A cost-effective approach to the development of printed materials: a randomized controlled trial of three strategies

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Abstract

Printed materials have been a primary mode of communication in public health education. Three major approaches to the development of these materials—the application of characteristics identified in the literature, behavioral strategies and marketing strategies—have major implications for both the effectiveness and cost of materials. However, little attention has been directed towards the cost-effectiveness of such approaches. In the present study, three pamphlets were developed using successive addition of each approach: first literature characteristics only (‘C’ pamphlet), then behavioral strategies (‘C + B’ pamphlet) and then marketing strategies (‘C + B + M’ pamphlet). Each pamphlet encouraged women to join a Pap Test Reminder Service (PTRS). Each pamphlet was mailed to a randomly selected sample of 2700 women aged 50–69 years. Registrations with the PTRS were monitored and 420 women in each pamphlet group were surveyed by telephone. It was reported that the ‘C + B’ and ‘C + B + M’ pamphlets were significantly more effective than the ‘C’ pamphlet. The ‘C + B’ pamphlet was the most cost-effective of the three pamphlets. There were no significant differences between any of the pamphlet groups on acceptability, knowledge or attitudes. It was suggested that the inclusion of behavioral strategies is likely to be a cost-effective approach to the development of printed health education materials.

Introduction

The distribution of printed materials has formed the basis of a wide variety of health education interventions. Print materials have been a primary mode of public education about many health issues (Siegel et al., 1986; Lefebvre et al., 1986; Worden et al., 1987; Lane et al., 1989; Michielutte et al., 1989; Fielding, 1990; Mackie and Hole, 1990). There has been a proliferation of papers outlining for health professionals the characteristics of ‘good’ written materials (Allensworth and Luther, 1986; Morrow et al., 1988; Kitching, 1990; Baker, 1991; Bernier and Yasko, 1991; Estey, 1991; Walsh, 1991). Authors of health education materials are being encouraged to develop high-quality materials and use more sophisticated approaches to pamphlet development (Buller and Buller, 1991; Donovan et al., 1991; Woods et al., 1991). The major approaches being proposed can be grouped into: the incorporation of content and design characteristics, the use of behavioral strategies and the use of marketing strategies.

Adopting more sophisticated methods of development for health education materials has major implications for the costs involved. Despite the apparent move to a more involved process in the development of written health education materials, little is known about whether subjecting materials to these processes results in commensurate increases...
in effectiveness, particularly in terms of behavior change. Studies have found, for example, that simple written materials for smoking cessation are less effective than versions which are tailored, behaviorally oriented and professionally presented (Harackiewicz et al., 1988; Heather et al., 1990). However, it appears that little or no attempt has been made to explore whether such increased effectiveness translates to increased cost-effectiveness.

The simplest and cheapest of the proposed approaches to pamphlet development is the application of content and design characteristics proposed in the literature to increase pamphlet effectiveness. Writers in the area of health communications recommend that print material comply with a number of content and design characteristics such as the use of short and simple words, a sufficiently large and clear typeface, and the inclusion of headings and paragraphing (Wright, 1977; Morrow et al., 1988; Kitching, 1990). These recommendations are based on educational and communications models which emphasize legibility and ease of comprehension (McGuire, 1984). A number of small, primarily laboratory-based studies have shown these content and design characteristics to be related to factors such as the amount of information that is recalled (Tinker, 1966; Ley, 1988).

The focus of behavioral strategies is on facilitating behavior change rather than producing comprehensible or attractive materials (Mullen et al., 1978). The application of behavioral strategies includes the use of positive reinforcement for changing behavior, reducing barriers to performing the behavior, reducing the individual’s response costs, making written contracts or agreements regarding the desired behavior, providing role models and providing social support (Pezzot-Pierce et al., 1982; Green and Kreuter, 1991). Behavioral strategies have been successfully applied to printed health education materials, with results such as a behavioral manual being more effective in facilitating weight reduction than more general self-help manual (Pezzot-Pierce et al., 1982). However, despite its importance, the issue of the cost-effectiveness of behaviorally oriented print materials as opposed to the simpler versions appears to be rarely evaluated. When cost-effectiveness has been addressed, the cost of staff time appears not to have been considered (Windsor et al., 1988).

