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# An updated narrative review

**Mass media campaigns addressing  
physical activity, nutrition and obesity  
in Australia 1996–2015**



# Mass media campaigns addressing physical activity, nutrition and obesity in Australia 1996–2015: an updated narrative review

Research undertaken by the Prevention Research Collaboration, The University of Sydney, in partnership and supported by The Australian Prevention Partnership Centre

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## Abbreviations

PANO	physical activity, nutrition and obesity
GRPs	gross ratings points
MMC	mass media campaign
NCD	non-communicable diseases
TARPs	target audience rating point

## Preamble

### The origins of this report in the context of mass media campaigns in Australia

The use of mass media campaigns (MMCs) in chronic disease prevention has had a chequered history in the past three decades in Australia. Initial successes were noted with mass media anti-tobacco campaigns, starting with the first Quit Campaign in NSW in 1983, rapidly followed by adoption in other states,<sup>1-3</sup> and then nationally in the 1990s. Quit Campaigns became institutionalised and were repeated regularly in most jurisdictions. They were linked to Quitline help and support counselling services, and to the provision of nicotine replacement therapy through clinical settings.<sup>4</sup> Campaigns targeted adults, children, parents, smokers, ex-smokers, adolescents contemplating smoking and the second-hand smoke effects of parents smoking near children. In particular, campaigns were used for advocacy purposes, to support legislation restricting smoking environments, and changing environmental cues and opportunities to smoke. This provided integration and synergy between MMCs and other public health action, including environment and policy supports and regulation. Together, these activities led to reductions in smoking rates and in the incidence of smoking to among the lowest levels in the world (about 12–13% among adults in 2015) and major reductions in adolescent smoking.<sup>5-9</sup>

Other health areas using MMCs in the 1990s were also notably successful, including sun protection campaigns,<sup>10-12</sup> and secondary prevention campaigns encouraging people to be screened for cancer<sup>13-15</sup> or to be immunised.<sup>16-17</sup> A third group of campaigns targeted population-level attitudinal change, increased awareness of important social and health issues, and changed attitudes towards at-risk groups. One particularly effective set of campaigns, emanating from transport and road and traffic authorities, targeted drink driving, speeding and road traffic accident prevention, and was supported by legislation, enforcement and community programs.<sup>18</sup> Other campaigns targeted illicit drug use and hazardous alcohol use, but had mixed effectiveness.<sup>19-22</sup>

These public-health focused MMCs were generally well regarded by the community, and often supported by policy makers and the political environment, especially when they were perceived as indicative of government concern in response to a health issue. The rise of obesity in the 1990s and global increase in non-communicable diseases (NCDs), especially diabetes and cardiovascular disease, led to substantial interest in applying them to new areas in order to communicate health messages about healthy diet, physical activity and obesity prevention.<sup>23,24</sup> These campaigns have occurred in many countries, but information on their implementation and evidence base is seldom reported. Their integration into NCD prevention policies has been fragmented, seldom coordinated and sequenced.

This patchwork of evidence on campaigns for physical activity, diet and obesity prevention has led to the present review, with the aim of understanding their history in Australia, the evidence related to their effects, and the way in which they were coordinated and implemented as part of the overall prevention system in Australia.

## Executive summary

A comprehensive set of strategies is required for the primary prevention of NCDs such as diabetes, cancer and cardiovascular disease. One aspect of a multi-strategy or systems approach to NCD prevention is to mobilise community understanding and awareness through the use of community-wide MMCs. MMCs represent one of the key strategies within the set of policy options recommended by the World Health Organization to tackle the global epidemic of NCDs. The purpose of this review is to assist policy makers, researchers and practitioners to reflect on and codify the lessons and successes from recent Australian campaigns so that:

- Best practice approaches can be encouraged across the domain of NCD prevention
- This knowledge is used to inform a more coordinated approach to the design, implementation and evaluation of future MMCs addressing physical activity, nutrition and obesity in Australia, which in turn will contribute to better use of funds and effort.

To this end, the current report reviews the conduct and evaluation of physical activity, nutrition and obesity MMCs conducted in Australia between 1996 and 2015. Campaigns were identified through a systematic search of the peer-review literature. Further information was garnered from government reports, conference abstracts and commissioned evaluations. Seventeen MMCs were identified, including three national and 12 state-wide campaigns (a number in more than one state) and a couple conducted in regional areas.

Our review showed that most campaigns in Australia in recent years have primarily used paid mass media and have not focused on all of the marketing elements of an integrated social marketing campaign, least of all the components of legislation, regulation and policy development. In general, Australian campaigns were of a high standard, substantially complying with established best practice principles and achieving target population reach in the 43–93% range. Although campaign elements have generally followed good practice, this review suggests an uncoordinated approach, with campaigns sometimes overlapping and adding substantial costs to the prevention system. In general, integrated use of MMCs has not occurred as part of a system-wide or multi-component approach to NCD prevention. In light of the review, key recommendations for MMCs in Australia have been made.

## Key recommendations for mass media campaigns in Australia

### 1. Campaigns should be part of an integrated, system-wide approach to NCD prevention

MMCs are important for the early stages of population-wide efforts at prevention, especially where mass communications are needed to change social norms, community attitudes and advocate for policy-focused changes regarding risk factors or prevention.

### 2. Campaigns and main messages should be consistent across Australia

Campaigns themes, taglines and branding should be consistent across Australia. Otherwise, resources are wasted in concurrent campaigns in different jurisdictions. Consistent messages allow community perceptions and social norms to be influenced in a consistent way.

### 3. Underpinning theory/ logic models need to be made explicit and applied

Campaign logic models, although recommended as good practice, were rarely used in planning. Theories and models underpinning campaigns were identified in approximately 50% of campaigns examined. The hierarchy of effects model was rarely used as a conceptual framework or to map intermediate and endpoint campaign performance indicators.

### 4. Clear, measurable campaign goals and objectives should be specified

Few campaigns examined in this review had specific goals and quantitative (measurable) targets for population-level change. Aims and objectives of campaigns are sometimes described broadly and at other times, very specifically. The objectives of campaigns should be clearly articulated and need to be measurable so the impact of the campaign may be assessed against them.

## **5. Linkages to broader strategies (beyond communication) should be further developed**

There was evidence of campaigns linking to broader strategies (multi-sectoral initiatives in some cases), guidelines, or other campaigns (e.g. coordination with another state or federal campaign). Integration with multi-sectoral strategies and programs is to be encouraged for future campaigns. Cross-agency work and programs should occur concurrently with campaigns and be encouraged as an accountable component of NCD prevention strategies.

## **6. Campaign duration and investment should reach a defined impact threshold**

With few notable exceptions, this review found a tendency to use short implementation schedules of 3–8 weeks media flight duration. Most campaigns were not sustained beyond one phase of implementation. Campaign advertising budgets were sometimes difficult to access and were unavailable or incomplete for four of the 17 cases selected. Investments to date in physical activity, nutrition and obesity (PANO) MMCs reviewed in this report were, at best, about 50% of the minimum suggested by the US Centers for Disease Control and Prevention (CDC). Given this, we recommend that further work is done to confirm the threshold for sufficient investment and that future MMC expenditure is allocated accordingly.

## **7. A campaign planning and evaluation protocol could contribute to better practice**

A protocol to inform planning, implementation and evaluation of MMCs used as part of public health approaches to NCD prevention may be useful in bringing together best practice approaches in a succinct and memorable format. As part of this review we have developed such an approach in the FLOWPROOF protocol, detailed later in this report. It is recommended as a practice standard for the development of Australian MMCs and for reporting their evaluation.

## **8. Campaign evaluations should be made publically available**

Often campaign evaluations are unpublished or not readily accessible, which limits information sharing. In the current review, campaign evaluation reports were not always easy to locate or access and a number were not represented in the peer review literature at all. Evaluation documents should include a description of the campaign execution, dose (i.e. TARPs (Target Audience Rating Points), range of channels and frequency of exposure) and effects on proximal and distal impact measures. Campaign expenditure, including a breakdown for media purchased, should also be made available.

## **9. Sustained campaign efforts over several years are required to achieve population impact**

Campaigns involving sustained, multi-phase efforts over five or more years had reach and impact on the target population. Notwithstanding some good practices, areas for potential improvement in planning, implementation and evaluation were also apparent. These areas for potential improvement are encapsulated within key recommendations and the FLOWPROOF protocol.

## Introduction

### The role of mass media campaigns in public health

Effective approaches for the primary prevention of NCDs require a comprehensive and integrated range of public health strategies and interventions.<sup>24,25</sup> This integrated approach works in three main areas: to engage with the health sector, to forge partnerships that will effect public-health related change outside the health sector, and to develop healthy and supportive environments and policies to facilitate healthy choices by individuals and communities.<sup>22</sup> Work in all three areas is required for a comprehensive prevention approach, and communications and public education, including MMCs, are a catalyst for action for any public health strategy.<sup>24</sup>

The role of MMCs is to increase whole-of-community understanding, shape an agenda for change, and in some cases present a range of potential change options or information-seeking steps that could lead to health-enhancing behaviours.<sup>26</sup> Campaigns targeting single behaviours, such as being screened or immunised, have a strong direct focus on behaviour change. By contrast, campaigns targeting complex behaviours, such as unhealthy eating or physical inactivity, usually focus on achieving antecedent change before definitive behaviour change. This includes changes in an individual's cognition and their understanding, beliefs, attitudes and behavioural intentions.

Sustained, repeated campaigns seek to contribute to the decision to trial new behaviours, and generate help-seeking behaviour, and are often linked to marketing of preventive programs and services.<sup>27,28</sup> As well as targeting individuals' considerations of their own health, some campaigns generate community concern about an issue, thereby increasing advocacy for change. Finally, some targeted campaigns focus on influencing and increasing awareness directly among professional groups or policy makers, and aim for more direct effects on policy and program decision making.

MMCs use mass-reach communication channels such as television and radio to access a large population or population subgroup. Effective MMCs usually use paid media, although expensive, to rapidly achieve high levels of penetration and reach into the community. Paid media is also what distinguishes a campaign from a one-off event, and from low-cost, low-reach communications strategies. In addition, MMCs should be linked to other community-wide interventions, programs and facilities, and should be persistent (serial repeated campaigns), with sequences of relevant messages developed under an overarching campaign theme.<sup>29-31</sup>

For MMCs used in the context of communicable diseases, a recent European review noted the complex challenges of evaluation because of the great variation in campaign design and exposure limiting the authors' ability to draw clear conclusions.<sup>32</sup> By contrast, the review by Wakefield and colleagues found MMCs can produce positive behavioural changes or prevent disease in a wide range of health areas across large population segments. Positive effects of MMCs were found across topics as diverse as tobacco, alcohol and other drugs, heart disease risk factors, unsafe sex behaviours, road safety, cancer screening and prevention, child survival, and organ or blood donation. Factors influencing success included concurrent delivery of required services and products, availability of community-based programs, as well as policies that support the targeted behaviour change.<sup>22</sup>

### Purpose of this review

MMCs that are well designed, integrated into overall prevention strategies and implemented with sufficient intensity over sustained periods can contribute to population health. The goal of MMCs is to have a large population exposed to mass media messages or specific campaign communication elements. Messages may compete or conflict with private sector product marketing and challenge existing social norms. Examples of the former include MMCs targeting healthy food choices, which may compete with food or beverage marketing. More difficult is the notion of influencing social norms, although tobacco-control related MMCs achieved this over several decades, with a gradual shift towards non-smoking norms among adults and adolescents<sup>33</sup>

The potential contribution of MMCs has become increasingly important in recent years in the context of preventing or reducing the substantial burden of NCDs.<sup>34</sup> The World Health Organization (WHO) 'Global Action Plan for the prevention and control of NCDs 2013–2020' is explicit in including MMCs among recommended policy options for member states, and for the promotion of a healthy diet and increased participation in physical activity.<sup>24</sup> The WHO also makes it clear integrated solutions are required to address the complex challenges of NCD prevention. Attempting to implement MMCs without integrating and leveraging the benefit of supportive health promoting policies, environments, services and products across sectors is unlikely to succeed.<sup>24</sup>

