described as ‘Campaigns’, and the framework in this report takes a different perspective of these studies. Wakefield, in her excellent review of mass media campaign effects,²⁹ included ‘point of choice decision prompt’ interventions as campaigns (in the section of her paper on physical activity campaigns). Point of choice studies apply to physical activity, and are usually stair-signage or promotion, to encourage people to use the stairs instead of lifts or escalators; these interventions are evidence based (Soler 2010, Dolan 2006).^{116, 117} Point-of-choice nutrition interventions are around placement of signs and decision-prompts in supermarkets and other food retail venues, to encourage acute decisions favouring healthy food purchases (Block 2010, Colapinto 2009).^{118, 119} From the perspective of this report, these are environment-changing health promotion interventions in the first instance, and contrary to Wakefield, are not classified as ‘campaigns’ here, even though they may be marketed and promoted.

4.4 MMCs and social marketing efforts targeting physical activity

There are over 20 mass media campaigns that have promoted physical activity reported in the literature since the 1980s. In addition, there are a few more than used physical activity messaging as a component of wider cardiovascular disease prevention, or as part of obesity prevention initiatives. Rather than review all of the campaigns, this section will assess the evidence summarised in ‘reviews of PA campaigns’, and extract lessons and themes of effective efforts in this area.

There have been at least four reviews of physical activity mass media campaigns, starting with Cavill and Bauman (2004);¹²⁰ an update was carried out in 2009,¹²¹ and a systematic review in 2011³³ (Bauman and Chau 2009, Leavy et al 2011). The 2009 review was also developed into a white paper for section 8 of the US national Physical Activity plan [www.physicalactivityplan.org/]. An unrelated review of 17 of the same PA campaigns was carried out by Finlay and Faulkner in 2005,¹²² and a separate social marketing review was published by Stead (2006). From these reviews, highlights of the issues, strengths and weaknesses, and future directions are summarised here.

Stead (2006) assessed 22 physical activity intervention papers that used elements of social marketing;¹²³ of these, three were communitywide CVD prevention programs, two were formal mass-reach media campaigns, and one was the informal use of mass media to promote physical activity, as part of the Agita San Paulo program (Matsudo 2003).¹²⁴ The remainder were behavioural interventions in schools, worksites and other settings that used some communications or marketing as a component of behaviour change intervention. Most used randomised trial designs, and demonstrated high internal validity, but low generalisability to population interventions.

Physical activity mass-reach campaigns started as part of the community wide cardiovascular disease prevention programs in the USA from the 1970s.²⁹ In addition, ParticipACTION, a national social marketing campaign, began in Canada in 1971, and ran continuously for 30 years.^{125, 126} The Australian ‘Life Be in it’

campaign launched in 1978, but evaluation data are not accessible. The first major national MMCs were the National Heart Foundation campaigns, 'Exercise – take another step' and 'make it part of your day' campaigns in 1990 and 1991.¹²⁷ This history and legacy provided a substrate for many variations in campaigns over subsequent years, focusing on incidental physical activity, total PA, different domains of PA including active travel, and on achieving the recommended 30 minutes of daily moderate-intensity PA. Of importance to this report is that almost all of these MMCs were using PA as a stand-alone issue for health, wellbeing, sport participation or other outcome, but not specifically for obesity prevention.^{xxv}

The settings for PA community-wide campaigns have included US towns (Reger 2002,2006, 2011),^{35, 128, 129} Rockhampton in Queensland,^{130, 131} Ghent in Belgium;¹³²⁻¹³⁴ all of these MMCs included broader engagement with community members, NGOs, and Government, and were closer to social marketing campaigns. Some have partnered with the private sector (Canada on the Move, Craig 2006).¹³⁵ An important feature is sustainability, with the longest term MMCs in WA (Find 30), New Zealand (Push Play campaign)¹³⁶ and ParticipACTION in Canada.¹²⁵ Careful evaluation is important to generate good quality evidence, and is noteworthy in the US Verb campaign (Huhman 2007),¹³⁷ Active for Life UK (Hillsdon 2001)¹³⁸ and Active Australia (Bauman 2001).⁵⁴

In terms of campaign effects it is generally thought that physical activity campaigns alone will not result in changes to long-term complex physical activity behaviours, and that proximal measures such as campaign awareness are a common initial metric of population reach across campaigns. There is a wide range of community awareness following PA campaigns, but on average, around two-thirds of a defined population is likely to recall the campaign and its messages, assessed in short term campaign follow-up surveys. These data are summarised across campaigns in Figure 13 below. It is likely that smaller proportions will change their beliefs, attitudes or intend to be active. A systematic review of PA campaigns (Leavy 2011) reported that a third showed significant changes in attitudes or knowledge, and of the 10 campaigns that assessed PA behavior, half showed significant but small increases in reported activity.³³ This suggests that campaigns can influence proximal outcomes in many, and intermediate and behavioural outcomes in smaller proportions and with small effect sizes.

^{xxv} *Importantly, the quantum of PA recommended for obesity prevention is different to the minimum 30 minute recommendation; it is 60-90 minutes daily for weight maintenance or weight loss respectively, a much more difficult behavioural goal to achieve at the population level; for this reason, PA is usually an adjunct in obesity prevention campaigns described in section 4.1, not the only behavioural strategy.*

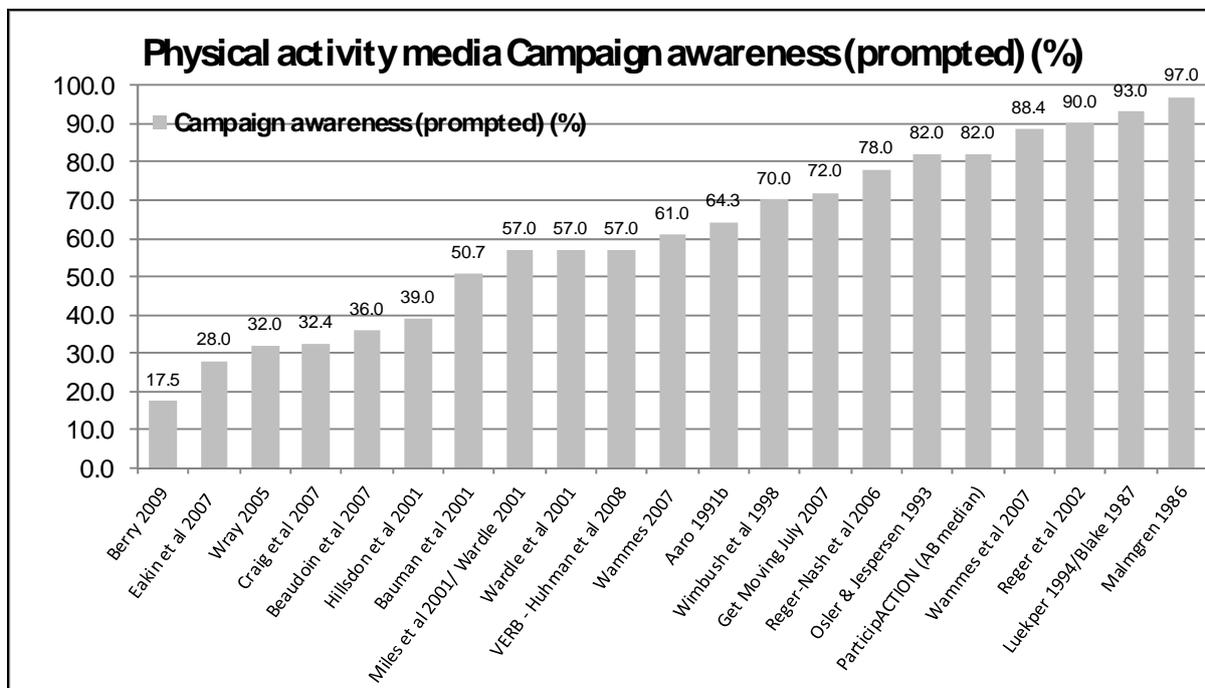


Figure 13 Assessing campaign impact: updated estimates of the proportion of the population reporting post campaign (prompted) awareness (including studies reported by Cavill 2004, and subsequent campaigns reviewed to 2008-9)

Prioritised recommendations for mass media campaigns to promote physical activity have been summarised Appendix 3 to this report, adapted from Bauman (2009)¹²¹ and the WHO guidance to optimal MM campaign implementation (WHO 2000).³ This Appendix 3^{xxvi} distils information from all PA campaigns, and makes summary recommendations regarding campaign design, implementation and evaluation. The central ideas are that campaigns be part of long-term approaches to prevention, that proximal impact measures be used to assess and compare campaigns, and that consistency in messaging and ‘brand’ description should pervade all PA campaigns and social marketing efforts. For optimal evaluation, the recommendations suggest that comparable standards be developed across campaigns, that research be conducted into how campaigns exert their effects, and into further identifying specific factors that contribute to effective campaigns. These recommendations are likely to be generalizable recommendations for other related MMCs and social marketing efforts, including nutrition and obesity campaigns.

4.5 MMCs and social marketing efforts targeting nutrition and healthy eating

As with physical activity, nutrition campaigns have had a long and diverse history. Unlike physical activity, most nutrition campaigns have emanated from the Health sector, or were directly related to health consequences, whereas PA campaigns sometimes emanated from other sectors, without a primary health focus.

Some nutrition campaigns targeted micronutrients, fortification [for example folic acid in flour] or social marketing for under-nutrition in developing countries. Others were related to obesity, weight loss, or generically part of a healthy lifestyle for chronic disease prevention, and are the subject of this review. Campaigns that targeted a single dietary component, such as fruit /vegetables, or low fat milk are included,

^{xxvi} The work in this appendix is derived from the white paper written for the Mass media section of the national PA plan for the USA. The author conducted an international stakeholder consultation to produce this guidance, with policy makers working in physical activity from across the US, Canada, and Europe. In addition, a literature review informed these recommendations, which were then discussed in the Executive Planning group for the US PA plan. This Appendix is a summary of that synthesis.

as they can contribute to overall reductions in energy intake [as well as their primary purpose, which may be to lower dietary fat intake, or to increase vegetables on account of other health-enhancing nutrients].

As early as 2000, Alcalay and Bell wrote a monograph for the Californian health department on 'a review of 50 nutrition and physical activity social marketing campaigns'. The definition was that they should use multiple strategies, and use multiple communication channels. Most of these campaigns were small scale controlled behaviour-change interventions, and a systematic assessment of this report identified only 11 that were large scale mass-reach campaigns. Of the 8 nutrition campaigns, six were variants of the 5-a-day campaign in different US states, one was a related campaign called 'Gimme 5', and one was the '1% or less' milk campaign. Again, this review indicated that most so-called social marketing interventions were small scale behavioural programs, not population-wide efforts.

A typical dietary fat campaign was carried out in the Netherlands in the early 1990s (Cornelie 1998).^{139, 140} This four year campaign, 'Fat Watch', used both MMC and engaged with partnerships with supermarkets in Holland. The budget was reasonable, around 0.8 – 1.3 million USD per year for media messages. Campaign awareness peaked at 60% at the end of year 1, but declined to 32% by year 3. Process evaluation showed that around half of all supermarkets participated, and amongst those, a third used the promotional materials extensively in their stores. Surveys with store managers showed good support for the program. Impact evaluation was not reported to any degree, so the long-term effects are not known.

One area of substantial progress has been in social marketing and mass media to promote fruit and vegetable consumption. In 1998, Dixon reported on the '2 fruit 5 veg' campaigns conducted in Victoria between 1992 and 1995.¹⁴¹ This campaign was supported by point of sale displays and by sponsorship. Similar campaigns were carried out in other states. The Victorian campaign purchased moderate to high reach (TARPS between 2002 and 608, maximal in the second year). For the highest dose of media in year 2, there was high awareness [peak at 70% campaign recall in year 2], and changes in attitudes were maximal in years 2 and 3, with behaviour change maximal in year 2. Campaign awareness declined to 23% in year 4, when television was no longer used as part of the MMC mix. In summary, only when maximal media was sustained, was there a measurable effect of this campaign.

In 2005, Pomerleau reviewed 44 fruit and vegetable interventions. Across all studies, the mean effect was an increase of 0.1 to 0.4 serves of fruit or vegetables. Most of the studies reviewed were personalised education or individual behavior change, with only four studies targeting the general population [including two 5-a-day studies in the USA, that showed increases in campaign awareness].¹⁴²

In Western Australia, a series of studies evaluated the Go for 2&5 campaigns conducted 2002-2005. These studies showed increases in awareness of the social marketing campaign, with an increase of 0.8 serves of fruit and 0.6 serves of vegetables following the campaign (Pollard 2008). This study used tracking from the Health and wellbeing surveys, but similar results were seen using the Nutrition monitoring Surveys (Pollard 2009), with changes in awareness, knowledge and consumption reported.⁵⁷ Despite this effect, rates of F&V consumed were still below recommended levels, and particularly for vegetable intake, may be due to misunderstanding of the amount of vegetables being suggested (Carter 2011).⁵⁹ These data point to effective multi strategy campaigns being effective, but needing to be sustained long term, in order to move the population towards recommended dietary goals for F&V.