Marketing strategies derived from the field of social marketing aim to increase the acceptability of a practice in a particular target group (Kotler and Roberto, 1989), and have been promoted by major organizations (US Department of Health and Human Services, 1989) and authors (Holland et al., 1985; Lefebvre and Flora, 1988; Hastings and Haywood, 1991) in the area of public health. There is also evidence that this approach has gained acceptance in the health education field (Glascoff et al., 1986; Woods et al., 1991). This approach is focused on developing materials which are attractive to the target group, by involving both experts and the target group in assessment of the materials (US Department of Health and Human Services, 1989; Hastings and Haywood, 1991). This may involve testing message concepts through holding focus groups with the target audience, obtaining ‘creative input’ such as the involvement of an advertising agency or graphic designer and/or pre-testing draft materials with the target audience via questionnaires, interviews or focus groups (US Department of Health and Human Services, 1989). Therefore, a great deal of time and expense can be involved in the use of marketing strategies. It has been noted that despite its popularity, the science of social marketing has not progressed beyond ideas, concepts and theory (e.g. (Hastings and Haywood, 1991)). Thus, the critical issue of the cost-effectiveness of taking such an approach to the development of print materials such as pamphlets needs to be addressed.

The study aims to explore the relative effectiveness of three pamphlets, developed using progressive addition of the three strategies, as might be used in practice. One pamphlet will be developed by applying only the characteristics proposed in the literature to increase pamphlet effectiveness. The second pamphlet will be further developed with the additional application of behavioral strategies. The third pamphlet will be developed by applying marketing strategies to the second pamphlet. A secondary aim is to explore behavior change in
women who received any of the three pamphlets compared with a control group who did not receive a pamphlet.

Enrolment with the Pap Test Reminder Service (PTRS) is a behavior both able to be measured objectively and likely to be influenced by a pamphlet. At the time of the study, the NSW Cancer Council in NSW, Australia, ran a free service which mailed women reminders when they were due to have a Pap test. Therefore, pamphlets encouraging women aged between 50 and 69 years to enroll with the NSW Cancer Council PTRS will be used to evaluate the relationship between pamphlet characteristics and pamphlet effectiveness.

Method

Development of the three pamphlets

Each pamphlet explained why women should have Pap tests, who should have them, how often and described a Pap test. The pamphlets also explained the reminder service and encouraged women to join using the mail-back slip in the pamphlet. The pamphlets were checked for accuracy by a medical doctor and staff from the NSW Cancer Council.

Content and design characteristics (‘C’) pamphlet

The ‘C’ pamphlet was designed by the researchers to contain the characteristics proposed in the literature to increase pamphlet effectiveness. A checklist of each of the literature’s characteristics for which there is some experimental evidence was compiled on the basis of a literature review (Paul and Redman, 1997a). The concurrent validity of the checklist has been verified by a group of experts (Paul and Redman, 1997b). The ‘C’ pamphlet was mailed in an addressed envelope.

Content and design characteristics + behavioral strategies (‘C + B’) pamphlet

The development of the ‘C + B’ pamphlet involved using the ‘C’ pamphlet as a basis and adding behavior change strategies to encourage women to join the PTRS. A list of 14 behavioral strategies was compiled by the authors, according to those described in behavioral theories (Becker, 1974; Bandura, 1977; Mullen et al., 1978). The list of strategies was submitted to six behavioral scientists who were asked to review the list and add any behavioral strategies not contained in the list. The behavioral scientists added five new strategies to the list. Thus, 19 strategies were identified: providing a prize for joining the PTRS (positive reinforcement); including a reply-paid envelope, pre-completing the women’s name and address on the return form, simplifying the form, including a reminder to return the form, giving a toll-free telephone number for enrolling (reducing response costs); mailing an additional follow-up letter, repeating the importance of joining (prompting); including quotes from enrolled women, including photographs and quotes from a well-known woman (modeling); including a personalized letter (tailoring); assuring confidentiality, explaining the role of the service fully, recommending discussing concerns with a doctor or friend (social support); and reducing uncertainty by providing strategies for women who have never had a Pap test or had not had one recently.

