Promoting screening for cervical cancer: realising the potential for recruitment by general practitioners

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SUMMARY
This paper explores the potential for general practitioners to promote screening for cervical cancer and describes one example of an effective general practitioner-based (GP-based) programme to improve community screening rates. The GP-based programme was designed to improve general practitioners' involvement in recruiting women in their communities to have Pap smears. The aim was to raise doctors' awareness of the fact that many women are not adequately screened, to encourage them to consider why these women are not being recruited, to assist them to develop strategies to overcome these problems, and to support them in the use of these strategies by providing information and resources, feedback on performance, and peer support. The effectiveness of the GP-based programme was assessed as part of a multi-centre trial to compare the differential effectiveness of three community-based strategies to promote screening for cervical cancer: a television campaign, a television campaign combined with personally addressed letters sent to all women in the community, and a television campaign combined with the GP-based programme. Each intervention was delivered to three postal regions in New South Wales, Australia, and time-series data on Pap smear rates were obtained. Three control regions were included for comparison. Of all three strategies, the combined television campaign and GP-based programme had the most potential, with up to an additional 8% of previously unscreened women being screened during each quarter of the combined television campaign and GP-based programme. This compares with screening of 2-4% of previously unscreened women in association with television combined with letters, and only 1-3% of previously unscreened women when television was used alone. However, the impact of the GP-based programme was highly variable. This variation in effectiveness points to a need for further research to determine the general practitioner, community and programme factors associated with programme success.

Key words: cervical neoplasms prevention and control; general practitioners; innovation adoption

INTRODUCTION

General practitioners are seen as the ideal providers of cervical cancer screening, providing initial screening, clinical assessment, follow-up of abnormalities, counselling, referral and ongoing care. Currently, over 70% of Pap smears are taken by doctors in primary practice and the majority of women state that they would prefer to have a Pap smear taken by their own doctor (Australian Health Minister's Advisory Council, 1991; Bowman, 1991). Primary care practitioners
also see themselves as the most appropriate providers of cervical cancer screening (Bowman et al., 1990) and their efficacy in recruiting women to be screened has been demonstrated in a number of trials (Havelock et al., 1988; Pierce et al., 1989; Robertson et al., 1989; Cockburn et al., 1990; Ward et al., 1991).

For Australian women, the average number of general practice visits per year ranges from four, for women aged 20 years, to around six per year by age 60 (Australian Health Minister's Advisory Council, 1991). This attendance rate provides many opportunities for general practitioners to remind women about the importance of screening, to talk about women's concerns and to offer them a Pap smear. Women see such advice as being an acceptable part of the general practitioner's role. In one Australian study, 69% of Australian women said that they would find Pap smears more acceptable if they were suggested by a doctor (Bowman, 1991), and 91% of unscreened women indicated that they would have a Pap smear if their doctor advised them accordingly (Bowman et al., 1990). Few other screening promotion strategies provide this opportunity to identify and target the at-risk group individually.

The potential for general practitioners to encourage women to have Pap smears is currently under-utilised. In a random community survey, 83% of women who had not had a Pap smear in the last 3 years claimed they had visited a doctor in the past 12 months; 23% of these unscreened women could not recall a doctor ever mentioning the Pap test (Sanson-Fisher and Bowman, 1989). A survey of women attending a random sample of general practitioners found that 17% of this population claimed they had never had a Pap smear (Dickinson et al., 1988). In another survey, 43% of general practitioners admitted that they forget to ask women about Pap smears and most practitioners do not have systems for recruiting women to be screened (Bowman et al., 1990). Means to encourage greater participation of general practitioners in recruitment strategies are required.

A PROGRAMME TO INCREASE GENERAL PRACTITIONERS' INVOLVEMENT IN PROMOTING SCREENING

The role of the general practitioner programme was to improve general practitioners' involvement in recruiting women in their communities to have Pap smears. The aim was to raise doctors' awareness of the fact that many women are not adequately screened, encourage them to consider why these women are not being screened, assist them to develop strategies to overcome these problems and support them in the use of these strategies by providing information and resources, feedback on performance, and peer support.

