Encouraging the right women to attend for cervical cancer screening: results from a targeted television campaign in Victoria, Australia

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Abstract
The study assessed whether a mass media campaign could encourage women who were overdue for a Papanicolaou (Pap) test to have one, without prompting unnecessary early re-screening. A telephone survey of a representative sample of 1000 Victorian women aged 25–65 years assessed recall of the advertisement and intention to act after seeing it. The television advertisement was recalled by 61.5% of women. Significantly more who said ‘I mean to have a test every two years, but I usually leave it longer’ indicated they would have a Pap test more often as a result of seeing the advertisement (63%), than women who had Pap tests every 1 (6%) or 2 (12%) years. Negative binomial regression analysis on data from the Victorian Cervical Cytology Registry from the middle of 2002 to the end of 2004 showed that during the campaign the number of Pap tests conducted increased by 18% (coeff = 0.169, df < 0.029). The rate increased most among those due or overdue for a Pap test. In a population with a high level of awareness of cervical screening, it is possible to run a mass media campaign to encourage screening which is specific to women whose test is due or overdue.

Introduction
The Papanicolaou (Pap) test is used internationally as a screening test to detect abnormal changes in the cells of the cervix that may lead to cervical cancer. Screening has been shown to be effective in reducing cervical cancer incidence and has been given an ‘A’ rating by the US Preventive Services Task Force [1], indicating that it found ‘good evidence’ that it improves important health outcomes and concluding that benefits ‘substantially outweigh harms’.

There is presently no international consensus about the appropriate age at which to commence or end cervical screening or the appropriate interval between tests. Most US professional organizations agree that the majority of women do not require annual testing, but that an interval of 2–3 years is appropriate for most [2]. In Britain, new guidelines were adopted in 2003, following recommendations put forward by the International Agency for Research on Cancer [3]. Women are now invited for screening three-yearly by the National Health Service Cervical Screening Programme from the age of 25 until 49 and five-yearly between 50 and 64 [4]. Australian guidelines, adopted in 1991, recommend that women with a cervix should have their first test at age 18–20 or a year after commencing sexual activity, whichever is later, and can stop at age 70, providing they have had adequate recent screening with normal Pap test results. The recommended interval between tests for asymptomatic women in Australia is 2 years [5, 6]. Although the trend in Australia is for a decline in deaths from cervical cancer, from 5.9 per 100 000 women in 1982 to 2.8 per 100 000 in 2001 (Australian Institute of Cancer Registry).
Health and Welfare 2003), more deaths could be prevented with adequate screening [7].

Regardless of the specific recommendations adopted, all countries with a cervical screening programme face the challenge of ensuring good population coverage of cervical screening, while avoiding unnecessary early re-screening prior to the recommended interval. The cost-effectiveness of screening is diminished by unnecessary use of screening services [8] and there may be psychosocial or other costs for individuals who are screened unnecessarily. Early re-screening is particularly prevalent in the United States, where it is estimated that up to 55% of women have an annual Pap test [2], often as part of an annual health check-up, and where 75% of women reported preferring to be screened at least annually [9]. An Italian study estimated an early re-screening rate (within 3 years) of 44% among Italian women who had self-referred for cervical screening [10].

In Victoria, Australia, it has been estimated that 30.5% of Victorian women screened for another Pap test within 21 months of having a normal one [11]. Although it is unclear how much of this would be justified by a previous abnormality, the figure suggests that there is significant overscreening in the Victorian population. The same data set indicated that the early re-screening rate in New South Wales (NSW), Australia, which has a similar demographic profile to Victoria and the same screening policy, was 28% [11]. Another study in NSW, which excluded women with any history of an abnormal test, calculated the prevalence of unjustified early re-screening to be 15.3% of women who had a Pap test [12]; the Victorian rate is likely to be very similar.

In contrast to these early re-screeners, only 54.6% of Australian women eligible for screening indicated that they have tests regularly [13]. In Victoria, which has a well-established register of cervical screening [Victorian Cervical Cytology Registry (VCCR)], the registry data showed that only 63.9% of eligible women had a test in the 2-year period 2002–03 [14], suggesting that many women are under-screened according to the Australian guidelines. The data also indicated there had been a slow decline in the proportion of women who were adequately screened from 67.0% in 1999–2000 [15]. To counteract this, it was decided to design and conduct a media campaign to encourage under-screened women to have a Pap test. The prime focus was on women aged >40, as the trend for cervical cancer is for increasing incidence with increasing age [11], but it was considered important that the advertisement should have broad appeal.

