Impacts of a national mass media campaign on walking in Scotland

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SUMMARY
The promotion of walking as a form of exercise holds considerable potential, both in terms of health benefits and its wide appeal to inactive groups. This paper presents the results of the evaluation of a national mass media walking campaign in Scotland which involved a 40 s television advertisement and a telephone helpline. The target population consisted of people aged 30–55 who are not regular exercisers. The campaign impact was assessed in terms of awareness of the campaign and pre- and post-campaign changes in knowledge and beliefs about walking as a good form of exercise, in motivations and intentions regarding walking/exercise and in walking/exercise behaviour. The evaluation involved two population surveys and baseline and follow-up surveys of the helpline callers. Awareness levels for the television advertisement peaked at 70% of the adult population during the first 4-week burst of advertising, falling to 54% during the non-broadcast period. The evaluation findings show that, at a population level, the campaign had a notable positive impact on knowledge about walking as a form of exercise but no impact on walking behaviour. Among the helpline callers the campaign had a substantial impact at the level of intentions and behaviour: 48% of the callers followed up at 1 year claimed to be more physically active and there was an overall shift from the 'contemplation' stage of change at baseline towards the 'action' stage at the 10-week and 1-year follow-ups. The proportion of adults aware of the telephone helpline rose from 5% at the start of the campaign to 16% 4 months later, but only 5% of these respondents used the service. This level of use represents 0.1% coverage at the start of the campaign rising to 1% 4 months later.

Key words: evaluation; mass media; physical activity; walking

INTRODUCTION
Evidence for the cardiovascular benefits of regular exercise is now well established (Blair et al., 1992; Bouchard et al., 1993) and more recent research suggests that moderate, as well as vigorous, intensity physical activity can have cardioprotective as well as health-enhancing effects (Pate et al., 1995; Wimbush, 1995). An increasing number of health promotion organisations are advocating increased physical activity as a major priority for a national public health strategy (Health of the Nation Physical Activity Task Force, 1995; National Forum for CHD Prevention, 1995; Health Promotion Agency for Northern Ireland, 1996; Health Education Board for Scotland, 1997) with the long-term goal of reducing the proportion of inactive or sedentary groups, which currently include around one-third of the UK population (Health Education Authority, 1995). It has been argued that the greatest public health benefit will come from health education campaigns which encourage those who are least active to be more active, rather than persuading those who are already moderately active to exercise more (Blair et al., 1989). Like many other health indices, leisure time exercise participation is inversely related to socio-economic status and age: those least likely to want to participate are older, female and in
lower socio-economic groups (Health Education Authority, 1995).

The promotion of walking as a form of exercise holds considerable potential, both in terms of health benefits and its wide appeal to inactive groups. For both women and men in all age and socio-economic groups, walking is reported to be the most popular form of active recreation (Foster et al., 1995) and the most prevalent form of physical activity (The Sports Council and the Health Education Authority, 1992). Its appeal lies in the fact that it is easy to do, it is achievable by virtually all ages and fitness levels, it requires no special skill or attendance at special classes or facilities, it can take many forms—transport, recreational activity, exercise or sport—and the risk of injury is low. The available research evidence suggests that even a moderate amount of regular walking has the potential to lower blood pressure, improve the lipid profile, reduce body fat, enhance mental well-being and reduce the risk of coronary heart disease (Davidson and Grant, 1993).

There are a number of descriptive accounts of community-wide health education campaigns designed to increase physical activity levels (Davis and Iverson, 1984; Crow et al., 1986; King, 1994), but little reported evidence of their effectiveness, with the exception of the evaluation of two serial, nationwide mass media campaigns to promote physical activity conducted by the National Heart Foundation in Australia (Booth et al., 1992; Owen et al., 1995).

This paper reports on the impact of a national mass media campaign to promote walking as a form of exercise conducted by the Health Education Board for Scotland (HEBS). Pre- and post-campaign measures included campaign awareness, knowledge/beliefs about walking as a form of exercise, intention to exercise/walk more and exercise/walking behaviour. Data were obtained through national population surveys and telephone surveys of those who actively responded to the campaign by contacting a free telephone helpline for further information.

