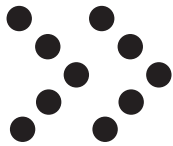


Appendix 3

Mediated Approaches



❖ APPENDIX 3A

MEDIATED APPROACHES TO INFLUENCE PHYSICAL ACTIVITY: MASS MEDIA, PRINT, TELEPHONE AND WEBSITE DELIVERY OF INTERVENTIONS

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Introduction and Methods

This review covers four modes of 'mediated' approaches to the promotion of PA (defined as 'not face-to-face' and therefore able to cost-effectively reach large numbers of people): 1) mass media, including population-wide and community-based campaigns that have a strong media component; 2) print-delivered programs; 3) programs delivered primarily by telephone; and, 4) the newer generation of programs that use websites and other Internet media to deliver their intervention. The focus of this review is on evidence from research studies and systematically evaluated programs, published since the review by Marcus and colleagues in 1998.¹

Electronic databases Medline and Pubmed were searched using the following key words: community intervention, mass media, campaign, print, web-based, email, internet, worksite, workplace, telephone counselling, corporate, physical activity, exercise, walking, health promotion, wellness, intervention and program to identify studies published since the Marcus review.¹ Personal journal libraries and the reference lists of the key articles identified were also perused for additional studies. Fifty-eight papers were identified, of which five were review papers,²⁻⁶ 10 were cross sectional/descriptive studies, and two which did not have physical activity as one of the main outcomes. Thirty four intervention studies reported changes in physical activity as a key outcome variable; of these,

20 reported on mass media/community-based programs,⁷⁻²⁶ six reported on self-help print-based programs,²⁷⁻³² four reported on telephone-based programs,³³⁻³⁶ and four reported on internet-based programs.³⁷⁻⁴⁰

Mass Media Approaches

Mass media campaigns are an important and necessary strategy for disseminating new information to the public. The studies reviewed in Table 3A.1 range from large-scale National,^{9,14,15,17,22-24,26} and state-based^{8,9,19} campaigns conducted within regional communities and cities.^{7,11-13,16,18,20,21,25} Most campaigns were evaluated using a pre-post independent cross sectional survey, either with^{8,9,13,18,20} or without^{7,10,11,12,14,15-17,19,21,22-26} comparison samples. Nearly all campaigns used paid television and print media advertising, some used radio. Campaigns typically ran for approximately six to eight weeks, sometimes with repeat instalments.

The findings suggest that mass media results in significant increases in slogan and message recall, but that there is limited impact on behaviour. Some positive effects on behaviour were noted including; small increases in physical activity following the Australian⁸ and West Virginian campaigns,²⁰ and a smaller decrease in physical activity levels in areas where a campaign was conducted compared with a comparison sample.⁹ Some studies recommended that campaigns should focus on regional areas,^{7,12,20,21} that enable coordinated, collaborative efforts to be developed.^{17,20,24,25}

The modest results observed suggest that it may take more sustained and concentrated efforts to actually change behaviour.^{3,9,10} Specifically, the World Health Organisation (WHO) recommended that effective campaigns should be conducted over many years to continuously reinforce messages to the public before a sustained impact may be established.

There is some consensus that mass media should be recommended as a supplementary (and important) strategy in broader, community and population-based approaches. The 10,000 Steps Rockhampton project¹² includes a comprehensive mass media campaign, which is supplemented by

community-based activities, environmental prompts, and a range of public relations and community engagement initiatives. The results of this study should be available in 2004.

If used strategically, mass media can play a strong supportive role in drawing attention to programs and strategies, in disseminating information, and in setting the agenda for future physical activity promotion initiatives. There is a need for further systematic evaluations of campaigns which specifically target hard to reach groups, and ongoing exploration of the most effective mediums.

Print-based materials

Of the six 'print media' papers reviewed in Table 3A.2, one reported long term follow-up data from a randomised trial,^{28,29} two were quasi experimental pre-post studies,^{27,32} and two were RCTs conducted in Australia.^{30,31} The US based trials have shown that 'stage-targeted' and 'personally-tailored' print materials can produce significant behavioural changes in volunteer samples.^{28,29} The Australian RCTs evaluated the wider effectiveness of stage targeted print programs delivered to large proactively recruited population samples, including residents of a regional community,³⁰ and participants from a range of communities across the state of New South Wales.³¹ While the regional trial showed modest but significant short term effects on behaviour, the state-wide trial did not.

Trials of stage-targeted and individually tailored programs show the print medium to have some promise although information on the frequency of contact required and/or supplementary materials that help to create sustained effects is required. Studies using non-personalised materials do not appear to be as effective.³²

Telephone-based approaches

A review of telephone based intervention studies by Castro and King⁶ suggested that this strategy is effective among volunteer participants. Three recently published studies were reviewed (Table 3A.3). All were RCTs, conducted in the US, with volunteer participants. One used health educators to counsel participants about physical

activity,³³ and one used fully automated telephone counselling system (with computer generated voice simulation).^{34,35} The other paper described a trial that is comparing these two methods, but the results are not yet known.³⁶

The evidence reviewed here does little to support the effectiveness of telephone based physical activity counselling. In particular, there were small effects and a high drop out rate in the automated telephone counselling trial,^{34,35} and the potential and acceptability of these strategies in an Australian context remains unclear.

Internet-based approaches

'New media' have been enthusiastically advocated as promising modes of delivery for health behaviour change interventions and for physical activity interventions.^{1,41,42} There is however, limited evidence on the effectiveness of websites and e-mail as media for program delivery, as only three intervention studies were found (Table 3A.4). One trial reported that the web-based program had significant effects on behaviour, but it was conducted with a small number of volunteer participants.^{38,39} In contrast, the Australian trial compared a stage-targeted print intervention with a program of similar content delivered via a website.³⁷ While the results were not significant in terms of behaviour change, this study demonstrated several of the challenges faced in using website and e-mail delivery. Similar findings were reported in the third study.⁴⁰ Collectively these trials highlight two key challenges for this approach, 'engagement' and 'retention' of participants. The findings suggest that much remains to be learned about the use of websites and e-mail to deliver physical activity interventions, especially in relation to the challenges of working with large numbers of people in ways that can engage and retain interest and involvement.