Another effective series of campaigns was carried out in the USA to promote the switch from high fat to low fat milk. These were known as the '1% or less' campaigns, and have been reported in several community studies. The first was in Wheeling, West Virginia, and ran both mass media and promotional efforts to increase 1% milk purchases.¹⁴³ This switch was compatible, triable, cost neutral, tasted similar,

and so was amenable to a clear marketing strategy, to supplement the MMC communication. Sales of low fat milk increased from 29% to 46% after the campaign¹⁴³, an effect similar to other 1% or less campaigns replicated in Hawaii and in Hispanic communities in Los Angeles.^{144, 145} This intervention was both discrete, amenable to MMC and SM approaches, and cost effective (Wootan 2005),¹⁴⁶ and represents a substantial intervention effect targeting dietary fat intake; its potential for obesity prevention is less certain.

Other dietary MMC and SM programs have been reported, including their large scale inclusion in obesity prevention programs discussed earlier. Included in these were Beaudoin's campaigns in New Orleans (2007),⁹⁵ and also a social marketing component in the childhood obesity prevention trials in communities in France, the EPODE project (Raffin xx).

There are few specific nutrition campaigns, but often nutrition messages are embedded in overall healthy lifestyle programs. The best example of evaluated data related to fruit and vegetable campaigns, where small effects are produced, but campaigns need to be sustained for several years. Nutrition counter marketing has not yet been implemented on a large scale to counter messages about sweetened drinks, food advertising to children and food labelling, discussed earlier. These are future challenges in the area of obesity-related nutrition social marketing.

Summary

Generic reviews of obesity prevention through MMCs / social marketing (Typology Category A)

The analysis found that there are more reviews of the potential for MMCs and social marketing to prevent obesity than reported results of actual mass-reach campaigns. Almost all interventions reviewed were mass media campaigns, rather than social marketing efforts. Most social marketing studies were small scale controlled behaviour change trials, and tested highly specific intensive behaviour change interventions, rather than population-wide campaigns. The issue of counter-marketing tends to be ignored in the public health approaches to obesity social marketing, but is common in commercial marketing (and also has a long history in tobacco-related mass media and public health campaigns). Social marketing is a tool that could contribute to counter marketing in a more strategic way, using SM strategies such as developing a social movement (increasing consumer pressure on Government), regulating food advertising, subsidise healthy foods or tax unhealthy ones. These strategies would target consumers and decision makers, informing them about healthy choices, and using comprehensive SM approaches

Specific MMC or social marketing campaigns focused on obesity (Typology Category B)

Specific reports of the results of obesity focused mass media campaigns are rare. There are more numerous nutrition and physical activity campaigns, but these emphasize the generic health benefits of nutrition or activity, for example, increasing serves of fruit and vegetables in adults and children. Specific campaigns from a variety of countries found in the analysis are discussed in some detail including those from the UK (BBC 'Fighting fat and fit'), Holland ('Maak je niet dik!'), Australia (Victoria: 'Piece of string'), and the USA ('Steps to a Healthier New Orleans'). There is some discussion of mass reach 'mediated' interventions (interventions are part of a cluster of 'mediated' behaviour change interventions, which include web, internet and new technology interventions, although these are generally outside of the scope of this report) including: USA ('Shape Up Rhode Island') UK ('the Liverpool Challenge'), and Australia (NSW: 'Get Healthy Service')

The study found limited audience segmentation research in the published health literature, but some does exist in the grey literature of Government and NGO reports. Since the food industry regularly uses this approach to define marketing segments for unhealthy products, it is recommended that it should become part of the public health armamentarium in response.

MMCs and social marketing efforts targeting physical activity

There are over 20 mass media campaigns that have promoted physical activity reported in the literature since the 1980s. There have been at least four reviews of physical activity mass media campaigns, since 2004 including a systematic review published in 2011. It is generally thought that physical activity campaigns alone will not result in changes to long-term complex physical activity behaviours, and that proximal measures such as campaign awareness are a common initial metric of population reach across campaigns. There is a wide range of community awareness following PA campaigns, but on average, around two-thirds of a defined population is likely to recall the campaign and its messages, assessed in short term campaign follow-up surveys. The 2011 systematic review found that a third of campaigns showed significant changes in attitudes or knowledge, and of 10 campaigns that assessed PA behavior, half showed significant but small increases in reported activity. This suggests that campaigns can influence proximal outcomes in many, and intermediate and behavioural outcomes in smaller proportions and with small effect sizes. Key lessons include that campaigns should be part of longer term approaches to prevention, that proximal impact measures be used to initially assess and compare campaigns, and that consistency in messaging and 'brand' description should pervade all PA campaigns and social marketing efforts.

MMCs and social marketing efforts targeting nutrition and healthy eating

Some nutrition campaigns targeted micronutrients, fortification [for example folic acid in flour] or social marketing for under-nutrition in developing countries. Others were related to obesity, weight loss, or generically part of a healthy lifestyle for chronic disease prevention, and are the subject of this review. One area of substantial progress has been in social marketing and mass media to promote fruit and vegetable consumption. Evidence suggests that well implemented multi-strategy campaigns can be effective, but need to be sustained long term, in order to move the population towards recommended dietary goals for Fruit &Vegetable consumption. Another effective series of campaigns was carried out in the USA to promote the switch from high fat to low fat milk. These were known as the '1% or less' campaigns, and have been reported in several community studies. There were few specific nutrition campaigns, but often nutrition messages are embedded in overall healthy lifestyle programs. The best example of evaluated data relate to fruit and vegetable campaigns, where small effects are produced, but campaigns need to be sustained for several years. Nutrition counter marketing has not yet been implemented on a large scale to counter messages about sweetened drinks, food advertising to children and food labelling, discussed earlier. These are future challenges in the area of obesity-related nutrition social marketing

SECTION 5 MEASUREMENT: A REVIEW OF POPULATION MEASURES OF CAMPAIGN-RELATED PANO BEHAVIOURS AND ANTECEDENTS

5.1 About this section

This section examines measurements and indicators used in assessing and monitoring health behaviours, and in particular, those that might be relevant to the evaluation and long term monitoring of large scale MMCs and social marketing campaigns. The section starts with an introduction on the role of population measures, as part of public health surveillance, and how that concept fits within PANO MMCs, and is followed by a specific review of West Australian measures. This section is comprised of the following sections:

- 5.2 Public health surveillance for MMCs and SM campaigns
- 5.3 The role of behavioural risk factor monitoring
- 5.4 Examining existing population behavioural data sets and surveillance systems, particularly in WA using secondary data sources, and prevalence estimates of behaviours relevant to PANO MMC in WA
- 5.5 Measures used in evaluation reports of Physical activity, nutrition and obesity-related MMCs
- 5.6 Towards a framework for measurement in PANO related campaigns

5.2 Public Health Surveillance for MMC / SM campaigns

How Public Health Surveillance applies to Social Marketing and Mass Media Programs

Public health surveillance involves the collection and analysis of systematically collected data, in an ongoing manner, to inform and develop public health programs. A subset of public health surveillance is chronic disease risk factor surveillance, where the primary objectives are to quantify [i] the prevalence of these PANO risk factors [population magnitude of the problem], [ii] monitor trends in the prevalence of PANO risk factors, [iii] identify their distribution and correlates [to understand population sub-groups and understand some of the determinants of behavioural risk factors], and [iv] to provide population monitoring to assess the net impact of public health interventions over time. The latter function is linked to PANO MMCs, as to identify no increase in prevalence [where one was expected based on secular trends], or identify a reduction in a risk factor or condition, would signify a positive public health outcome, especially if compared to other regions or countries.

The principles of public health monitoring and surveillance apply to long-term MMCs and SM programs. The distinction is here between short term pre-post evaluation of single MM campaigns [which only require before and after representative population surveys], and the longer term monitoring of multiyear integrated campaigns and social marketing efforts. This section focuses on the latter, and implies a 'program of work' in a social marketing framework to address PANO lasting at least several years. This also implies a set of monitoring and surveillance tasks, including but extending beyond annual population health behaviour surveys.

Four levels of measurement in the surveillance of PANO Social Marketing and Mass Media

The levels of indicators and measures required in a comprehensive surveillance system are drawn in Figure 14. These range from health outcome indicators collected through routine health statistics [level 4], behavioural measures [level 3], and antecedent measures in level 1 and 2. The first sets of measures of formative evaluation are shown in level 1. Some of these precede the program, and are assessments of the quality, relevance and acceptability of the MM communications proposed. Next are process [implementation] measures, which include measures and indicators of all the sectors to be engaged, the partnerships and coalitions formed, and their functioning over time [also shown in level 1]. The next stage, level 2 shows measures of the population reach of MMCs, and the total numbers of people or organisations participating or engaging in programs or events. Included in this level would be population measures of ‘intermediates’ in the hierarchy of effects, including campaign awareness, message understanding, and possibly attitudes, beliefs, efficacy and intention.^{xxvii}

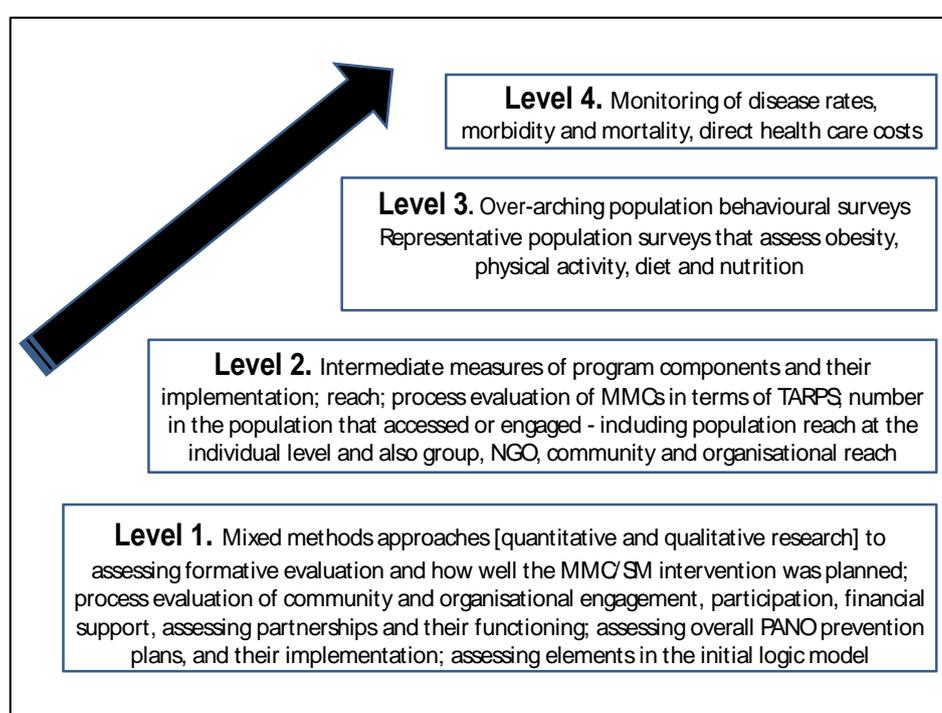


Figure 14 Four levels of a comprehensive surveillance program for PANO MMC/SM campaigns

The major challenges in developing a comprehensive surveillance system are the need for baseline measures at all levels, of the target populations, organisations, policies or environments. This would require a clear logic model to be built before the MMC/SM campaign, to describe the proposed components, their timeframe, and their expected consequences for each year; then a set of measures

^{xxvii} Although most of these individual-level intermediate measures would be collected in the representative population surveys described in level 3, they are antecedent or explanatory measures, and are conceptualised and described in level 2.

could be developed to assess these, and should be collected at the baseline, as well as serially throughout the MMC/SM campaign.

Sufficient resources should be allocated to defining and developing these measures and indicators, including the possibility of policy and environmental audits, baselines with organisations [of their engagement, capacity and commitment], and through comprehensive population surveys.^{xxviii}

The comprehensive four-level public health approach described here is similar to the concept of 'summative' evaluation described by communications-focused academics. The latter is noted in the box in the right, as described by Robert Hornik, a US-based communications expert. The key difference is that the communications experts focus more on the individual change measures, across the hierarchy of effects, and the public health model includes the more complex tasks of assessing and monitoring policies, environments, organisations and partnerships, which are part of a fuller explication of social marketing efforts [comprehensive prevention efforts].

Hornik 2002

“role of summative evaluation is still the same, to understand whether a (mass media or social marketing) program has been implemented, whether its audience has been exposed to the messages as expected, whether there have been effects on intermediate process and distal (often behavioral) outcomes, and whether some members of the audience were more affected than others.”

Hornik, R. C. (2002). Epilogue: Evaluation design for public health communication programs. In Robert C. Hornik (Ed.), Public Health Communication: Evidence for Behavior Change. Mahwah, NJ: Lawrence Erlbaum

^{xxviii} A key challenge with population surveys is to determine if existing annual health surveys would be sufficient to assess MMC/SM campaign effects, or whether stand-alone population surveys are required. A useful compromise is being developed in Canada, where the national health survey [the CCHS, Canadian community health survey] is allowing Health Canada to purchase a few questions in the rolling CCHS survey, to allow for pre–post impact]; this is excellent methodologically, but only allows for a few key questions, but this may be better in the long term, than standalone more detailed attitudinal, cognitive and behavioural surveys, that are too lengthy and expensive to be repeated in a standardised way over several years].