The HEBS Walking Campaign

Following an initial active living campaign in 1994, HEBS launched a Scotland-wide mass media campaign to promote walking in September 1995. The primary target group for the walking campaign consisted of women and men in the 30–55 age range who do not exercise on a regular basis, with a bias toward C2DE socio-economic groups. Between March and June 1995, three stages of developmental and pre-testing research were conducted with members of the target group to inform the development of the campaign and its creative materials. On the basis of this research, the main aim of the campaign was defined as being to re-position walking as a healthy form of exercise. The campaign objectives were therefore to encourage the target group to re-assess their beliefs about walking as a form of exercise, to reinforce their interest in walking and to motivate them to increase both the quantity and quality of their walking.

The central element of the HEBS walking campaign was a 40 s television commercial in which Gavin Hastings, the recently retired captain of the Scottish rugby team, revealed some ‘surprising facts’ about walking compared to other forms of exercise. In the television advertisement, he is seen walking briskly along a city street while asking the viewers:

Did you know that walking a mile uses exactly the same energy or calories as running a mile does? What’s more, it’s equivalent to swimming fifteen lengths of a 25 metre pool, or playing 8 min of this [squash] non-stop! So if you want to be fit and healthy you don’t have to [shots of sweaty and energetic squash, rugby, weight-lifting], you can do this [cut to the relative serenity of walking briskly in a city park].

The end-frame shows the super-imposed text: ‘Walking. Take exercise in your stride’ together with the telephone number for a free direct response service (referred to as Fitline) which distributed a free information pack to callers. The information pack included data about the energy expenditure involved in walking a mile compared with other forms of exercise and sport, and two booklets providing general information about exercise and contact names and telephone numbers for local walking groups.

Local radio stations were encouraged by HEBS to run their own programmes on walking to fit in with the television advertising schedule. The radio features highlighted local walking opportunities and interviews with local walkers and professionals.

The campaign was launched on Scottish Television’s programme Scottish Action on 12 September 1995, immediately before the first burst of television advertising which ran for 4 weeks from
13 September to 8 October. A second burst of television advertising followed in the spring between 26 March and 21 April 1996.

**THE EVALUATION**

The format of the campaign did not allow the use of a control group which would have strengthened the evaluation design in terms of ascertaining the extent to which any observed impact could actually be attributed to the effects of the campaign. Therefore, the campaign was evaluated using pre- and post-implementation appraisal. In order to assess the coverage, effectiveness and efficacy of this mass media campaign, the evaluation research measured awareness of the walking campaign and its impact on knowledge, beliefs, motivations and intentions about walking/exercise and walking/exercise behaviour among Scotland’s adult population (particularly those in the intended target group) and those who actively responded to the campaign.

Awareness of the walking campaign among the adult population was assessed by including questions about awareness of the campaign components (TV advertisement, Fitline, booklet) in the Communications Tracking Survey. This monitoring survey is carried out for HEBS by the Centre for Social Marketing at Strathclyde University every 4 months in October, February and June. The survey involves personal interviews with ~800 people aged 10–74 years living in mainland Scotland and uses multi-stage cluster random probability sampling methods. It provided data on prompted awareness levels at the peak of the first burst of TV advertising (October 1995), then 4 months later when the advert was off air (February 1996), and finally shortly after the second burst of television advertising (June 1996).

The impact of the walking campaign on adults’ knowledge, beliefs, motivations, intentions and behaviours about exercise and walking was assessed pre- and post-campaign through placing five questions in System 3 Scotland’s monthly omnibus survey in June 1995 (pre-campaign) and June 1996 (post-campaign).

To assess the impact of the campaign on those who actively responded to the campaign, a baseline survey was conducted with all those who telephoned Fitline between 13 September and 25 October 1995, a total of 4036 callers. Two follow-up surveys were carried out with a sub-sample of respondents. Figure 1 shows the evaluation plan and the advertising schedule.

For the baseline survey, all callers were asked questions about their current walking/exercise patterns by trained telephone operators. The response rate for individual questions in the baseline survey varied between 62 and 86% due to refusal to complete the interview.

The two follow-up telephone surveys were carried out by the Centre for Leisure Research at Heriot Watt University at 10 weeks and 1 year after the initial call with a random sample of the 2693 Fitline callers who consented to be followed up for research purposes. The selected sample consisted of 700 individuals and interviews were achieved with 490 of them at 10 weeks and 283 at 1 year, giving response rates of 70 and 58% of the eligible samples respectively.