Mass media campaigns have been used with some success to improve participation in health screening. A meta-analysis of media health campaigns found that campaigns promoting mammography and cervical cancer screening had an effect size of 0.04, indicating that ~4% of women will change their behaviour in response to a televised marketing campaign prompting these types of screening for women [16]. A Cochrane review of the use of mass media interventions to promote the use of health services [17] concluded that although media campaigns can encourage increased use of health services, a challenge is to determine whether mass media campaigns can bring about specific effects (resulting in more appropriate use of services by those people who will benefit most), as opposed to non-specific effects (increasing the overall rate of service use, without affecting the appropriateness of how health services are utilized).

Evaluations of mass media campaigns to promote cervical cancer screening have shown mixed results. A 1998 review [18] concluded that mass media seemed to work best in conjunction with other interventions, such as direct mail. It indicated that “… the effects of mass media campaigns tend to be of short duration, and these strategies are best used in combinations with other approaches. Conventional wisdom as well as a great deal of empirical evidence suggests that the strength of mass media campaigns is to increase awareness (i.e. “agenda setting”) and to provide a background context for other intervention strategies, rather than serving as a singular cue to action for behavior change”. A 2004 review looked at seven studies using mass media to promote either cervical cancer screening or mammography, all but one of which showed a positive impact of the intervention [19].
However, in each of these studies ‘the use of mass media was embedded in a broader intervention that included person-to-person or access enhancing strategies’. The studies also focussed on very specific target groups—for example, Vietnamese-Americans [20]—rather than the broader population.

There have been two national cervical screening media campaigns in Australia. The first was in 1993, with the key aim of increasing awareness of Pap tests. Awareness raising was appropriate at the time as the organized national programme (established in 1992) was still in its infancy. The second campaign was in 1999, this time focussing on addressing barriers to participation, rather than awareness raising. ‘Don’t make excuses, make an appointment’ increased the number of Victorian women who attended for a test at the time the campaign was on air by 16% [21].

Pasick et al. [19] suggest that interventions should evolve as screening diffuses through the population, and that ‘where rates of ever having been screened have increased overall, interventions should focus more on regular screening as the objective and as the key measurable outcome’. The campaign described in this paper was specifically designed to encourage women who had at least one Pap test to have another one and to plan to test regularly in the future. It was not intended to reach that small proportion of women who had never been screened and who are probably not best reached with mass media.

In Australia, all women aged between 18 and 69 who have ever had sex and who have a cervix are encouraged to have a Pap test. The tests can be carried out by a general practitioner, gynaecologist or some specially trained nurses. Women are free to choose where and when they would like their test carried out. The pathology component of the test is usually funded by the Australian government (except liquid-based cytology). The consultation itself usually incurs a fee; however, there are options for free consultations for disadvantaged groups who need them. A woman’s first Pap test is initiated either by herself or by her doctor; however, once a woman has had a test, she is listed on a Registry so she can be sent a reminder (unless she chooses not to be on the Register). Different states have slightly different reminder protocols. In Victoria, women who are listed on the VCCR registry are sent a reminder letter when they are 3 months overdue for a test, and many practitioners also send their own reminder letters at the time a woman’s test is due.

The aim of the present study was to determine whether it was possible to implement a mass media campaign that would encourage under-screened women to have a Pap test, without prompting unnecessary tests among those who were already adequately screened. A feature of this study is the use of questionnaire self-report data on recall of the campaign and perceptions of it, as well as data from a state cervical cytology registry on Pap tests conducted over time and for different population subgroups.

**Methods**

**Media campaign development and exposure**

In addition to drawing on findings from the published literature to assist campaign development, in-depth telephone interviews were conducted with 32 women aged from 30 to 69 who had previously had regular Pap tests, but had lapsed in their cervical screening for at least 3 years, to determine the barriers to returning for another test. There were three salient reasons for lapsing. A major factor was that women expressed a negative emotional disposition to Pap tests, indicating dislike, embarrassment, discomfort or anxiety about having the test. Second, for some women, Pap tests were not considered a high priority, in that they did not believe they were at risk of cervical cancer. Finally, a small group of women believed that they did not need a Pap test because they considered they would know if something was wrong with their own bodies. It was noted that lack of knowledge of the appropriate time interval between tests was not a barrier for these women, since they were aware that they were overdue for a Pap test.