Australia can point to a track record of success in the use of MMCs, most notably in tobacco control,<sup>5-8,30</sup> but also in other areas. The purpose of this review is to assist policy makers, researchers and practitioners to reflect on and codify the lessons and successes from this history so that:

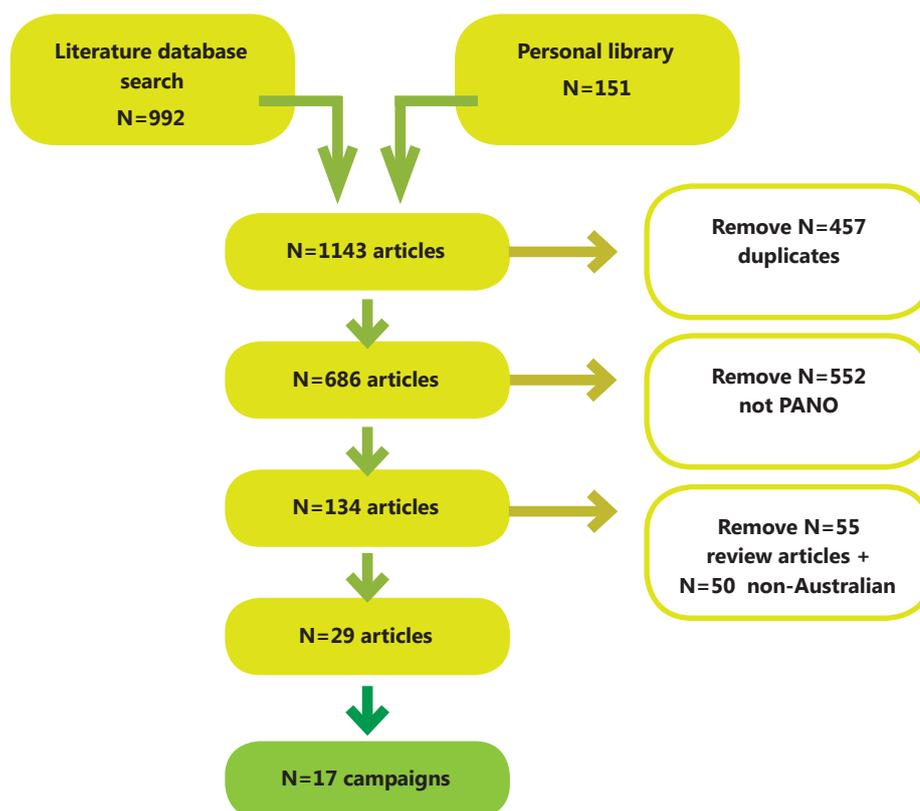
- Best practice approaches can encouraged in the application of MMCs across NCD prevention
- This knowledge is used to inform a more coordinated approach to the design, implementation and evaluation of future MMCs addressing physical activity, nutrition and obesity in Australia.

## Methods

### Search strategy

To identify PANO MMCs and their associated published articles, a literature search was conducted using the following databases: PubMed, Medline, Web of Science, PsychInfo and Scopus (Figure 1). Note the purpose of the literature search was to identify Australian PANO MMCs and publications which describe their conduct and evaluation, rather than just to identify articles to review.

**Figure 1. Flowchart for review Australian PANO MMCs 1996–2015**



The search strategy was a keyword search of ('health promotion' OR 'health education' OR 'health behavior') AND ('program evaluation' OR 'program development') AND ('social marketing' OR 'mass media' OR 'advertising') AND ('physical activity' OR 'exercise' OR 'weight' OR 'nutrition' OR 'obesity'). Titles were identified using: a basic 'in topic' field search or an advanced 'keyword' search with the option 'map term to subject heading' selected. Each term was searched separately and then combined with other terms within the brackets (using 'OR') and then combined the other bracketed groups of terms (using 'AND'). The searches were limited to 'English language' and 'Humans' and published between January 2000 and June 2015. In addition to the systematic search of peer review literature, we included campaigns that had been identified in a previous review 35 through circulation of a 'request for information' to Australian State and Territory departments of health.

## Criteria for inclusion

Fifty-five campaigns were identified through the process described above. The reference lists of articles were examined to find further campaigns that may not have peer-reviewed publications associated with them (i.e. only grey literature reports). Article titles, abstracts and/or campaign descriptions were examined by three researchers to determine inclusion. A PANO MMC was included if:

- It took place in Australia, 1996<sup>a</sup> to 2015
- The primary target group was adults
- It used paid mass media advertising
- It was implemented at a population level
- The campaign focused on physical activity, nutrition or obesity for the purpose of non-communicable disease prevention (as compared to physical activity for falls prevention, for example).

Seventeen campaigns met the inclusion criteria. Articles describing the campaigns and their evaluation were extracted from the peer-review literature and grey literature (the latter through searching government and/or campaign websites and contacting authors).

## The FLOWPROOF protocol

The selected campaigns were reviewed using a protocol with nine key components of campaign implementation and evaluation. Only those components that could be extracted for comparison were included. The components of the FLOWPROOF protocol were developed by the authors based on a synthesis from selected scientific literature on campaign evaluation and effectiveness,<sup>36,37</sup> and good practice characteristics of interventions for healthy eating and physical activity in Australia:<sup>38</sup>

- **F**ormative research
- **L**ogic model/use of theory
- **O**bjectives (including performance indicators)
- **W**ell-resourced (adequate resources and necessary partnerships)
- **P**rocess evaluation (Did we implement as intended? What did we implement?)
- **R**un the campaign (media weight TARP/gross rating points [GRPs], type of scheduling and duration)
- **O**n-the-ground support (infrastructure, services associated with the campaign, public relations and earned media)
- **O**utcomes (campaign impact/outcome evaluation)
- **F**inancial and summative (integrated) evaluation of the campaign, including breakdown of all costs incurred and returns on investment.<sup>R</sup>

R: Re-cycle to "F" – Formative research (i.e. this final output is a potential input into planning next phase of campaign)

Each of the nine components of the FLOWPROOF protocol is explained in the following section.

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<sup>a</sup> The 1996 US Surgeon General Report 'Physical Activity and Health' signalled the advent of the 'moderate intensity' physical activity message

## **Formative research and evaluation**

The formative research and evaluation component indicates whether any formative evaluation occurred. This is planning research that occurs before a campaign. It is used to develop and test the campaign themes, messages and communication elements, and assess the need for, and feasibility of, a campaign. Formative evaluation may include epidemiological assessment, message design, formative testing and concept development, and may use qualitative and/or quantitative approaches.

## **Logic model/use of theory**

This component indicates whether a logic model was developed to identify how the overall campaign was intended to work and/or whether one or more theories or frameworks (e.g. social learning theory, health belief model or hierarchy of effects model) was explicitly used or referenced in relevant campaign documentation. 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 planning teams to develop hypotheses about all program elements, the consequences of each and how they will interact. 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.<sup>39-41</sup>

## **Objectives (including performance indicators)**

This component describes which objectives are made explicit for the MMC, as described in existing reports or campaign websites. In some instances, stated objectives for this review may have been sourced from third-party evaluations or may not have been identified beyond broad campaign goals. 'Objectives' includes the extent of target audience specification/audience segmentation and any targets stipulated for campaign performance. Information regarding campaign links to broader health strategy, cross-sectoral partnerships or initiatives, guidelines or campaigns (for example from a state to a national campaign) is detailed here.

This component identifies the extent to which performance indicators were made explicit and documented at the outset or during the course of the campaign, and any available data where these were evaluated and reported. For example, if a 'hierarchy of effects' model was incorporated, performance indicators corresponding to each level of the hierarchy might have been developed for categories such as awareness, specific message recall, knowledge enhancement, attitudinal change, confidence/intention to change behaviour or behavioural trialling/maintenance.<sup>42-44</sup> Proximal (knowledge, intentions, attitudes) and distal (eating and physical activity behaviour) impacts associated with campaign objectives are described.

For a small number of campaigns where an objective involves channelling people to a website or service, these outcomes are also reported. Note that the number and specificity of campaign objectives varied between campaign reports, as did the amount data pertaining to those objectives. Hence some campaigns are more fully described in terms of performance against objectives than others.

## **Well-resourced (adequate resources and requisite partnerships)**

This component refers to the financial and human resources required to manage and implement a campaign. It includes campaign partnerships with government and non-government organisations. A variety of guides and toolkits can help agencies assess whether the resources allocated will be sufficient to achieve the campaign goals and objectives, including the Centers for Disease Control<sup>45</sup> and World Lung Foundation.<sup>46</sup>

## Process evaluation

Process evaluation answers the research questions: (a) Did we implement campaign components as intended? (b) What campaign elements did we implement that were (i) planned (ii) opportunistic? Note that while recording campaign-specific metrics such as TARPs/GRPs (Gross Rating Points) are also process evaluation, they are addressed separately under the next element, 'Run'. Here we are concerned with all the other ancillary components, such as regional briefing workshops, distribution of campaign support materials, organisational readiness at local and regional levels to support the campaign locally and to assist with data collection to inform the process evaluation, number of campaign-related community events implemented and participation.

Process evaluation starts early, and in anticipation of tracking the unfolding campaign activities, is both scheduled and opportunistic. A standard reporting template for the campaign-support functional units is typically very useful and helps to reduce the burden of reporting, as well as providing comparable data.<sup>47</sup> However, note that process evaluation, although very important in campaign assessment, was not included in our review summary table (Appendix 1, Table 2) as it was seldom reported.

## Run the campaign (media weight TARP/GRPs, type of scheduling and duration)

This element refers to the volume of media purchased and delivered. It is usually measured as TARPs/GRPs weighting reported, which describes the planned or expected audience reach and the campaign duration. Campaign duration refers to the time period over which the focused, main electronic mass media component of a campaign was run. Other elements of a campaign (print media, support activities and websites) often operate beyond this period. The scheduling of campaign advertising may occur in a variety of ways (i.e. continuously, in waves, using flights or bursts or in pulses, which is a combination of continuity and bursts). Scheduling details are reported when available. Although these major components of campaign implementation and potential reach are essentially parts of the campaign evaluation process, we have described them separately.

## On-the-ground support (infrastructure, policies, products and services associated with the campaign, public relations and earned media)

MMCs should be supported by policy-congruent implementation of national or regional prevention plan components. This initially includes campaign-related activities such as provision of resources to the public or professionals (e.g. pedometers, brochures or tape measures), changes to the physical environment to support the campaign (relevant to active living and healthy eating), information/counselling and other community services, public events and further campaign promotion activities.