![Evaluation timetable](image-url)

**Fig. 1:** Evaluation timetable.
The socio-demographic profiles of respondents who were not followed up in each survey are similar to those at baseline (apart from a slightly higher attrition rate for the younger age group), and therefore there does not appear to be any particular problem of response bias due to attrition.

RESULTS

Awareness
The awareness level for the ‘Gavin’ television advertisement among adults was 70% after the first burst of advertising. This dropped to 54% when the advertisement was off air, returning to 69% after the second burst of advertising. Awareness levels were somewhat higher in the C2DE socio-economic groups. Awareness of local radio features on walking gradually increased, from 8% at the start of the campaign to 21% in June 1996 (Table 1).

The proportion of adults aware of Fitline rose from 5% at the start of the campaign to 16% 4 months later. Among those who had heard of it, 75% had seen it advertised on television, and 26% had become aware of it through local radio coverage of the campaign. Among adults who were aware of Fitline, there was a small increase in the proportion who intended to use the service in the first 4 months of the campaign from 6 to 10%. However, only 5% of respondents in the February 1996 Communication Tracking Survey who had heard of the service had actually used it (the figure for the target group was 3%).

Use of Fitline between 13 September and 25 October 1995 averaged ~670 calls per week. This represents a substantial improvement over the response to the HEBS 1994 active living campaign which averaged 500 calls per week.

Table 2 shows the socio-demographic profile of the Fitline callers: 46% were in the target age range (30–55 years) and two-thirds of respondents were not regular exercisers. The campaign also elicited active responses from a greater proportion of women and owner-occupiers.

Knowledge and beliefs
The impact of the campaign on adults’ knowledge and beliefs about walking and exercise was assessed in both the Fitline caller surveys and the System 3 population surveys by asking respondents if they agreed/disagreed with four statements about exercise and walking, the first two of which were directly linked to the walking campaign:

(i) Walking is a good form of exercise.
(ii) Walking a mile uses up the same energy as running a mile.
(iii) Exercise only does you good if it makes you sweaty and out of breath.
(iv) You need to get 30 min exercise a day to benefit your health.

The data from both the population surveys and the surveys of Fitline callers show that the walking campaign had a positive impact on knowledge and beliefs about walking as a form of exercise (Table 3). The greatest shift was found in responses to the ‘surprising fact’ statement which was featured on the TV advertisement: ‘walking a mile uses up the same energy as running a mile’. The population survey data shows a substantial increase (from 20% in June 1995 to 56% in June 1996) in those agreeing with this statement. Among Fitline callers, agreement with this statement changed from 57% at baseline compared to 65% at the 1 year follow-up.

With the three other statements about walking and exercise, there is no change in the overall proportions who agree/strongly agree and disagree/strongly disagree with these statements, but the five-point scale used in the population

Table 1: Prompted awareness of HEBS walking campaign

<table>
<thead>
<tr>
<th></th>
<th>Adults (aged 16–74)</th>
<th>Target group (aged 30–55)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oct 95 (%)</td>
<td>Feb 96 (%)</td>
</tr>
<tr>
<td>‘Gavin’ TV advertisement</td>
<td>70</td>
<td>54</td>
</tr>
<tr>
<td>Local radio features</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Fitline</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>N</td>
<td>693</td>
<td>768</td>
</tr>
</tbody>
</table>

Source: Communications Tracking Survey, Centre for Social Marketing.
survey shows that changes occurred in the strength of agreement/disagreement. A large increase was shown in the proportion of those strongly agreeing with the statement ‘walking is a good form of exercise’, from 38% in June 1995 rising to 57% in June 1996.

Exercise intentions

The impact of the campaign on exercise intentions was assessed in the following ways:

- changes in exercise intentions with regard to walking among the adult population;
- changes in exercise intentions among Fitline callers at baseline and follow-up.

Overall, there was no evidence of notable change in exercise intention with regard to walking among the adult population before and after the campaign. The proportion of adults who stated that they would like to walk more than at present was 55% in June 1995 compared to 57% in June 1996.

Reported behaviour

The impact of the walking campaign on exercise behaviour was assessed in the following ways:

- changes in walking behaviour among the adult population;
- self-assessed change in physical activity level among Fitline callers;
- changes in ‘stage of change’ in exercise behaviour among Fitline callers.

In the population survey, respondents were asked about the number of days in the last week on which they had spent at least 30 min walking. There was no notable evidence of change in adults’ walking behaviour before and after the campaign, the mean number of days being 4.26 in June 1995 and 4.13 in June 1996.