5.3 The role of behavioural risk factor monitoring

The need for ongoing population surveillance

There is a need for sustained consistent background population monitoring, to assess the impact of any campaign and associated activities on end-point risk behaviours, “healthy eating and physical activity”. In addition, long term monitoring of obesity needs to be (and is already) well integrated into public health surveillance. Population surveillance of health risk behaviours is well developed in Australia, but differs among States and territories, with each jurisdiction using slightly different survey modes, sometimes asking slightly different questions and with different survey frequencies. An optimal monitoring system collects information from representative samples of the target population(s), using reliable and valid questions, and uses standardised survey methods over time.

Examples from the USA and Canada

Examples of these systems include the US Behavioral Risk Factor Surveillance System (BRFSS), and the national Canadian Community Health Survey (CCHS). The BRFSS collects core and comparable data from all US states, and allows trend over time data to be collected for obesity, physical activity, and some nutrition indicators, with comparable surveys dating back as far as 1986. The trend data for obesity have been widely shown, and had a major impact on policy makers and the general community as the color-coded states showed increases the proportion of adults classified as ‘obese’ dramatically and continuously between 1986 and the present [<http://www.cdc.gov/obesity/data/trends.html>]. Analyses have been carried out at smaller are levels, including the municipality [county] level, given the consistency and comparability of data collection. Similar trends have been explored for physical activity and some nutrition indicators.^{xxix} Examples are shown for fruit and vegetable consumption in Figure 15, using a self-guided application for simple analyses of fruit and vegetable consumption.

For physical activity, data were analysed only from 36 states with exactly comparable data over time [of the 50 states], and show no change to 2000, and then a reduction in the proportion reporting no leisure-time physical activity (Figure 16). These provide long term surveillance of these risk factors, and use established measures.^{xxx}

^{xxix} For physical activity, see: <http://www.cdc.gov/nccdphp/dnpa/physical/stats/index.htm>

Some additional self- help tools allow customised analysis – for example, of physical activity over time, but also of fruit and vegetable consumption over time – see <http://apps.nccd.cdc.gov/5ADaySurveillance/> - this application generated the data shown in figure 5.1.

^{xxx} *It is better from a population surveillance perspective, to retain a partly imperfect measure, rather than improve these self-report measures continuously and have no comparable data over time [Bauman A , Trends in Exercise prevalence in Australia; Community Health Studies, 1987;11:190–196]*

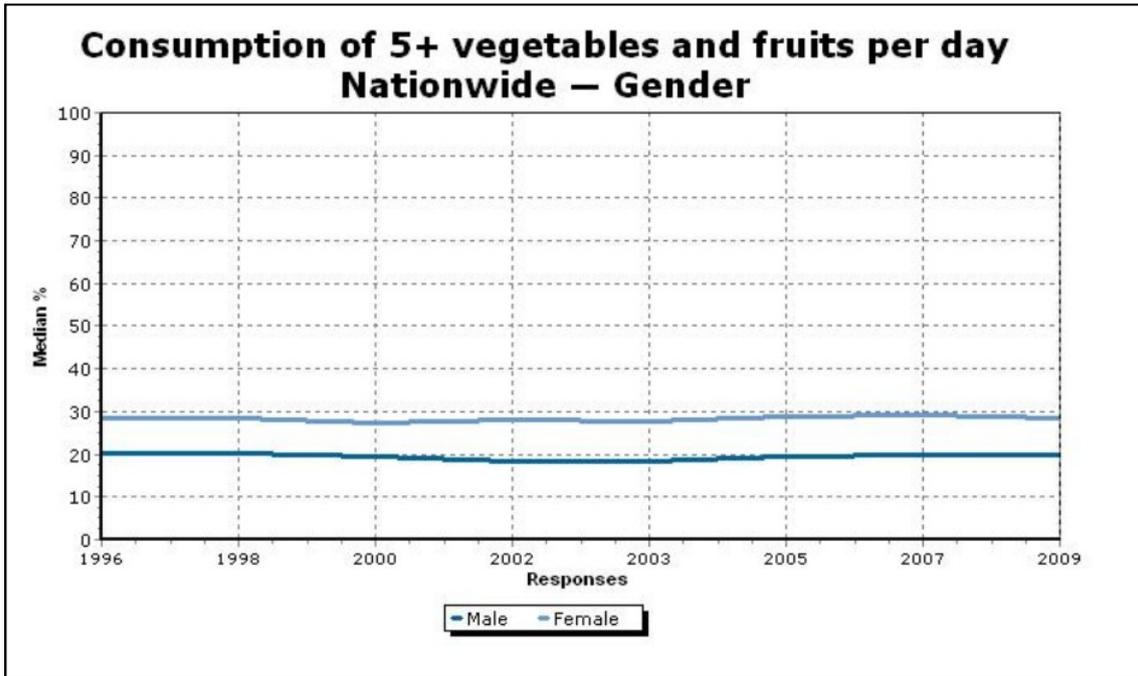


Figure 15

US data using the BRFSS application for simple analysis – population proportion meeting the fruit and vegetable guidelines, 1996 – 2009

The data in Figure 15 show very little change in the proportions of US adults meeting the ‘5+ fruit and vegetable’ dietary guideline. Figure 16 shows no change in inactivity rates until around 2000, after which a decline in population ‘inactivity’ was apparent. These are pointers to the net effects of population level interventions targeting nutrition and physical activity, and demonstrate the need for long term preventive efforts and population monitoring in these areas.

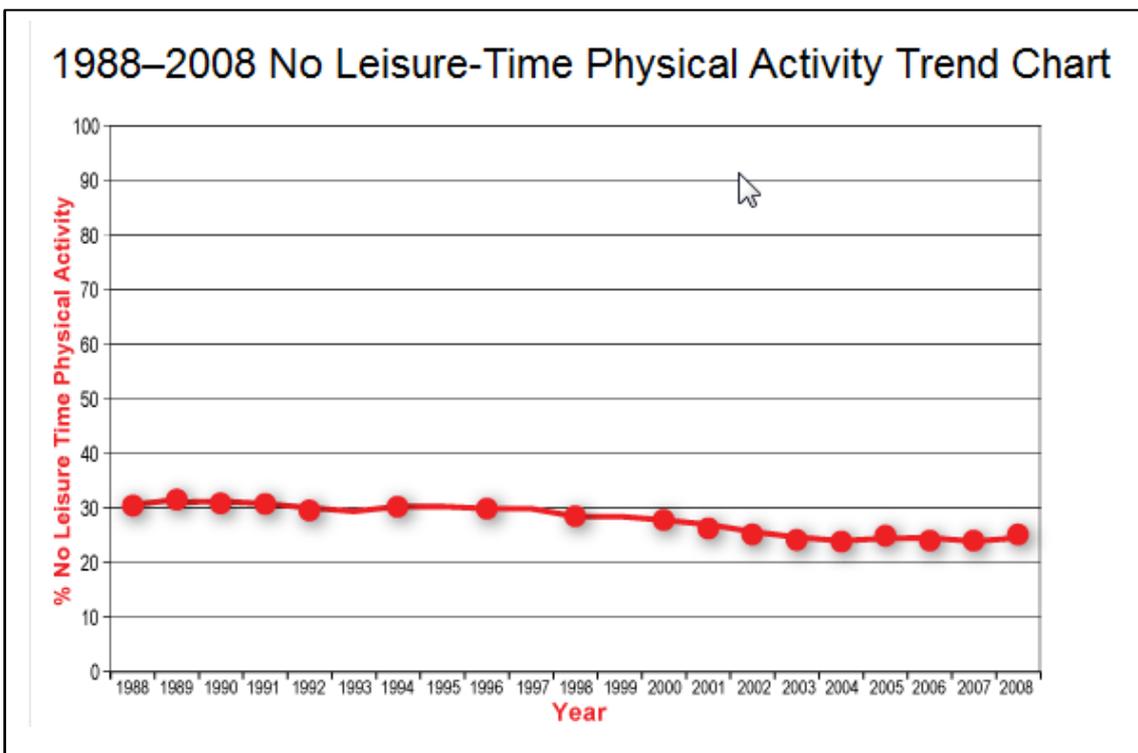


Figure 16 US

data using the BRFSS [comparable data from 36 states] The percentage of adults reporting ‘no leisure time physical activity’, 1986-2008

Behavioural surveillance – national Australian data and data from States and Territories

An Australian audit has been reported in which the sources and potential trend data in risk factor surveillance in Australian states and territories have been identified.¹⁴⁷ The audit identified that national and state-level routine data collections for population health existed, but that despite endorsement by the National Public Health Partnerships in 2001, there remained a “lack of a dedicated chronic disease surveillance [monitoring] system”.

The ABS National Health Surveys, conducted by household surveys every three to five years do provide cross-jurisdictional comparisons, as do the triennial adolescent ASSAD surveys for secondary school aged adolescents. However, at the State level, most surveys are carried out by random digit dialling telephone survey,^{xxxii} using slightly different sampling frames, survey frequency, and sometimes, even different core questions.

Overall, the State-based surveys provide local surveillance of reported obesity, dietary indicators and physical activity, relevant to PANO measurement. Although all jurisdictions make efforts to obtain representative population samples, there are still slight differences in some questions used. There is a standard approach to self-reported height and weight, with consistent use of BMI categories to describe obesity rates; further, the slight mis-classification in self-report may not pose major public health problems in monitoring trends.¹⁴⁸ Consistency is noted with questions related to the frequency of intake of fruit and vegetables, and the type of milk used. However, for physical activity questions, variations in the [established and validated] Active Australia questions appear across jurisdictions. Some use the additional gardening and yard work question in prevalence estimates; Queensland added ‘brisk’ to the walking question; Victoria omitted the ‘moderate intensity’ question, as it was less reliable than the walking and vigorous intensity questions.

For children and adolescents, there are standard questions in the ASSAD surveys that are asked in most jurisdictions every three years. Other child-health surveys vary across Australia, with different questions, and different responders used; for example, parent report of their children’s physical activity or diet may be different to their children’s own report; and both might vary substantially compared to an objective or criterion measure.

The area of measurement interest in behavioural surveys varies among surveys and over time. For physical activity, questions ask about leisure time physical activity [with some active travel], in the Active Australia questions, but ask only about [exercise focused] leisure time in the National health surveys. No surveys in current use in Australia ask about total physical activity, different domains of physical activity [work, transport, domestic and leisure time activity], and none currently ask about ‘sitting time’, a specialised form of sedentary behaviour. For nutrition, most ask about indicator questions [fruit, vegetables, milk, and sometimes whole grains and meat consumption frequency], but no validated large-scale total dietary measures are included [such as 24 hour recall with a trained dietician, or 3-day food diaries or records].

For children and adolescents, measures also vary, but tend to focus on indicator questions [for example, the frequency of fast food or take-away food consumed, and the frequency of drinking sweetened

^{xxxii} There are increasing issues with landline phone surveys, as increasing numbers of younger people exclusively use a mobile phone, resulting in trends a decline in response rates with differential sampling biases over time. The need for objective measures, rather than just self report data, has been recognised in the 2011 National Health Survey, which has a range of biomarker and objective measures.

carbonated beverages, or eating cakes, biscuits and chips]. Few surveys ask about attitudes, beliefs or intention to eat less or move more, as these are considered specialised questions outside of the scope of routine surveys.

5.4 Examining existing population behavioural data sets and surveillance systems in Australia, particularly in WA, using secondary data sources

National data for Australia

National and state-level surveillance systems exist for monitoring health behaviours and trends in obesity/overweight. The national data are derived from surveys such as the National Health Survey (NHS), and are collected by the Australian Bureau of Statistics. These surveys show known increases in obesity and overweight, and also have sufficient sample size for State-level comparisons.