There is strong evidence that MMCs can change health behaviours when combined with the distribution of free or reduced-price health-related products.<sup>48-50</sup>

Research has also indicated that promising complementary strategies to strengthen the main media campaign are:

- Concurrent availability of, and access to, key services
- Incorporation of policies that support behaviour change
- Incorporation of public relations or media advocacy campaigns that shape the treatment of a public health issue through news and entertainment media.<sup>22</sup>

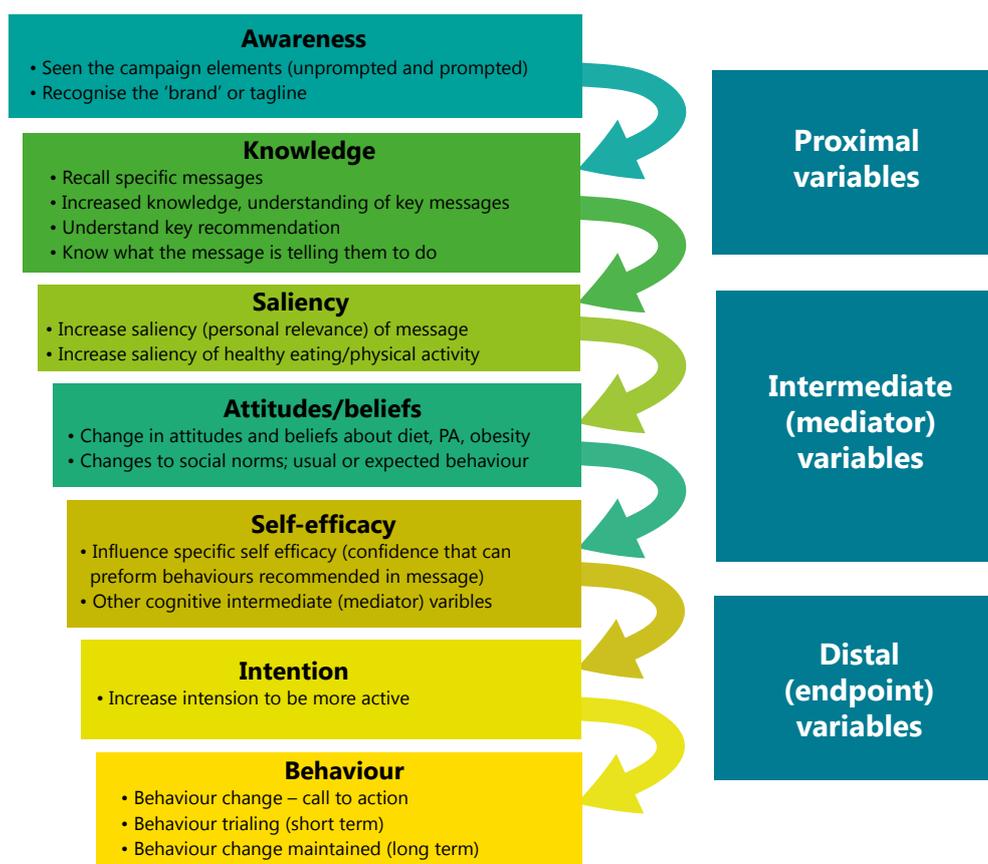
This FLOWPROOF element refers to the extent that this on-the-ground support is provided as a planned part of the campaign delivery.

## Outcomes (campaign impact/outcome evaluation)

This element refers to evaluation of campaign objectives and performance indicators. A useful way of considering this is illustrated in Figure 2. Recall levels are common, initially collected metrics that are usually comparable across campaigns and assess community awareness and recall of the main campaign message, theme or tagline. Recall may be prompted (recognition of an advertisement or tagline/branding) or unprompted (free recall of an advertisement). If a comparison group or time-point (e.g. pre-campaign) is provided, awareness among this group is also reported. A systematic review of physical activity MMCs and their evaluation provides evidence which arguably applies to other campaigns for NCD prevention or risk-factor reduction. The study recommended that optimal evaluation design should include:

- Extensive formative evaluation and message development and testing
- A suite of elements for concurrent implementation including and building on the mass media element
- 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 social marketing and MMC) with the use of established reliable and valid measures and indicators to assess each component.

Figure 2. Hierarchy of effects model for MMC



Source: adapted from Cavill & Bauman<sup>36</sup>

## **Financial and summative (integrated) evaluation of the campaign, including breakdown of all costs incurred and returns on investment**

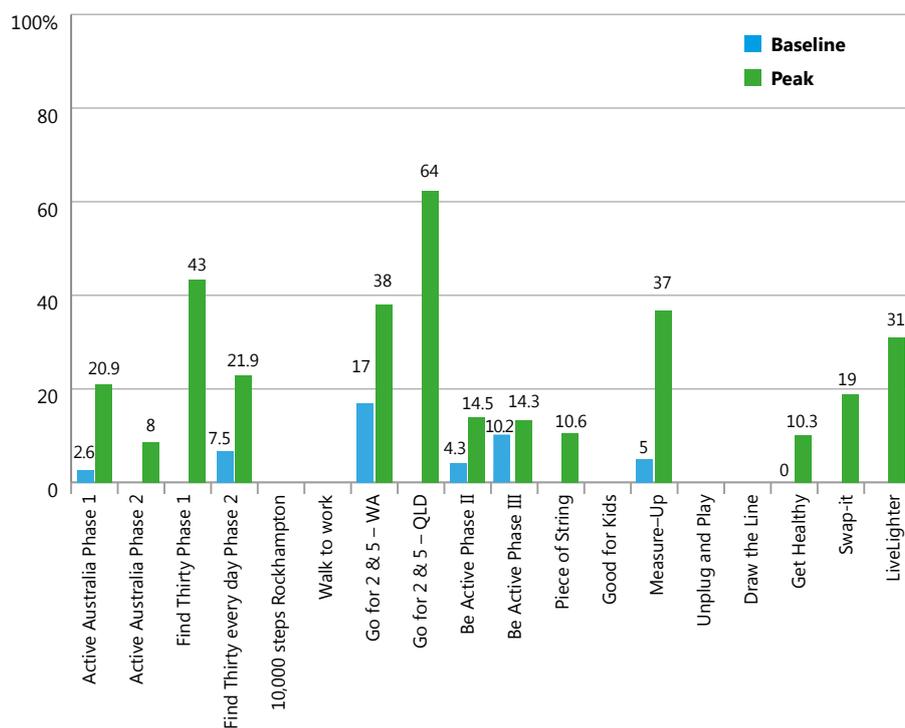
This component emphasises the importance of integrating financial information with the summative campaign evaluation. It involves clear budget description and a breakdown that delineates advertising, market and other research, public relations activity, staff costs, etc.). Funding sources should also be stated where possible. It also covers information on cost-benefit/cost-effectiveness analyses or projections (e.g. estimated cost per person reached by a campaign).

## Results

**Table 1. Summary of selected campaigns, Australia 2000–2015 using the FLOWPROOF protocol**

<b>FLOWPROOF element</b>	<b>Summary commentary on selected campaigns</b>
Formative research	Formative research to inform campaign development was reported in all 17 cases examined (in the case of Go for 2 & 5, the Queensland iteration is based on the nationally coordinated approach, thus taking advantage of previous formative work)
Logic model/use of theory	Campaign logic models were rarely described. Theories and models underpinning campaigns were identified in approximately 50% of campaigns examined; these included trans-theoretical model, social cognitive learning theory and health belief model. Hierarchy of effects model was rarely used as a conceptual framework.
Objectives (including performance indicators)	All campaigns had stated objectives. Most campaigns targeted middle-age adults (typically 25–54 years). Few had specific goals and quantitative targets for population-level change in any variables targeted.
Well-resourced (adequate resources and requisite partnerships)	Campaign advertising budgets were sometimes difficult to access and were unavailable or incomplete for four of the 17 cases selected. Preliminary assessment of per-capita investment suggests large variation from less than \$0.21 expenditure per capita (four campaigns) through \$0.75–\$1.00 (four campaigns) up to \$1.59 (one campaign). In most cases there was some evidence of linkages to broader strategy (in several instances this included multi-sectoral initiatives) as well as guidelines, or campaigns (e.g. coordination with another state or federal campaign).
Process evaluation (Did we implement as intended? What did we implement?)	Few campaign reports included a comprehensive process evaluation (AA Phase 2 Rusty Tin Man; Find Thirty every day Phase 2; 1000 steps Rockhampton; Good For Kids; Get Healthy Service).
Run the campaign (media weight TARPs/GRPs, type of scheduling and duration)	TARPs/reach metrics were either not available or not provided in five of the 17 cases. There were some examples of sustained campaigns: Find Thirty (2002–2011 WA); Go for 2 & 5 (2002–2010 WA; 2006–2009 Queensland); Measure-Up (2008–10 Australia); Swap-It (2010–202 Australia); Be Active (2005/2007–13 SA); Good For Kids (2007–2010 NSW). Tendency towards short schedules of three to eight weeks media flight duration. Other campaigns were usually not sustained beyond one phase of implementation.
On-the-ground support	A wide range of activities and programs were deployed in support of campaigns. However, support through robust policy and environmental changes in support of healthy eating and active living were not prominent as might arguably be expected in a more comprehensive social marketing approach to these health issues.
Outcomes (campaign impact/outcome evaluation)	All selected cases had measures of both unprompted and prompted campaign awareness and all had proximal and distal indicator coverage. Good evaluation designs and use of indicators allowed a fairly robust assessment of campaign performance in the 17 cases. In most instances campaigns have had fairly good positive results on proximal variables and modest positive results on distal variables. As noted below, the general lack of robust policy and environmental change interventions reduces the likelihood of success on the distal, behavioural or health status indicator (e.g. BMI).
Financial and summative (integrated) evaluation	In general, quite good research designs were used with repeat cross-sectional surveys being the most common (15 instances) but with cohort designs also used (five instances); these designs were also used in combination to provide both cross-sectional and longitudinal data (three instances). There was a very large variation across campaigns in both peak unprompted (see Figure 3) and peak prompted (see Figure 4) levels of awareness achieved.

**Figure 3. Unprompted awareness at baseline and peak unprompted post-campaign awareness<sup>a</sup>**

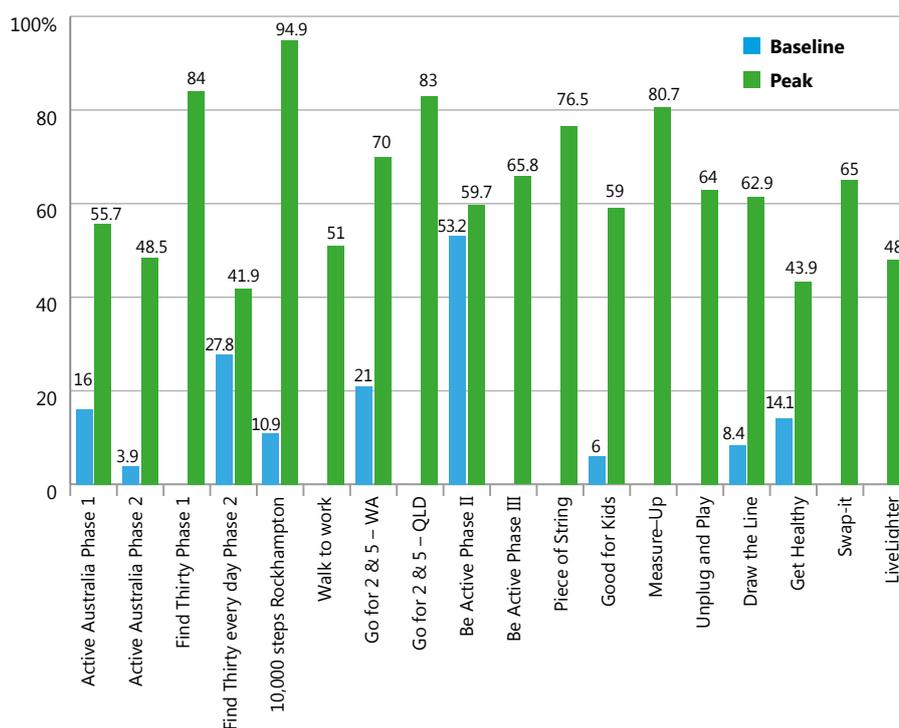


a: Unprompted awareness measures were not available in every case. Baseline data for Active Australia phase 1 also included the rest of Australia as comparison group

A key initial metric of campaign reach is assessment of community awareness of the campaign and its central message. This is usually assessed through survey questions designed to illicit prompted and unprompted recall of the campaign. Prompted recall asks people if they recall the main theme of the campaign, message brand or tagline. Figure 4 (next page) shows the large variation across campaigns in peak rates of unprompted awareness, from as low as 10% (e.g. Get Healthy, Piece of String) through 35–45% (Find Thirty, Go for 2 & 5 – WA, Measure Up), up to 64% (Go for 2 & 5 – Qld).

Similarly, Figure 3 shows a large variation across campaigns in peak prompted awareness, from less than 50% awareness (Active Australia 2, Find Thirty 2, Get Healthy) through to 70–84% awareness (Find Thirty 1, Go for 2 & 5 –WA, Piece of String, Measure Up) up to 95% (in the local campaign, 10,000 Steps Rockhampton).

**Figure 4. Prompted awareness at baseline and peak awareness post-campaign<sup>b</sup>**



b: Prompted awareness for Active Australia for campaign tagline. Peak prompted awareness for Go for 2 & 5 – Queensland includes prompted and unprompted awareness. Peak proportion awareness for Unplug and Play was for awareness undefined. Peak prompted awareness for Walk to Work is among employed respondents (40% for not employed – no combined figure provided).