The findings from the interviews were used to develop a brief for an advertising agency to develop concepts for further testing with women. The brief
focused particularly on the importance of overcoming emotional barriers to having a Pap test. Ultimately, two rounds of focus groups were conducted (nine groups of women aged >40, some adequately screened and some lapsed screeners) to develop the final advertisement. A 30-s television advertisement was produced, with a 15-s cut-down version. A radio advertisement was also developed, but is not discussed in this paper, as very few women heard the radio advertisement without also being exposed to the television advertisement.

The television advertisement aimed to acknowledge women’s anxiety and discomfort about having the test, while reminding them there was a good reason for having one. However, it was also designed not to arouse concern for those women whose tests were up-to-date. The advertisement ‘Don’t just sit there’ featured a series of women’s legs in a variety of situations and a voice-over acknowledging that although having a Pap test can be uncomfortable, being treated for cervical cancer can be far more uncomfortable. The voice-over concluded by saying ‘If you haven’t had a Pap test in the last two years, stop putting it off. Make an appointment today with your doctor or community health centre.’ The tagline of the advertisement on the screen indicated ‘Pap tests. Every two years. It could save your life.’ (see www.papscreen.org.au).

A media-buying agency purchased time on Victoria’s three free-to-air commercial television stations in programmes rated as appealing to women aged 40–64. The advertisement was broadcast for nearly 4 weeks from Sunday 18 July to Thursday 12 August 2004. The media-buying schedule indicated that during this time, the advertisement had the opportunity to be seen two or more times by 86% of women in the target age range and 73% would have had an opportunity to see it three or more times.

**Population survey of women**

**Sample**

Approval to conduct the telephone survey was given by The Cancer Council Victoria’s Human Research Ethics Committee. It was conducted in the last week of the media campaign. Numbers were randomly selected from the electronic telephone directory and trained female interviewers asked to speak to the woman in the household aged between 25 and 65 whose birthday was next. Contact was made with 3510 households and in 1600 of these someone was identified as being eligible to complete the survey. Overall, an interview was obtained in 63% of homes where someone had been identified as eligible—1000 women completed the survey and 600 did not (433 refused, 114 terminated during the interview, 53 agreed to complete it later but did not). Women were told that the research was being conducted on behalf of a well-known Victorian health organization, was for public health research purposes and had been approved by an ethics committee. Up to five attempts were made to reach each of the selected numbers.

**Questionnaire measures**

The survey asked women whether they had seen or heard advertising about any health issues affecting women, and if so, which issues, and where they had seen or heard such advertising. Those who said they had seen a television advertisement about Pap testing were asked to describe the main images they remembered from the advertisement. Those who did not recall the advertisement after this series of open-ended questions were prompted with the question ‘Have you recently seen a television advertisement where you see different women’s legs in a variety of situations? The women appear to be nervous. The final image is of a woman getting up to go into a doctor’s consulting room. The voice-over talks about Pap tests.’ Those women who said they had seen that advertisement were deemed to have prompted recall of it.

Women with either prompted or unprompted recall were asked to describe the main messages of the advertisement and were then asked ‘What, if anything, do you plan to do as a result of seeing the advertisement?’ with responses to each question later being coded into categories.

Women were asked to describe their usual Pap testing behaviour, with options being as follows:

- I have a test every year;
- I have a test every 2 years;
I mean to have a test about every 2 years, but I usually leave it longer; I have tests irregularly; I have only had one or two tests, or some other response. Women were also asked how long ago their last Pap test was, with responses being categorized as: having had a Pap test <1 year ago, 1 year to <2 years ago, 2 years to <3 years ago, >3 years ago and never had a test. Those who had not had a test for the past 3 years were asked an open-ended question about why this was so, and women who indicated they had had a hysterectomy or who had not had sex were identified from the responses. Women who had seen the advertisement were asked ‘Did the PapScreen advertisement you saw recently make you feel like you should have a Pap test more often, less often or did it make no difference?’ Information was also collected on age of the women.

Australian Census data for 2001 indicate that 23.2% of the Victorian population were born overseas and 19.6% speak a language other than English at home. Only 0.6% are indigenous Australians and 73.4% live in major cities [22]. There were 1 296 040 women in Victoria aged between 25 and 45 [23]. Of these, 29% were aged 25–34, 29% were aged 35–44, 25% were aged 45–54 and 17% were 55–65. Survey data were weighted by age to reflect the age characteristics of the Victorian female population [23] in these age groups. Analysis was undertaken using SPSS (version 13.1). Chi-square analysis was used to compare proportions.