Conclusions

The central issue with all these approaches is that none of the strategies reviewed here is likely to be optimally effective when used in isolation. However, in the context of more comprehensive and adequately resourced campaigns, these mediated approaches are likely to be relevant and potentially

effective ingredients of wider community-based strategies. In the context of smaller scale programs, well-planned combinations of two or more media are also likely to be practical and effective. For example, print plus telephone, telephone plus website, or website plus telephone plus community based initiatives can clearly be seen to have the potential to support and reinforce each other. In situations where the delivery of effective advice, motivational prompts and practical guidance to large numbers of people at low cost is crucial, mediated interventions are potentially the 'way of the future'. Public health strategies to promote and support physical activity for whole populations and higher risk subgroups (who are increasingly represented in large numbers in aging populations) demand that we learn more about mediated forms of program delivery and how to make these different approaches more effective and more widely available.

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Table 3A.1 Summary of mass media interventions to promote physical activity

Abbreviations used in table: MPA: Moderate-intensity physical activity; VPA: Vigorous-intensity physical activity; Sig: Significant; NS: Non-significant; RR: Response rate

Study	Program details				Evaluation					Conclusion
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures	Effects	
Bauman et al., 1999 [ref 7]	Community based combined mass media and other strategies Illawarra NSW 1995–1998 Australia	MPA	Pre-post independent cross sectional surveys	Illawarra Physical Activity project slogan 'no ifs ... no buts' advertised via 30s television commercial, print, billboards, radio & community events. Target adults aged 40–60yrs. Budget = \$30,000.	1995; n=1,200 (RR=71%) 1997; n=1,200 (RR=79%)	Telephone interviews conducted in 1995 & 1997	Campaign awareness, PA intentions, knowledge & behaviour, Stage of change.	n/a	No change in PA message recall, but increase in slogan recall from 0% to 8%. Sig increase in PA knowledge. NS 3% change in reported PA, change greater among men (5.5%). No change in intention.	This was the first mass media campaign to be conducted on the 'new PA recommendations' in Australia, with a modest budget. These results reflect the emergent development of mass media campaigns in Australia and recommend that sustained regional effort is required to change behaviour.
Bauman et al., 2001 [ref 8]	State wide population (NSW) mass media campaign 1998 Australia	MPA	National pre-post independent cross sectional surveys. Cohort in NSW pre-post. (Nov 1997–March 1998) Surveys also conducted in comparison states (rest).	Paid & unpaid Television & print media. Slogan: Exercise: you only have to take it regularly not seriously'. Targeting insufficiently active but who were motivated to change behaviour. Budget \$700,000. Aimed to reach 65% of target audience in prime time.	Randomly selected adult aged 25–60 yrs. Household RR 61% in 1997 n=2,009 NSW v rest n=3,006. 44% men, 71% married, 63% >high school education.	Household RR 65% in 1999. n=1,700 NSW v rest n=2,253. 83% of NSW cohort recontacted in 1998.	Telephone interviews, including self-reported PA (AAQ), PA knowledge, message awareness, self-efficacy.	Sufficient PA 150min/wk	Sig ↑ in unprompted message recall 3% to 23% in NSW cohort 2% to 21% in independent. Small changes elsewhere 1% to 3%. Sig ↑ in prompted message recall 13% to 51% in NSW. PA knowledge & self-efficacy ↑ in NSW, but not elsewhere. No change in PA in whole sample, but those who recalled campaign message were 2 times more likely to have ↑ their PA by 60 min/wk.	Positive short-term ↑s in PA message recall, knowledge and behaviour compared to regions where campaign was not run. Large population samples and strong research design using complimentary data from both cohort & independent samples. Mass media recommended as supplementary strategy.

Table 3A.1 Summary of mass media interventions to promote physical activity (cont.)

Study	Program details				Evaluation				Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Bauman et al., 2003 [ref 9]	State wide population (NSW) mass media campaign 1997–1999 Australia	MPA	National pre-post independent cross sectional surveys	Integrated Active Australia Campaign (AAC). Slogan: Exercise, you only have to take it regularly not seriously	Randomly selected adult aged 18–75 yrs. Household RR 61% in 1997 n=3,449 NSW/ACT v REST n=3,354.	Household RR 65% in 1999. n=2,198 NSW/ACT v REST n=1,644.	Telephone interviews, including self-reported PA (AAQ), PA knowledge, message awareness, self efficacy.	Sufficient PA 150min/wk	Recall of AAC sig higher in NSW/ACT (62%) compared to elsewhere in Australia (29%). Awareness of campaign message ↑ from 14% in 1997 to 42% in 1999, (an 11 fold ↑ in NSW compared to elsewhere), PA level declined Nationally from 63% to 57%, but ↓ was smaller in states where campaign was run (6% v 4%)	Smaller ↓ in PA in states where campaign was conducted. Appears mass media helps keep PA in people's agenda, but does not necessarily prompt behaviour change. Mass media recommended as supplementary strategy.
Bauman et al., 2003 [ref 10]	Population wide mass media campaign 1999–2002 New Zealand	MPA	National pre-post independent cross sectional surveys. 1999 & 2002	Target adults 30–54yrs 'Push Play' plus supplementary strategies through primary care and community events. 1999 2x 15s silent commercials with slogan 'don't adjust your set adjust your life' followed by 'push play 30 minutes a day'. TV-media, merchandise, billboards, radio, magazine. Budget \$3mil over 4 yrs.	1999: n=655, 46% men, 31% aged <34yrs. 2000: n=506, 50% men, 33% aged <34yrs. 2000: n=504, 50% men, 34% aged <34yrs. 2002: n=507, 49% men, 34% aged <34yrs.	Household interviews completed in 1999, 2000, 2001 & 2002.	Self-reported PA, message awareness, intention to be active.	n/a	Increase in; Message awareness logo recognition from 30% to 57%. Logo recognition from 14% to 52%. Intention to be active from 2% to 9%. No change in reported PA (39% to 38%). Only 0.1% called 0800 PA help line	Sample size limitations & initial survey contaminated by campaign messaging. Culturally appropriate campaign developed with community consultation. Mass media helps raise awareness of PA, but does not necessarily prompt behaviour change. Authors recommend sustained efforts. Mass media recommended as supplementary strategy.

Table 3A.1 Summary of mass media interventions to promote physical activity (cont.)