## Discussion – Implications for prevention policy

This report documents a review of MMCs for NCD prevention in Australia, with a focus on campaigns targeting physical activity, nutrition and obesity prevention. It builds on a 30-year history of effective and innovative anti-tobacco campaigns, which when combined with environment and regulatory supports, contributed to sustained declines in smoking in Australia.

In summary, over the past two decades there have been many campaigns targeting physical activity, nutrition and obesity. However, they have been conducted across different jurisdictions, and not coordinated under consistent themes or message brands. Further, most of these mass communications activities were closer to MMCs than to true social marketing efforts, as they focused on proximal change variables rather than behaviour change, and used mass-reach communications as the primary strategy, with limited inclusion of environment and enforcement strategies.<sup>51</sup> Nonetheless, many of these campaigns followed the principles of good practice in mass communication, building on tobacco and sun-protection campaign experience, and most delivered relevant messages to defined populations.

The following paragraphs comment on the campaigns in terms of consistency with best practice, and their levels of coordination as part of overall NCD prevention efforts. We then draw from this discussion nine key recommendations for conducting and evaluating MMCs in Australia.

Campaign logic models were rarely used. Theories and models underpinning campaigns were identified in approximately 50% of campaigns examined; these included trans-theoretical model,<sup>52</sup> social cognitive theory<sup>53,54</sup> and health belief model.<sup>55</sup> The hierarchy of effects model<sup>44</sup> was rarely used as a conceptual framework or to map performance indicators. Developing logic models is good practice and is to be encouraged in the future. Further, different brands and taglines were developed for each campaign and across jurisdictions, including those in the same behavioural area. The multiplicity of campaign

messages and themes could have caused confusion in the population, and does not reflect the principle of sequential build and message reinforcement. Exceptions to this were sustained campaigns, such as the Go for 2 & 5 fruit and vegetable campaign, and the Find Thirty WA physical activity campaign, both of which persisted with mass media messages for about a decade, and achieved and maintained high levels of community awareness and recognition.

Few campaigns examined in this review had specific goals and quantitative targets for population-level change in the variables targeted. Aims and objectives of campaigns are sometimes described very broadly and at other times are very specific. Campaign objectives should be clearly articulated and need to be measurable such that the impact of the campaign may be assessed against them. Further, targets across the range of outcomes should be set, including targets for campaign awareness, message understanding, attitudes and social norms, behavioural intention, campaign-related behavioural trialling, and endpoint health-related behaviours of healthy eating and healthy activity.

In most cases there was some evidence of campaigns linking to broader strategy (in several instances this included multi-sectoral initiatives) as well as guidelines, or campaigns (e.g. coordination with another state or federal campaign). However, these were seldom measured or their implementation documented. The nature of multiple components, or cross-sectoral collaborations were reported at the outset, but seldom documented in evaluation reports. Examples where this occurred well were in community-level prevention programs that used mass media as one component of their interventions (e.g. the Good for Kids obesity prevention program in NSW, and 10,000 Steps in Rockhampton, Queensland). The concept of cross-sectoral accountability as part of campaign evaluation is to be commended and encouraged in future campaigns.

With very few notable exceptions, this review found a tendency to use short implementation schedules of 3–8 weeks' media flight duration, with no repetitions and multi-year thematically consistent messaging, although this was recommended in the WHO guidelines for obesity campaigns in 2000.<sup>31</sup> Most campaigns were usually not sustained beyond one phase of implementation, and some campaigns, such as single day events (e.g. Walk to Work Day), were of very short mass media duration.

Campaign advertising budgets were sometimes difficult to access and were unavailable or incomplete for four of the 17 cases selected. Nonetheless, our preliminary assessment of per-capita investment suggested large variation from less than \$0.21 (four campaigns) through \$0.75–\$1.00 (four campaigns) up to \$1.59 (one campaign). The overall picture is one where health organisations appear uncertain about what comprises a minimum or optimal investment in a campaign.

In the US, the Centers for Disease Control (CDC)<sup>33</sup> have established investment standards for MMCs in tobacco control. While further analysis is required before more definitive conclusions can be made, our preliminary assessment is that campaigns addressing physical activity, nutrition and obesity are likely to have similar investment requirements to tobacco control. If that is the case, investments to date in PANO MMCs in Australia examined in this report are, at best, about 50% of the minimum levels suggested by the CDC. Given this, we recommend that further work is done to confirm the threshold for sufficient investment and that future MMC expenditure is allocated accordingly.

It is important that evaluations of future MMCs are configured to enhance our knowledge about effective implementation and levels of investment. This report has set out a protocol comprising nine key components of campaign implementation and evaluation. The FLOWPROOF protocol was developed by the authors based on a synthesis from selected scientific literature on campaign evaluation and effectiveness and good-practice characteristics of interventions for healthy eating and physical activity. It is developed as a checklist for good practice for Australian MMCs.

## Key recommendations for mass media campaigns in Australia

### 1. Campaigns should be part of an integrated, system-wide approach to NCD prevention

MMCs are important for the early stages of population-wide prevention efforts, especially when mass communications are needed to change social norms, community attitudes and advocate for policy-focused changes regarding risk factors or prevention.

### 2. Campaigns and main messages should be consistent across Australia

Campaigns themes, taglines and brand should be consistent across Australia. Otherwise resources are wasted in concurrent campaigns in different jurisdictions. Consistent messages allow community perceptions and social norms to be influenced in a consistent way.

### 3. Underpinning theory/logic models need to be made explicit and applied

Campaign logic models, although recommended as good practice, were rarely used in planning. Theories and models underpinning campaigns were identified in approximately 50% of campaigns examined. The hierarchy of effects model was rarely used as a conceptual framework or to map intermediate and endpoint campaign performance indicators.

### 4. Clear, measurable campaign goals and objectives should be specified

Few campaigns examined in this review had specific goals and quantitative targets for population-level change. Aims and objectives of campaigns were sometimes described broadly and at other times, specifically. The objectives of campaigns should be clearly articulated and need to be measurable such that the impact of the campaign may be assessed against them.

### 5. Linkages to broader strategies (beyond communication) should be further developed

There was evidence of campaigns linking to broader strategies, including multi-sectoral initiatives in some cases, as well as to guidelines or other campaigns (e.g. coordination with another state or federal campaign). Integration with multi-sectoral strategies and programs is to be encouraged for future campaigns. Cross-agency work and programs should be made concurrent with campaigns and encouraged as an accountable component of NCD prevention strategies.

### 6. Campaign duration and investment should reach a defined impact threshold

With few notable exceptions, this review found that there is a tendency to use short implementation schedules of 3–8 weeks' media flight duration. Most campaigns were usually not sustained beyond one phase of implementation. Campaign advertising budgets were sometimes difficult to access and were unavailable or incomplete for four of the 17 cases selected. Investments to date in PANO MMCs in Australia reviewed in this report are, at best, about 50% of the minimum expenditure levels suggested by the CDC. Given this, we recommend that further work is done to confirm the threshold for sufficient investment and that future MMC expenditure is allocated accordingly.

## **7. A campaign planning and evaluation protocol could contribute to better practice**

A protocol to inform planning, implementation and evaluation of MMCs used as part of public health approaches for NCD prevention may be useful in bringing together best practice approaches in a succinct and memorable format. As part of this review we have developed such an approach in the FLOWPROOF protocol. It is recommended as a practice standard for the development of Australian MMCs and reporting their evaluation.

## **8. Campaign evaluations should be made publically available**

Often campaign evaluations are unpublished or not readily accessible, which limits information sharing regarding campaigns. In the current review, campaign evaluation reports were not always easy to locate or access and a number were not represented in the peer review literature. Evaluation documents should include description of the campaign execution, dose (i.e. TARPs, range of channels and frequency of exposure) and effects on proximal and distal impact measures. Campaign expenditure, including a breakdown for media purchased, should also be made available as noted above.

## **9. Sustained campaign efforts over several years are required to achieve population impact**

Campaigns involving sustained, multi-phase efforts over five or more years delivered reach and impact into the target population. Notwithstanding some good practices, areas for potential improvement in planning, implementation and evaluation were also apparent. These areas for potential improvement are encapsulated within these key recommendations and the FLOWPROOF protocol.



## Appendix 1. Tabulation of campaigns

Table 2. Broad description of selected Australian PANO campaigns

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Active Australia Phase 1: "Exercise, you have to take it regularly not seriously" <sup>56,57</sup>	February – March 1998	Physical activity; NSW; adults aged 25–60	<ul style="list-style-type: none"> <li>• Increase awareness of the benefits of regular, moderate physical activity among:               <ul style="list-style-type: none"> <li>- General practitioners (and other health professionals, sport recreation and fitness professionals)</li> <li>- Men and women aged 25–60 who were motivated but insufficiently active</li> </ul> </li> <li>• Maintain motivation (avoid alienation) among people who were already sufficiently active and among people who may participate in vigorous activity through organised forms of sport and recreation</li> <li>• Increase target population awareness of the 30 minutes, moderate intensity, accumulated message through an emotional appeal to the target audience and through appropriate portrayal of incidental physical activity</li> </ul>	<p>Program logic not specifically stated, but hierarchy of effects model was used in planning</p> <p>CDC Wheel model used in campaign planning</p> <p>Social cognitive learning theory, transtheoretical model used to plan approach</p>	<p>Funded by NSW Health, with the support of Department of Health and Aged Care and Active Australia</p> <p>\$700,000</p>	<p>Two 15-second television commercials (TVCs) for six weeks</p> <p>Paid advertisements in the metropolitan and rural print media, with a multilingual component for minority communities</p> <p>800 TARPs</p> <p>200 airings</p> <p>65% target audience reach</p>	Part of an Active Australia initiative	<ol style="list-style-type: none"> <li>1) A mail-out informed primary care physicians about the new moderate-intensity physical activity message. Information packs were sent to all public health professionals two months before the campaign and physical activity counselling kits were mailed to all 6500 family physicians in NSW</li> <li>2) Local-level and regional initiatives comprised community-based walking and physical activity events, promotions organised by health sector staff in some areas and regional and community-level media</li> <li>3) Multilingual component for men and women from non-English speaking backgrounds (print resources in 30 languages, advertising and public relations in the ethnic press, ethnic radio interviews and advertisements)</li> <li>4) A mainstream public relations strategy to optimise unpaid media coverage</li> <li>5) Community-level support from area health service and sport and recreation regional staff (including a '13' telephone line)</li> <li>6) Campaign merchandise</li> </ol>

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Active Australia Phase 2 Rusty Tin Man <sup>58</sup>	March 1999	Physical activity; NSW (other jurisdictions later); adults aged 50+	<p>1. Increase awareness of the benefits of regular, moderate-intensity physical activity among:</p> <ul style="list-style-type: none"> <li>• General practitioners, other health professionals and sport, recreation and fitness professionals</li> <li>• Men and women aged 55+ who are insufficiently active</li> </ul> <p>2. Maintain motivation (avoid alienation) among people who are already sufficiently active and people who may participate in vigorous activity through organised forms of sport and recreation</p> <p>3. Increase the target populations' awareness of the '30 minutes, moderate intensity, accumulated' message</p>	Not specified	NSW component funded by Active Australia, the Commonwealth Department of Veterans' Affairs, NSW Health and NSW Sport and Recreation	<p>TVCs for four weeks</p> <p>572 TARP</p> <p>87.5% target audience reach</p>	Linked with international Year of the Older Person and Active Australia; other primary health care initiatives, Heart Foundation/NSW Health/Divisions of General Practice. NSW Physical Activity 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>1) Provided primary health care physicians with physical activity prescription tools and support materials</p> <p>2) Linked to Division's Outcomes Based Funding programs</p> <p>3) Active Australia (national) networks for schools and local government were established</p> <p>4) Pedestrian access and mobility plans developed in local government setting</p> <p>5) Code of practice for fitness centres developed</p> <p>6) Local grants program made available to enable grassroots support for campaign</p>
Find Thirty Phase 1 It's not a big exercise <sup>59</sup>	2002–2006 (first wave TVCs April-May 2002 of four weeks)	Physical activity; WA, Tasmania, ACT; adults aged 20–54	<ul style="list-style-type: none"> <li>• Increase awareness of the type and frequency of physical activity necessary for good health</li> <li>• Demonstrate how moderate intensity physical activity could be incorporated into everyday life</li> <li>• Cognitively reframe 30 minutes of physical activity as relatively easy to achieve</li> </ul>	Not specified	WA Department of Health	<p>800 TARPs across three media waves per year</p> <p>Reach 84%</p>	<p>Linked to 10-year strategy of cross Government Physical Activity Taskforce; embedded in state-wide policy for physical activity and walking</p> <p>Multi-sectoral; good links to walking/cycling messages with transport sector</p>	<p>1) Campaign information sent to primary care physicians and other health professionals</p> <p>2) Campaign website was developed; consumer interaction on ways to Find Thirty <a href="http://www.findthirty.com.au">www.findthirty.com.au</a></p> <p>3) Used paid spaces in weather bulletins</p> <p>4) Campaign information was sent to primary care physicians and other health professionals</p> <p>5) Website provides link to Heart Foundation fact sheets for general practitioners on physical and selected chronic conditions</p>