The principles underlying the programme were derived from the Adoption of Innovation Theory developed by Rogers (1983). The program components and the principles underlying these components are summarised in Table 1.

The programme was conducted over a 6-month period and set against the background of a television campaign delivered to a number of regions throughout the state of New South Wales, Australia. Initially, all practitioners in each of three postal regions were invited to attend a meeting to discuss the need to promote screening in their communities, the practitioner's role in promoting screening, the barriers to screening and strategies to encourage women to have regular Pap smears. Following this initial meeting, all practitioners in the three postal regions received a letter which detailed the full range of strategies which had been suggested. Each individual practitioner was telephoned to negotiate which strategies they would require and relevant resources were sent to each practitioner. After 2 months, a second meeting was held to review the strategies and modify any teething problems. Additional information and resources were distributed during the programme period to maintain the general practitioner's interest, and to keep cervical screening on the agenda. Each of these programme components is described in detail below.

The Initial meeting

The initial meeting was important for a number of reasons. First, it allowed discussion of the advantages and disadvantages of general-practitioner-based recruitment, and the need for more active involvement by general practitioners. Such interpersonal interaction has been shown to be an important component in encouraging behaviour change (Rogers, 1983). Second, the meeting allowed practitioners to share ideas, and to be influenced by the attitudes and practices of their peers. The interactive meeting provided an opportunity to capitalise on natural social processes, and establish channels for ongoing peer support.

Within any social system, individuals will be at different stages in the adoption process (Rogers,
**Table 1:** Principles underlying the programme

<table>
<thead>
<tr>
<th>Principle</th>
<th>Programme component</th>
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<tbody>
<tr>
<td>(i) Face-to-face interaction with credible advocates will increase the likelihood of behaviour change.</td>
<td>Personal contact and interaction throughout the programme period: • the initial meeting • telephone contacts • the follow-up meeting • peer group discussion • establish peer support through key general practitioners • social modelling</td>
</tr>
<tr>
<td>(ii) Peer support is important for adoption and maintenance of new behaviours.</td>
<td>• check that general practitioners agree that cervical screening is worthwhile • raise awareness of the fact that many women are not adequately screened • convince practitioners of the appropriateness and relative advantage of recruitment by general practitioners</td>
</tr>
<tr>
<td>(iii) General-practitioner behaviour change is more likely if general practitioners recognise the need to change.</td>
<td>• provide examples of strategies which general practitioners might use • provide a choice of strategies • allow modification and reinvention of strategies • allow interventions to be trialled on a limited basis • provide resources • peer support • stagger resource provision • feedback • opportunity for further skills training</td>
</tr>
<tr>
<td>(iv) The lower the response cost the greater the likelihood of behaviour change.</td>
<td>Maintenance strategies are necessary for long-term behaviour change.</td>
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<td>(v)</td>
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1983; Green, 1986; Prochaska and DiClemente, 1986). In theory, some general practitioners would be already actively encouraging women to have Pap smears, and employing useful systems and techniques to enhance their performance. Other general practitioners would be reluctant to adopt such systems, and difficult to persuade by communication techniques alone (Green, 1986). However, within a social system, early adopters can provide social support for behaviour change (Rogers, 1983). Research shows that most individuals do not evaluate an innovation on the basis of scientific studies of its consequences, but depend on subjective evaluation conveyed to them by their peers (Rogers, 1983). Thus, the ‘late-adopters’ can be influenced by the opinions and behaviours of their peers (Rogers, 1983; Green, 1986; Fennell and Warnecke, 1988). Social modelling (Bandura, 1977) may also play an important role in motivating and supporting changes in the behaviour of these general practitioners.