The ‘C + B’ pamphlet took the form of a personalized letter included with the ‘C’ pamphlet. The ‘C’ pamphlet was modified only in that the reply form was transferred from the pamphlet to the bottom of the letter. All of the 19 suggested strategies were included in the letter with the exception of: an additional prompt letter; photographs, and quotes from a well-known woman and quotes from enrolled women; due to difficulties with cost and acceptability, the ‘C + B’ condition consists of the letter and pamphlet mailed together in one envelope.

Content and design characteristics + behavioral strategies + marketing (‘C + B + M’) pamphlet

The ‘C + B + M’ pamphlet was developed by using the behavioral strategies letter described above and applying marketing strategies to improve the ‘C’ pamphlet. The marketing strategies used were pre-testing and the involvement of a graphic designer. These strategies were selected as a ‘real-world’
example of marketing on the basis that no other marketing strategies were generally being used by health agencies in Australia (Paul 1994). The ‘C’ pamphlet was pre-tested using central location intercept interviews. Seventy-two women aged 50–70 years of age read the pamphlet and were interviewed at major suburban shopping centers. High levels of comprehension and acceptability were found. Suggestions for improvement focused on improved presentation.

Therefore, the input of graphic designers was sought and further pre-testing conducted. Four graphic designers each created a new pamphlet prototype without changing its content. Each prototype was tested with three focus groups and a preferred design was selected. This design adhered to all of the characteristics proposed in the literature to improve pamphlet effectiveness. The ‘C + B + M’ condition consists of the letter and pamphlet mailed together in one envelope.

Testing pamphlet impact

Sample
The names and addresses of 10,800 women aged 50–69 years were randomly selected from NSW, Australia, using the electoral register. The women were randomly allocated into one of four groups (2700 women per group), with three groups receiving a pamphlet and the fourth group acting as a control group. This number of women per group was calculated as being sufficient to detect 2% differences between groups in registrations with the reminder service (with \( \alpha = 0.05 \) and \( \beta = 0.8 \), allowing for 15% attrition due to inaccuracies in the electoral register and 40% of women being ineligible due to having had a hysterectomy. Women currently registered with the reminder service (200 women) were excluded from the sample. A subsample of 420 women was selected for a telephone interview from each of the three pamphlet groups (1260 women in total).

Procedure
Group 1 (\( N = 2660 \)) were mailed the ‘C’ pamphlet, Group 2 (\( N = 2648 \)) received the ‘C + B’ pamphlet, Group 3 (\( N = 2644 \)) received the ‘C + B + M’ and Group 4 (\( N = 2648 \)) did not receive a pamphlet. Registrations with the reminder service were monitored for 4 weeks following the mailing to assess the relative effectiveness of the pamphlets in changing behavior. At 4–6 weeks after the pamphlets had been mailed, the randomly selected subsample of women were contacted, and asked to complete a telephone interview on receipt, readership, acceptability, knowledge, attitudes and demographic characteristics.

The direct costs of developing and distributing the pamphlets were recorded throughout the duration of the project. These costs were summed and then divided by the number of women in each group who enrolled with the PTRS during the 4-week monitoring period in order to obtain an estimate of the ‘cost per woman enrolled’ for each pamphlet.