**VCCR data**

The VCCR was established in 1989. It is a confidential, computerized database of Victorian women’s Pap test results, which assists with the follow-up of abnormal smears and enables a reminder letter to be sent to women if their Pap test is overdue. Although participation in the VCCR is voluntary, it operates as an opt-out system, and the non-participation rate is estimated to be <1% [14]. The registry permits identification of age and the length of time since a woman’s last Pap test.

The VCCR provided information on the number of Pap tests conducted each week in Victoria from the first week of June 2002 to the end of 2004. This allowed for comparisons between the campaign period and the same time in previous years, and of the campaign period with the time immediately before and after the campaign. Chi-square analysis was used to compare proportions and a negative binomial regression compared the number of tests performed in campaign and non-campaign periods.

## Results

**Screening behaviour of survey respondents**

Of the 1000 women interviewed, four said they had never had sex and 59 had had a hysterectomy. These women were dropped from further analysis, as they did not need Pap tests. One woman did not give her age, and so was not included once the sample was weighted, so the following analysis was based on 936 respondents.

Overall, 97.0% said they had had at least one Pap test. In terms of usual Pap test behaviour, 13.8% of women indicated that they usually had a test every year (annual); 61.2% had a test every 2 years (appropriate); 13.9% said they meant to have a test about every 2 years, but usually left it longer (well-intentioned); 4.4% said they had tests irregularly (irregular); 5% said they only had one or two Pap tests (minimal) and the remaining 1.7% gave some other response (other).

Reflecting on time since their most recent Pap test, 51.7% of women who had had a test indicated they had one within the past year (recent), 27.6% between 1 year and up to 2 years ago (adequate), 10.8% between 2 years up to 3 years ago (overdue) and 9.4% had not had one for at least 3 years (lapsed).

**Recall of the television advertisement**

Nearly half of the women surveyed (48.5%) indicated they had recently seen or heard advertising about Pap testing and for 85% of these the source was television. To test for the veracity of this recall, the 386 women who said they recalled a television advertisement on Pap testing were asked to describe it. Nearly half (46.0%) accurately described the images in the advertisement, representing
19.0% of the total sample. The advertisement was then described to the women who either did not recall a Pap screening advertisement at all or were unable to describe it accurately. A further 393 (51.8% of those asked, 42.0% of the total sample) remembered it when prompted. Thus, overall 61% of the women surveyed were aware of the television advertisement (19% unprompted recall and 42% prompted recall).

**Perceived main message of the television advertisement**

The data in Table I indicate that most of the 568 women who had seen the advertisement could describe its main message. About half (54.2%) reported a general message of everyone needing a Pap test, some saying that it should be ‘regular’ but without specifying what regular meant, and some that it should be two-yearly. Some women (20.5%) indicated a more specific response that acknowledged that Pap tests are uncomfortable but still important to have and 9.7% reported a general message about prevention being important. Only 3.5% reported that the message was that Pap tests are unpleasant without adding the key point that they are worth having anyway.

**Intended action as a result of seeing the advertising**

When asked what action they planned to take in response to seeing the advertising, 51.9% of women indicated that they would not do anything. However, women were most likely to respond in this way if their last Pap test had been more recent ($\chi^2 = 58.73, df = 3, P < 0.001$). As shown in Table II, women most likely to say they would not do anything were those who had a test within the past 12 months, compared with women who had last had a Pap test 1–2 years ago. Women who were overdue or lapsed screeners were less likely not to plan to take action.

Overall, 15.9% of women indicated that as a result of seeing the advertisement, they planned to have a Pap test soon. Women overdue for a Pap test were significantly more likely to respond in this way than those who had a Pap test more recently ($\chi^2 = 113.53, df = 3, P < 0.001$). In total, 18.4% of women indicated they planned to have a Pap test when it was due, with no differences according to how long it had been since their last Pap test ($\chi^2 = 1.73, df = 3, P = 0.63$).

Table III presents responses about planned changes in the frequency of Pap testing as a result of seeing the advertisement, according to women’s usual Pap test behaviour. Only the most frequently cited ‘usual’ behaviours were included in the analysis, due to low numbers of respondents in some categories (i.e. more than yearly, don’t need tests, only had one or two tests, other responses). Overall, 77.4% of women indicated that the advertisement would make no difference to how often they had a Pap test and 20.8% indicated they would have a Pap test more often. However, as Table III shows, response to this question was influenced by usual frequency of Pap test behaviour. More women whose Pap test behaviour was ‘well-intentioned’ (62.8%) reported that they would have a Pap test more often than did ‘annual’ (6.0%) or ‘appropriate’ (12.3%) screeners, and the annual (92.9%) or appropriate (86.8%) screeners indicated it would make no difference ($\chi^2 = 137.8, df = 3$, P < 0.001).