The initial meeting had three phases. Phase 1 was designed to motivate practitioners to recruit women to be screened. In general, motivation to change is dependent upon knowledge of the new behaviour (Rogers, 1983; Green, 1986; Fennell and Warnecke, 1988) and the perception that the new behaviour is better than the established behaviour patterns (Rogers, 1983). Relating this principle to cervical screening, it would appear that general practitioners are well acquainted with the value of screening as a means to prevent cervical cancer, and the general practitioner’s role in recruiting women to be screened (Bowman et al., 1990). In a recent survey, over 90% of general practitioners considered Pap smears to be very or extremely worthwhile; 92% agreed that doctors should be responsible for initiating and maintaining screening for all female patients (Bowman et al., 1990). However, general practitioners may not be aware of the inadequacies of the current, opportunistic screening system. Research shows
that physicians significantly over-estimate their own performance of screening procedures (McPhee et al., 1991).

The main focus of this phase of the meeting was to raise the doctors' awareness of the fact that many women were not adequately screened. To do this, the general practitioners were provided with estimates of the proportion of women aged 18–69 years who had had a Pap smear within the past 3 years.

Phase 2 was designed to explore the barriers to recruitment. This was to help the general practitioners identify strategies to address their own particular needs. In theory, strategies which are consistent with the existing values, past experiences and needs of the practitioners will be more readily adopted (Rogers, 1983). Discussion was facilitated by providing general practitioners with information about the barriers to screening which had been identified by previous research (Bowman, 1991).

Phase 3 was designed to allow the general practitioners to consider strategies to promote screening in their practice, and their region. Discussion was structured around three categories of problems:

(i) missing opportunities to offer Pap smears;
(ii) trouble persuading some women to have Pap smears;
(iii) inability to recruit women who do not regularly attend a general practitioner.

For each problem a goal was negotiated. For the first problem, the goal was to enquire about the risk status and screening history of all women patients. For the second problem, the goal was to develop skills in persuading all women to have Pap smears. For the third problem, the goal was to initiate community-based activities to encourage women to attend for screening.

Possible strategies to achieve these goals were suggested and discussed, and general practitioners were provided with examples of resources which they might consider using in their practices. Practitioners were encouraged to suggest modifications to make these strategies more compatible with their own practices, or alternative strategies which they would prefer to use.

Previous research shows that strategies which are consistent with the existing values, past experiences and needs of the practitioners will be more readily adopted (Rogers, 1983). For example, computerised record keeping and computer-generated reminders to providers and patients have been shown to be associated with increased rates of cervical screening within the primary practice setting (Pierce et al., 1980; McPhee et al., 1989, 1991). However, many practitioners and their staff may not feel comfortable with this technology. In Australia, only one-third of practitioners have computers and mostly these are not used for patient records (NCEPH, 1991). Alternative reminder strategies, such as record tagging (Pierce et al., 1989), linked with existing record systems may be more acceptable, and therefore more readily implemented.

Enabling the adoption of strategies

Following the initial meeting, general practitioners were telephoned to negotiate which strategies they would like to use, and the resources they would require. This minimised the costs to the general practitioner (in money and time), thus increasing the probability that the strategies would be adopted (Rogers, 1983). Practitioners who were reluctant to adopt the strategies were encouraged to trial them on a limited basis. Resource packages were sent throughout the programme period. The dissemination of resources was staggered to be responsive to changes in general practitioner's needs and to provide an ongoing reminder of their role in screening recruitment. Such opportunities to trial strategies and to monitor their feasibility, acceptability and effectiveness before making them common practice increase the likelihood that strategies will be adopted (Rogers, 1983; Fennell and Warnecke, 1988). However, the strategies may not be adopted in their original form, but may be adopted in a modified fashion (Rogers, 1983).

Maintenance

Maintenance of behaviour is dependent upon reinforcements such as peer support, change in patient behaviour and attitudes, feedback and an enhanced sense of self-efficacy (Green et al., 1980; Lawrence, 1990). In theory, practitioners are more likely to maintain a strategy if they can easily observe its effect (Rogers, 1983). However, the effectiveness of attempts to recruit women may not be readily apparent to the individual practitioner. If, as in the clinical trials, 50–60% of women agree to have a Pap smear (Cockburn, 1990; Ward, 1991), then approximately every second women will refuse or fail to keep her appointment. Instead of being encouraged by the women who do attend, the practitioner may be discouraged by those who do not attend. This

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may reinforce the notion that it is not possible to convince women to have Pap smears. General practitioners require a mechanism to gauge their success. This provides them with positive reinforcement and improves the likelihood that the practitioner will continue with the process. Alternatively, poor recruitment rates may indicate a need to review and modify the way the strategy is being implemented.