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Find Thirty every day Phase 2 <sup>60,61</sup>	2007–2011	Physical activity; WA; adults aged 25–54	<p>Increase the number of people from WA who were sufficiently active for good health (Leavy et al 2012)</p> <ul style="list-style-type: none"> <li>• Increase population awareness of the type and frequency of physical activity required for good health</li> <li>• Increase awareness of the specific benefits of physical activity in relation to chronic disease and general health (physical, mental, social)</li> <li>• Demonstrate how people who are insufficiently active can overcome perceived barriers to participation in physical activity</li> <li>• Congratulate people who are already active</li> </ul>	<p>Not specified</p> <p>Stated campaign development underpinned by social cognitive theory</p>	<p>National Heart Foundation in WA</p> <p>\$1.8 million</p>	<p>Three 30-second, four 15-second ads, May–June 2008 1544.5 TARPs</p> <p>August–November 2008 1147.9</p> <p>March 2009 916.3</p> <p>May 2009 581.0</p> <p>August 2009–February 2010 1840.6</p> <p>Peak audience reach 84%</p>	<p>Linked to 10-year strategy of cross Government Physical Activity Taskforce; embedded in state-wide policy for physical activity and walking. Multi-sectoral; good links to walking/cycling messages with transport sector</p>	<p>1) Limited additional community-wide programs; some sponsorship of sports, art, and racing events; some collaboration to promote the annual Walk Week</p> <p>2) Point-of-decision prompts (e.g. poster placed near lifts and elevators suggesting “Take the stairs instead”)</p>

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
10,000 Steps Rockhampton <sup>62-65</sup>	2001–2003	Physical activity; Rockhampton Queensland; Rockhampton population	<p>Promote the use of pedometers as individual self-monitoring and goal-setting instruments</p> <p>A secondary theme, 'Every Step Counts', was used to stress the accumulation aspect of current physical activity guidelines, and encourage people to find ways of increasing daily steps</p> <p>Clear integration with city-wide promotional signs, engagement with local media</p>	<p>No formal program logic model</p> <p>Stated rationale for approach taken</p>	\$20,000 (print, radio, TV)	Paid mass media campaign for three months	<p>Guided by the recently published Creating Active Communities: Physical Activity Guidelines for Local Councils, with a focus on developing infrastructure to promote active living within the community (NSW Health toolbox)</p>	<ol style="list-style-type: none"> <li>1) Implementation of the five key strategies by a local project team with direction from a local physical activity taskforce and academic researchers</li> <li>2) General practitioners and other health professionals given opportunities for training to increase their skills in brief physical activity counselling, provided with evidence-based protocols and materials to support these efforts</li> <li>3) Local libraries to supply free loan-scheme for pedometers (n=500)</li> <li>4) Approximately 2500 pedometers and logbooks were made available for purchase through the local project office, the project web site and from local pharmacies</li> <li>5) Wide range of community partners including Heart Foundation, fitness industry, community-based health services, workplaces</li> <li>6) Five large workplaces also made about 2000 pedometers available to their employees</li> <li>7) A community fund established to support initiatives to increase physical activity in neighbourhoods and non-government organisations</li> <li>8) Environmental changes included creating or repairing key footpaths, erecting '10,000 Steps' signs and distributing maps to encourage walking in local communities</li> </ol>

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Walk to work <sup>66</sup>	Annual (single day event with supporting MMC)	Physical activity; national and metropolitan workers	To promote regular walking as a healthy activity and reduce the incidence of diabetes (better physical, mental and social health)	Not specified	\$USD178,356 (approx. \$AUD272,381 media spend (2003))	Three weeks (September - October 2003 evaluated) TARPs not stated Reach not stated	A collaborative effort between governmental and non-governmental agencies with interests in transport, the environment, and health	A media and public relations campaign started in September 2003, with the theme 'Walk to Work: Make Time, Walk Every Day' The Australian prime minister promoted this message in 2003 campaign (other well-known celebrities in other years)
Go for 2 & 5 – WA <sup>67,68</sup>	2002–2010 inclusive except 2007 (evaluation 2005)  6.5 weeks over 9.5-week period in 2005	Nutrition; WA; adults aged 25–54	<ul style="list-style-type: none"> <li>• Generate intentions to consume the recommended two servings of fruit and five servings of vegetables each day</li> <li>• Generate positive attitudes towards achieving consumption of the recommended levels of fruit and vegetables</li> <li>• Generate and reinforce the necessary combination of healthy eating and physical activity to promote good health in children</li> <li>• Promote the benefits of adequate consumption of fruit and vegetables</li> <li>• Provide strategies of how to increase consumption of fruit and vegetables each day</li> <li>• Where to find further information and support</li> </ul>	<p>No formal program logic described</p> <p>Stated program based on health promotion theory</p>	<p>2002 \$307,000</p> <p>2003 \$191,000</p> <p>2004 \$199,000</p> <p>2004 \$68,000</p> <p>2004 \$414,000</p> <p>2005 \$214,000</p> <p>2006 \$128,000</p> <p>2007 \$209,000</p>	<p>2002 4730 84%</p> <p>2003 3146 91%</p> <p>2004 Jan 6008 87%</p> <p>2004 July 930 89%</p> <p>2004 Oct 4359 89%</p> <p>2005 3749 89%</p> <p>2006 1031 77%</p> <p>2007 1900 66%</p>	<p>Through its membership of the Strategic Inter-Governmental Nutrition Alliance (SIGNAL), the Australian Government developed a partnership program, coordinated by the Department of Health WA (the licensors of the Go for 2 &amp; 5 campaign), to extend the information beyond the media buy alone</p> <p>The campaign was supported by state and territory governments, who extended the national campaign with their own advertising and public relations activities throughout 2005</p> <p>The Australian Fruit and Vegetable Coalition was also a key partner</p>	<ol style="list-style-type: none"> <li>1) Advertising on shopping trolleys in Coles and Woolworths supermarkets and within shopping centres</li> <li>2) Go for 2 &amp; 5 recipe cards displayed in Woolworths supermarkets and the Australian Fruit and Vegetable Coalition organised distribution of recipe cards and posters to independent grocers</li> <li>3) Materials were mailed to schools through the Healthy Schools Communities grants program (under the Building a Healthy, Active Australia initiative) and to play group associations through their newsletters</li> <li>4) A booklet was produced on the benefits of fruit and vegetable consumption, how much is enough and what is a serve</li> <li>5) An information line was established for the community to request copies of the booklet, poster and recipe cards and for any other enquiries related to the campaign</li> <li>6) A dedicated website was developed to house campaign materials, advertisements and general information</li> </ol>

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Go for 2 & 5 – Queensland <sup>69</sup>	2006–2009	Nutrition; Queensland; adults aged 25–54 years	<ul style="list-style-type: none"> <li>• Raise awareness of the need to eat more fruit and vegetables</li> <li>• Increase perceived value and importance of eating two serves of fruit and five serves of vegetables every day</li> <li>• Encourage people to consider their actual fruit and vegetable consumption in relation to the daily targets</li> </ul>	Not specific	2006 \$390,000 2007 \$589,000 2008 \$279,000 2009 \$1120,000	30- and 15-second TVCs 2006 5510 82% 2007 4995 80% 2008 3200 78% 2009 11840 83% 2010 March 84%	Managed by health sector with engagement of fruit and vegetable industry Campaign implicitly linked with the National Dietary Guidelines for Australians	1) Food cooking demonstrations, shopping centre tours, promotions in major supermarket chains and vegetable stores, publications, brochures 2) Resources developed for teachers and health professionals
Be Active <sup>70</sup>	2005/2007–2013	Physical activity; SA; adults	<ul style="list-style-type: none"> <li>• Increase prompted and unprompted awareness levels of the be active brand.</li> <li>• Increase understanding of the amount of time required for adults and children/younger people to be sufficiently physically active</li> <li>• Improve awareness of local, everyday opportunities to be active</li> <li>• Positively influence people's intentions to be more active</li> <li>• Increase hits on the Be Active website</li> </ul>	Formal program logic model not specified Rationale for approach stated	2007–2008 TVCs \$99,757 2010 \$77,500	Phase I: radio commercials and outdoor advertising only Phase II: Four TVCs (TARPs unknown) reach 85% Phase III: April–May 2010, four-week burst Radio various 4–8 week segments April–June 2010 (TARPs and reach unknown)	Strongly linked to policy and programs Five-year physical activity strategy for SA 2004–2008, incorporates goals to ensure all relevant government policy, planning and legislation enhances opportunities for physical activity participation Develop supportive environments that foster physical activity opportunities Planning for phase IV stipulates the linkage explicitly	1) Breakfast sponsorship on commercial radio station 2) Merchandise, signage, promotion through sub-state infrastructure of various government departments 3) Phase III added print advertising in community newspapers, and ambient media for stairs, rail and car parks 4) Fifty full-time lifestyle advisors/support officers recruited over four years, working in SA health regions

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Piece of string <sup>71</sup>	2007	Obesity; Victoria; adults aged 30+	<p>Primary objectives were to increase awareness of the link between cancer and obesity and to encourage viewers to identify whether they are at increased risk of cancer due to their weight</p> <p>The secondary objective was to influence lifestyle behaviours with respect to weight</p>	<p>Not specified</p> <p>Social cognitive theory used</p>	Unknown	Six weeks, weekly TARPs 170	Led by Cancer Council Victoria	<p>1) TVC was supported by a helpline and website providing further detail on the research referred to</p> <p>2) A kit containing print materials and a tape measure was provided to callers and website registrants</p>
Good For Kids <sup>72,73</sup>	2007–2010	Nutrition, physical activity, obesity; Hunter New England region NSW; Parents and carers, children aged 0–12 years, and children aged 0–12 years	For children: drinking water instead of sweetened drinks; increasing physical activity; reducing sedentary behaviour; and increasing vegetable and fruit consumption	Formal program logic stated as health promotion theory, organisation change and capacity building theory and social marketing theory	Media spend: 18% of \$2.2 million in 2008–2009	30 and 15 second radio and TVCs; TARPs and audience reach not reported	<p>The Good For Kids child obesity prevention strategy in NSW followed a 2002 Obesity Summit</p> <p>Core funding of \$1.5 million per annum (2006–2010) was provided to the Hunter New England Area Health Service to conduct a program that addressed child overweight</p>	<p>1) The multi-setting program was implemented in partnership with a range of government, non-government and private organisations</p> <p>2) The program linked setting-based policy and practice change with awareness-raising. A range of evidence-based capacity building and dissemination strategies were implemented to maximise program reach and the adoption by organisations of the practices promoting healthy eating and physical activity.</p> <p>The strategies included: development of organisational leadership; provision of program and service resources and information; provision of funding and/or incentives; training of staff; and provision of adoption support and feedback</p>