Study	Program details				Evaluation					
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures	Effects	Conclusion
Bjaras et al., 2001 [ref 11]	Community-based walking program in 3 Municipalities Stockholm 1997–1999 Sweden	Walking	Data collected from walk leaders and participants at 3 time points.	Stockholm Diabetes Prevention Program targeted 35–54 yr olds. Volunteer walk leaders recruited via media advertisement, conducted organised walking groups in residential areas. 3/7 waking campaigns were evaluated. 45min walks were free & advertised in local media to recruit participants. No promotion in winter.	Target age group n=14,000 living in Stockholm.	n=200 people filled in participant questionnaire. 35% aged 35–54yrs.	Self reported PA & observation data	Perception of the program	Good interest from volunteer walk leaders (total n=48) Participants were more likely to be regularly active, married women, in good health. Most participants reported desire to continue with the walking groups. Limited reach only 5%.	Limited reach. Poor study design, limited by community basis. Volunteers easy to recruit, most stayed with program throughout three phases evaluated. Most participants were already active. Walking during autumn less popular, only spring & summer will be continued. <i>Not relevant</i> to Australian climate as walking can be done year round.
Brown et al., 2003 [ref 12]	Community-based combined mass media and other strategies Rockhampton QLD 2001–2003 Australia	Walking	Pre-post independent cross sectional surveys. Control community	'10,000 steps Rockhampton': Mass media television advertisements, GP & other health professionals' strategy, local council & environmental strategy, increasing social support & community grant scheme. Campaign centred on use of Pedometer.	Random population samples.	2y; independent cross sectional surveys	PA (AAQ), message awareness, knowledge & use of pedometers.	GP program. Environmental perceptions.	Program currently under evaluation. Initial data support positive effects generated by program. Awaiting final evaluation data.	
Eaton et al., 1999 [ref 13]	Community-based Pawtucket Rhode Island. 1983–1991 United States	VPA	Independent cross-sectional surveys in Pawtucket & comparison community.	7yr Pawtucket heart Health program. Multiple risk factor trial. PA strategies included 'Exercity, Get Fit!' & 'Imagine-Action' were both 6w campaigns. Self help materials, school curricula, and screening advice. Walking trials,	n=7,529 in Pawtucket & n=7,732 in comparison. Aged 18–64yrs.	2yr intervals RRs around 70%	35 min telephone interview	PA knowledge. Attempts to increase PA. Physical inactivity.	Women more likely to participate in programs than men (87% v 13%). Participants were 62% aged <35 yrs. Changes in PA followed secular trends (↑ VPA in young).	Different question used in surveys cloud results. No consistent decrease in physical inactivity observed. Only modest (approx 11%) penetration of the program in the community. Programs targeting men required. More concentrated efforts required including environmental and policy focus.

Table 3A.1 Summary of mass media interventions to promote physical activity (cont.)

Study	Program details			Evaluation						
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures	Effects	Conclusion
Hillsdon et al., 2001 [ref 14]	Population wide mass media campaign 1995–1997 England	MPA	3yr cohort with pre-mid-post surveys. Cluster random probability sampling.	Social marketing, mass media campaign slogan 'Active for Life'. 3 waves of media including print media. Phase 1, 1996: 6w featuring TV ad: 'The thirty minute games' 40s. Budget: 2 million pounds. Phase 2, 1997: same 40 s TV ad. Phase 3: 1998, women through magazines instead of TV.	Nationally representative sample 12,907 aged between 16–74yrs, of which 6,711 completed baseline survey (52%)	Baseline 1995; after phase 1 1996 n=4268 completed follow-up (64%) & after phase 2, 1997 n=3,189 (48%) completed follow-up. 42% men, 55% aged 45–74 yrs.	30-minute face-to-face interview. Changes in self reported PA, campaign awareness & PA knowledge		Dropouts were different to completers. Completers 38% aware of the campaign at 6–8mths. PA knowledge ↑. No change in reported PA between phase 1 & 2, but slight ↓ between phase 1 & 3. People who were more aware or already active were more likely to recall campaign.	Questionnaire validity & reliability not known. No control group. Campaign improved PA knowledge but not behaviour. TV not critical to campaign. Time to change social trend may take much longer than 3 yrs.
Matsudo et al., 2002 [ref 15]	Population wide mass media campaign and other strategies 1995 Sao Paulo Brazil	MPA	Focus groups in schools & colleges, workers, & elderly. Interviews with volunteers	Social marketing approach, multi-level, community-wide PA intervention to ↑ knowledge of PA. Targeted to home, transport and leisure setting. Partners with 160 groups. Non-paid media, mega cultural events. Campaign slogan: 'Agita' which encompasses the desire for PA, with community/social health. Media, print and fake prescription drug 'Agitol' for physicians to use. PA pyramid for adolescents.	Population of Sao Paulo –34 million. Surveys from 645 randomly selected adults 4 yrs. Limited detail of sample.	nil	Face-to-face interview. PA level & knowledge. Campaign awareness.		'Agita' recalled by 58% of the population. 49% men and 61% women meeting current PA guideline. Fewer of those who knew the campaign message were sedentary (7% v 13%)	Non-experimental design, small sample and self-report methods limit these data. Multilevel campaign successful at remaining awareness. Comprehensive planning process useful for other developing countries.

Table 3A.1 Summary of mass media interventions to promote physical activity (cont.)

Study	Program details				Evaluation					
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures	Effects	Conclusion
Mettler et al., 2000 [ref 16]	Community-based. Metropolitan area. United States	MPA	Pre-post cohort	<p>Healthy People 2000 collaborative campaign between hospital, community parks & recreation department.</p> <p>4 to 500 teams of 10 people participated.</p> <p>Aim get teams doing 30min PA on >4d/wk for 8w.</p> <p>At least 1 new exerciser was required in each team.</p>	<p>Randomly selected participants n=1,245 were invited to participate in the evaluation.</p> <p>Baseline data from n=961 (77%) participants.</p> <p>Pre-contemplators excluded from study</p>	<p>8w follow-up n=817 (85%)</p> <p>3mth follow-up n=690 (72%).</p> <p>Analysis conducted on n=690 participants who completed all 3 follow-ups.</p> <p>36% male, mean age 40yrs, 84% white, 88% college education.</p>	<p>Stage of Change, self-efficacy, decisional balance.</p>		<p>Baseline to 8w follow-up 69% advanced their stage of change & 2% regressed.</p> <p>8w to 3mth follow-up 19% advanced their stage of change, 33% regressed & 56% stayed stable.</p> <p>Baseline to 3mth follow-up 40% advanced their stage of change, 13% regressed & 62% stayed stable.</p> <p>No change in self-efficacy or decisional balance with participants.</p> <p>97% of contemplators & 67% preparers advanced.</p>	<p>Poor study design, no control, attracted mostly people in action & maintenance, but teams had to have at least 1 inactive person.</p> <p>Small amount of regression between baseline and 3mth follow-up.</p> <p>Sustained support & motivation required as 33% became less active after the program ceased.</p> <p>Useful strategy to initiate behaviour change, but sustained efforts are required.</p>

Table 3A.1 Summary of mass media interventions to promote physical activity (cont.)