Measures

- **Behavior.** During the 4 weeks following the mailing of the pamphlets, registrations with the reminder service using any of the three distinctive mail-back slips were monitored by the coordinator of the service. At the end of the 4 weeks, the whole sample was again matched with the reminder service database to obtain the number in each group registered with the reminder service.
- **Costs.** The cost categories were staff, capital and consumables. Staff costs involved time to develop drafts of the pamphlets and the letter, layout and hourly costs for models, photographers, the graphic designer, interviewers for the intercept interviews, and a facilitator for the focus groups. Capital costs were the costs of printing each pamphlet. Consumables included costs such as paper, photocopying, printing envelopes and postage. The ‘C + B + M’ pamphlet incurred extra printing costs as it was a four-color pamphlet, while the others were two-color pamphlets. Indirect costs were not included.
- **Receipt, readership, acceptability, knowledge, attitudes and demographic characteristics.** These variables were assessed by a 38-item
telephone interview. These items are given in Table I. The 18 knowledge items (nine on Pap tests and nine on the PTRS) were constructed by isolating each common ‘item of information’ in the pamphlets and formulating a question for each item. The demographic characteristics included were age, marital status, education, employment, whether the women had a hysterectomy and the number of years since the woman’s last Pap test.

Results

Differences among the groups receiving pamphlets

Behavior

Two hundred and ninety pamphlets were returned unopened, leaving the following number of women in each group: 2564 in Group 1, 2561 in Group 2 and 2537 in Group 3. A total of 550 women joined the PTRS during the monitoring period. A \( \chi^2 \) analysis showed that there was a significant difference between the number of women in each group who enrolled with the PTRS (\( \chi^2 = 63.263, \text{d.f.} = 2, P < 0.001 \)). The following proportions in each group enrolled with the PTRS during the monitoring period: 4.02\% of those mailed the ‘C’ [95\% confidence interval (CI) = 3.3–4.8], 7.93\% (95\% CI = 6.9–8.9) of those sent the ‘C + B’ pamphlet and 9.62\% (95\% CI = 8.5–10.8) of those sent the ‘C + B + M’ pamphlet. Thus, women who received the ‘C + B’ or the ‘C + B + M’ pamphlet were significantly more likely to enroll with the PTRS than women who received the ‘C’ pamphlet. There was no significant difference between enrolments for the ‘C + B’ and the ‘C + B + M’ pamphlets.

Cost-effectiveness

The relative cost-effectiveness of each of the three pamphlets was calculated by adding the costs...