Using the most recent 2007/8 NHS, State rates of self-reported overweight and obesity varied from 59% in the ACT, to 63% in WA, with no differences among states. Data on sub-samples were collected by objective measurement of height and weight, and are shown in Figure 17. Overall, 67.7% of males, and 54.3% of females were overweight or obese, rates that were slightly higher than those by self-report. Inter-state comparisons are shown in Figure 17, with no substantial differences; WA data were slightly higher for overweight among males, but these estimates did not differ from other states.¹⁴⁹

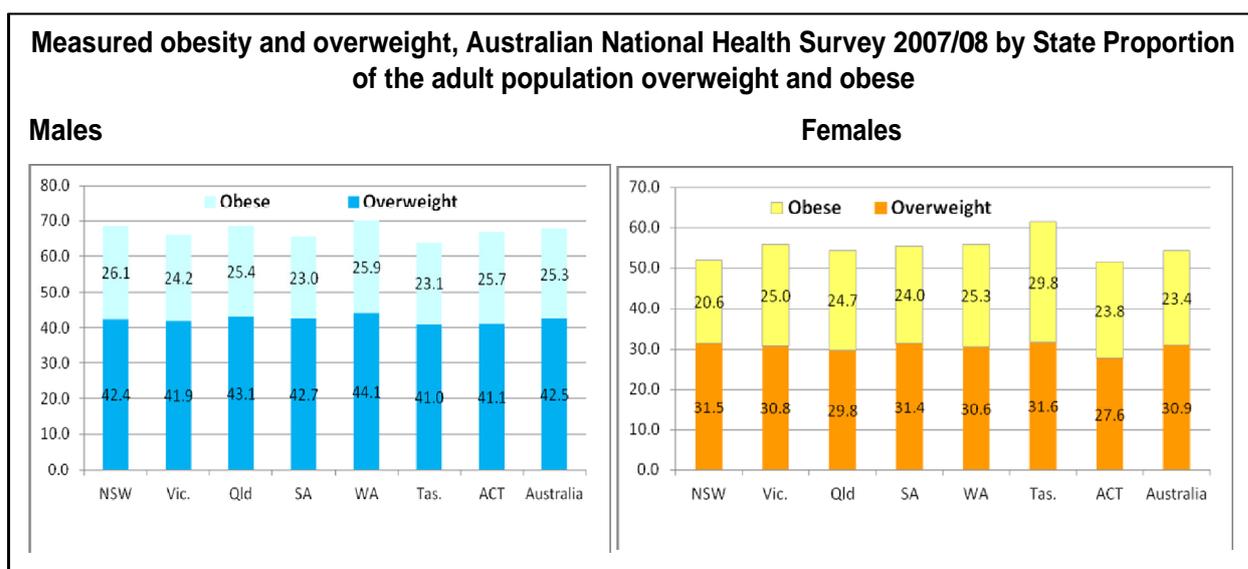


Figure 17 Measured obesity and overweight, Australian National Health Survey 2007/08 by State: proportion of the adult population overweight and obese [analysed from ABS 4842.0.55.001¹⁴⁹]

Physical activity data were also collected by the NHS¹⁵⁰ In the NHS2007/8 62% of adults did not meet the level of physical activity recommended in the PA guidelines. The most inactive [highest proportions not meeting guidelines] were in South Australia (65%) and Queensland (66%). The Australian Capital Territory had the lowest proportion of people not meeting guidelines (55%), followed by WA (57%, see Figure 18). This suggests WA residents are more active than in other States. This is corroborated by data from another ABS survey, asking about Sport and Active recreation participation (2009/10).¹⁵¹ Regular participation, defined as participating in sport or active recreation 2+ times per week, was higher in WA than other states [32.2%], although these differences were not significant; note that the [mostly younger populations of] ACT and NT showed the highest regular sport and active recreation participation rates [37-38%]. Note that in

the ABS National Aboriginal and Torres Strait Islander Health Survey (NATSHS 2004/5), overall rates of ‘moderate-high’ physical activity were lower than in the NHS, with national rates of 25% meeting the [approximate] PA recommended level. This compares to national estimates of around 30% meeting moderate-high ‘exercise’ levels in the concurrent ABS NHS 2004/5 [see below, and Appendix 7, p125] and estimates of around 40-50% “sufficiently active” for health using the Active Australia measure in most state-based surveillance systems. Indigenous West Australians were slightly, but not significantly more active [29%] than Indigenous adults in NSW [21%], Queensland [24%] or the NT [27%].

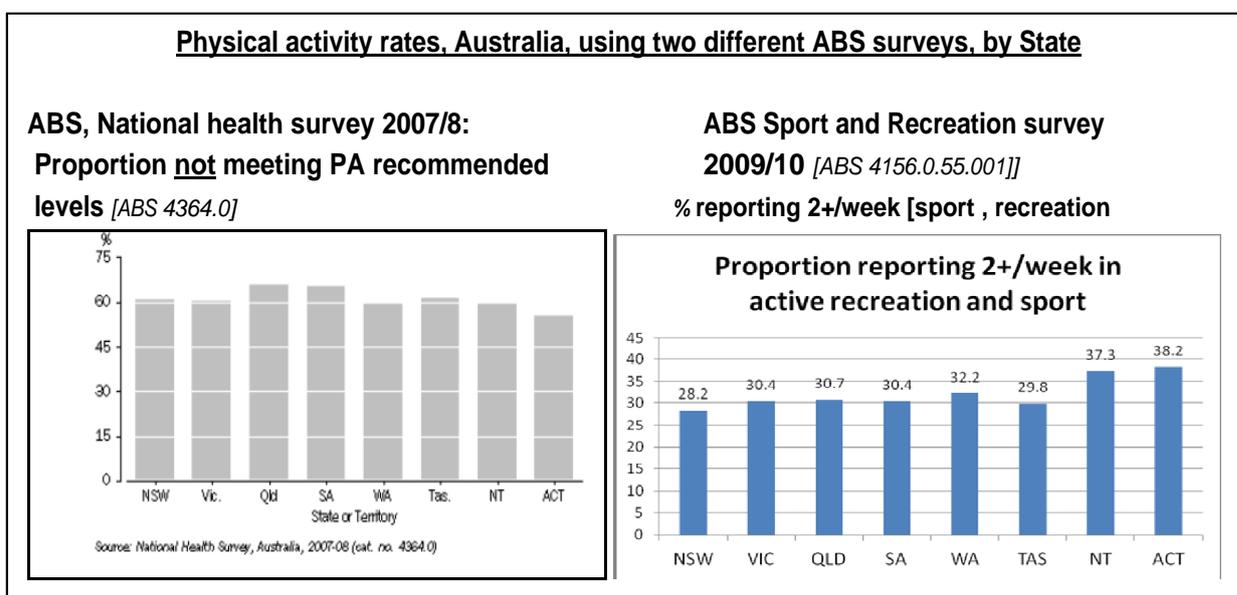


Figure 18 Physical activity rates in Australia – 2007/08¹⁵⁰, 2009/10¹⁵¹, using two different ABS surveys, by State

Fruit and vegetable data are shown in Appendix 7, with information from the 2004/5 ABS National Health survey. Rates of reaching the recommended levels of fruit and vegetable consumption were higher in WA than nationally; for fruit, ≥ 2 serves/day was reported by 55.4% of adults in WA, compared to 54.0% nationally. The difference was more marked for vegetables, with ≥ 5 serves/day reported by 19.8% of WA adults, significantly higher than the national rate, 14.3%. Other data are also shown in Appendix 7 from the 2004/5 NHS, with exercise of moderate-high levels reported by more adults in WA (32.4%, compared with 29.6% nationally), and obesity rates similar (WA 15.9%, national 16.6% in 2004/5).

These national comparisons tend to show that WA adults have high rates of physical activity, compared to other states, and may also suggest slightly higher fruit and vegetable consumption, but no apparent difference in obesity rates. These data are important to profile the relative comparison of WA with other states, as having healthier attributes at baseline or the start of a population intervention may make it more difficult to achieve change, as more of the motivated in the population are already carrying out the healthy recommended behaviours.

Data for Western Australian

There are two main survey systems in WA that collect representative population information, using serial population self-report surveys. These are the CAPANS survey for children and adolescents {Children and adolescents physical activity and nutrition survey}, and the HWB [Health and Wellbeing] surveys for adults. The CAPANS surveys 2003 and 2008 target children and adolescents, and collect information on physical activity participation, motivation, barriers to being active, objective pedometer step counts in a sample, measured height and weight [BMI] and anthropometric measures, reported nutrient intake, and dietary patterns (CAPANS 2003, 2008). Sample sizes were 2274 and 1827 children in each CAPANS survey, sampling

from primary and secondary school grades. Population targets were set by the WA Physical Activity Taskforce, including the realistic and achievable target of the 'proportion of children meeting PA recommendations increasing from 58% to 63% within 10 years'. CAPANS assessed indicators relevant to potential social marketing campaigns, including measures of active travel [walk or cycle to or from school], actual steps taken,^{xxxii} and total screen time {TV, internet}. Trends were also collected for nutritional indicators, and compared to earlier data from the mid-1980s and mid-1990s.^{xxxiii} Some data were collected on physical activity and nutritional barriers and preferences that could inform or monitor the impact of social marketing efforts.

Annual adult population health risk and behavioural information was collected as part of the WA Health and Wellbeing (HWB) surveys, collected since 2000, with reasonable trend data since 2002. The most recent survey was the HWB survey in 2010 collected by population telephone surveys, with a creditable 75% unadjusted response rate, suggesting good representativeness.¹⁵² The data are collected from adults 16+ years old, and at least 550 surveys are collected continuously, each month [in 2010], and data are weighted to the WA population. Data are collected on quality of life, prevalent chronic disease,^{xxxiv} and lifestyle and behavioural risk factors. The survey also collects information on social and demographic factors, family structure and size, income, geographic location and social connections and support. Questions were also asked on major life events, sense of control, self-rated health, disability and quality of life. Each annual report was examined, and data trends plotted, although some surveys used weighted data to the population at the time of the survey; trend estimates weighted all the serial data sets, and produced useful information on trends in obesity, physical activity, and nutritional indicators. Refer to Figure 19.

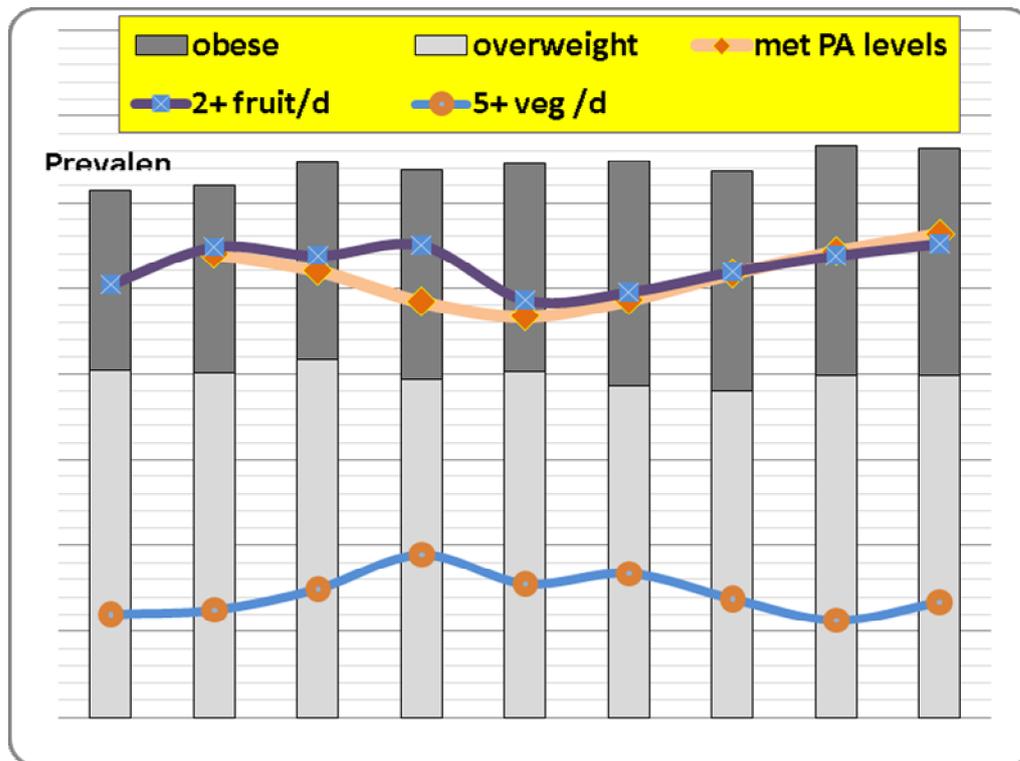
^{xxxii} Increased steps for primary school boys [13202 to 13844], but no change for primary school girls [11681 to 12015 steps], or for secondary school boys or girls [14319, 14433 boys; 11709, 11368 girls, between CAPANS 2003-2008]. There were no changes in active travel rates over time; slightly fewer reported active PE in school in 2008, and TV/screen time did not change [the two hour guideline for screen time met by ¼ in primary school, and 1/5 in secondary school. Trend data did suggest a slight decrease in TV minutes per day, with no significant increase in computer usage time per day, and a slight increase in study and reading time, and in social media usage.

^{xxxiii} Vegetable intake fell since 1995, fruit unchanged; meat intake increased, and some confectionary increased including take-away foods. By 2008, most primary school met the fruit (70%) and 42% met the vegetable intake criteria, falling to much lower rates in secondary school adolescents (25% met the fruit or vegetable recommended serves/day). BMI increased from 9.3% of boys overweight or obese in 1985 in WA, to 23.1% in 2003, and for girls from 10.6% to 30.5% in 2003. Within the CAPANS surveys, primary school boys increased their rate of overweight/obese from 2003 to 2008 [20.7 to 26.7%], primary school girls slightly declined [26.0, 18.7%]; secondary school boys declined [boys 24.7 to 15.9%, and girls 23.1 to 15.9%, with the latter being a statistically significant decline.