Study	Program details				Evaluation				Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Miles et al., 2001 [ref 17]	Population-based mass media campaign 1999 United Kingdom	M-VPA	Cohort.	'Fighting fat, fighting fit' targeting overweight and obese people. 7w program aired on BBC television and radio. Promoted small, change to diet and activity routine. People registered with the program received a booklet. Membership was for 6mths. Members were to send in 3 registration cards over 5mths to document weight & PA changes. Incentives such as free gym visits/groceries were offered to those who returned cards. Details of how PA was promoted scarce.	237,865 registration pack sent out of which 33,474 (14%) registered with the program. 79% women, 27% aged <34yrs, 44%obese. Of these postal questionnaires were sent to random 6,000. 86% women, 31% aged <34 yrs, 57% obese.	3,661 (61%) returned initial questionnaire. 2,112 (35%) returned 5mth follow-up questionnaire. Completers tended to be older, not married, more educated, non-smokers who owned their own home	Demographics. Dietary intake. Eating behaviour. Body weight. PA levels (IPAQ).	SF-36.	Awareness of campaign high (57%) ITT analysis showed Sig ↓ in weight (mean -2.3 kg), fat intake. Sig ↑ in walking, and vigorous activity. Total activity ↑ by 94 min/wk. Sedentary % ↓ by 9%. Shift in being sufficiently active ↑ from 19% to 36%. Predictors of change: Men, more obese at baseline, lower levels of deprivation, involvement in first 5 wks of program	Potential contamination of baseline data as questionnaires sent out as people registered. Non-experimental design, lack of control, low RR and self-report measure limit these data. Mass media can have positive impact on weight control in the population. Men, people under 25 need specific attention. Large proportion of population now overweight/obese, this strategy may impact upon higher SES section of the population. <i>Not recommended</i> as further linkage with community networks advisable.
Natziger et al., 2001 [ref 18]	Rural community Ossego-Schoharie, New York State 1989-1990 United States	Walking	Pre-post independent and cohort studies. Reference community.	5y multifaceted, multimedia campaign. Targeted physical activity, nutrition & smoking. 24 local health committees formed. PA intervention consisted of organization & promotion of walking groups & fitness activities. No local television stations, so media was mainly radio, newspaper & other print media. Intervention process based on Stanford, Pawlucket and Minnesota projects.	20-69yr olds, 45% men, 47% post secondary education, 65% married.	Baseline 1989/90 (n=911: 92%) Cohort follow-up 1994/95 (494-98%). Independent follow-up 1994-96 (n=1,035: 77%)	Telephone interviews. PA (BRFSS). Participants invited to participate in a personal health screen	Other CVD risk factors.	Sig ↓ in smoking. 5% ↓ in proportion sedentary in cohort & across independent surveys compared to 8% ↓ in reference community.	Mixed study design, weak intervention doses. Greater impact on smoking. Time needs to be spent developing collaborations between local community organizations in rural setting. Continued intervention within these rural communities may impact upon other CVD risk factors over time.

Table 3A.1 Summary of mass media interventions to promote physical activity (cont.)

Study	Program details				Evaluation				Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Nutrition & Physical Activity Branch, 2002 [ref 19]	State wide population (WA) mass media campaign. 2003 Australia	MPA	Pre-post independent cross sectional surveys	Mass media approach using slogan 'Find 30: Its not a big exercise' Television, Radio, print, posters, billboards etc. Concentrated effort between March and June 2003	n=300 pre & n=300 post No details of sample provided.	n/a	Campaign awareness and knowledge of messages. No outcome evaluation reported.		75% were aware of 1 or more of the advertisements. 92% believe PA is easier than you think. 87% agree you need to do 30 min pa daily. 44% said they would ↑ their PA. Recalling advertisements significantly impacted upon understanding, acceptance, relevance comprehension & belief in the campaign message.	Program is ongoing. Good message recall, however, evaluation incomplete at this stage. Using all available modes of media influence. Aim to focus on men 40–54 yrs in future campaigns.
Reger et al., 2002 [ref 20]	Community wide mass media campaign Wheeling West Virginia 2001 United States	Walking	Quasi-experimental, pre-post telephone surveys with 719 adults in VA and 753 adults in comparison community. Observations at 10 community sites.	'Wheeling Walks' targeted 55–65 yr olds. Intensive 8w campaign (paid media, public relations) designed using TPB, TTM. 2 30s TV advertisements, and 2 60s radio advertisements used tagline 'Isn't it time you started walking?' Target household should have seen the ad 50 times and heard the ad 70 times. Weekly press conferences were held, and a worksite wellness walking program, along with e a website, physician prescriptions for walking and other public health presentations.	City population 31,420. Completed n=719 VA community interviews and n=753 comparison community interviews. Overall completion rate of 72%. Of these n=305 42% VA & 341 45% VA participants were classified as sedentary	VA follow-up n=517 (72%) & VA Follow-up n=571 (76%), 68% women, mean age 57y.	Behavioural observations: In five locations and intercept interviews. Self report telephone surveys: PA (BRFSS), stages of change (Marcus) & Community awareness,	Measures about TPB.	Observation data showed a 23% ↑ in number of walkers in VA compared to 1% ↓ in comparison community. 32% VA v18% CT sedentary baseline participants were meeting sufficient PA criterion at follow-up. Sig forward progression through stages of change. 90% recall of campaign in VA community (76% recalled TC ads, only 32% recalled radio ads, 5% public relations activities.	Sound study design, self-report measures plus observational data, but short term follow-up. 37 member advisory committee. Theory based media campaign boosted sig ↑ in walking in a defined community. TV had highest recall. Booster campaigns planned, along with replication in a larger community. However, it may be difficult to generate large media interest in larger communities. Regional focus <i>recommended</i> .

Table 3A.1 Summary of mass media interventions to promote physical activity (cont.)