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<thead>
<tr>
<th>Table I. Survey items regarding knowledge, attitudes and acceptability (response options are given in italic)</th>
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<tbody>
<tr>
<td>Was the pamphlet attention getting or eye-catching? (very/moderately/not very/not at all)</td>
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<tr>
<td>Did you think the pamphlet was meant for someone like you? (definitely/probably/probably not/definitely not)</td>
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<tr>
<td>Did you find anything offensive, embarrassing or annoying? (Y/N)</td>
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<tr>
<td>Did you find the pamphlet easy to read? (very/moderately easy/moderately hard/very hard)</td>
</tr>
<tr>
<td>Was there anything you found confusing or unclear? (Y/N)</td>
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<tr>
<td>How would you rate the way: the pamphlet looked overall; the content of the pamphlet? (very good/good/OK/poor/very poor)</td>
</tr>
<tr>
<td>What did you think were the main messages of the pamphlet? (open Q)</td>
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<tr>
<td>Is there anything women can do to stop themselves getting cervical cancer? (open Q)</td>
</tr>
<tr>
<td>Have you heard of the Pap test reminder service (PTYRS)? (Y/N)</td>
</tr>
<tr>
<td>What is the PTRS for? (open Q)</td>
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<tr>
<td>Do you know what happens when you join the PTRS? (sent letter/don’t know/other)</td>
</tr>
<tr>
<td>Do you know whether it costs anything to join the PTRS? (free/cost/don’t know)</td>
</tr>
<tr>
<td>Do you know how to join the PTRS? (fill in form/don’t know/other)</td>
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<tr>
<td>Do you know whether people could tell from the envelope that a letter was from the reminder service? (plain envelope/couldn’t tell/could tell/don’t know)</td>
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<tr>
<td>Do you know whether the reminders are private or confidential? (Y/N/don’t know)</td>
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<tr>
<td>Do you know any reason why women should join the reminder service? (open Q)</td>
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<tr>
<td>Do you know what sort of people should join the reminder service? (open Q)</td>
</tr>
<tr>
<td>Does a woman need a Pap test if she: has never had sex; has had sex in the past but isn’t having sex currently; is over 70; has had a hysterectomy; (Y/N/don’t know)</td>
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<tr>
<td>How often do women need to have Pap tests? (1 year/2 years/3 years/don’t know/other)</td>
</tr>
<tr>
<td>Do you know of any places a woman can go to have a Pap test? (GP/health clinic/family planning center/other/don’t know)</td>
</tr>
<tr>
<td>Do you know whether early changes in the cervix can be treated? (Y/N/don’t know)</td>
</tr>
<tr>
<td>Does having a Pap test take very long? (long or more than 10 min/short or less than 10 min/don’t know)</td>
</tr>
<tr>
<td>How preventable do you think cervical cancer is? (completely/imostly/moderately/a little/not at all)</td>
</tr>
<tr>
<td>How important do you think it is for you to have a Pap test regularly? (very/moderately/not very/not at all)</td>
</tr>
<tr>
<td>How important do you think it is for you to join the PTRS? (very/moderately/not very/not at all)</td>
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</table>
involved in developing and printing the pamphlet, divided by the number of women who joined as a result of receiving that pamphlet. Thus, cost-effectiveness is measured in terms of cost per woman recruited to the PTRS. It was calculated that the cost to develop, print and distribute the ‘C’ pamphlet was (AUS) $3559, giving a cost of $34.55 per woman enrolled with the PTRS. The cost to print and develop the ‘C + B’ pamphlet was $4329, giving a cost of $21.33 per woman enrolled. The cost to develop and print the ‘C + B + M’ pamphlet was $5559, thus incurring a cost of $22.78 per woman joined. Therefore, the ‘C + B’ pamphlet was the most cost-effective.

Receipt, readership, acceptability, knowledge, attitudes and demographic characteristics at 4 weeks

Sample. Three hundred and seventy-seven of the 1260 women selected for the 4-week telephone interview were not eligible for the following reasons: the woman had a hysterectomy (313 women), the woman was no longer at that address or telephone number (47 women), the woman was deceased (six women) or the woman did not speak enough English to conduct the interview (11 women). Of the 883 eligible women, 712 were able to be contacted and 584 completed the interview (80.6% response rate, 82% consent rate). Three interviews were lost, leaving 581 complete interviews: 207 for the ‘C’ pamphlet, 193 for the ‘C + B’ pamphlet and 181 for the ‘C + B + M’ pamphlet.

The \( \chi^2 \)-test was used to test for differences between the three groups on demographic characteristics. No significant differences were found.

The \( \chi^2 \)-tests were used to test for differences among the groups on each of the outcome measures. As a large number of \( \chi^2 \) were being performed, increasing the likelihood of obtaining a significant result purely by chance, the Bonferroni formula \( P = 1 - (1 - a)^{1/n} \) was used to adjust the \( P \) value indicating a significant difference between the groups from \( P < 0.05 \) to \( P < 0.002 \). Only those \( P \) values of 0.002 or less were considered statistically significant.

Receipt and readership. There were no significant differences between the three pamphlet groups in the number of women who reported receiving or reading any part of the pamphlet at the 4-week follow-up. Overall, 83% of the sample reported receiving the pamphlet and 86.4% of those who reported receiving the pamphlet also reported reading some of the pamphlet.