^{xxxiv} With rates of CVD, mental health and injuries stable since 2002, but significant increases in reports of diabetes

Risk factor trends in Health and wellbeing (HWB) surveys Western Australia adults

Panel A. HWB surveys, WA adults – Trends in PANO {physical activity, nutrition, obesity}



Panel B. Trends in behavioural risk factors WA Adults, HWB surveys; including smoking and alcohol risk

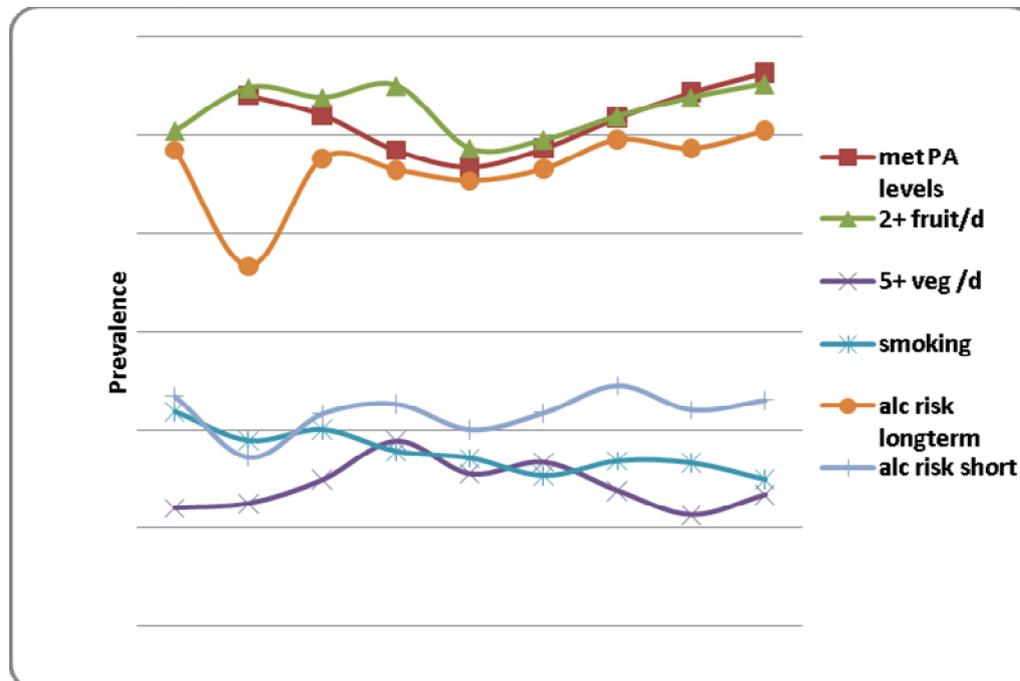


Figure 19

Risk factor trends in HWB surveys in Western Australia, adults 18+ years

These data are shown in the Figure 19, and reflect the PANO trends [Panel A], and all NCD risk factors, [Panel B]. Different measures were used to examine physical activity, including 'self-rated activity level',^{xxxv} and the full Active Australian questionnaire, and questions on Television hours per week.^{xxxvi}

Data in the figure, Panel A, shows physical activity, nutrition and obesity (PANO) trends. Overweight levels remained constant among adults, but obesity rates increased from around 21% in 2002 to over 25% in all surveys since 2007, suggesting net movement from overweight to obese in the population. This was also reflected in an increase in the mean BMI from 26.9 in 2002, to 27.7 in 2010. In 2010, the HWB asked about intention to lose weight, reported by 44% of adults, with 24% intending to maintain weight, no change 28%, and gain weight by 4%. In 2010, additional questions asked about waist circumference, and based on these data, 10% of males and 22% of females had abdominal obesity, rates similar to but not identical to BMI based obesity estimates.

Fruit consumption was reported by half the population, and increased over time, but recommended vegetable intake remained low [11-16%]. Mean serves of fruit changed little [1.6 to 1.8 serves/day over the period], and mean vegetable intake also did not change [range 2.8 – 3 serves/day through the period]. Additional food consumption indicators included type of milk used, where in 2010 59.2% reported using low fat or skim milk, similar to 58% in 2007. Frequent take-away food, at least 3x/week, was reported by 4.3%, with rates double that among young adults; these rates were almost identical to HWB data from 2007. Finally, food insecurity, trouble affording food, was reported by 3.3% of WA adults.

Meeting the physical activity recommendations declined from around 54% in 2003 to 46-48% between 2005-7, and increased to 56% by 2010. Mean minutes of physical activity were similar in 2003 and 2010 [386 mins/week], with lower mean minutes in the 2005-7 surveys. Other data, on the self-reported overall level of activity, was collected across surveys; for example, in 2010, 51% reported they were 'physically active' or 'very active', rates slightly higher than in 2007. In some HWB surveys, the location and setting for PA is asked [where they did their PA],^{xxxvii} and what facilities were present in their local environment, and also when they did their activity [morning, day, evenings]. These latter questions could be useful in MMC evaluation, if messages or programs and services directed people to specific locations or settings to be active.

Data in panel B shows only trends in the behavioural risk factors, with declines evident in smoking, and high rates of long term potential alcohol harm. Although only one in five reported alcohol levels conferring short term harm, the rates of alcohol usage conferring long term harm were much higher. In addition, the HWB asked about whether people had been told they had high cholesterol levels (30% in 2010), and high blood pressure (26% in 2010). These indicators are all relevant to NCD prevention, but are beyond the scope of this measurement discussion on PANO assessment.

^{xxxv} For example, self rated 'very active or active' was reported by 51% in 2006; similar rates in 2008 and in 2010

^{xxxvi} TV hours per week – in 2006, 26% reported more than 3 hours of TV per day, increasing to 30.6% and 30.7% in 2007 and 2010.

^{xxxvii} Examples of the most frequent settings were (HWB 2007) street/footpath 58%, public parks 18%, gym 18%, home 15%, beach 13%, cycle/walking path 11%, bush 7%, team sport facility 7%, golf course 6% and pool 4%.

5.5 Measures used in evaluation reports of Physical activity, nutrition and obesity-related MMCs

In the previous section, the existing Western Australian surveillance systems provided good information on behavioural and health outcome indicators relevant to PANO. Few intermediate measures are asked, for nutrition, diet, obesity or physical activity patterns. These data were not reported in usual population behavioural monitoring surveillance systems, although they have been reported in population surveys elsewhere related to the evaluation of MMCs or social marketing campaigns. Examples of these kinds of measures are reported from previous PANO MMCs.

Previous MMCs have asked a range of evaluation questions, specific to each campaign or series of campaigns. To illustrate the range of additional measures that are possible, reference is made to earlier Australian Campaigns. For example, Active Australia evaluations collected data on self-efficacy, intention to be active, beliefs and perceptions about physical activity including the recommended amounts for health.¹⁵³ Nutrition campaigns, such as the 'Go for 2 and 5' campaign⁵⁷ measured understanding of fruit and vegetables and health, recommended servings, beliefs about F&V, barriers and enablers to eat more F&V, and finally F&V reported consumption patterns. All specific campaigns collected some health-specific knowledge for that campaign, but these measures were not standardised, and rarely if ever asked in general routine population surveys at the national or state level.

Obesity MM campaigns identify campaign-specific measures. The Dutch campaign developed and validated an extensive array of cognitive and attitudinal measures, including subjective norms towards being overweight, attitudes, perceptions, motivations to maintain and reduce weight, perceived vulnerability to obesity, and behavioural actions.^{21,22} This study was strongly theoretically grounded, and used measures to test theories of planned behaviour and the health belief model. The 2007 'Piece of string' campaign in Victoria asked about perceived risks of obesity, intention to lose weight, and weight loss behaviours.³⁶

The national Measure up Phase 1 campaign [see section 3] utilised a range of measures to assess impact. These included knowledge questions about healthy lifestyles, and PANO recommendations. Recent trialling of healthy behaviours, and intention to improve lifestyles in the next six months were asked, as was generic and specific self-efficacy questions. Questions were asked about weight loss, barriers and enablers, previous attempts and future intention to lose weight. As the unique focus of Measure Up Phase 1 was on waist circumference, this was asked through questions on recall of waist messages, understanding / perceptions of waist circumference and risk, reported waist measurement and actual waist measures; these were direct campaign-specific and unique measures. This provides an example of the sorts of population survey questions that might be asked in a MMC evaluation, but they need to be defined in advance, and use reliable and validated measures of these concepts and constructs.

5.6 Towards a framework for measurement of PANO related campaigns

This section describes the principles of measurement applied to PANO mass media campaigns, how these measures should be developed and planned. Consideration of measures starts at the MMC planning process, with the development of a campaign plan over several years, the major sequences of communications, ancillary events, programs and strategies. This can be embodied in a 'logic model' to describe the inputs and anticipated outputs of each phase of the multi-year campaign. This detailed planning task is necessary to define the measures required, at all levels, and can lead to measurement development work where required. If formative evaluation [such as message testing, focus groups or other approaches] identifies particular themes or issues for a MMC, then measures should be developed to assess those. Effort should be placed on testing campaign questions, ensuring they have acceptable psychometric properties, and have been tested and applied to samples of people similar to those in the population surveys. A careful theoretical framework may be developed in some campaigns (see Wammes 2005²¹, 2007²², in particular), and theoretically relevant measures should be used in assessing the impact of these campaigns. Similarly, if a hierarchy of effects model is proposed in planning, then elements of the hierarchy should be measured. For a more detailed discussion of measure development for mass media campaigns, see Bauman et al. (2006).³⁴

The measurement and monitoring challenge extends beyond the MMC/ social marketing communications component alone, and should be considered as part of the overall evaluation framework for assessing the campaign and its community-wide components, environment and regulatory change, and policy/stakeholder change [see Reger-Nash et al (2011)³⁵ and Reger-Nash (2006).¹⁵⁴ This broader evaluation framework proposes sets of measures at the individual level, stakeholder, organisational and policy level, and the environmental level. An example of this kind of framework for PANO campaigns is shown in Table 10 below.

The tasks for measurement are substantial, and are interwoven in the evaluation of any MMC. Sufficient resources for evaluation are required; if the evaluation goal is to document that the MMC works, in achieving its stated objectives. It is generally thought that 10-15% of a total program budget should be spent on evaluation, but in the case of MMCs, this includes the substantial costs of formative evaluation, message testing and development, as well as indicator and measure development, and any population surveys or other methods for monitoring campaign effects and impact. The costs of population surveys can be high, but the quality and representativeness of these surveys will contribute to the value of the evidence generated. Larger surveys, less frequently, are of more public health usefulness, than weekly small-sample tracking surveys.^{xxxviii}

The key element of Table 10 is the need for evaluation planning, careful development of measures and monitoring systems, and careful [usually psychometric] attention to measurement reliability and validity. In addition, most optimal MMC evaluations are complex, and require mixed methods. There are stages in the

^{xxxviii} This is a complex argument, and relates initially to sample size; tracking surveys of 50-150 adults/ week or per month are too small a sample to have sufficient statistical power to detect changes

evaluation that will need different kinds of measures, at the individual, community, stakeholder, policy and environmental levels. There should be a clear benchmarking process of all relevant settings and groups, and quantitative data to capture proximal changes in intermediate measures, as well as endpoint PANO behavioural measurement. The measurement can and should use and link to existing population surveillance systems, but may require standalone additional surveys, careful attention to research design, sampling and analysis. These comprise a good evaluation plan, which is beyond the scope of this document.

Summary

In summary, the regular health and lifestyle surveillance systems in place at the state level may be a component of MMC evaluation, but a myriad of additional measurement tasks are needed. Careful planned approaches to campaign assessment are worthwhile at the outset, in order to provide stakeholders and funders with the best possible evidence of campaign effects.

MMC / social marketing stages	Probably type of measurement ; measurement tasks	Examples of relevant measures
Formative development of campaign	<p>Concept development ; testing of candidate measures; assess reliability and validity</p> <p>Development of logic model</p> <p>-identify evaluation measures required</p>	<p>Measures specific to campaigns or unique messages [see 'waist' specific measures in the Measure Up Phase 1 campaign]</p> <p>Psychometric validation / development of 'audience segments' [for example, through cluster analysis] if a segmentation approach to communications is needed</p> <p>-identify the evaluation design; when will quantitative population surveys be needed; what other measures needed</p>
Implementation indicators for the MMC	<p>Measures of population reach, process evaluation measures</p> <p>Measures of integrated campaign development</p>	<p>Measures of campaign delivery , TARPS; awareness of MMC; brand recognition; brand perception, credibility</p> <p>Other process evaluation measures - attendance, participation, recruitment to events or programs , professional engagement</p> <p>Identify that sufficient political will exists, funding and resources, interagency support</p> <p>Measures of community level indicators, stakeholder partnerships, community coalitions (Reger-Nash 2006)</p> <p>Logic model, clear sequenced MMC with defined messages / themes</p>
Baseline benchmark	<p>Population data on key outcomes</p> <p>In representative sample population surveys</p> <p>Environments and policy</p>	<p>[A] PANO relevant outcomes [such as could be collected by the HWB surveys, WA] - physical activity, nutrition and dietary indicators relevant to the MMC; obesity related measures [weight, BMI, waist]</p> <p>Baseline audits of the physical environment, of existing policy ; audits of food environment, sales</p>
Intermediate variables	Also collected in baseline benchmark surveys	[B] Measures include awareness, understanding, beliefs, attitudes, intention, efficacy [mediators that could be influenced by the MMC] -identify reliable measures, or develop and test them
Follow up surveys	Collects serial population benchmark data on [A] and [B] measures at serial follow up time points	<p>As above; additional process measures [what people did with the message; additional trialling behaviours, etc might be included]</p> <p>Follow up surveys of environments, stakeholders, and defined others expected to be influenced by the MMC [using mixed methods evaluation]</p>
Summative endpoint review	<p>End point review after a pre-defined number of years</p> <p>Population survey data</p> <p>Health outcome data</p>	<p>Final review of all evaluation components</p> <p>Health outcome data, including obesity rates, fruit and vegetable sales, consumption, objective measures of physical activity [such as the steps/day assessed in CAPANS]</p>

Table 10 Measurement tasks in a comprehensive multi-year MMC / Social marketing campaign

SECTION 6 SYNTHESIS OF FINDINGS

6.1 About this section

This section summarises sections 1-5 in order to synthesise 'current practice', and compare practice across the content areas of physical activity, nutrition and obesity. The discussion identifies areas where messages, implementation, measures or evaluation might be improved, assessed against optimal criteria outlined in Section 2 of the report. This discussion includes:

- areas where further research [quantitative or qualitative] might be informative in the further development of the Healthy Lifestyle program in WA; and
- areas where future MMC evaluation might benefit from additional or new measures or procedure being added to evaluation schedules.