Study	Program details			Evaluation					Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Renger et al., 2002 [ref 21]	Community wide mass media campaign. Yuma County, Arizona. 1997 United States	MPA	Independent pre-post data. No control.	Taskforce formed in Feb 1997 & community forum in Nov. ix based on TTM. Television (PSAs) comic strips & website posters. 'Yuma on the Move' 30s ad: 'Think about it, its your choice to be physically active' Website posters used were CDCs: 'Physical activity: It's everywhere you go' and a couch potato with slogan 'Eat a potato don't be one'.	Yuma population = 68,160. Telephone interviews n=500 in 1996. Written survey n= 703 1998.	Follow-up telephone interview n=500 1999. Follow-up written survey n=644 1999. Details of actual samples not provided.	PA (BRFSS); Stage of change (Marcus)	Change in perceived barriers, benefits & self-efficacy of PA.	Comic strips & posters not as effective at reaching target audience as television. No sig change in PA knowledge, or benefits/barriers items. Self=efficacy sig ↑. No change in reported PA. ↓ in % sedentary (NS).	Weak study design. Campaign was understood and prompted change in self-efficacy, but did not translate in to actual behaviour change. Success attributed to the 'unique local flavour'. Regional focus recommended.
Stamm et al., 2001 [ref 22]	Population-based educational programs 1997-9 Switzerland	M-VPA	Annual descriptive data including surveys of participants in educational programs	'Sport for all'. Swiss Olympic association organised sporting clubs to offer training & information to help inactive people take up some form of daily activity. Important target groups identified, women, elderly, low education, people with children & immigrants. Limited details of actual 'campaign' used.	Participants in educational programs self-completed surveys in 1996/7: interviews with n=12,738 participants & n=215 coaches; 1998: interviews with n=2,758 participants & n=298 coaches; 1999: interviews with n=1,663 participants & n=215 coaches.	Immediately post program & a few months post via telephone. 1996/7: follow-up n= 486 participants and n=300 1y later, 1998: follow-up n= 300 participants; 1999: follow-up n= 300 participants. Low RRs between 20-35%.	Course assessment; & movement through stages of change.	Courses offered. 1998, 1070 courses were offered, with 11,700 participants 1999, 1400 courses with over 17,000 participants Some people participate on several occasions, in 1999 43% reported attending two or more courses	90% participants were women, with mean age 50yrs. Completely sedentary proportion decreased from 15% to 6% between 1997 & 1998. 59% of cohort trained in 1996/7 reported they had increased their activity levels 1yr later. Difficult to reach people in PC & C.	Haphazard evaluation, showed some positive impact. Limited data on actual behaviour change. Thus there appears to be some merit in offering educational programs, but evidence is predominantly anecdotal. Based on participation rates, authors suggest that the 'campaign' requires several decades to have desired effect. Expansion into other languages (German & French) recommended to increase potential reach.

Table 3A.1 Summary of mass media interventions to promote physical activity (cont.)

Study	Program details				Evaluation					Conclusion
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures	Effects	
Tudor-Smith et al., 1998 [ref 23]	Population wide mass media campaign. 1985 Wales	PA	Quasi-experimental 2 independent cross-sectional population surveys in 1985 & 1990.	'Heartbeat Wales' public education program. Multi component HP program. Included BBC programming 'don't break your heart', 'Fit for life'. Heart beat awards, worksite health promotion.	18-64yrs n=18,538 in 1985 (88% RR) &	5y n=13,045 in 1990 (79% RR).	15 self-reported health behaviours; 8 diet, 1 PA, 5 smoking, 1 overweight.	N/A	2% ↑ in reported PA & 2.5% ↑ in reported overweight.	Poor program information & study design for a complex holistic program. Changes in cardiovascular risk factors noted but were not above those found in reference area. But reference area was potentially contaminated. <i>Not recommended.</i>
Vuori et al., 1998 [ref 24]	Population wide mass media campaigns. 1991-1994 1994-1999 Finland	Sport/ PA	No systematic evaluation. 91-94: PA/sport, qualitative & post hoc evaluation based on site visits. 94-99: Review documents, diaries of project staff.	'Finland on the Move 91-94'; provided small-mod amounts of financial support for 94 agencies, training and consultation for services, local and regional advertising. Average cost per project \$US13,000. 21 projects for children, 17 for adults, 13 special groups, 6 for local sports, 37 services & PA opportunities. 'Fit for life: 94-99' mass media & local activity initiatives to create sustainable PA services. Annual budget \$US 770,000 (1/2 for seed money) including mass media press, radio, TV programme).	Target 40-60yrs.	Not specified.	Goals, partners, image, commitment, needs of consumers met, sustainable action,	n/a	91-94: estimated 120,000 people can under direct influence of projects. Substantial new idea generated, systematic co-ordination & distribution of support. 94-99: funded 300 projects, at average sum of \$US2200.	Poor evaluation, post hoc and without specific hypotheses. No data on actual behaviour change. Campaigns helped ↑ credibility and viability of raising awareness, promoting co-operation between agencies & initiating local PA initiatives. Anchoring program to needs of locals is recommended. ↑ <i>Co-ordinated effort recommended.</i>
Wen et al., 2002 [ref 25]	Community-based wide walking campaign. Sydney NSW. 1997-99 Australia	Walking	14 qualitative interviews with key stakeholders & 12 focus groups (n=75 women). Pre-post independent cross-sectional telephone surveys.	'Concord: A great place to be Active'. Involved locals in developing focus for program. Social marketing organised 3 walking events, 4 walking groups & other PA classes. Quarterly newsletters, T-shirts, 9,000 walking maps distributed, banners, fridge magnets. Important collaboration with local Council, and environmental improvements.	Women aged 20-50y, n=2000 participants required. Pre survey with 1,762 (RR62%). Mean age 36 y, 66% married, 42% no children at home, 91% spoke English at home.	Post survey with n=1,801 participants (RR = 62%) Not different to baseline sample.	PA (AAPAQ). Campaign awareness.		Sig ↑ in key campaign messages 9% to 51%. Sig ↓ in % sedentary 22% to 15%. Little change in mod-high PA and beliefs about PA.	No control. Positive findings in terms of campaign recall, and reduced sedentariness, however not sign change in those meeting sufficient PA criterion. This ↑ in trailing walking behaviour. Community events received most attention. Time & resources required were barriers. <i>Collaboration with local council recommended.</i>

Table 3A.1 Summary of mass media interventions to promote physical activity (cont.)