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Measure-Up <sup>74,75</sup>	2008–2010	Obesity; National; adults aged 25–50 with children	<p>Phase One campaign:</p> <ul style="list-style-type: none"> <li>• Increase awareness of the link between lifestyle risk factors and chronic disease</li> <li>• Increase appreciation of why lifestyle change should be an urgent priority</li> <li>• Generate more positive attitudes towards conforming with the recommended guidelines for healthy eating, physical activity and healthy weight</li> <li>• Generate confidence to meet recommended guidelines and an appreciation of the personal benefits which will result from doing so</li> </ul>	<p>Not specified</p> <p>Extensive description of research underpinning approach</p> <p>Stated trans-theoretical model and health belief model used</p>	<p>The Measure-Up campaign was jointly funded by commonwealth, state and territory governments (except Victoria)</p> <p>2008-2010: \$10.8 million (TVC)</p>	<p>30 and 60 second TVCs</p> <p>Phase One included four flights of media activity</p> <p>October–November 2008 650</p> <p>March–April 2009 450</p> <p>September 2009–March 2010 582</p> <p>TARPs Estimated TV reach was 72–77% of the target population for flights one and two.</p>	<p>Joint Australian state and territory government initiative</p> <p>Designed to complement existing national and state/territory based health promotion campaigns including Go for 2 &amp; 5, Find Thirty and Go For Your Life</p>	<p>1) Supported by radio, print, out of home and on-line media activity (including news, entertainment, webmail and social networking sites) as well as Google and Yahoo!</p> <p>2) Additional resources including a paper tape measure, a consumer booklet, a recipe book, an interactive website and other printed materials</p> <p>These were distributed through the websites, state and territory governments, peak health bodies (general practice, health services) and other relevant non-government organisations</p>
Unplug and Play <sup>76,77</sup>	2008–2011	Sedentary behaviour; WA; parents of children aged 6–12 years	<p>Raise parental awareness of the national physical activity guideline regarding children's electronic media use (2010), and provide solutions to reduce electronic media use and increase active play</p>	<p>Not specified</p>	<p>Phase 1 \$78,477</p>	<p>Radio and print only</p> <p>Phase one February–March 2008 Four weeks, Reach 42%</p> <p>2008–2010 Four flights, three weeks Reach not known</p> <p>Phase two 2010, three weeks, Reach not known</p> <p>February 2011 Three weeks, Reach 64%</p>	<p>Campaign objectives linked to national physical activity recommendations re children's use of electronic media for entertainment</p>	<p>1) A supporting brochure delivered to parents disseminated through all primary schools</p> <p>2) A webpage was created</p> <p>3) Public relations activities</p>

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Draw the Line <sup>78</sup>	2009	Nutrition, physical activity, obesity; WA; adults aged 22–60 years	<p>Campaign objectives were to:</p> <ul style="list-style-type: none"> <li>• Increase awareness of the benefits associated with maintaining a healthy weight/preventing unhealthy weight gain</li> <li>• Increase awareness of the steps (healthy eating and physical activity) that can be taken to prevent unhealthy weight gain</li> <li>• Increase positive attitudes, intentions and behaviour in relation to the steps to prevent unhealthy weight gain and maintain a healthy weight</li> </ul>	Not specified	Unknown	Six waves media 30 and 15 second TVCs	<p>The Heart Foundation (WA Branch) in partnership with the Cancer Council WA, Diabetes WA and the WA Department of Health, launched the Draw the Line campaign in February 2009</p> <p>A goal was to integrate the Find Thirty every day and Go for 2 &amp; 5 campaign messages and complement the Commonwealth Measure Up campaign</p>	Supporting media, public relations activity, educational resources and community-based strategies, support resources and website
NSW Get Healthy Information and Coaching Service <sup>27,28,79</sup>	2009 continuing	Obesity; NSW; adults aged 25–54 years	To encourage people to call the phone-based counselling service to improve risk factors	Not specified		<p>2009 \$762,000</p> <p>2010 \$2,136,300</p> <p>2011 \$2,016,400</p> <p>2012 \$119,800</p> <p>2013 \$2,602,900</p> <p>2014* \$308,800</p> <p>(*to March 2015 only)</p>	<p>Four weeks</p> <p>30 and 15 second TVCs</p> <p>Specifically for Get Healthy Service</p> <p>2009: 500 2010: 520 2011: 935 2012: 2690 2013: 2830</p> <p>Get Healthy Service promotion at end of Measure-Up campaign displaying number</p>	<p>1) Press, online and radio advertising and information distributed in letterboxes and subscription magazines</p> <p>2) Health professional partnerships: direct referral and promotions through Local Health Districts; Medicare Locals; general practitioners and other health professionals including partnership with Aboriginal Health and Medical Research Council for promotion and referrals from Aboriginal Community Controlled Health Services</p> <p>3) Partnership with Multicultural Health Communication</p> <p>4) August 2011–June 2012 a proactive marketing strategy was used to promote the Get Healthy Service to adults in targeted lower socio-economic areas via distribution of an introductory letter to households with a follow-up phone call by the service inviting adults to join</p>

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Swap-It <sup>80,81</sup>	2010–2012	Obesity; National; adults aged 25–50 years with children	<p><b>Behavioural objectives</b></p> <p>To increase the likelihood that adults will:</p> <ul style="list-style-type: none"> <li>• Measure their waist</li> <li>• Reduce their risk of chronic disease by increasing their levels of physical activity and healthy eating</li> </ul> <p><b>Communication objectives</b></p> <p>To increase and reinforce awareness of:</p> <ul style="list-style-type: none"> <li>• The causal link between chronic disease and lifestyle risk factors and the immediate and longer term-health benefits of good nutrition, being physically active and achieving a healthy weight</li> <li>• What constitutes a healthy/ lower-risk waist circumference</li> </ul>	<p>Not formally stated but extensive formative research undertaken</p> <p>States that uses small changes approach</p>	2010–2012 \$8.7 million (TVC)	<p>45-second TVCs</p> <p>Wave one four weeks (March–April 2011) 600 TARPs</p> <p>Wave two Three weeks (May 2011), 300 TARPs</p> <p>Three weeks (September 2011) 650 TARPs</p>	As of 1 January 2011, responsibility for Measure-Up campaign was transferred from the Australian Government Department of Health and Ageing to the Australian National Preventive Health Agency (now abolished)	<ol style="list-style-type: none"> <li>1) Dedicated Facebook site, including a competition offering prizes for submitting swap ideas</li> <li>2) Printed campaign resources for consumers include brochures, fact sheets, posters, cards and 12-week planners (with Aboriginal and Torres Strait Islander and translated versions)</li> <li>3) Resources for health professionals including a detail card, tape measures, and notepads</li> <li>4) Swap It drink bottles, shopping bags, key rings, shopping list magnets, dog leashes and hats</li> <li>5) A free, downloadable interactive application allowing people to track their progress, an ingredient planner, a shopping list and activity planner</li> <li>6) Public relations and stakeholder engagement activities include regional road shows to support community events</li> <li>7) Distribution of community kits to parliamentarians and local government organisations</li> <li>8) Distribution of workplace kits containing Swap It screen savers to national government organisations and businesses</li> <li>9) States may have further support activities (e.g., in Queensland involvement of Queensland Health’s Regional Health Services, Ethnic Communities Council Queensland, Queensland Aboriginal and Torres Strait Islander Health Council and Diabetes Australia Queensland are all delivering these initiatives)</li> </ol>

**Table 2. Broad description of selected Australian PANO campaigns – continued**

Campaign	Year and duration (MM component)	Focus jurisdiction and target group	Objectives	Logic model	Budget	Media (TARPs, % audience reach, length)	Broad policy linkage	Support activities
Live lighter campaign <sup>82,83</sup>	2012–2014	Obesity; WA, ACT; adults aged 25–64 years	<ul style="list-style-type: none"> <li>• Increase awareness of the link between being overweight and chronic disease, while promoting healthy eating and regular physical activity</li> <li>• Increase understanding of the risks associated with poor lifestyle choices</li> <li>• Support the trial, adoption and maintenance of healthy eating, physical activity and healthy weight</li> <li>• Encourage public debate about obesity and the need for changes in the community to support healthy eating and physical activity</li> </ul>	Not specified States grounded in behavioural theory (Normal Fit Index) and formative research	2012 (WA) \$900,000	30- and 15-second TVCs; two waves (according to evaluation)  Six weeks, June/July 2012 (1000 TARPs)  Five weeks, September (670 TARPs) 2012	Unknown	<ol style="list-style-type: none"> <li>1) Social media was used</li> <li>2) Most public exchanges with advertising refer people back to the LiveLighter website (<a href="http://www.livelighter.com.au">www.livelighter.com.au</a>), which hosts resources, recipes, the free LiveLighter Meal and Activity Planner and access to the Brand Partner Program</li> <li>3) Advocacy initiatives are promoted such as the 'Junk free sport' petition and there are also stories from champions who have committed to long-term healthy changes to their lifestyles as a result of the LiveLighter campaign</li> <li>4) Healthway entered into a sponsorship agreement with the Perth Glory in exchange for the promotion of the LiveLighter message at all home games</li> </ol>

**Table 3. Evaluation findings (by recall and by objectives) of selected Australian PANO campaigns**

Campaign	Formative research	Evaluation design	Sample (age,n)	Post recall level (comparison group recall)	Proximal and distal outcomes against objectives
Active Australia Phase 1: "Exercise, you have to take it regularly not seriously" <sup>56,57</sup>	Yes	1) Quasi-experimental, pre and post independent population samples in NSW versus the rest of Australia (cross-sectional); 2) Cohort pre and post (NSW only)	1) Adults aged 18–75 NSW pre: n=2009 post: n=1700  Australia pre: n=3006 post: n=2253  2) Adults (age range unknown) n=1185	1) (cross-sectional) <b>Unprompted:</b> 20.9% (2.6%) <b>Prompted</b> (tagline): 50.7% (16.0%)  2) (cohort) <b>Unprompted:</b> 22.9% <b>Prompted</b> (tagline): 59.0%	<b>Proximal:</b> Statistically significant increase in three of five physical activity knowledge items related to campaign messages in cohort and independent intervention sample but not comparison sample  <b>Distal:</b> Showed no significant change in sufficient physical activity in past week  Cohort (Baseline: 46.2% to Follow-up: 42.5%) or independent sample (Baseline: 45.4% to Follow-up: 46.1%); significant decrease in total hours/week in cohort (4.4 to 3.8) and comparison sample (4.7 to 4.2) but not independent intervention sample (4.2 to 4.4)  Usual physical activity (hours/week) in past six months: Significant decrease in cohort (4.9 to 4.3) and comparison (5.3 to 5.0) sample significant increase in independent intervention sample (5.0 to 5.8)
Active Australia Phase 2: Rusty Tin Man	Yes	Cohort pre and post	Adults aged 55–75 (pre: n=1268, post: n=1020)	1) <b>Unprompted:</b> 8% <b>Prompted:</b> Baseline: 3.9% Follow-up: 48.5%  <b>Unprompted</b> (tagline): Baseline: 32.2% Follow-up: 64.1%	<b>Proximal:</b> Significant change in knowledge "Blocks of 10 mins of exercise are OK" other all no significant change  Increased intention to be more active in the next month pre to post-campaign (28.5% to 32.7%) and self-efficacy to be more active (mean change Baseline to Follow-up: 0.42)  18.9% reported that their general practitioner had discussed physical activity with them compared with Baseline: 22.3% (no info by subgroup if insufficiently active/sufficiently active)  <b>Distal:</b> Total hours physical activity per week no change, and no significant change in proportion sufficient active (Baseline: 40% to Follow-up: 38.6%)
Find Thirty Phase 1 It's not a big exercise	Yes	Serial cross-sectional tracking surveys (n=14) 2002–2006	Not stated	<b>Unprompted:</b> (Year one) 43%  <b>Prompted:</b> (Year one) 84% Tagline: (Year one) 22%	<b>Proximal:</b> Understand how much physical activity needed for health (median over follow-ups); 44% at Baseline versus 57% at follow-up  In 2006–2007: ~59% of adults stated 30 minutes as the ideal level of daily physical activity; ~37% stated > 30 minutes; ~5% stated < 30 minutes ~82% of adults agreed "being moderately active for at least 30 minutes each day is enough to keep healthy" ~72% of adults agreed "to improve your health it is essential to do vigorous activity for at least 20 minutes each time, three times a week" ~78% of adults agreed "exercise doesn't have to be done at one time – blocks of 10 mins are okay"; ~26% of adults agreed that "I am too busy to fit physical activity into my day" (despite ~83% agreeing physical activity is important and ~78% agreeing "it's easy to find 30 minutes of physical activity on most days"  <b>Distal:</b> Sufficient physical activity (Year one) 51%, 65.5% median across follow-ups (from Maitland, 2008)"