Among those who actively responded to the walking campaign and contacted Fitline, the campaign appears to have had a positive impact on exercise intentions. The major motivational factor to take more exercise was the desire to feel healthier and fitter, with 61% of callers mentioning this in the baseline survey. Among those who were followed up at 1 year, 60% reported at baseline that they would like to be more physically active, and this increased to 82% in the 1-year follow-up survey.

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Among Fitline callers, roughly half of the respondents in the 1-year follow-up claimed to be more physically active than they had been at last contact (Table 4). Forty-six per cent said they were exercising at the same level as at the time of baseline measurement, and only 7% reported that they were less physically active.

Of the group who claimed to be more active at 1 year, 86% reported increasing their walking levels after last contact. Ninety-five per cent of those who claimed to be more active were confident that they would be able to maintain this level of increased activity, mostly due to their own motivation but also through the assistance given through the Hassle Free Exercise and Walking: Where and When booklets. The main difficulty mentioned in trying to get more exercise was lack of time.

A composite five-level ‘stage of change’ variable was derived from variables measuring current exercise behaviour and future exercise intention (Buxton et al., 1996). This showed an overall shift between baseline and follow-up surveys from the ‘contemplation’ stage towards the ‘action’ stage (Table 5).
Table 3: Responses to statements about walking and exercise from System 3 population surveys and *Fitline* caller surveys

<table>
<thead>
<tr>
<th>Statement</th>
<th>Adults</th>
<th>Target group (35–54)</th>
<th><em>Fitline</em> callers followed up at 1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-campaign</td>
<td>Post-campaign</td>
<td>Pre-campaign</td>
</tr>
<tr>
<td>Walking a mile uses up the same energy as running a mile (%)</td>
<td>20%</td>
<td>56%</td>
<td>20%</td>
</tr>
<tr>
<td>(1% strongly)</td>
<td>(14% strongly)</td>
<td></td>
<td>(1% strongly)</td>
</tr>
<tr>
<td>Walking is a good form of exercise (%)</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>(38% strongly)</td>
<td>(57% strongly)</td>
<td></td>
<td>(37% strongly)</td>
</tr>
<tr>
<td>Exercise only does you good if it makes you sweaty and out of breath (%)</td>
<td>80%</td>
<td>80%</td>
<td>79%</td>
</tr>
<tr>
<td>(13% strongly)</td>
<td>(22% strongly)</td>
<td></td>
<td>(13% strongly)</td>
</tr>
<tr>
<td>You need to get 30 minutes exercise a day to benefit your health (%)</td>
<td>70%</td>
<td>66%</td>
<td>72%</td>
</tr>
<tr>
<td>(9% strongly)</td>
<td>(17% strongly)</td>
<td></td>
<td>(8% strongly)</td>
</tr>
<tr>
<td>N</td>
<td>1066</td>
<td>1085</td>
<td>352</td>
</tr>
</tbody>
</table>

*Source:* System 3 Scotland (Scottish Opinion Survey) and Centre for Leisure Research (10-week and 1-year follow-up surveys).

*Notes:* Five-point scale used in System 3 survey; two-point scale (agree/disagree) used in CLR 10-week and 1-year follow-up surveys.

*One missing from base number for this question.*
When assessed in terms of individual shifts between the stages of change at baseline and 10 weeks, the mean change was 0.5 stages in a positive direction (see Table 6). However, for those who described themselves as inactive or only fairly active, the mean shift was larger at 0.8 and 0.9 stages respectively. There was little change between the two follow-up surveys.

The impacts of the campaign on the adult population, the target population and on those who actively responded to the campaign are summarized in Table 7.

**DISCUSSION**

The main aim of this evaluation was to assess the coverage, effectiveness and efficacy of a mass media walking campaign. Adopting the definitions proposed by Green and Lewis (1987), the coverage of the campaign was assessed in terms of the proportion of the eligible population reached by the campaign, whereas the effectiveness and efficacy of the campaign was assessed in terms of the impacts of the campaign on the adult population and on those who actually responded to the campaign.

The Communications Tracking Survey showed that the mass media campaign achieved extensive coverage, with 70% of adult respondents aware of the TV advertisement on walking at the peak of the campaign. As expected, Fitline achieved much lower coverage, with only 16% awareness of the telephone line and only 5% of this group actively responding to the campaign by calling Fitline.