Three programme components were included to facilitate maintenance of the recruitment strategies. First, key general practitioners were identified for each study region. These key general practitioners liaised with their local colleagues and were contacted by the programme manager every month to identify any problems with the strategies, to discuss solutions to these problems and to maintain resources.

Second, the general practitioners were provided with feedback on their recruitment rates through a small data-gathering exercise which also acted as a prompt to remind the general practitioner to advise screening. The feedback exercise used in this programme required practitioners to collect daily data for the first 2 weeks of the programme period, and then to choose one data collection for each week of the remainder of the programme period. On these occasions they would record the name, age and risk status of every women attending the practice. At some time during the consultation, they would complete the checklist in terms of: whether the women had a Pap smear in the past 3 years; whether they had asked her to have one; and whether she had agreed. Using this data, general practitioners were provided with feedback on their performance. Average recruitment rates for all participating practitioners and desirable recruitment rates were provided for comparison. Skills training was offered to general practitioners who felt that their recruitment rates were too low.

The third component was a meeting, held 2 months into the programme. This meeting was designed to allow general practitioners to share their experiences, concerns and solutions. General practitioners who did not attend the meeting were visited individually. This component provided the general practitioners with peer support and with means to deal with strategy failure, and should therefore have enhanced their involvement in the programme (Rogers, 1983).

### ASSESSMENT OF PROGRAMME IMPLEMENTATION

#### Adoption of strategies by general practitioners

All general practitioners in all communities were contacted at least once during the programme period. At the end of the programme period, all general practitioners were sent a questionnaire asking them to identify all of the strategies they had used in their practice over the programme period. Self-reported adoption of each intervention is shown in Table 2. In addition to the individual-based recruitment strategies, the doctors in

<table>
<thead>
<tr>
<th>Table 2: Self-reported adoption rates</th>
<th>Region 1</th>
<th>Region 2</th>
<th>Region 3</th>
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<tbody>
<tr>
<td></td>
<td>n = 2 GPs</td>
<td>n = 8 GPs</td>
<td>n = 14 GPs</td>
</tr>
<tr>
<td>Elect</td>
<td>Adopt</td>
<td>Elect</td>
<td>Adopt</td>
</tr>
<tr>
<td>Individual-based strategies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily summary sheets*</td>
<td>1</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Pamphlets</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Posters</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Request cards</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Appointment cards</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Pap smear reminder service</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Desk sign: 'Ask me about the Pap test'</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Anatomical model</td>
<td>1</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Patient record stamp</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Community-based strategies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient education video</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Involvement of community groups</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Local media (newspaper and radio)</td>
<td>-</td>
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<td>+</td>
</tr>
</tbody>
</table>

* Based on return of daily data collection sheets. All other data based on self-report.
each region implemented community awareness campaigns including patient education videos, involvement of community groups, and local newspaper and radio messages. These campaigns were complementary to a television media campaign occurring in a number of regions during month four of the programme period.

The general-practitioner-based campaign varied depending on the enthusiasm and input of the local general practitioner. In Region 2, the general practitioners adopted the strategies with enthusiasm; a high proportion of general practitioners reported that they had used the recruitment strategies. In Region 1, the strategies were adopted by only one of the two general practitioners, but this general practitioner was enthusiastic about the strategies, and was active and innovative in promoting screening at an individual and community level. In Region 3, while the majority of general practitioners reported that they had placed posters and pamphlets in their waiting rooms, the other strategies were poorly adopted.

Women's awareness of Pap smears and exposure to messages about screening for cervical cancer
A random household survey was conducted to assess women's awareness of Pap smears and exposure to messages about screening for cervical cancer during the campaign period. Participating women completed an interview administered by a trained interviewer in women's homes. Women were ineligible if aged <18 or 70, if they did not speak English and no interpreter was available, or if they were physically or intellectually incapable of completing the interview. Where no one was home or eligible women were absent, interviewers left a calling card and called back at least twice. Basic demographic details were recorded for non-consenting women. Further details of the survey methodology and results for the whole survey sample have been reported elsewhere (Byles et al., 1994). More detailed and additional results for women from the general practitioner regions are reported below.

