Decrease Over Time in Awareness and Use of Unaddressed Self-help Materials: Implications for Evaluation

Kevin Balanda, Sigrid Deeds, Warren Stanton, John B. Lowe

Abstract

Issue addressed: The impact of the timing of community surveys on some of the measures used in process evaluations.

Method: A series of measures relating to the awareness and use of an unaddressed self-help booklet delivered to households in a small Queensland (Australia) community were collected one week, three weeks, and six weeks after its delivery. These included awareness, perusal, use, discussion, and retention of the booklet.

Results: Awareness decayed by half in six weeks, from 77 per cent at one week to 49 per cent at three weeks and 37 per cent at six weeks. This decay was observed in each population subgroup defined by sociodemographic variables such as age, sex, education or having a partner. Some of the measures did not decay over time. Most however, did decay over the six week period, although at differential rates.

Conclusions: These measures of program implementation are heavily influenced by the timing of the measurement in relation to the delivery of the materials.

So What? Results of the study suggest that the timing of follow-up community surveys may be critical when interpreting the results of process evaluations.

Key words: Recall, Process evaluation, Self-help materials.

Introduction

The potential benefit of mass household distribution of printed materials about health matters is widely accepted. It can be low cost, time efficient, and reach unidentified or symptomless persons. Print materials have been utilised in health education programs dealing with smoking prevention and cessation, diet and weight loss, mental health and skin checks.

Within the health promotion literature, much has been written about the need to conduct process evaluation. The question of whether a program was delivered as planned, and to what degree it was delivered, needs to be determined before any impact or outcome measure can be interpreted. The lack of program implementation has been referred to as a type 3 error. This implies that before impact or outcome measures are determined, the program needs to be implemented to the degree of fidelity that it was originally conceived. Without this level of fidelity, one would not expect changes in the impact or outcome measures to be directly attributed to the program.

The first five steps of McGuire’s Communication Persuasion model are: (i) exposure to the message, (ii) attention, (iii) interest, (iv) comprehension, and (v) skill acquisition. There are few published studies on the effect of the distribution method on the reader’s perception of written health education materials. Byles et al compared two direct mail strategies where ‘remember receiving a letter’ ranged from 72 per cent in a single letter intervention to 78 per cent in a comparison group with a more elaborate set of materials.

Community surveys provide an opportunity to look at the penetration of media campaigns, material distribution and other mass distribution activities. However, using surveys to gather process information relies on the population’s recall of the activity. What is lacking in the literature is information regarding the degree to which timing influences the level of recall and thus the process evaluation. Intuitively most people recognise that the longer the time, between the event and the recall, the greater the error that will affect the measurement.

The degree to which the timing of process evaluation data collections influence the type of data you will be able to collect is the focus of this study. The aim of the study was to measure the temporal changes in community estimates of measures, such as awareness and use of printed materials.

Methods

A booklet about skin cancer checks entitled “Your Skin Check Guide” designed to be a self-help guide for use when checking skin for early signs of cancer was developed and pilot tested. It had an illustrated brightly coloured cover and included a detachable checklist to take to the doctor in the event that a suspicious skin lesion was found.

The coastal community of Beachmere on Moreton Bay, 30 kilometres north of Brisbane (Australia), was chosen for its size and accessibility to Brisbane. It is geographically discrete and its profile is similar to many small towns in Queensland. It is not a ‘beach’ community in which a sun-oriented lifestyle might alter the pattern of response.

The booklet was dropped in the mailboxes of the 1445 dwellings within the geographical boundaries defining the urban/rural location of Beachmere. The authors delivered the booklet personally and were
accompanied by research staff as a quality control check to guarantee 100 per cent distribution. Tuesday was chosen as the distribution day to avoid the large volume of other material placed in mail boxes on weekends.

Non-overlapping random samples of 200 households were chosen for telephone interviews at one week, three weeks, and six weeks after delivery. A telephone listing provided by a commercial list broker was randomly divided into thirds and each assigned to one survey period to avoid duplicated calls. Three interviews of the same individual over six weeks were expected to unacceptably bias recall. The required telephone numbers for each survey were then selected randomly from the assigned lists.