**Table 3. Evaluation findings (by recall and by objectives) of selected Australian PANO campaigns continued**

Campaign	Formative research	Evaluation design	Sample (age,n)	Post recall level (comparison group recall)	Proximal and distal outcomes against objectives
Find Thirty every day (Phase 2)	Yes	1) Cross-sectional survey 2) Cohort study	1) Cross-sectional survey: WA adults aged 20–54 years at baseline (May 2008, n=1003), Follow-up one (March 2009, n=1002), Follow-up two (February 2010, n=1001)  2) Cohort study: WA adults aged 20–54 at baseline (April 2008, n=833), Follow-up one (June 2008, n=693), Follow-up two (May 2009, n=566) Follow-up three (February 2010, n=452)	Cross-sectional survey  <b>Unprompted:</b> Baseline: 7.5%, Follow-up one: 19.1%, Follow-up two: 21.9% (significant Follow-up two versus Baseline)  <b>Prompted:</b> Baseline: 27.8%, Follow-up one: 40.1%, Follow-up two: 41.9% (significant Follow-up two versus Baseline)  <b>Prompted (tagline):</b> Follow-up one: 83.8%, Follow-up two: 87.4% (significant Follow-up two versus Follow-up one)	Cross-sectional survey  <b>Proximal:</b> Similar proportions of respondents at each time point (Baseline: 60.5%; Follow-up one: 63.4%; Follow-up two: 60.5%) thought “30 minutes of physical activity or exercise each day was required for good health”  Mentioned cardiovascular health is a benefit of physical activity doubled from Follow-up one (14.1%) to Follow-up two (43.2%); mental health benefit mentioned (Follow-up one: 19.7 to Follow-up two: 28.7); agility and mobility (Follow-up one: 8.6 to Follow-up two: 11.6)  Almost two thirds of Follow-up one (59.8%) and Follow-up two (59.9%) respondents felt ‘very confident’ to accumulate “at least 30 minutes of moderate intensity physical activity on five or more days of the week”  <b>Distal:</b> A larger proportion of males were ‘sufficiently active’ at Follow-up two (72.5%) compared with Follow-up one (68.7%) and Baseline (62.2%) (trend significant)  The proportion of females sufficiently active did not change (Baseline: 57.7%, Follow-up one: 60.4%, Follow-up two 59%) but the proportion inactive increased (5.2%, 7.8% 10.3%, trend significant)
10,000 steps Rockhampton	Yes (expert panel) and used previous research	Quasi-experimental pre- post control (Mackay) surveys	Baseline Rockhampton: n=1282; Mackay: n=1059;  Follow-up (2003): Rockhampton: n=1242; Mackay: n=1236	<b>Prompted:</b> Baseline (2001): 10.9% (control: 8.2%) compared with Follow-up (2003): 94.9% (vs control: 34%)	<b>Proximal:</b> 7% increase in the proportion of men who had received advice about physical activity from a health practitioner (but no change for women) with slight decrease for men and women in Mackay (significance not stated)  In 2003, 18% of Rockhampton respondents had used pedometer in past 18 months compared with 5.6% in control site  <b>Distal:</b> Control town decrease in proportion “active” by 6.4% compared with 0.9% increase in Rockhampton (not significant), but an increase of 5% in women who were categorised as “active” in Rockhampton (from 35.8% to 40.8%) compared with a decrease of 4.1% (from 47.1% to 43.1%) in Mackay but did not reach statistical significance. For the Mackay men, the adjusted odds ratio for being “active” in 2003 compared with 2001 was 0.73 (significant), while for the Rockhampton men it was 0.83 (not significant)

**Table 3. Evaluation findings (by recall and by objectives) of selected Australian PANO campaigns continued**

Campaign	Formative research	Evaluation design	Sample (age,n)	Post recall level (comparison group recall)	Proximal and distal outcomes against objectives
Walk to work	Yes, organised by Pedestrian Council of Australia	Population cohort pre and post	Metropolitan resident adults aged 18–65  (pre: n=1312, post: n=1100)	<b>Prompted:</b> 51% (employed), 40% (not employed)	<b>Distal:</b> (Analysis on those travelling to work on both survey days) Among aware of campaign, significant increase in proportion using combination public transport and walking (+10.3%) in NSW metropolitan (+12% for typically passive commuters), significant decrease in other metropolitan areas (-8.1%). Significant increase in walking/ cycling only (+ 4%), & car only (7.1%) in other metropolitan areas, no change in NSW  Significant increase in mean weekly minutes walking (+16 minutes) and moderate physical activity (+20 mins) among employed respondents
Go for 2 & 5 – WA	Yes (or perhaps only developmental research through concept testing)	National evaluation <sup>84</sup>	Parents of children aged 0–17 (pre: n=1200; FU1: n=591; FU2=1001); and children aged 9–12 (pre: n=300; FU1: n=96; FU2: n=250)	(Parents) <b>Unprompted:</b> Baseline: 17%, Follow-up two: 38% <b>Prompted:</b> Baseline:21% Follow-up one: 70% Follow-up two 63%  (Children): Baseline 24% Follow-up one: 89% Follow-up two: 83%	<b>Proximal:</b> Significantly fewer parents tried to increase fruit consumption (Follow-up two 38% compared with baseline 43%; no change in tried to increase vegetable consumption (Baseline: 28% versus Follow-up two: 26%)  Knowledge fruit guidelines (two or more serves) (children): Increased significantly from 83% (Baseline) to 89% (Follow-up two) and vegetable guidelines (five or more serves) 16% (Baseline) to 33% (Follow-up two)  <b>Distal:</b> Fruit consumption on 5–7 days (children): not significant increase baseline (66%) to Follow-up one (72%) Follow-up two (71%)  Vegetable consumption on 5–7 days (children): not significant change baseline (77%) to Follow-up one (76%) Follow-up two (74%)
Go for 2 & 5 – Queensland	Not described in report	Cross-sectional tracking survey  2006: 533 2007: 1448 2009: 1395 2010: 879	Queenslanders aged 18–54 years. Baseline: n=1941	Unprompted: 2006: 64% 2007: 29% 2009: 31% 2010: 49%  (general and prompted awareness combined)  2006: 82% 2007: 80% 2009: 78% 2010: 83%	<b>Proximal:</b> (Knowledge) We/people should ≥ two servings fruit Baseline: 0.1%, peak 2005–2010: 7.9% ≥ five servings vegetables Baseline:1.1%, peak 2005–2010: 6.8% ≥ two fruit and ≥ five vegetables Baseline: 19.9%, peak 2005–2010 19.9% We/people should eat more Fruit/Vegetables Baseline: 58.2%, Peak level 2005–2010: 66.1%  <b>Distal:</b> Mean servings of fruit Baseline: 1.46, Peak level 2005–2010: 1.54 Mean servings of vegetables Baseline: 2.17, Peak level 2005–2010: 2.77 Peak level was not maintained and declined to mean 1.54 serves fruit, 2.29 serves vegetables by January–March 2010, but higher than Baseline

**Table 3. Evaluation findings (by recall and by objectives) of selected Australian PANO campaigns continued**

Campaign	Formative research	Evaluation design	Sample (age,n)	Post recall level (comparison group recall)	Proximal and distal outcomes against objectives
Be active	Yes	Health Monitor Survey (Phase II: 2009 phase III: May 2010)	Adults aged 18+; =2000	<p><u>Phase II:</u>  <b>Unprompted:</b> Baseline: 4.3%, Follow-up: 14.5%  <b>Prompted:</b> Baseline: 53.2%, Follow-up: 59.7%</p> <p><u>Phase III</u>  <b>Unprompted:</b> Baseline: 10.2%, Follow-up: 14.3%  <b>Prompted:</b> Phase III: 65.8% versus Phase II: 62.5%</p>	<p><b>Proximal:</b> Mixed findings over 2010 year on monthly visits/hits on Be Active website compared with 2009</p> <p><b>Distal:</b> Get off the bus/train/ tram a stop earlier: Phase II: Baseline: 8.2% versus follow-up: 10.1%</p> <p>Phase III: Stairs rather than elevator 18.9% versus 2009: 15.1% Phase III: 15.9% walking to shops (versus 2009: 12%)  Parked further from destination and walked: Baseline: 29.4%  Phase II: 29.9%  Phase III: 17.5% versus 2009:13.9% Walked to the shops  Phase II: Baseline: 40.3% versus follow-up 47.4%  Phase III: 15.9% versus 12% in 2009</p>
Piece of String	Yes	Pre post- (pre, post (one to two days post exposure), delayed post (two weeks post-exposure) controlled natural exposure design	Overweight/obese adults aged 30–69 Baseline: n=519, Follow-up one: n=457  Follow-up two: n=358	<p>Unprompted Follow-up 1: 10.6%</p> <p>Prompted Follow-up 1: 65%; Follow-up 2: 76.5%</p>	<p><b>Proximal:</b> 28.3% recalled the primary advertising message, which was the link between weight or waist size and cancer</p> <p>Awareness of the link between cancer and overweight/obesity was more likely among the exposed than the unexposed group (OR) 5.0; at Follow-up one and Follow-up two</p> <p><b>Distal:</b> 13.9% of the exposure group measured their waist size at Follow-up one, increasing to 25.7% at Follow-up two</p> <p>The exposed group was more likely than the unexposed group to mention weight loss intentions to reduce risk of cancer at Follow-up one (OR =2.2) but was not maintained at Follow-up two</p> <p>More mention of weight loss behaviours at Follow-up two but no difference between exposure groups</p>

**Table 3. Evaluation findings (by recall and by objectives) of selected Australian PANO campaigns continued**

Campaign	Formative research	Evaluation design	Sample (age,n)	Post recall level (comparison group recall)	Proximal and distal outcomes against objectives
Good for kids	Yes	Controlled pre and post cohort study, nine surveys, cohort recycled from survey 5; Cross-sectional surveys pre- post in Hunter New England only	Parents of children aged 2–15 years across NSW  Survey 1: n=326 Survey 2: n=312 Survey 3: n=316 Survey 4: n=405 Survey 5: n=281 Survey 6: n=164 Survey 7: n=401 Survey 8: n=353 Survey 9: n=320  Cohort n=1367, in both pre and post; children and their parents kindergarten to year 10	<b>Prompted:</b> Significantly higher change in awareness in Hunter New England (6% to peak 59% versus rest of NSW (10% to ≈ 29% <sup>3</sup> ).	<b>Proximal:</b> Hunter New England participants were significantly more likely to identify the main water (Follow-up four: ~37% versus ~10%) and physical activity messages (Follow-up 6:~60% versus ~20%), but not the vegetable message (~33% versus ~22%), immediately post (message specific) campaign compared to the rest of NSW participants (NB: figures estimated from graphs, otherwise not in text)  <b>Distal:</b> (from report) There were significant reductions between 2007 and 2010 in children’s consumption of: fruit juice among the overall sample and girls in kindergarten, year two and year four; and overall sample in years six, eight and 10; in soft drink among the overall sample and girls in kindergarten, year two and year four  Significant increases in the proportion of children drinking two or more cups of water per day across all age categories for both genders  No significant improvements in the consumption of EDNP foods; significant increase in meeting vegetable guidelines among overall sample and girls in kindergarten, year two and year four; fruit consumption among the overall sample and boys in kindergarten, year two and year four  Significant decreases in the proportion of children not doing any organised physical activity and non-organised sport among overall sample and girls in kindergarten, year two and year four and non-organised sport significant increases overall sample and boys and girls in school years six, eight and 10 for non-organised sport participation  Significant decreases in proportion exceeding screen time guidelines for the overall sample and for boys in years six, eight and 10