### Table I. Women’s interpretations of the main messages of the television advertisement

<table>
<thead>
<tr>
<th>Perceived main message</th>
<th>n = 568</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emphasis on need to have a test</td>
<td>23.2%</td>
</tr>
<tr>
<td>(Every one should) have a Pap test</td>
<td></td>
</tr>
<tr>
<td>Have a Pap test every 2 years</td>
<td>17.1%</td>
</tr>
<tr>
<td>Have a regular Pap test</td>
<td>13.9%</td>
</tr>
<tr>
<td>Emphasis on having a test even though uncomfortable</td>
<td>12.8%</td>
</tr>
<tr>
<td>Have a Pap test even if embarrassed/uncomfortable/scared</td>
<td>7.7%</td>
</tr>
<tr>
<td>Pap tests are uncomfortable but consequences are worse</td>
<td></td>
</tr>
<tr>
<td>General perceived need to look after health</td>
<td>4.2%</td>
</tr>
<tr>
<td>Early detection/prevention is important</td>
<td>5.5%</td>
</tr>
<tr>
<td>Don’t procrastinate</td>
<td></td>
</tr>
<tr>
<td>Other attributions about Pap tests</td>
<td>3.5%</td>
</tr>
<tr>
<td>Pap tests are unpleasant</td>
<td></td>
</tr>
<tr>
<td>Other responses</td>
<td>9.4%</td>
</tr>
<tr>
<td>Can’t say</td>
<td>2.6%</td>
</tr>
</tbody>
</table>
Among the annual screeners, none intended to have a Pap test less often as a result of seeing the advertisement.

**VCCR data**

Figure 1 presents the number of Pap tests conducted each week for a 22-week period starting from the first week in June for the years 2002, 2003 and 2004. In general, the number of tests conducted per week was very similar, with sharp declines due to public holidays reducing the number of days available for testing.

Negative binomial regression was used to assess the effects of the campaign, accounting for time and the number of working days per week. The dependent variable was the number of Pap tests conducted per week, from the first week in June 2002 to the last week of 2004. The campaign had a significant positive effect on screening behaviour, with an 18% increase during the campaign (coeff = 0.169, \( P = 0.029 \)) compared with all other periods.

**Table II. Intentions of women in response to seeing the television advertisement (multiple response), by time since last Pap test**

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>&lt;1 year since test</th>
<th>1 to &lt;2 years since test</th>
<th>2 to &lt;3 years since test</th>
<th>&gt;3 years</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Recent</td>
<td>Adequate</td>
<td>Overdue</td>
<td>Lapsed</td>
<td></td>
</tr>
<tr>
<td>n = 566 ( ^b )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nothing ( ^c )</td>
<td>51.9%</td>
<td>65.7%</td>
<td>46.5%</td>
<td>18.5%</td>
<td>29.8%</td>
<td>53.8%</td>
</tr>
<tr>
<td>Will have Pap test soon ( ^c )</td>
<td>15.9%</td>
<td>3.2%</td>
<td>17.0%</td>
<td>50.0%</td>
<td>43.1%</td>
<td>15.4%</td>
</tr>
<tr>
<td>Have pap test when due</td>
<td>18.4%</td>
<td>18.4%</td>
<td>21.4%</td>
<td>16.7%</td>
<td>14.0%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Speak to doctor</td>
<td>4.2%</td>
<td>1.4%</td>
<td>3.8%</td>
<td>9.3%</td>
<td>8.6%</td>
<td>30.8%</td>
</tr>
<tr>
<td>Check when due for test</td>
<td>1.4%</td>
<td>1.4%</td>
<td>1.3%</td>
<td>3.7%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Have other health checks done</td>
<td>1.2%</td>
<td>1.1%</td>
<td>0</td>
<td>7.4%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Keep doing what already doing</td>
<td>2.5%</td>
<td>2.8%</td>
<td>3.8%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Talk to or remind others</td>
<td>2.5%</td>
<td>3.2%</td>
<td>2.5%</td>
<td>1.9%</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\( ^a \)Chi-square analysis restricted to three most common responses and excluded ‘never’ due to small cell sizes.

\( ^b \)One case of missing data.

\( ^c \)Significant effect at the 0.01 level.