The three telephone surveys were each conducted on a single evening by a team of trained and experienced interviewers. Each interview lasted approximately ten minutes. Up to three attempts were made to contact each household. If a person under age 18 answered, and an older person was unavailable, arrangements were made to ring back. In the first survey, if the person interviewed did not collect the mail on the Tuesday the booklet was delivered, and that person was unavailable, arrangements were made to also interview that person within 24 hours. This was not done during the last two surveys.

Seven questionnaire items dealing with the process evaluation were included in each survey. These related to awareness, perusal, use, discussion and retention of the materials. In particular, respondents were asked if they had "seen a booklet which shows you how to check your skin?" If they answered "yes", they were then asked its colour and if they remembered anything else about the front cover. On this basis, their (confirmed) recall of the booklet was ascertained.

Results

Three hundred and seventy-two household interviews were completed with an adult over 18 years of age, representing 66 per cent of those households with connected phones that were called. The respondents to each of the three surveys were comparable in terms of gender, age, having a partner, years of schooling and household size (Table 1).

Table 1: Comparison of households sampled, by survey

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>One week follow-up (n=146)</th>
<th>Three weeks follow-up (n=107)</th>
<th>Six weeks follow-up (n=110)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female</strong></td>
<td>64%</td>
<td>69%</td>
<td>62%</td>
<td>0.508</td>
</tr>
<tr>
<td><strong>Age 50 years and over</strong></td>
<td>56%</td>
<td>57%</td>
<td>53%</td>
<td>0.868</td>
</tr>
<tr>
<td><strong>Has a partner</strong></td>
<td>73%</td>
<td>75%</td>
<td>78%</td>
<td>0.719</td>
</tr>
<tr>
<td><strong>More than two persons in the household</strong></td>
<td>12%</td>
<td>13%</td>
<td>14%</td>
<td>0.672</td>
</tr>
<tr>
<td><strong>Less than senior secondary education</strong></td>
<td>69%</td>
<td>74%</td>
<td>65%</td>
<td>0.346</td>
</tr>
</tbody>
</table>

Respondents were predominantly female, had a partner, had completed less than a senior secondary school education, and lived in a household with no more than two persons. Fewer than half were under 50 years of age. The samples were broadly comparable with the population of Beachmere except for an excess percentage of female respondents. Results were post-weighted to the population profiles. Females were more likely than males to be mail collectors at T1 (82.6 per cent vs. 68.6 per cent, p<0.055), and each mail collector said there was a lot of advertising in the mail that day.

A summary of the process measures is given in Table 2. Overall, 76 per cent of the respondents recalled the booklet after one week, and a clear statistically significant change was observed in recall from week 1 to week 6 (p<0.001). Although drop off in recall was substantial, nearly 4 in 10 (37 per cent) of the respondents still recalled the material at 6 weeks follow-up.

Table 2: Process measures, by survey

<table>
<thead>
<tr>
<th>Process Measures</th>
<th>One week follow-up</th>
<th>Three weeks follow-up</th>
<th>Six weeks follow-up</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness of the Booklet</td>
<td>76.7%</td>
<td>48.6%</td>
<td>37.0%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Perusal of the Booklet</td>
<td>56.2%</td>
<td>50.0%</td>
<td>38.7%</td>
<td>0.017</td>
</tr>
<tr>
<td>At least one other person in the household looked over the booklet</td>
<td>32.2%</td>
<td>27.1%</td>
<td>25.2%</td>
<td>0.583</td>
</tr>
<tr>
<td>Use of the Booklet</td>
<td>43.8%</td>
<td>6.3%</td>
<td>7.1%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Discussion of the Booklet</td>
<td>24.0%</td>
<td>27.1%</td>
<td>23.5%</td>
<td>0.623</td>
</tr>
<tr>
<td>Discussed the booklet with at least one other person in the household</td>
<td>7.6%</td>
<td>13.2%</td>
<td>11.0%</td>
<td>0.344</td>
</tr>
<tr>
<td>Retention of Materials</td>
<td>83.3%</td>
<td>48.6%</td>
<td>26.1%</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