The section ends with a series of recommendations for further possible research, and specific recommendations regarding future MMCs with a view to enhancing their breadth of evaluation or methodological rigour. These recommendations are presented in the light of the advantages that would accrue in terms of new knowledge, stronger evidence for MMC effectiveness, and how these in turn would increase the rigour and focus of the accountability of the Healthy Lifestyle Program to its stakeholders.

6.2 Current practice – drawing the report findings together

This project included a review of PANO mass media and social marketing campaigns conducted internationally and in Australia using defined frameworks.

For International PANO campaigns the main conclusions are as follows:

OBESITY

- a) For obesity prevention through MMCs or social marketing the analysis found that almost all interventions reviewed were mass media campaigns, rather than social marketing efforts. There was often confusion in terminology in two ways, with mostly MMCs being labelled incorrectly as social marketing; and second, small scale efficacy studies with marketing components were sometimes categorised as social marketing, although they were not population-focused.
- b) There is theoretical evidence that social marketing elements contribute to behaviour change, but most of these studies were small scale efficacy studies based on individual behaviour change principles, and the reported effects of these intensive behaviour change interventions are less relevant for population-changing campaigns.
- c) Counter-marketing tends to be ignored in the social marketing approaches to obesity prevention and control. Social marketing is a discipline that could contribute to counter-marketing in a more strategic way, using SM strategies such as developing a social movement (increasing consumer pressure on Government), regulating food advertising, subsidise healthy foods or taxing unhealthy foods
- d) Specific reports of the results of obesity-focused mass media campaigns are rare. Campaigns found in the analysis and discussed in detail include those from the UK (BBC 'Fighting fat and fit'), Holland ('Maak je niet dik!'), Australia (Victoria: 'Piece of string'), and the USA ('Steps to a Healthier New

Orleans'). There are relatively few campaigns, and more published reviews of the potential benefits of MMCs and SM for obesity prevention than actual published campaign data.

- e) For obesity prevention, the study found limited audience segmentation research and limited use of audience segmentation, other than by age/sex.. More accurately characterising market segments for unhealthy products could be better explored in the formative stage of campaign development.

NUTRITION

- f) There were few obesity-specific nutrition campaigns, but often nutrition messages are embedded in overall healthy lifestyle programs. The best example of evaluated data related to fruit and vegetable campaigns, where small effects are produced, but campaigns need to be sustained for several years. The obvious links to influencing food policy and food environments, in a comprehensive social marketing approach, remains relatively untested.
- g) Nutrition counter-marketing has not yet been implemented to counter messages about sweetened drinks, food advertising to children and food labelling. These are future challenges in the area of obesity-related nutrition social marketing

PHYSICAL ACTIVITY

- h) A plethora of physical activity campaigns exist, auspiced by Health or by other sectors and agencies; for this reason, not all PA campaigns have a chronic disease or obesity focus
- i) There is high variability in community awareness following Physical Activity campaigns, but on average, around two-thirds of a defined population is likely to recall the campaign and its main message. Smaller proportions are likely to changes their attitudes or knowledge, and fewer will report changes in PA behaviour, suggesting that campaigns can best influence proximal outcomes for physical activity.
- j) Campaigns should be part of longer term approaches to increasing PA, and consistency in messaging and 'brand' description should pervade PA campaigns and social marketing efforts. Working in partnership with other agencies will facilitate concurrent work on the physical and social environment, to improve opportunities for physical activity in the community.

For PANO campaigns conducted in Australia in the past decade the main conclusions are as follows:

- (a) Australian PANO campaigns were of a high standard overall, complying substantially with the best practice principles embodied in the analytic framework used in this review. Based on the evidence available, efforts in Western Australia demonstrated best compliance overall with best practice approaches for campaigns conducted at State or Territory level.
- (b) Campaigns involving sustained, multi-phase efforts over 5 years or more delivered the best performance in target population reach and impact, achieved target population reach in the range 83% - 93%, and are more likely to induce community change, and lead to influences on supportive environments and policy.
- (c) Notwithstanding the good practices observed in Australia and in Western Australia in particular, areas for potential improvement in planning, implementation and evaluation were also apparent.

- (d) All campaigns defined their primary and secondary target groups clearly. This was usually done in terms of the age segment of the population, sometimes with an additional variable such as parental status. More detailed audience segmentation was undertaken in few campaigns which represents an underused strategic approach and area for improvement.
- (e) Campaigns focused on impact evaluation of the primary target, but process evaluation was somewhat neglected, other than measuring media dose with TARPS; in particular, process evaluation of the campaign implementation and reach into secondary targets groups and among organisations and stakeholders was less often reported.
- (f) Campaigns were commonly linked with, or part of a broader strategic approach such as a State, or National Strategic Plan. Typically health-sector led, most efforts involved more than one sector and in many cases multi-sectoral efforts were used, apparently to good effect. This is to be encouraged in the future.
- (g) Epidemiological assessments were a common feature and most campaigns incorporated message design, formative testing and concept development. Nonetheless, campaigns rarely stipulated specific quantitative targets in advance for population level change in any of the variables addressed. Given the availability of quantitative data and historical information on expected campaign performance, this is a fruitful area for exploration. The use of logic models may help to focus on estimating targets for change.
- (h) Formative qualitative (as well as quantitative) research was commonly used and reported. Whilst qualitative methods appear to be appropriate, the review noted the recent publication of a *Comprehensive Guide for Designing, Writing, Reviewing and Reporting Qualitative Research* (by the Robert Wood Johnston Foundation⁴⁰) which may inform future quality assurance in this area of work.
- (i) Campaigns used one or more from a variety of models, theories and frameworks. These included Social Cognitive Theory (e.g. WA), Transtheoretical model, Theory of Reasoned Action, Health Belief Model, Programmatic Logic Models (e.g. Queensland), McGuire Communication Hierarchy. Thus, campaigns generally use theories and frameworks which focussed at the level of the individual rather than at the broader programmatic or ecological level as might be more consistent with a social marketing effort. This represents a planning inconsistency and area for improvement, perhaps by commissioning (or developing in-house) a suite of templates for planning, implementation and evaluation consistent with the best practices identified in section 2 of this report. Further, as discussed, if theories are used in planning, then they should be tested in evaluation; this forms part of evidence generation in 'getting the theory right'.
- (j) Campaigns commonly used paid electronic media (especially television) and paid print media but infrequent use of cinema. Strong use of public relations and earned media were relatively underutilised as a strategy and the value of earned media generated was rarely estimated. This represents an area for potential improvement.
- (k) Contemporary campaigns have begun to use webmail, social networking sites, Google and Yahoo! search marketing, and digital TV websites. The review noted that the US Centers for Disease Control and Prevention (CDC) has published *Social Media Tools, Guidelines & Best Practices*. These guidelines are designed to assist in the planning, development and implementation of social media activities, and

although developed in a North American context, they may be useful for Australian and other jurisdictions. This represents another area for potential quality improvement.

- (l) Individual campaigns such as Active Australia, Be Active, Gofor2and5, Eat Well Be Active did incorporate deliberate attempts to develop and utilise a 'brand' to embrace and provide a unifying communications umbrella for wider programmatic elements. However other campaigns were less explicit about brand development and leverage and this appears to represent an opportunity for strengthening future endeavours.
- (m) The review found that attempts were made to link campaigns with programs or services which were supportive of the campaign goals and objectives (bicycle lockers, cycle paths, better pedestrian walkways, signage cues at points-of-decision such as stairs, elevators, bus-stops; promotions in-store for fruit and vegetables generally and at point-of-sale). Process evaluation of these initiatives was rarely reported and is a weakness. Use of concurrent legislation, regulation or other more incisive public health policy measures was not apparent in the evidence available for this review; this is a matter for further consideration.
- (n) Campaigns very often featured appropriate linkages to the Dietary Guidelines for Australian adults, the National Physical Activity Guidelines for Australians and The National Physical Activity recommendations for children; in some cases, these linkages were also explicitly stated in campaign objectives. This is to be further encouraged.
- (o) Some Physical Activity campaigns featured strong linkages with the Primary Care setting but overall there appeared to be opportunities to make stronger linkages and achieve improved leverage for campaign impact through new or existing settings-based supportive/complementary strategies in the health sector. This should also form part of the process evaluation of the campaign.
- (p) The 'implementation dose' of campaigns was reasonably well documented: level of investment was always provided (although not always broken down by media modality); media weighting in TARPS and estimated target audience reach was available for a majority of campaigns. 'Cost per person reached' was also provided in one campaign (WA). This good practice of identifying the 'cost per person reached' could usefully be replicated for other campaigns. Further economic analysis, including cost per QALY, or other cost effectiveness indicators should be developed in a standardised way across campaigns, to demonstrate value for money of these interventions.
- (q) Indicators for general and prompted awareness were commonly reported for campaigns as were measures of intention and behaviour. Measures of knowledge and saliency were used less commonly. Validity and reliability of items used was not usually reported although there were exceptions where campaign evaluation was written up in peer reviewed journals. In best practice approaches in Section 2 of this report there is a recommendation to evaluate a combination of all intervention elements [rather than mass communications alone]. Campaign evaluation in Australia tends to focus narrowly on mass media communication alone rather than the potential breadth of the social marketing approach. This is an area for potential development.
- (r) Repeat cross-sectional surveys using Computer Assisted Telephone Interviewing (CATI) was the most commonly used approach for impact evaluation. In some instances CATI was used to provide continuous tracking. The optimal design, combined cross sectional and longitudinal (cohort) tracking

designs were used in the evaluation of two campaigns only. Thus there is partial compliance only with the best practice components identified in the review: (i) optimal research designs, ideally longitudinal analyses using a cohort design, with comparison cohorts from regions unexposed to the MMC; (ii) multiple evaluation collection points, to allow for sufficient duration of effects; and (iii) use of established reliable and valid measures and indicators to assess each component. This is an area for potential improvement.

6.3 Strengths and areas for improvement

Strengths

- In global terms, Australian MMCs are amongst the best planned, implemented and evaluated and comply substantially with what this review identified as best practice approaches. Western Australia in particular has demonstrated a strong track record in innovative and well conducted MMC and SM work based on the evidence found in this review.
- There are examples of sustained funding for campaigns over 5-10-year periods, with adequate dose intensity to achieve population reach of 85% or more and delivering demonstrable benefits; this is a good blueprint for future investment in Social Marketing and Mass Media Campaigns in Australia and in Western Australia.
- Typically health-sector led, most efforts involved more than one sector and in many cases multi-sectoral efforts were used, apparently to good effect. This is to be encouraged in the future.
- Campaigns very often featured appropriate linkages to the Dietary and Physical Activity Guidelines; this is to be further encouraged.
- Media weighting in TARPS and estimated target audience reach was available for a majority of campaigns. 'Cost per person reached' was also provided in one campaign (WA). This good practice of identifying the 'cost per person reached' could usefully be replicated for other campaigns and in all jurisdictions.

Areas for improvement

- An integrated and comprehensive mass media campaign does need a **sustained base and long term planning and resources, a comprehensive health promotion approach, and eventually linking campaign activity to relevant regulatory and policy initiatives**; however this remains a desired goal rather than the current reality of shorter term stand-alone MMCs.
- **Audience segmentation research** and application was undertaken in few campaigns which represents a potentially under-explored strategic approach.
- Campaigns rarely stipulated **specific quantitative targets for population level change** in any of the variables addressed. Given the availability of quantitative data and historical information on expected campaign performance, this is a fruitful area for exploration.
- **Counter-marketing tends to be ignored in the public health approaches to obesity social marketing.** Social marketing is a tool that could contribute to counter marketing in a more strategic way, using SM strategies such as developing a social movement (increasing consumer pressure on Government), regulating food advertising, subsidise healthy foods or tax unhealthy ones
- **Nutrition counter marketing has not yet been implemented** on a large scale to counter messages about sweetened drinks, food advertising to children and food labelling, discussed earlier. These are future challenges in the area of obesity-related nutrition social marketing
- Whilst the **standards for qualitative research methods** appear to be appropriate, the review noted the recent publication of a *Comprehensive Guide for Designing, Writing, Reviewing and Reporting*

Qualitative Research (by the Robert Wood Johnston Foundation⁴⁰) which may inform future quality assurance in this area of work.