Study	Program details				Evaluation					
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures	Effects	Conclusion
Wimbush et al., 1998 [ref 26]	Population wide mass media campaign. 1994–5 Scotland	Walking	Pre-post surveys. No control. Questions inserted into omnibus & social marketing surveys. Follow-up with callers to 'fit-line'.	Mass media campaign targeting those aged 30–55y. Two 4wk bursts of airing a 40s television advertisement with celebrity Gavin Hastings & slogan 'Walking: Take exercise in your stride'. Fit-line established for those who wanted further information. Information pack contained 2 booklets on exercise (Hassle free exercise & Walking when and where guide) plus facts about walking & contact names for local walking groups.	Omnibus survey pre & 2y later. 3x 6mth tracking surveys	Random sample of Fit-line callers (n=4,036) called 10w (n=490/700: 70% after they initially called and again 1y later (n=283/700: 40%). 59% women, 66% aged >30, 34% regular exercisers.	Awareness, knowledge, intentions toward walking and walking behaviour.	n/a	70% awareness of the 'Gavin' commercial immediately after the first phase, dropping to 54% when off air returning to 69% after second phase. Awareness of 'Fit-line' use ave 670 calls/wk ↑ for 5% to 16% 4mths later. But only 5% respondents to tracking survey used it. ↑ in PA knowledge reported. No change intention to walk 55% to 57% or actual reported walking. Positive shift in stages of change.	Opportunistic evaluation, using self-report measures & no control. Award winning advertisement, but no change in exercise levels in population, only among those who recalled campaign. Effects greater for those sufficiently motivated to call 'fit-line'. Thus, <i>not effective public health strategy</i> .

Table 3A.2 Summary of print-based approaches to promote physical activity

Abbreviations used in table: MPA: Moderate-intensity physical activity; VPA: Vigorous-intensity physical activity; Sig: Significant; NS: Non-significant; RR: Response rate

Study	Program details				Evaluation						Conclusion
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures	Effects		
Koffman et al., 2001 [ref 27]	Community-based 1999 United States	Lifestyle MPA	Pre-post. Single group, non-randomised	American Heart Association. Choose to Move program: 12w self-help educational ix. Welcome kit, PA manual based on TTM aimed at contemplation & preparation. Follow-up postcards, emails and newsletters. T-shirt incentive sent to those who completed the 12wk program. Social marketing approach.	n=23,171 women aged over 25 yrs voluntarily registered for the program. 90% white; 56% aged between 35–54 yrs.	Data from 6,389 at 2w (28%); 5,338 at 4w (23%); 4,209 at 8w (18%); 3,916 at 10w (17%); 3,775 at 12w (16%). Evaluation (EV) cohort differed from registration cohort. EV new more about heart disease risk, reported more PA, and were more motivated to ↑ PA	Self reported PA stages of change (8 items), divided into active v inactive (or % meeting MPA guideline) from BRFSS.	Self reported diet; knowledge of heart disease stroke & related symptoms	32% meeting MPA guideline at baseline sig ↑ to 67% at 12w. 72% limiting fat intake at baseline ↑ to 91% at 10w.	No control and low retention (16%) limits the generalisability as they were more motivated to change in the first place. Some support for this low-cost self-help program with volunteer participants. Self report data, non-validated measures. Further work need to be done identifying working with drop-outs. Long term effects not known. This mass reach strategy works for some. <i>Not recommended.</i>	
Marcus et al., 1998 [ref 28]]	Community-based in Rhode Island 1997 United States	M & VPA	RT: Standard ix (ST) Individually tailored ix (IT)	ST = self-help booklets from American Heart Association. IT = Computer generated expert system, matched information to participants stage of change, plus stage matched booklets. Participants were mailed the materials within 1w of baseline. At 1& 3mth the IT group received a individually tailored letter plus the material matching their current stage of change. At 6mth participants were sent all remaining booklets.	n=194 sedentary adults reactively recruited. n=72 from ST group & n=78 from IT group. Mean age 44 yrs; 24% male; 94% white; 78% college educated.	1, 3, 6mth assessments completed by n=150 participants (77%).	Mailed surveys including questions on PA (7d PAR), stage of change (Marcus). Min PA/wk, % meeting criterion, moving to A stage of change.	Psychological constructs	ST group reported sig more PA at baseline compared to the IT group. Both groups ↑ PA, but sig more in stage ix group: 151 min/wk v 98 min/wk. Sig more of the IT group met the ACSM/ CDC criterion at 6mths (44% v 18%). Sig more of the IT group in the A stage of change at 6mths (34% v 24%).	Limited generalisability: highly selected affluent volunteer sample. Cost effective multiple mailings. Computer expert systems require extensive set-up costs. Support positive effects from self-help print materials specifically those targeting stages of change.	

Table 3A.2 Summary of print-based approaches to promote physical activity (cont.)

Study	Program details				Evaluation				Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Bock et al., 2001 (12mth follow-up of Marcus et al., 1998) [ref 29]	As reported above					n=120 completed 12mth assessment. No diff between follow-up and those who completed 6mth intervention	Self-reported PA (2w recall), Stages of change (Booth)		Sig more of IT participants who increased their activity up to 6mths maintained this increase up to 12mths (187 v 133 min/wk). Maintenance influenced by baseline self efficacy, a positive mood, and use of behavioural processes of change	Repeated exposure to high quality print materials can impact on behaviour and that behaviour change maintained up to 6mths post intervention. Expert systems can be used to deliver individually relevant public health messages. Further work specifically targeting sedentary people need to be developed and evaluated.
Marshall et al., 2003 [ref 30]	Community-based in Illawarra Region NSW, 1997 Australia	MPA	RCT n= 227 Intervention (Ix) v n=235 Control (Ct).	Four self-help booklets targeting stages of change (PC, C, P, A & M). Mailed to Ix participants, 1w post baseline with personally addressed letter.	n=462 reactively recruited participants. Mean age 49 yrs, 45% male, 73% insufficiently active at baseline, 52% >10y education.	Process telephone call at 4-6 w. 3, 6mth telephone survey.	Recall and use of booklets. Stages of change (Booth)	Recall and use of booklets.	High recall and use of materials, 62% of these 87% read them. Sig ↑ in PA between Ix and Ct Gps at 2mths, not maintained at 6mths. 45% Ix v 33% Ct sufficiently active at 2mths. Greater impact among insufficiently active at baseline. No sig change in stages of change. Dose response in terms of Ix receipt and use and behaviour change	Strong study design, high RRs and Ix recall. Analysis by intention to treat. Self report methods. Sig short-term findings warrant further investigation of support strategies. <i>Recommended further investigation of regional appeal and support strategies.</i>

Table 3A.2 Summary of print-based approaches to promote physical activity (cont.)