An examination of correlates of recall at one week follow-up, three weeks follow-up, and six weeks follow-up showed that the sociodemographic characteristics (age, sex, education, having a partner and size of household) had no effect at any of the three survey periods except for sex at three weeks follow-up (males=25 per cent, females=51 per cent, p=0.001). However, this effect was no longer evident at the six weeks follow-up. Thus, the fall in recall was observed in population subgroups defined in terms of the sociodemographic characteristics. Getting the mail had a highly significant effect on recall at one week follow-up: 87 per cent of those who collected the mail at one week follow-up recalled the booklet, compared to 46 per cent of those who did not (p=0.001).
The percentage of respondents who reported "they had looked through the booklet" also decreased significantly from one week follow-up to six weeks follow-up (p=0.017). Collecting the mail was significantly related to whether or not the one week follow-up respondent had looked over the booklet; 69 per cent of those who collected the mail said they had looked through the booklet at one week follow-up compared to 14 per cent of those who did not collect the mail (p<0.001). Overall, 28 per cent of respondents reported that someone else in the household had looked through the booklet. While this percentage decreased from 32 per cent at one week follow-up to 25 per cent at six weeks follow-up, this was not statistically significant (p=0.563).

At one week follow-up, 44 per cent of the respondents stated that they had used the checklist but this had dropped significantly to 7 per cent at six weeks follow-up. At one week follow-up, none of the personal characteristics identified were related to using the checklist.

When asked if they had "discussed the booklet, or the information in it with anyone else in the household", approximately a quarter of the respondents at each follow-up period reported doing this; the percentages did not change over time (p=0.623). Overall, only 10 per cent of respondents reported that they had "discussed the booklet with anyone else outside the household". While this percentage increased from 8 per cent at one week follow-up to 11 per cent at six weeks follow-up, this was not statistically significant.

When asked if the booklet "was still in the house", the affirmative response dropped from 83 per cent at one week follow-up to 26 per cent at six weeks follow-up (p<0.001).

Discussion

The steep decay in recall from 7 to 21 days with the drop then tapering down from 21st to 42nd day reflects similar curves noted in the literature on survey returns. Nonetheless, recall was still quite high at 42 days. While other process measures also decayed over time, the patterns of decay were quite different. Gender was the only sociodemographic characteristic with a detectable influence; with females recalling more after 21 days (p=0.001). Newell reported a similar gender effect with 69 per cent of females reading a mailed booklet compared to 52 per cent of males at 10-14 days. However, since the difference was not evident in the six weeks follow-up survey, the effect may be the result of collecting the mail rather than gender.

A limitation of this study is the independent cross-sectional nature of its design which was adopted because three interviews of the same person would significantly effect their responses. The characteristics of the community sampled may also limit the generalisability of this analysis to other groups. As with all survey-based studies, non response bias may further limit the generalisability of the results. Moreover, while the sample sizes are adequate for the whole of that community they do not allow for subgroup analyses. The results relate particularly to unaddressed self-help materials dealing with a topical issue. It is difficult to predict whether or not similar results would be observed if the materials dealt with a health issue with a much lower profile. However, as an explanatory study, it provides indications for further studies of time, impact, and cost.

The different patterns of decay in the estimates of the process measures suggests that the timing of their collection may also need to vary. How and when people actually peruse these materials after they receive them, what they do with them after that, and when people tend to talk about the materials with others, all effect the community estimates of these measures. Factors that appear to influence the nature of the decay include the intensity of the action (for example; simply recalling the booklet rather than using it). Other indicators may be expected to naturally increase over time if they are associated with activities that could be delayed, (such as discussing the booklet with others). For such indicators it is difficult to separate how much of any observed change is due to decay in the quality of responses. The results regarding the demographic variables suggest that, when interpreting results of process evaluations, timing of surveys may be a more critical factor than the demographic characteristics of the respondents.

It is clear that in order to capitalise on the initial awareness, follow-up reminders or reinforcements should be scheduled within the first few weeks following the delivery of materials. Keeping the book around the house did not appear to increase sharing with additional persons. However, the presence of the booklet in the household means the opportunity to promote the use of the information contained in the booklet remains. The timetable for maximising use of materials through a follow-up intervention is apparent.

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Authors

Kevin Balanda, Sigrid Deeds, Warren Stanton, John B. Lowe
Centre for Health Promotion and Cancer Prevention Research
School of Medicine
University of Queensland

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