**Table III. Planned changes in Pap test behaviour by women in response to seeing the advertisement, by usual Pap test behaviour**

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Every year</th>
<th>Two-yearly</th>
<th>Intend two-yearly, leave longer</th>
<th>Irregular tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = 518</td>
<td></td>
<td>n = 84</td>
<td>n = 334</td>
<td>n = 78</td>
<td>n = 22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Annual</td>
<td>Appropriate</td>
<td>Well-intentioned</td>
<td></td>
</tr>
<tr>
<td>More often</td>
<td>20.8%</td>
<td>6.0%</td>
<td>12.3%</td>
<td>62.8%</td>
<td>59.1%</td>
</tr>
<tr>
<td>Less often</td>
<td>0.2%</td>
<td>0</td>
<td>0</td>
<td>1.3%</td>
<td>0</td>
</tr>
<tr>
<td>No difference</td>
<td>77.4%</td>
<td>92.9%</td>
<td>86.8%</td>
<td>30.8%</td>
<td>40.9%</td>
</tr>
<tr>
<td>Can’t say</td>
<td>1.5%</td>
<td>1.2%</td>
<td>0.9%</td>
<td>5.1%</td>
<td>0</td>
</tr>
</tbody>
</table>

\( ^a \)Excludes all other responses (e.g. more than yearly, don’t need tests) due to small cell sizes.

\( ^b \)Chi-square analysis restricted to ‘more often’ and ‘no difference’ due to small cell sizes.

\( P < 0.001 \). Among the annual screeners, none intended to have a Pap test less often as a result of seeing the advertisement.
respectively). For women who had never been tested the pattern was the same, but it did not reach significance ($\chi^2 = 5.44, \text{df} = 2, P = 0.066$).

**Discussion**

This study found that the ‘Don’t just sit there’ television advertisement was recalled by six out of 10 women and that intention to do something about having a Pap test as a result of seeing the ad was highest among those who were overdue for cervical screening. Well-intentioned women were significantly more likely to indicate they would have a Pap test more often as a result of seeing the advertisement than women who were annual or appropriate screeners. The VCCR data indicated that the campaign prompted an immediate increase in the average daily and weekly Pap tests compared with the period prior to the campaign and with the same time period in previous years, and that this increase was concentrated among those who were overdue for a Pap test.

An alternate interpretation of the VCCR results is that the campaign simply prompted women who were almost due for a Pap test to have one a little earlier, and so ‘borrowed from the future’ in increasing the screening rate during the campaign period. However, after the end of the campaign, we observed a rapid return in the screening rate to usual levels, with no evidence of a decline in the weekly rate of Pap tests in the several months following the campaign. This lends support to our interpretation that the campaign encouraged women who were due or overdue for a Pap test to have one.

Our observation that the increased rate of Pap testing occurred as soon as the campaign began and returned rapidly to usual levels once the media campaign ended is worthy of comment. This
suggests that, in the context of a population with a relatively high level of knowledge about Pap testing, a media campaign such as the one described here can serve as a prompt for action for those who are due or overdue for screening. However, such short-term effects suggest that the media campaign should be repeated to further prompt women who have not yet taken action on their overdue Pap test. These results are consistent with the findings from many product advertising studies which show that any behavioural effects of advertising decay relatively quickly in the days or weeks after broadcasting ends [24].

Although not the intention of the campaign, it was noteworthy to find that women who described themselves as being annual screeners did not intend to screen less often as a result of seeing the campaign advertising, despite the emphasis on the 2-year interval. There are other factors that drive early re-screening, including physician behaviour [25, 26]. Efforts to directly inform women about the lack of need for annual screening in the United States have been met with suspicion that a longer screening interval is simply a way to reduce health costs [9]. Thus, efforts to discourage early re-screening are likely to require a separate communication strategy addressing physician, consumer and health system issues.

Limitations of the study included the fact that women responding to the telephone survey might have given socially desirable responses to the questions about intentions to have a Pap test as a result of seeing the advertisement. However, our findings from the population survey accord well with those from the objective VCCR data, which provides information on actual Pap tests conducted and testing history. A limitation of the VCCR data is that some women may have had a test in another state or may have opted to exclude their test results from the registry. However, as previously mentioned, the non-participation rate in the VCCR for women is estimated to be <1% [14].

In summary, in the context of a population with already high level of knowledge about cervical screening, our study suggests it is possible to run a mass media campaign to encourage cervical screening which is specific to women who are due or overdue for a Pap test, without encouraging early re-screening among those not yet due for a test.

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Conflict of interest statement

None declared.

References


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