Acceptability. There were no statistically significant differences among the groups on any of the acceptability items at 4-week follow-up. There was a high level of acceptance of all the pamphlets, with more than 75% of the readers in each pamphlet group rating the pamphlet as easy to read, interesting, meant for them and unable to be improved upon. Less than 3% of the readers in each group rated the pamphlet as being offensive, embarrassing, annoying, confusing or unclear.

Knowledge. There were no significant differences among the groups on the total number of messages remembered from the pamphlet or any of the 18 knowledge items. For each group at least half of the sample were able to remember more than one message from the pamphlet, knew that a regular Pap test is preventive, had heard of the PTRS, knew the PTRS was free, knew the outcome of joining the PTRS and knew who should join. Three-quarters or more of the sample in each group knew the purpose of the PTRS, knew the reminders were confidential, knew the reason to join, knew who should have a Pap tests, knew how often women should have Pap tests, knew Pap tests take less than 10 min and knew pre-cancerous changes are treatable.

There were a small number of items showing a trend towards those receiving the ‘C + B’ pamphlet or the ‘C + B + M’ pamphlet being more likely to know how to join the PTRS (\( \chi^2 = 8.280, \text{d.f.} = 2, P < 0.02 \)) and to know whether a woman needs a Pap test after she has had a hysterectomy (\( \chi^2 = 9.682, \text{d.f.} = 2, P < 0.01 \)) in comparison to the group receiving the ‘C’ pamphlet. However, the group receiving the ‘C’ pamphlet showed a trend towards being more likely than the other two groups to be able to remember more than one message from the pamphlet (\( \chi^2 = 12.511, \text{d.f.} = 2, P < 0.02 \)), to know having a Pap test is part of preventing cervical cancer (\( \chi^2 = 8.423, \text{d.f.} = 2, P < 0.02 \)) and to know how often a woman should have a Pap test (\( \chi^2 = 8.280, \text{d.f.} = 2, P < 0.02 \)).
Responses on the nine items on knowledge about Pap tests were added to produce a total score out of nine then divided into ‘high’ and ‘low’ groups, with a ‘high’ score being five or more correct answers. There were no statistically significant differences among the three pamphlet groups on the proportion having a high score on knowledge about Pap tests. The nine items assessing knowledge about the PTRS were similarly added to produce ‘high’ and ‘low’ PTRS score. There were no significant differences among the three groups on the proportion having a high PTRS score. Those who reported not reading any of the pamphlet were excluded from the sample and analyses conducted on knowledge about Pap tests score and PTRS score. Again, no significant differences among the groups were found.

**Attitudes.** There were no significant differences among the three groups on any of the three attitudinal items.

**Differences between the groups receiving pamphlets and the control group**

**Behavior**

No women in the control group enrolled with the reminder service during the monitoring period. All groups receiving a pamphlet were significantly more likely than the control group to join the PTRS during the 4-week period ($\chi^2 = 199.374$, d.f. = 1, $P < 0.001$).

**Discussion**

The pamphlets found to be most effective in encouraging women to enroll with the NSW Cancer Council’s PTRS were the pamphlets developed using behavioral strategies and marketing strategies. Although the pamphlet including the marketing strategies appeared to result in a greater number of women joining than did the behavioral strategies pamphlet, this difference was not statistically significant. Comparison of the experimental groups and control group shows there was a significantly greater proportion of those who received pamphlets enrolling with the reminder service than those who did not receive a pamphlet. Therefore, it would appear that while a simple pamphlet adhering to the content and design characteristics recommended in the literature is able to affect behavior, the addition of behavioral strategies to print material is able to cause a significant increase in effectiveness.

The assessment of the relative cost-effectiveness of each of the pamphlets in recruiting women to the PTRS found that the ‘C + B’ pamphlet was the most cost-effective of the three pamphlets. This pamphlet incurred a cost of $21.33 per woman, while the pamphlet which was further developed using marketing strategies incurred a cost of $22.78 per woman joined. The ‘C’ pamphlet was clearly less cost-effective, costing $34.55 per woman to join the PTRS. Therefore, the results suggest that the simplest and cheapest of the three approaches to pamphlet development (content and design characteristics) is not necessarily the most cost-effective in terms of achieving behavior change.