The socio-demographic profile of Fitline callers in the baseline survey indicates that the direct response element of the campaign was relatively successful in attracting a segment of the target audience in relation to age and exercise levels. It had less appeal for those in the lower socio-economic groups, despite higher awareness levels for these groups. An interesting finding was that one-third of those who telephoned Fitline to obtain further information were regular exercisers. These individuals were not the ones being targeted by the campaign and therefore they were more likely to be disappointed by the materials sent. Their calls were more likely to be fuelled by curiosity about the surprising facts presented in the TV advert than by an intention to be more active.

The campaign can be regarded as highly effective in terms of increasing adults’ knowledge levels and beliefs about walking as a form of exercise, although the evaluation design does not allow one to conclude that the observed changes are attributable to the walking campaign. However, because the greatest shift was observed in responses to the statement which used the ‘surprising fact’ cited in the TV advertisement, a strong link is indicated between the campaign and these changes.

The efficacy of the campaign was evident in the positive effects of the campaign on the exercise intentions and walking behaviour of those who contacted Fitline for further information. The proportion of callers who reported the intention...
to be more physically active increased from 60% at baseline to 82% 1 year later. Moreover, 48% claimed to be more physically active at this point and the vast majority of these had increased their walking.

Notable shifts in stages of change were observed among *Fitline* callers at both aggregate and individual levels. The overall profile of *Fitline* callers in terms of the stages of change showed a positive shift from contemplation and preparation stages at baseline to action stage at the first and second follow-ups. An assessment of individual shifts between the stages from baseline to second follow-up showed a mean change of 0.5 stages in a positive direction overall, but for those who described themselves as inactive or only fairly active, the mean shift was somewhat greater at 0.8 stages. As the campaign was targeted towards this group, this would suggest that the *Fitline* service provided a positive support to the behavioural change process among non-regular exercisers. However, it is difficult to disentangle the effect on behaviour change of the *Fitline* direct response service itself from the panel effect of the follow-up research on *Fitline* callers.

A number of learning points emerge from the evaluation of this mass media campaign which may contribute to the improvement of similar campaigns in the future:

- The communication of the ‘active living’ approach to exercise promotion presents a new challenge for health education. The messages are complex and the target groups cover a broad range of social groups. The use of television advertising can help to achieve broad population coverage, but to be effective the messages conveyed must be simple. For this reason, the very specific focus on communicating the health benefits of walking, the most popular and most accessible form of physical activity, offers a successful starting point for a longer term physical activity promotion strategy. This message can be built upon in subsequent television advertising campaigns or by using other forms of mass media.

- In 1997, the commercial won a Gold Award for advertising effectiveness from the Institute of Practitioners in Advertising (IPA). An important reason why the HEBS walking TV advertisement has attained high awareness levels and has popular appeal is that it presents surprising new information and achievable goals in an encouraging, friendly, conversational tone which helps to draw people in. In this sense, the advertisement runs counter to prevailing expectations of health education advertising as authoritarian, didactic, moralistic and expecting people to make drastic changes in lifestyle and give up enjoyable behaviour.

- The use of a direct response service to support the TV advertising and distribute further information supports the behavioural change process among a small proportion of non-regular exercisers in the ‘contemplation’ stage. However, take-up of the direct response service was
higher among non-manual, owner-occupier groups. There is therefore a need to develop other forms of follow-up support to TV advertising that has greater appeal to the lower socio-economic groups.

- To assess the effectiveness of mass media health education campaigns, evaluations must examine population changes in health-related knowledge, beliefs, understanding, motivations and intentions, not merely changes in behaviour. Furthermore, convincing evidence of change is more likely to be detected if the indicators used are sensitive and specific to the advertising materials.

CONCLUSIONS

There are a number of different levels at which health education campaigns can have an impact: awareness, knowledge, understanding, beliefs, motivations, intentions and ultimately behaviour. This evaluation of a mass media campaign on walking demonstrates that although the TV advertising did not result in behaviour change at a population level, there were nevertheless population impacts at the level of knowledge and beliefs about walking as a form of exercise. These impacts were achieved through the development of an effective TV commercial which achieved extensive coverage among the adult population. In addition, the campaign was efficacious in supporting the exercise behaviour change process among non-regular exercisers in the ‘contemplation’ stage through the advertising of a free direct response telephone service from which further information on walking and exercise could be obtained.

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REFERENCES