- Campaigns tended to use individual-focused theories and models, rather than broader ecological frameworks, which would sit comfortably within an expanded social marketing framework. This represents a planning inconsistency and area for improvement, perhaps by commissioning (or developing in-house) a ***suite of templates for planning, implementation and evaluation consistent with the best practices*** identified in section 2 of this report
- Strong use of ***public relations and earned media were relatively underutilised*** as a strategy and the value of earned media generated was rarely estimated. This represents an area for potential improvement.
- ***Process evaluation of wider campaign initiatives and supportive programmatic activity was rarely reported and is a weakness which needs to be addressed***; this should include process evaluation of ancillary events, health service engagement and utilisation rates of materials in settings such as primary care and workplaces.
- ***New media require quality assurance*** no less than 'old media'. Contemporary campaigns have begun to use webmail, social networking sites, Google and Yahoo! search marketing, and digital TV websites. The review noted that the US Centers for Disease Control and Prevention (CDC) has published ***Social Media Tools, Guidelines & Best Practices***. These guidelines are designed to assist in the planning, development and implementation of social media activities, and although developed in a North American context, they may be useful for Australian and other jurisdictions. This represents another area for potential quality improvement.
- Developing a clear ***brand*** is recommended to provide a unifying communications umbrella. This occurs in some campaigns, but should be considered widely in future endeavours.
- ***Links to the use of legislation, regulation or other more incisive public health policy*** measures was not apparent in the evidence available for this review; this is a matter for further consideration.
- There appear to be opportunities to make ***stronger linkages and achieve improved leverage for campaign impact through new or existing settings-based supportive/complementary strategies***.
- Campaign ***evaluation in Australia tends to focus narrowly on mass media communication alone rather than the potential breadth of the social marketing approach***. This is an area for potential development.
- There is ***partial compliance only with the best practice components identified in the review for campaign evaluation***: (i) optimal research designs, ideally longitudinal analyses using a cohort design, with comparison cohorts from regions unexposed to the MMC; (ii) multiple evaluation collection points, to allow for sufficient duration of effects; and (iii) use of established reliable and valid measures and indicators to assess each component. In addition, new research areas that could be explored include segmentation research and testing of theory to feedback to future campaigns.

6.4 Recommendations

Planning recommendations

- Obtain longer term funding and support for developing more sustained campaigns lasting at least several years
- Use logic models to plan how the campaign might work, and set quantitative targets for change

Implementation recommendations

- Use PR , unpaid media and new media more strategically
- Conduct consistent process evaluation of primary and secondary targets, as well as stakeholders
- Develop partnerships with other sectors and agencies to develop a broad prevention campaign, including education and regulation/environment change to assist the social marketing efforts

Evaluation recommendations

- Use the best evaluation designs possible, ideally a cohort as well as cross sectional independent surveys
- Include economic evaluation and cost effectiveness analyses
- Consider segmentation research; theory testing research; and research to understand how campaigns exert their effects
- Use reliable and valid qualitative and quantitative measures that are relevant to measuring the steps identified in the logic model analysis

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APPENDICES

Background

The Heart Foundation has been awarded a contract by the Department of Health, Western Australia to conduct a Healthy Lifestyle Promotion Program over the next three years. A significant component of this Program will be a mass media social marketing campaign to promote healthy eating, physical activity and healthy weight.

The Heart Foundation requires a contractor to conduct desk research to review existing information derived from previous healthy lifestyle campaigns conducted by the Heart Foundation and the Cancer Council WA, including market research and campaign evaluations. The successful contractor will also be required to review recent market research commissioned by the Department of Health WA on similar topics and to identify further relevant data sources and research priorities.

The successful contractor will be required to identify and summarise key information, and or evidence, regarding knowledge, attitudes, and behaviours in relation to healthy eating, physical activity and healthy weight.

The key target groups for the Healthy Lifestyle Promotion Program are adults and parents. The contractor is required to summarise information relevant to these target groups.

Scope of the research

This desk research will be based on information derived from, but not limited to, the following sources:

- Market research information derived from the campaigns conducted by the Heart Foundation over the past four years such as Find 30 every day®, Draw the Line, Unplug and Play and MakeTracks2School (21 Reports).
- Information derived from 2010 market research commissioned by the Department of Health WA on adult and parental attitudes to the prevention of chronic disease and promotion of healthy lifestyle (1 Report).
- Information generated by the Cancer Council WA in their conduct of the Go for 2&5® campaign (4 Reports).
- Other relevant information collected through recent social marketing campaigns conducted in WA, Australia, or internationally including the Measure Up/Swap It Don't Stop It national campaign, Go for Your Life (Victoria), Change4Life (UK), and Heart Foundation Healthy Weight Theme Reports.
- Recent published reports, with an emphasis on peer-reviewed publications that examine the role of social marketing in influencing healthy eating, physical activity and healthy weight.
- Prevalence and incidence estimates, including the WA Health and Wellbeing Surveillance System (WAHWSS) http://www.health.wa.gov.au/publications/documents/Health_and_Wellbeing_Adults_WA2010_Overview_Trends.pdf, NaSSDA (National Secondary Students Diet and Activity) Survey http://www.cancervic.org.au/about-our-research/centre_behavioural_research_cancer/obesity_prevention, Children and Adolescents Physical Activity and Nutrition Survey <http://www.beactive.wa.gov.au/index.php?id=254> and the WA Adult Physical Activity Survey. <http://www.beactive.wa.gov.au/index.php?id=439>

Objectives of the research

Specifically the contractor is required to provide the following information for adults and parents, in relation to physical activity and sedentary behaviour, nutrition, weight:

- Population prevalence estimates, identifying appropriate sources of data
 - Estimates of health-related knowledge and willingness to consider changes in behaviour, including identification of suitable evaluation measures.
-
- Identify current motivations to change or modify personal behaviour to reduce the risk of chronic disease (salience).
 - Identify and quantify barriers and facilitators to adopting changes in health behaviour.
 - Identify demographic or epidemiological characteristics that are common (cluster) across health behaviours such as healthy eating, physical activity and healthy weight.
 - To identify key gaps where further primary research, qualitative or quantitative, may be needed in development of the new Program.

This desk research does not require the contractor to make recommendations regarding campaign strategies.

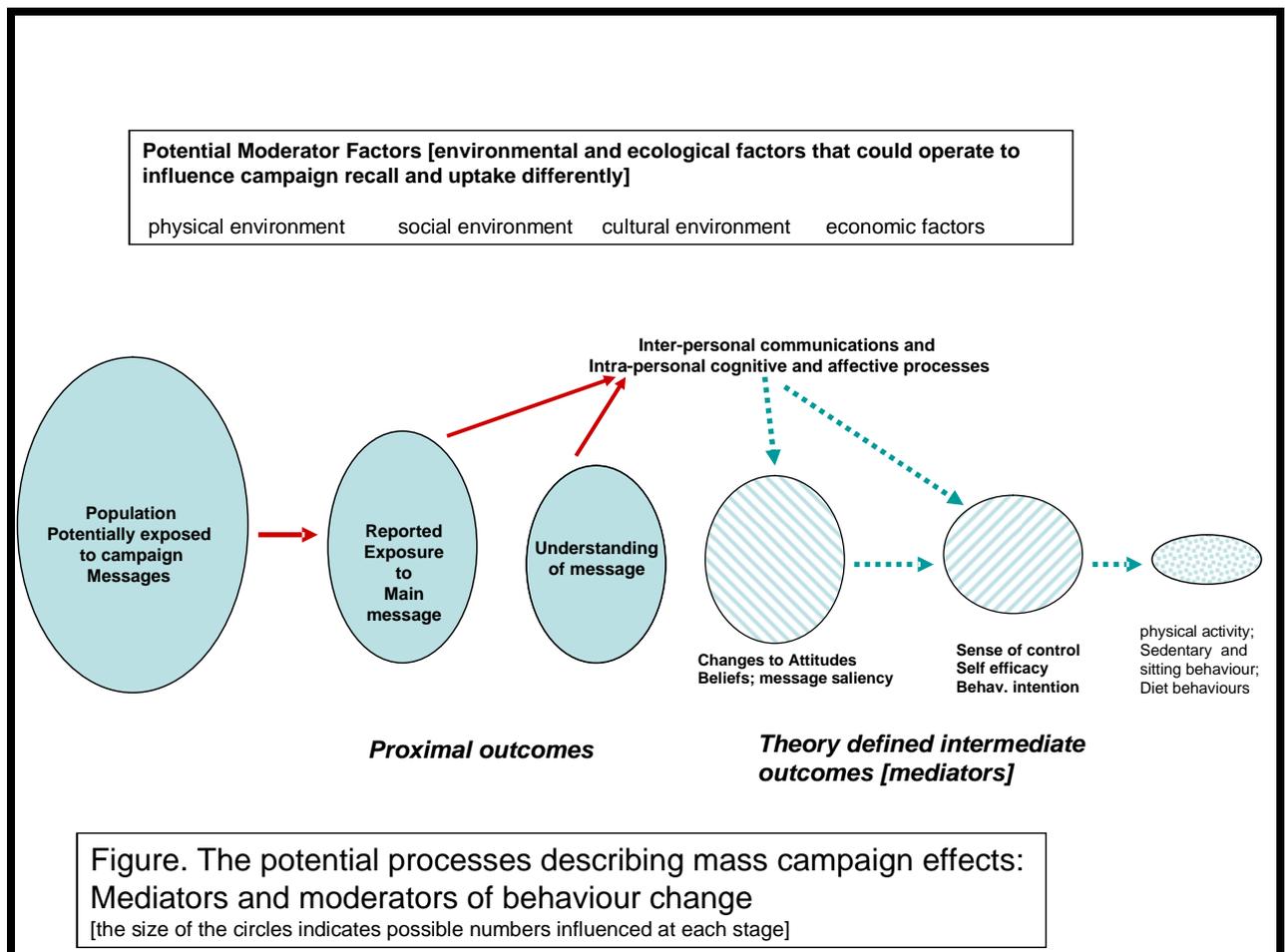
However, the desk research might identify gaps in existing health information of adults and parents that could be addressed by the Healthy Lifestyle Promotion Program.

Outputs

- A final report incorporating the results of the research; three hard copies and one electronic copy to be provided.
- Copies of raw materials reviewed that were not provided by the Heart Foundation (e.g. Reports, PowerPoints, raw data)
- Presentation of the overall findings.

Appendix 2 Alternative form of the conceptual HOE mode

An alternative form of the conceptual HOE model [adapted from Bauman 2008] – showing the hierarchy of effects (HOE) stages in terms of a mediator analysis, through the influence of interpersonal communications, and the environmental influences as moderators



Prioritised recommendations for mass media campaigns to promote physical activity

Prioritised recommendations for mass media campaigns to promote physical activity

[adapted and extended from Bauman and Chau 2009, and from the US national PA plan, mass media section, www.physicalactivityplan.org/]

Campaign design and implementation recommendations

- 1. Campaigns be integrated into long term physical activity strategic plans, and implemented in a phased, sequenced set of communications**

Rationale: current PA campaigns are mostly short-lived, and not integrated into PA planning; for example, to motivate a community to think about being active also requires the concurrent mobilisation of the Health sector, Sport, Education, Transport and Urban planning sectors, and the creation of infrastructure, facilities and programs to capitalise on this increased interest. There is often a temporal disconnect between the timing of MMCs and the public health response in terms of programs, policies and environmental change offered to the community.
- 2. Goals for mass media campaigns promoting physical activity be reframed, focusing on proximal outcome (influencing community awareness, understanding, beliefs, setting the agenda)**

Rationale: MMCs are unlikely, on their own, to show changes in PA levels in a population; therefore, judged against this criterion, they may often fail, even when they achieve good communication objectives. Campaigns are designed to be short term initial parts of a comprehensive PA strategy; campaign awareness, understanding of the message and its perceived personal relevance (salience) are the key impact measures against which campaigns should be assessed
- 3. The grey literature (and health promotion practice at the State level, or generated by NGOs) is replete with mass media campaigns, but seldom are these evaluated or results presented**

Rationale: much expenditure is devoted to implementing mass campaigns at the local or state level. Advocacy to state and other officials to conduct minimum and standardised high-quality evaluations and analyses of mass-reach campaigns to add to the evidence base
- 4. A single theme be developed as an over-arching 'brand' for physical activity campaigns**

Rationale: brand coherence will act synergistically across sectors, and at the State and national level. This will allow for message reinforcement, and likely result in greater population awareness.

Research and evaluation recommendations

- 1. Minimum standards of formative, process and impact evaluation are established for physical activity mass media campaigns, using comparable process evaluation indicators of implementation and reach, and comparable proximal impact measures.**

The rationale is to provide evaluation standards for physical activity campaigns, so that process and initial outcomes can be compared across different campaign efforts
- 2. New areas for mediator analyses be explored to identify *how* campaigns exert their effects, and if they act through awareness & understanding to influence attitudes, intention and behaviours.**

Many campaigns are designed or planned using the 'hierarchy of effects' model as a theoretical guide, but this is not empirically tested in research, and may not apply to all groups.
- 3. Sustained evaluation designs to tease out effective components**

Rationale: currently, many campaigns are short term efforts, and not well integrated into sustained physical activity strategies; the effects of campaigns, in terms of setting and maintaining the agenda for activity, needs to be evaluated over several years of serial campaigns.

Appendix 4 Letter of request to State and Territory Health Departments

CIRCULATION

Carole Owen	Tasmania
Dagmar Schmitt	Northern Territory
Susan Leivers	Western Australia
Joanne Smith	New South Wales
Merryn Hare	ACT
Michael Tilse	Queensland
Shelley Bowen	Victoria
Michele Herriot	South Australia

Copy FYI

Maurice Swanson	WA - NHFA
Lisa Studdert	ANPHA
Janet Quigley	Department of Health and Ageing

12 October 2011

Dear colleagues

Australian Mass Media Campaigns [PANQ]: Systematic Review Project

I am writing to ask for your cooperation in answering two short questions – for which the initial ‘burden of response’ is estimated to be approximately 5 minutes.