In applying the findings on the relative cost-effectiveness of the pamphlet incorporating the additional behavioral and marketing strategies, two things must be considered. First, the costs in incorporating marketing strategies are likely to vary greatly according to the organization producing the material and the particular piece of material being developed. Therefore, cost-effectiveness may vary greatly in practice. In attempting to provide data with practical relevance, the study adopted an approach reflecting current practice (Paul, 1994) and acceptable to the Cancer Council NSW, involving both pre-testing and use of a graphic designer. Social marketing in a more complete form would incorporate additional elements such as market segmentation, market research, extensive consultation with designers, use of focus groups to develop messages, more extensive pre-testing, distribution tactics and would incorporate behavioral strategies. While use of these social marketing strategies may have resulted in superior print material in terms of presentation or content, they are also considerably more expensive. Thus, while the study did not use what might be considered an optimal test of the social marketing approach in pamphlet development, the results have practical relevance to many public health and health promotion environments.
Second, the difference between the two more effective pamphlets in cost per woman recruited appears to be small at $1.48. However, when implemented on a large scale, this cost becomes a significant amount. Large-scale implementation will, however, also change the marginal costs associated with the development and distribution of the pamphlet. The major additional development costs in use of the marketing approach will become less per woman if the pamphlet were distributed to a much larger number of women. However, the printing costs associated with a full-color pamphlet as compared to the two color pamphlet used in the 'content and design characteristics plus behavioral' strategies pamphlet will still play a role in cost-effectiveness calculations. Thus, it appears that the incorporation of behavioral strategies into print materials is likely to be the most cost-effective approach.

There was very little evidence of a difference in relative effectiveness between the three pamphlets in the self-report data on pamphlet receipt, pamphlet readership, knowledge and attitudes about Pap tests and the reminder service. This discrepancy between the findings for behavioral and the self-report measures is worthy of consideration. Models such as the Communication–Behavior Change Model (McGuire, 1984) would predict that behavior change is mediated by changes in preceding factors such as changing knowledge. There were no significant differences between the intervention conditions on cognitions predicted to mediate health behavior change. However, reported receipt of the pamphlet was the only instance where the ‘C + B’ or ‘C + B + M’ pamphlets were found to be more effective than the ‘C’ pamphlet. This may be due to a lack of sensitivity or validity in the self-report measure or a lack of statistical power. This is considered unlikely as a key items such as knowledge of how to join the PTRS did not show any trend in the direction found in the behavioral outcome. Social marketing is based on increasing the acceptability of the behavior for the target group, while behavioral approaches are more strongly focused on facilitating the behavior. The results of the study suggest that the situation in which the theories are applied may have a major bearing on their usefulness. In the case of a simple behavior recommended by a highly regarded health authority, broader marketing approaches addressing acceptability issues may be less critical than simply facilitating the behavior of interest. The finding that the ‘C’ group showed greater retention on some items is also somewhat unexpected. A potential explanation may be that the letter which formed part of the ‘C + B’ and ‘C + B + M’ pamphlets became the focus of the recipients’ attention, distracting them from the detail found in the pamphlet and not in the letter.

The primary conclusion of the study is that the most cost-effective approach to changing behavior using print materials is to incorporate the use of behavioral strategies into the communication intervention. While simple application of the characteristics recommended in the literature for the production of a legible and readable resource appear to be the cheaper approach from a production point of view, this is not necessarily the most cost-effective option for prompting a response from the target audience. Also, recommendations to incorporate the use of marketing strategies in order to produce more attractive materials is found by the current study to be less cost-effective in achieving behavior change than the use of behavioral strategies. There is a need to question current practices in the light of the theories on which they are based and consider the usefulness of those theories in each applied context.

References


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