<sup>3</sup> This figure derived from graph as not stated in text

**Table 3. Evaluation findings (by recall and by objectives) of selected Australian PANO campaigns continued**

Campaign	Formative research	Evaluation design	Sample (age,n)	Post recall level (comparison group recall)	Proximal and distal outcomes against objectives
Measure-Up	Yes	Cross-sectional telephone tracking survey pre and post campaign 2010–2012	Adults aged 18–65 Baseline: n=2806 Follow-up one: n=2812 Follow-up two: n=2161 Follow-up three: n=2193	<p><b>Unprompted:</b> Baseline: 5% Follow-up 1: 37%; Follow-up 2: 33.5%; Follow-up 3: 34.5% (taken from unpublished Prevention Research Collaboration national survey report)</p> <p><b>Prompted:</b> Follow-up one: 79.1%; Follow-up two: 78.9%; Follow-up three: 80.7%</p>	<p><b>Proximal:</b> Significant increase in proportion saying unprompted “obesity can lead to chronic problems” was a main message of the campaign Follow-up one to Follow-up three (Follow-up one: 15%; Follow-up two: 18%; Follow-up three: 19%)</p> <p>Significant increase in two “change is urgent” messages recall Follow-up one to Follow-up two but drops in Follow-up three (It’s never too late to start: Follow-up one: 12%; Follow-up two: 16%; Follow-up three: 9%; The earlier you start the easier it is to control your weight Follow-up one: 8%; Follow-up two: 11%; Follow-up three: 4%) and significant decrease in one (Everyone is busy, but find time for health Follow-up one: 11%; Follow-up two: 4%; Follow-up three: 3%)</p> <p>High agreement that ad communicated link between waist circumference and chronic disease (~80% across all Follow-up one, Follow-up three)</p> <p>Significant increase on all Follow-up compared with Baseline on knowledge of waist circumference associated with risk of chronic disease</p> <p>Significant increase in perceived importance (rate 8–10/10) of maintaining healthy waist circumference at all Follow-up compared with Baseline (Baseline: 53%; Follow-up one: 63%; Follow-up two: 60%; Follow-up three: 61%)</p> <p><b>Distal:</b> No significant increase in healthy eating/activity/waist size reduction taken as result of campaign (significant decrease in proportion reporting increasing vegetables in primary target group: Follow-up one: 29%; Follow-up two: 28%; Follow-up three: 24%)</p> <p>No change in vegetable consumption (~9-10% Baseline-Follow-up three), and fruit consumption (except Follow-up three lower than Baseline, 58% to 52%) or intention to increase in the next six months</p> <p>Meeting physical activity guidelines decreased Follow-up one to Follow-up three (Follow-up one: 63%; Follow-up two: 60%; Follow-up three: 63%) versus Baseline (68%) and no change in intentions to increase physical activity in next six months</p> <p>Confidence behavioural change will decrease risk of chronic disease significantly increased Baseline (56%) to Follow-up three (66%) for maintaining healthy waist size but not for sufficient physical activity, and eating recommended serves of fruit and vegetables in primary target audience</p> <p>Personal confidence for eating recommended serves of fruit and vegetables significantly increased Baseline (79%) to Follow-up three (86%) but not increasing physical activity (82% versus 87%) or maintaining lifestyle changes in primary target audience</p>

**Table 3. Evaluation findings (by recall and by objectives) of selected Australian PANO campaigns continued**

Campaign	Formative research	Evaluation design	Sample (age,n)	Post recall level (comparison group recall)	Proximal and distal outcomes against objectives
Unplug and play	Yes	2008 and 2011 Cross-sectional post only	Parents of 10–12 year olds (2008 n=202; 2010 n=203)	“Awareness” (undefined): Significantly increased from 48% in 2008 to 64% in 2011	<p><b>Proximal:</b> 50.6% of parents aware of the campaign in 2008 correctly identified screen time guidelines versus 30.8% or those who did not. 85% were motivated to speak to their child about limiting their electronic media use (2008); 82% and 87% had rules about use in 2008 and 2011 respectively</p> <p><b>Distal:</b> Proportion exceeding screen time guidelines decreased from 62% to 54% from 2008–2011; significant increase in electronic game consoles in the home; significant secular decrease in videocassette recorders from 2008–2011</p>
Draw the Line	Yes	Three cross-sectional surveys (one pre and two post)	Adults aged 18–65 Baseline: n=608; Follow-up one: n=601  Follow-up two: n=601	<p><b>Prompted:</b> Significantly increase in recall/ recognition from Baseline (8.4%) to Follow-up one (62.9%) and Follow-up two (57.9%)</p> <p><b>Prompted (tagline):</b> Increase recall/recognition from Baseline (3.1%) to Follow-up one: (51.3%) and Follow-up two (55.7%)</p>	<p><b>Proximal:</b> Intention to take action as result of campaign: 1) To be more active: Follow-up one: 41%, Follow-up two: 43% 2) Eat smaller portions: Follow-up one: 27.9%, Follow-up two: 25.4% 3) Sit less: Follow-up one: 8.4%, Follow-up two: 2.6% 4) Eat less sugar: Follow-up one: 3%, Follow-up two: 2.7% 5) Eat less fat: Follow-up one: 8.4%, Follow-up two: 2.6%</p> <p><b>Distal:</b> Action taken related to campaign message: 1) To be more active: Follow-up one: 48%, Follow-up two: 48.8% 2) Eat smaller portions: Follow-up one: 37%, Follow-up two: 23.1% (statistically significant decrease) 3) Sit less: Follow-up one: 12%, Follow-up two: 2.5% (statistically significant decrease); 4) Eat less sugar: Follow-up one: 2%, Follow-up two: 5% 5) Eat less fat: Follow-up one: 7%, Follow-up two: 4.1%</p>
NSW Get Healthy Information and Coaching Service <sup>8</sup>	Yes	Pre-test (baseline) and post-test surveys of callers to service (2009); Population surveys 2010–2012 (one pre, three during campaign, one post)	Adults 18 years + Baseline: n=1544; Follow-up one: n=1500  Follow-up two: n=1500  Follow-up three: n=1500  Follow-up four: n= 1500	<p>(from survey):</p> <p><b>Unprompted:</b> Baseline: 0% Follow-up one: 10.3% Follow-up two: 2.9%  Follow-up three: 5.5% Follow-up 4: 8%</p> <p><b>Prompted:</b> Baseline: 14.1% Follow-up one: 37.8% Follow-up two: 33.5% Follow-up three: 38.9% Follow-up four: 43.9%</p>	<p>In weeks when television advertising was present there were significantly more new calls (137.5 per week) and unique website visitors (547.0) compared with non-television advertising weeks (53.6 new calls; 282.9 unique website visitors)</p> <p>In 2011–2012, there were 890 new calls/month compared with 275 in non-advertising months (325% increase)</p> <p>Longer-term impact of the MMC campaign suggests that participants who cited mass media as their referral source were significantly more likely to enrol in the coaching program</p>

**Table 3. Evaluation findings (by recall and by objectives) of selected Australian PANO campaigns continued**

Campaign	Formative research	Evaluation design	Sample (age,n)	Post recall level (comparison group recall)	Proximal and distal outcomes against objectives
Swap-it	Yes	Cross-sectional telephone tracking survey only post-campaign 2008–2010	Adults aged 18–65, Follow-up one: n=2537 Follow-up two: n=2153 No baseline	<p><b>Unprompted</b> (Swap-It specific) Follow-up one: 16% Follow-up two: 19%</p> <p><b>Prompted</b> Follow-up one: 57% Follow-up two: 65% (Follow-up two significantly higher than Follow-up one)</p>	<p><b>Proximal:</b> Significant increase in proportion recalling Obesity affects lifestyle and can lead to chronic problems (Follow-up one: 7% versus Follow-up two: 11%) and Increasing waist measurement impacts on health (Follow-up one: 1% versus Follow-up two: 2%) as main messages, but not on three others. No significant change in recall of urgency message, but significant increase in self-efficacy message: Take control and look after yourself (Follow-up one: 2% versus Follow-up two: 6%)</p> <p>Significant increase in recall of two of 13 swaps (more for less: Follow-up one: 9% versus Follow-up two: 12%; and inside for outside: Follow-up one: 11% versus Follow-up two: 19%)</p> <p>Significant decrease in awareness of physical activity (Follow-up two: 77% versus Baseline: 81%) and vegetable guidelines (Follow-up two: 62% versus Baseline: 68%), no change in awareness of fruit guidelines</p> <p>The proportion who intended to increase their consumption of vegetables in the next six months at Follow-up two (28%) was lower than both Baseline (36%) and Follow-up one (33%)</p> <p><b>Distal:</b> No change in making one swap (Follow-up one: 12% versus Follow-up two: 14%) or increasing physical activity or decreasing energy-dense nutrient poor (ENDP) foods, but higher proportion reporting increase in fruit and vegetable consumption as result of campaign (Follow-up one: 4% versus Follow-up two: 7%)</p> <p>Mean number of serves of vegetables/day respondents was 2.37 at Follow-up two, as compared to 2.36 at Follow-up one and 2.45 at Baseline; fruit consumption was lower than Baseline (1.91 serves) in Follow-up one (1.65 serves) and Follow-up two (1.73 serves) and significantly lower intention to change. Significantly lower consumption ENDP foods Follow-up one versus Baseline but not Follow-up two</p> <p>Decrease in mean hours walking/week from Baseline (3.5 hours) to Follow-up one (2.5) and Follow-up two (2.7), but increase from Follow-up one to Follow-up two significant</p>

**Table 3. Evaluation findings (by recall and by objectives) of selected Australian PANO campaigns continued**

Campaign	Formative research	Evaluation design	Sample (age,n)	Post recall level (comparison group recall)	Proximal and distal outcomes against objectives
LiveLighter Obesity Campaign	Yes	Quasi-experimental cross-sectional controlled design  Pre and post  Two population surveys in WA with comparison state of Victoria	Adults in WA and Victoria aged 25–49 years  Baseline=2013; Follow-up one=2010  Follow-up two=2010  NB: report describes Follow-up two not Follow-up one	<b>Unprompted (WA only):</b> Follow-up one 31% Follow-up two: 22%  <b>Prompted brand (WA only):</b> Follow-up one: 35% Follow-up two: 35%  <b>Prompted advertisement recognition (WA only)</b>  Follow-up one: 48% Follow-up two: 43%	<b>Proximal:</b> Thought about harms to health of being/becoming overweight at least once significantly increase from baseline (51%) to Follow-up one (57%) in WA and Follow-up two (59%), but also increased in Victoria (Baseline: 28% to Follow-up two: 52%); but among overweight respondents, there was a significant change at Follow-up two (71%) compared with Baseline (63%), in WA but not Victoria  A greater proportion in WA perceived type 2 diabetes (but not heart disease or cancer) to be extremely serious at Follow-up one compared with baseline, maintained at Follow-up two (Baseline:51%; Follow-up 2: 61%), but not in Victoria  The proportion of WA respondents reporting they would likely meet physical activity recommendations in the immediate term increased significantly from baseline to Follow-up two (Baseline: 74% versus Follow-up two: 84%), but not in Victoria (Baseline: 76% versus Follow-up two:78%)  <b>Distal:</b> The proportion of respondents who reported that they had made dietary changes in the past month did not differ significantly by study phase across the Victoria and WA  Those who were aware of the campaign being more likely to have made a dietary change than those who were not aware (33% versus 22%)  Proportion who were healthy weight did not change (WA – Baseline: 41.8% Follow-up one: 45.8%; Follow-up two: 44.7%; Victoria – Baseline: 43.1%; Follow-up one: 44.1%; Follow-up two: 44.3%) nor did physical activity or sedentary behaviour. An increase was seen in WA for meeting fruit recommendations (Baseline: 49% versus Follow-up two: 57%) and not in Victoria (Baseline: 50% versus Follow-up two: 53%), but did not reach statistical significance

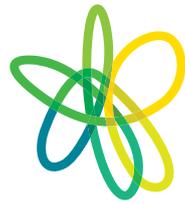
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