From the University of Sydney, School of Public Health, Professor Adrian Bauman and Adjunct Professor Bill Bellew have been engaged as a research team to summarise existing market research and evaluations of mass media and social marketing efforts in the promotion of Physical Activity and Healthy Nutrition and in the prevention of Obesity.

Please devote the estimated 5 minutes it will take to complete and return the attached form (2 questions only) as soon as possible. Our requested deadline for return of the ‘2 questions’ is [no later than Friday 21 October](#); for any other information you can provide our requested deadline is [no later than Wednesday 26 October](#).

Please do not hesitate to contact bellew@fastmail.fm if you need any further information or clarification of this communication.

Yours sincerely

Professor Adrian Bauman / Adjunct Professor Bill Bellew

Australian Mass Media Campaigns [PANO]: Systematic Review Project

WHAT'S THIS ALL ABOUT? [THE CONTEXT]

The Western Australian Heart Foundation and Cancer Council have been awarded a three year program of work (from Department of Health – WA) to conduct a Healthy Lifestyle Program. This will have a large component of mass media led (social marketing) campaigns to promote healthy lifestyles, especially **physical activity, nutrition and obesity**– hereafter referred to using the acronym 'PANO'

From the University of Sydney, School of Public Health, Professor Adrian Bauman and Adjunct Professor Bill Bellew have been engaged as a research team to summarise existing market research and evaluations of mass media and social marketing efforts in the domain of PANO. This team is also currently having discussions with the Australian National Preventive Health Agency [ANPHA] about mass media campaigns addressing lifestyle and chronic disease risk reduction.

The work will involve **both International and National** streams of work: systematic reviews of available evaluation data, distillation of population surveillance measures relevant to campaign assessment and evaluation. The goal of the work is to:

- synthesize all findings to identify current and recent PANO mass media campaigns at the state, jurisdictional or NGO level with a mass reach target audience
- identify the different styles, targets and messages used in Australian PANO mass media campaigns
- identify potential gaps in communication measurement or evaluation
- accordingly, identify the need for formative research to inform future work in this area

Accordingly, the findings will be relevant not only to the State of Western Australia, but also to the other States and Territories and to nationally coordinated efforts.

WHAT AM I BEING ASKED TO DO? [THE PROCESS]

We are asking respondents in all Australian States and Territories to assist us by providing any / all possible information about mass media campaigns conducted in the PANO domain in the past 10+ years (Year 2000). We welcome information on earlier work if available. Our task is to summarise what campaigns have been conducted, anywhere, in the PANO area, of any size and scope, and summarise what we can learn from them, in order to develop better mass media and social marketing efforts in chronic disease prevention.

This means any relevant **documentation, evaluation reports, management summaries, examples of campaign materials**, and any other useful information about campaigns **conducted in your State or Territory**, whether by **government or NGO**, in PANO:

- Physical Activity promotion
- Healthy Nutrition
- Obesity prevention (healthy weight)

Respondents will be acknowledged in the final report if they agree, using a form of acknowledgment that they have approved.

There are just 2 things to do

- 1 Answer 2 short questions (over the page)

- 2 Email any relevant information back to the research team; please attach any documentation, reports, evaluation or media that you are able to locate and share.**

Question 1: Thinking about mass media campaigns implemented in your own State or Territory over the past 10 years (or longer), please TICK the boxes below to indicate whether any campaign was conducted and if so, what information may be available

FOCUS	Was any Campaign Conducted? Y/N	Was there any Campaign Evaluation? Y/N Available? AVL	Are any other Campaign reports/ documents, URLs available? Y/N
Physical Activity			
Healthy Nutrition			
Obesity Prevention [Healthy Weight]			

Question 2: Is there anyone else we should contact who might be able to help us further with campaign information from your State/Territory/Region? - If so, can you please provide contact information (name/org/email) here?

<who else should we contact in your State/Territory>

WHERE DO I SEND MY INFORMATION? [THE RESPONSE] – mail this page as an attachment back please!

Your email, with any relevant information attached should be sent to: bellew@fastmail.fm

[No later than [21st October](#) for the '2 questions'; no later than [26th October](#) for other information]

THANK YOU

Appendix 5 Web-based resources: a selection of useful URLs

Gateway to Health Communication and Social Marketing Practice

From CDC, offers resources to build health communications and social marketing campaigns. Includes resources on audience, campaigns, channels, tools, risk communication, and evaluation.

<http://www.cdc.gov/healthcommunication/index.html>

Communication Planning With CDCynergy

A Web site and interactive health communication planning tool from CDC. Includes original editions and new “Lite” version for those who have previous social marketing experience and familiarity with the full edition.

<http://www.cdc.gov/healthcommunication/CDCynergy/index.html>

Making Health Communication Programs Work: A Planner's Guide [PDF]

A publication from the National Cancer Institute (also called the Pink Book), a revision of the original 1989 guide offering planning steps for health communications programs.

<http://cancer.gov/pinkbook>

Healthy People 2020: Health Communication and Health Information Technology

Overview, objectives, and interventions and resources from the US Department of Health and Human Services.

<http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=18>

Health Communication Activities from the Office of Disease Prevention and Health Promotion, Department of Health and Human Services

From the US Department of Health and Human Services, a list of resources, including information on health literacy and e-health.

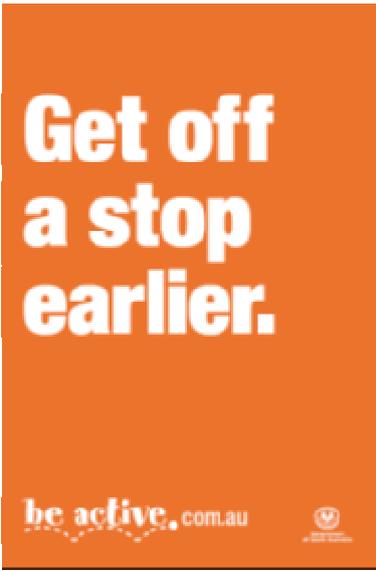
<http://www.health.gov/communication/>

Online Communications Action Center

From Covering Kids and Families, an online training center with all the information needed to plan communications and outreach efforts.

<http://coveringkidsandfamilies.org/actioncenter/>

Appendix 6 Campaign materials: selected Australian and International examples



Posters and TVC - South Australia: "Be Active" <http://beactive.com.au/>

The 2&5[®] Campaign

Home » What's Happening » WA » Resources

Search:

Resources

- Campaign Information
- Media Releases
- Contacts
- Partnerships

WA

Stage three of the Western Australian Go for 2&5[®] campaign, introducing the new 'Rolf Harris' veggie character, was launched in September 2008.

TV Publications

To view WA 2&5 TV commercials or read the scripts click on the links below.

 Watch Rolf TV ad Read Rolf Script	 Watch Substitution TV ad Read Substitution Script	 Watch Easy Solutions TV ad Read Easy Solutions Script
 Watch Winter Solution TV ad Read Winter Solution Script	 Read Dame Edna Script	

[TOP](#)

The screenshot shows the 'Find Thirty every day' website. On the left is a dark navigation menu with links: 'The campaign', 'Find Thirty every day® overview', 'Find Thirty every day® resources', 'Find Thirty every day® television and radio advertising', and 'Find Thirty every day® print media and outdoor advertising'. The main content area is titled 'Home > The campaign > Find Thirty every day® television and radio advertising'. Below this is a sub-header 'Find Thirty every day® television and radio advertising'. The content is organized into sections: 'Television advertising: commencing 6 September 2010' with two 'Advertisement 1' and 'Advertisement 2' thumbnails; 'Television advertising: May 2008-May 2010' with two 'Signs 2' thumbnails; and a 'Signs 1' thumbnail at the bottom.

Home > The campaign

The campaign

The new **Find Thirty every day**® campaign aims to increase the number of West Australian adults who are sufficiently active for good health.

For a range of health benefits, aim to put together at least thirty minutes of moderate-intensity physical activity on most, better still all, days. Your thirty minutes can be built up in shorter sessions of at least 10 minutes. This is just as beneficial, and might be easier to fit into your day.

The **Find Thirty every day**® campaign builds on the previous *Find Thirty. It's not a big exercise*® campaign launched in 2002 by the Department of Health, Western Australia (WA) and managed by Heart Foundation since 2006.

- [View campaign overview](#)
- [View campaign resources](#)
- [View television and radio advertising](#)
- [View print media and outdoor advertising](#)



The **Find Thirty every day**® campaign is an initiative of Heart Foundation and is proudly funded by the [Department of Health, WA](#).

[TOP](#)



Netherlands - Dutch Obesity Campaign (see Section 4) Tagline was “Maak je niet dik”, which means both ‘don’t get fat’, and also, colloquially, ‘don’t worry about it’.

STEPS was a chronic disease prevention and wellness initiative that operated from 2003-2008. For more information, please contact Christy Ross at (504) 301-9825 .



#72 Choose a checkout line without a candy display.

100 STEPS you can take to become healthier

 CITY OF NEW ORLEANS

search

About Us Community Schools Clinical Bike / Pedestrian Contact Us



DDD Conducts Survey on Mobility and Parking Needs

USA – Steps to a healthier New Orleans (see Section 4) <http://www.stepsla.org/home2/>

Youth Media Campaign

VERB Home

Partners

Evaluation

Advertising

Materials for Adults

Materials for Tweens

Press Room

Related Resource

[Healthy Youth](#)



VERB™ It's what you do. was a national, multicultural, social marketing campaign coordinated by the U.S. Department of Health and Human Services' Centers for Disease Control and Prevention (CDC). Social marketing campaigns apply commercial marketing strategies to influence the voluntary behavior of target audiences to improve personal and social welfare. The campaign ran from 2002-2006.

Vision—All youth leading healthy lifestyles.

Mission—To increase and maintain physical activity among tweens (youth age 9-13).

Campaign Audiences—The VERB campaign encouraged tweens to be physically active every day. The campaign combined paid advertising, marketing strategies, and partnership efforts to reach the distinct audiences of tweens. Other important audiences were parents and adult influencers, including teachers, youth leaders, physical education and health professionals, pediatricians, health care providers, coaches, and others.

Goals—

- Increase knowledge and improve attitudes and beliefs about tweens' regular participation in physical activity.
- Increase parental and influencer support and encouragement of tweens' participation in physical activity.
- Heighten awareness of options and opportunities for tween participation in physical activity.



VERB™ Campaign Case Study, National Social Marketing Centre*

USA – 'VERB' (youth PA) Campaign <http://www.cdc.gov/youthcampaign/>

See the campaign logic model³²

ABS 2004/5 National health survey – State comparisons [ABS, cat 4364.0]

<i>Risk status</i>	NSW	Vic.	Qld	SA	WA	Tas.	ACT	Aust. (a)
	%	%	%	%	%	%	%	%
.....								
Exercise level								
Sedentary								
Did not exercise	35.1	31.4	35.9	34.3	30.0	33.7	22.8	33.5
Other	0.5	*0.4	*0.5	*0.4	*0.8	*0.4	*0.8	0.5
Low	35.8	37.7	34.1	38.0	36.8	36.3	40.4	36.3
Moderate	22.7	24.1	22.9	22.0	25.9	24.2	26.9	23.4
High	5.9	6.4	6.5	5.1	6.5	5.4	9.1	6.2
Total(c)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Body mass index								
Underweight	2.1	2.4	3.2	2.1	2.2	1.1	2.0	2.4
Normal range								
18.5 to less than 20.0	4.6	4.7	5.2	3.5	4.9	3.1	5.1	4.7
20.0 to less than 25.0	35.8	35.7	35.9	34.3	36.2	34.8	36.5	35.7
Overweight	32.9	33.3	32.1	32.1	32.5	31.8	31.9	32.7
Obese	16.6	15.6	17.6	17.6	15.9	17.1	16.8	16.6
Not stated	8.0	8.3	6.1	10.3	8.3	12.2	7.7	8.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Usual daily intake of fruit								
Does not eat fruit	6.7	6.3	7.2	6.8	6.0	7.8	6.6	6.6
1 or less serves	39.3	37.7	40.1	43.2	38.6	38.5	39.9	39.4
2 serves	27.9	28.2	26.3	27.8	27.5	28.6	27.1	27.6
3 serves	15.8	16.9	16.2	14.3	15.7	15.1	16.8	16.0
4 serves	6.0	6.0	6.1	4.7	7.3	5.9	5.5	6.0
5 serves	2.2	3.2	2.4	1.8	3.1	2.1	2.4	2.6
6 or more serves	2.0	1.7	1.7	1.5	1.8	2.0	1.6	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Usual daily intake of vegetables								
Does not eat vegetables	1.1	*0.5	*0.5	0.9	*0.5	1.3	**0.2	0.7
1 or less serves	21.4	20.3	18.0	18.6	14.6	10.4	22.8	19.4
2 serves	20.3	18.8	19.7	19.3	19.4	13.8	22.4	19.5
3 serves	27.5	26.1	26.5	28.6	27.2	25.5	29.7	27.0
4 serves	17.8	19.0	20.0	20.5	18.6	28.4	14.6	19.0
5 serves	7.6	9.7	9.8	8.2	14.4	12.3	7.1	9.3
6 or more serves	4.4	5.7	5.5	3.9	5.4	8.3	3.1	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0