Study	Program details				Evaluation				Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Marshall et al., in press [ref 31]	State wide population (NSW) 1998 Australia	MPA	RCT	Four self-help booklets targeting stages of change (P, C, P, A & M). Mailed to 1x participants 1w post baseline with personally addressed letter.	n=719 reactively recruited participants. Mean age 43yrs, 36% male, 72% insufficiently active at baseline.	3, 8mth telephone survey.	Self-reported PA (1w recall), Stages of change (Booth)	Recall and use of booklets	High recall and use of materials, 76% recalled materials, of these 83% read them. No sig change in PA between 1x and Ct Gps at 2 or 8mths. No sig change in stages of change. Limited evidence of dose response in terms of 1x receipt and use and behaviour change	Replicated Marshall., 2003a. Strong study design, high RRs and 1x recall. Analysis by intention to treat. Self report methods. Non-significant findings, limits support for replication as a state-wide strategy. <i>Not recommended for state-wide dissemination.</i>
Miller & Miller, 2003 [ref 32]	Community-based in Brisbane (13 council wards) 1999 Australia	MPA	Pre-post	28page physical activity directory (PAD) for older people (>50 yrs). Directory was either given or requested. 106 PA options were identified and listed in the directory.	n=224 directories distributed. 67% contemplators, n=200 followed up (91%) Mostly women (87%)	Telephone interviews 6-w after receiving directory	Demographics & intentions to be active (contemplators v other)	n=88 requested via telephone, n=95 were given it.	93% recalled receiving it and 80% read it. The directory-increased participant's awareness of local PA options, but only 7% called a number in it, 23% planned to. 15% did some PA on their own since receiving the PAD. Participants who 'requested it' were more likely to be contemplators than those who were 'given' it.	Small sample, short follow-up. No data on change in PA. No control. PAD of more interest to women than men. More action from those who request it rather than given it. Useful to change intention & knowledge, but limited evidence for impact on behaviour. Required resource for people promoting physical activity.

Table 3A.3 Summary of telephone-based approaches to promote physical activity

Abbreviations used in table: MPA: Moderate-intensity physical activity; VPA: Vigorous-intensity physical activity; Sig: Significant; NS: Non-significant; PR: Response rate

Study	Program details			Evaluation				Conclusion		
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures		Other measures	Effects
Castro et al., 2001 [ref 33]	Community Stanford United States.	High- & Low-intensity PA	Randomised trial	<p>12mth telephone/mail or mail-only contact following a 12mth home-based program. During the home based program, participants received weekly calls for 4wks, biweekly calls for next 4wks then monthly calls for next 10mths. Aimed to promote maintenance of PA.</p> <p>Monthly PA logs.</p> <p>Contacts were weekly for 4wks, then monthly totalling 15 telephone calls. Monthly written materials were also sent.</p> <p>Calls initiated by trained health educators.</p> <p>Mail-only group received the 4 weekly telephone calls at the start then, monthly mail contact.</p>	<p>Volunteer recruitment. n=140/179 (78%) (n=80 men, mean age 56yrs, 75% married). Baseline, participants attended a 30–40min face-to-face instructional session all were sedentary at baseline, but all were doing some PA at the beginning of this phase of the research.</p>	12mth	Monthly SR PA maintenance	<p>80% of scheduled telephone calls were completed. Rapport between counsellors & participants was rated high after 2 yrs.</p>	<p>Contrary to prediction those in the mail-only group reported higher adherence rates than those in the telephone contact group.</p> <p>Better maintenance in the low-intensity group than the high-intensity group.</p>	<p>Limited generalisability, highly selected sample. No pure mail-only group. Piggyback research, cannot isolate the initial impact of this type of intervention on changing behaviour, as this study was a follow-on from a more intense program.</p> <p>Additional telephone contact did not add anything over the mail-based contact.</p> <p>Initial program had intense telephone contact and thus continued telephone contact may not be necessary to facilitate ongoing maintenance. More work required on frequency & efficacy of telephone and mail contacts required.</p>

Table 3A.3 Summary of telephone-based approaches to promote physical activity (cont.)

Study	Program details			Evaluation					Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Glanz et al., 2003 [ref 34]	Community-based: Five centres of Harvard Vanguard Medical Associates, Massachusetts United States.	MPA	Randomised trial to either TLC-EAT or TLC-RUN	Fully automated computer-controlled telephone counselling (TLC) system that educates, counsels & monitors participants. Human users communicate via the touch phone keypads. Calls can be initiated by user or the TLC system & can take between 2–15min. Response are stored in database and used in future calls. Two applications TLC-EAT and TLC-RUN were tested. TLC-RUN uses principle of the TTM & participants were given a pedometer to monitor their behaviour. Participants received printed reports at 3 & 6mths	Randomly sample of n=4,364 were selected of which n=2,884 (66%) were contacted and screened for inclusion in this study (n=298(7%) individuals were selected.	Baseline, 3 & 6mth telephone interviews.	No behaviour change data reported (see Pinto et al, 2002) below. Satisfaction with & usefulness of TLC system.	Mean number of calls to TLC system was 12 for TLC-EAT and 8 for TLC-RUN.	Mean satisfaction rating 64/100 & mean usefulness rating 62/100. Nutrition participants rated system higher than exercise participants on both satisfaction (73 v 53) & usefulness (70 v 54). Satisfaction was correlated with useability, contact time, realism and credibility. Indicates acceptability may increase as people become more familiar with them.	Fair satisfaction and useability. Better response from nutrition counselling than exercise. Efficacy, acceptability and satisfaction of methods need to be explored. Some participants reported that they would prefer human contact and that someone should call to remind them to use the system. Further research required with non-users. Applicability/acceptability in Australian context is questionable.

Table 3A.3 Summary of telephone-based approaches to promote physical activity (cont.)

Study	Program details			Evaluation					Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Pinto et al., 2002 (outcomes from trial reported by Glanz et al., 2003, above) [ref 35]	Community-based in Massachusetts, United States	MPA	RCT Program targeting PA v program targeting nutrition.	Fully automated telephone-counselling system, based on SCT and TTM targeting PA. Uses digitised speech to communicate with the participant who uses their telephone touch pad to select options. Calls to be initiated by the participants. Answers are stored in the system for future use. First prompts participant about how they are going with MPA in terms of d/wk, and to log daily pedometer steps. Information is then tailored to their stage of change. a goal or task is then negotiated before the telephone call ends. Each call was approx 10 min to be used weekly for first 3mths and biweekly thereafter. Similar info guided the nutrition ix.	Of 2,884 screened n=298 participated. Recruitment via telephone from multi-site medical practice. Mean age 46 yrs, 28% men & 45% white.	Baseline data collected via face-to-face interview. Follow-up data collected via telephone interview at 3 & 6mths. n=243 (82% completed 6mth assessment)	Self-reported PA (7d PAR); energy expenditure (EE); % Meeting MPA criterion Stage of change (Marcus)	Process evaluation of the system. Mean calls to system PA ix = 6 v Ct = 9. 43% calls occurred during the day and about 18% at night. 33% of ix did not call system, 33% 1-5 times, 13% 6-9 times, 17% 11-20 times & 4% >20 times. Only 37% called system after the 3mth follow-up.	3mth ix group more likely meet sufficient PA criterion (26% v 20%). Study completers higher EE, more advanced stages of change (53% in A v 42% & meeting criterion for MPA at 3 mths (27% v 18%). Results not maintained at 6 mths. Number of users ↓ sig over study period. Mean usefulness rating 3.8 (1-5 scale)	Intention to treat analyses (last ob carried forward). Randomised design, but self-report measures. Initial contact was face-to-face and use of pedometer. Sig short-term effects but limited long term appeal (high drop out). No 'dose' effect. Reason for dropout was a preference for human contact, not remembering to call. Appeal untested in Australia. <i>Not recommended</i>
King et al., 2002 [ref 36]	Community-based. 2003 United States	MPA	RCT 3x12mth programs. Telephone administered counselling by person versus counselling by computer versus control (health education – non-exercise topics covered in weekly education based class).	CHAT: Community health advice by telephone. Initial face-to-face session post baseline to allow for tailoring of ix to preferences & barriers. 15 v 10-15 min sessions initiated by counsellor (2x weekly, 3x biweekly, then 10 monthly). Goal setting. Supplementary information mailings and use of pedometer, diary. Post 12mths participants encouraged to maintain contact with counselling system they were assigned.	n=225 participants aged >55 yrs	18mths	PA: 7d PAR, CHAMPS Physical fitness: HR, treadmill time.	Mediators: self efficacy, social support, mastery, processes of change, Moderators: self esteem, stress, self consciousness, outcome expectations, social anxiety. Costs.	Study not completed yet this paper describes the ix process. <i>Not recommended</i> until final results are perused.	

Table 3A.4 summary of internet-based approaches to promote physical activity

Abbreviations used in table: MPA: Moderate-intensity physical activity; VPA: Vigorous-intensity physical activity; Sig: Significant; NS: Non-significant; RR: Response rate

Study	Program details			Evaluation					Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Marshall et al., 2003 [ref 37]	Regional University (Wollongong, NSW) 2001 Australia	MPA	Randomised trial (print v web). Pre-post data collection.	8 wk web-based program. 8 wk print-based program. Print program used same materials as those reported by Marshall et al., 2003a. Additional fortnightly contact to support behaviour change via email or print letter	Academic & General staff n=655. Mean age 43 yrs, 49% men, 70% post-secondary education. n=327 web ix & n=328 to print ix	10 wks (78% RR) n=262 Print & n=250 Web	Self report telephone interview with valid and reliable measure of PA (IPAQ: usual week)	Stage of Change	Intention to treat analysis showed Web group reported Sig decrease in time spent sitting on weekday. Print group PC, C, P participants reported sig increase in PA. No sig diff between groups. 26% of both groups progressed at least 1 stage of change.	Limitations: short follow-up, self-reported data. Higher recall and use of print materials reported compared to web. No clinically significant findings within or between groups. Suggestion workplace too busy/crowded to attend to self-help intervention. <i>Replication in worksite not recommended.</i>
Napolitano et al., 2003 [ref 38]	Hospital-based in Rhode Island 2001 United States	MPA	Randomised trial	Web based plus 12 weekly email prompts. Websites based on Social cognitive theory and the transtheoretical model. Few interactive sections, mainly information based. Emails encouraged participants to access the website, but also included tips on how to include more activity in the day and emphasised behavioural skills.	Widespread reactive recruitment of inactive people (unknown denominator). Interest form n=275 volunteered but n=65 (24%) were randomised 30 to Intervention, and 35 to wait list control. 86% women, mean age 43 years.	1-month 88% 3months 80%	Telephone interviews PAR-Q Stage of change (Marcus) BRFSS: Minutes of Walking, MPA per week		Ix group sig more likely to progress Stage of Change at 1 and 3 months. Ix group sig more minutes walking/wk at 1 and 3 months. Ix group sig more minutes of MPA at 1 month but not at 3 months.	Significant short-term change following web-based intervention and weekly email prompts. In highly selected and motivated sample. Further investigation in larger more stringent trial recommended. Intervention type in its infancy, <i>not recommended</i> for widespread dissemination/ investment until further evidence available.

Table 3A.4 Summary of internet-based approaches to promote physical activity (cont.)

Study	Program details				Evaluation				Conclusion	
	Setting	Activity target	Research design	Describe the intervention	Sample	Follow-up	Outcome measures	Other measures		Effects
Sciama et al., 2002 [ref 39] (Process evaluation of study reported by Napolitano et al. 2003)	Hospital in Rhode Island Metro United States	MPA	Randomised trial with wait-list control	Web-based physical activity promotion. Few interactive components	Inactive volunteers n=30 in web group & n=24 in control data on intervention only reported in this paper Mean age 41 yrs, 19% men.	1-month	Barriers, frequency of use, helpfulness of the website	Stage of change (Marcus)	Main barrier to use was lack of time (63%). Most sections of website were reported to be useful. Preparers more likely to use site. Most useful sections were overcoming barriers section	Provided some useful information on how to improve future web-based interventions. No objective monitoring reported. Further research required before widespread replication could be recommended.
McKay et al., 2001 [ref 40]	Geographically diverse sample from 31 states.		Randomised trial. D-Net v information only website.	8w pilot study. D-Net: goal setting personalised feedback, identifying ways to overcome barriers, personal 'online' coach. Participants encouraged to log on to website weekly.	n=78 volunteer type2 diabetics (53% women, mean age 52yrs) n=38 to D-Net & n=40 to control condition.	Data collected online at baseline & 8w (n=68, 87%). Follow-up telephone calls were made to respondents who hadn't responded online.	Minutes of PA/wk (BRFSS); depression	Site use	NS between group differences despite increase in M-VPA levels. Site use varied considerably. Mean logins 1.1/wk per participant. Steep decline in web use over 8wks. Those who used site >3 times reported sig more M-VPA.	Small - short trial, with select volunteers. Highlight reach of this technology but the challenge of retaining participant interest/engagement in web-based interventions. Further research required to enhance interactivity & participant focus.