Four hundred and three households from the regions receiving the general-practitioner-based programme were selected for inclusion in the post-intervention survey and 323 (80%) of these were contacted. Of the 336 women residing in these households, 309 were eligible for inclusion in the study (24 aged > 70 years and three were too infirm to participate). Of these 309 eligible women, 262 (85%) agreed to participate in the survey. The age profile and ethnic characteristics of the survey participants were similar to the census data for the study regions. This would suggest that, at least on these criteria, the sample was roughly representative of women living in the selected areas.

Two hundred and twenty-one women reported that they had ever been sexually active, and that they had not had a hysterectomy. Almost all of these women (216 women, 98%) agreed that Pap tests can detect cervical cancer early. One hundred and ninety-five women (88%) knew that Pap smears were needed at least every 3 years with 71% of women nominating a 1-year screening interval (a 1-year screening interval was advocated at the time). Ninety-five per cent of women (210) agreed that cervical cancer screening was worthwhile and 97% agreed that finding cervical cancer early was important in increasing the chance of cure. However, despite widespread acceptance of the importance of Pap tests, only 153 (69%) felt that cervical cancer was at all preventable: 70 women (32%) felt it was completely preventable and 37% felt it was slightly or moderately preventable.

Two hundred and eight women provided information on exposure to messages about cervical cancer or Pap smears. During the 6-month general-practitioner-based intervention period, 166 of these 'at-risk' women (80%) reported that they had seen or heard something about Pap smears. The most commonly reported source of information was the television campaign which was reported by 60% of at-risk women. The posters and pamphlets were the next most commonly reported information sources, reported by 44% and 26% of women respectively.

During the campaign period 151 (73%) of the 208 at-risk women visited a general practitioner other than primarily for a Pap test. Twenty-eight (18.5%) of these women indicated that their practitioner had mentioned the Pap test during a visit which was not primarily for cervical screening. Women who reported that a doctor had enquired about Pap smears or offered information or advice about Pap smears were asked to rate the appropriateness of this behaviour. Enquiry about the date of the last Pap smear was rated appropriate or very appropriate for 94.3% of the 338 occasions when such an enquiry was reported to have occurred. Advice to have a Pap smear was rated appropriate for 98% of 293 reported occasions.

Seventy-five (36%) of the 208 at-risk women
reported that they had a Pap smear during the 6-month campaign period. For 41.3% of these women, the main prompt to screening was information received from their doctor. For a further 41.3% the main prompt was ‘just remembering’. Of the 33 women who said they had a Pap smear during the 6 months preceding the intervention, only 18.2% said that their doctor had provided the main prompt to screening. This pre- to post-intervention difference between the proportions of screened women nominating the doctor as the main prompt was statistically significant ($\chi^2 = 4.47; d.f. = 1; p = 0.034$). There was an apparent increase in doctor prompted smears in the control region, but this was not statistically significant ($\chi^2 = 3.42; d.f. = 1; p = 0.065$).

**ASSESSMENT OF THE EFFECTIVENESS OF THE PROGRAMME**

The effectiveness of the general-practitioner-based programme was assessed as part of a multi-centre trial to compare the differential effectiveness of three community-based strategies to promote screening for cervical cancer: a television campaign, television combined with personally addressed letters sent to all women in the region, and a television campaign combined with the general practitioner programme. Each intervention was delivered to three postal regions in New South Wales, Australia, and time-series data on Pap smear rates were obtained. Three control regions were included for comparison. Further details of this trial have been reported elsewhere (Byles et al., 1994).

The proportion of women who had a Pap smear within the 3 years preceding the intervention (baseline rates), and the number of women screened each quarter prior to and during the intervention period (June–December 1989), were obtained from data collected by the national health insurer (Health Insurance Commission—HIC) and pathology laboratories (for smears not charged to the HIC). The increase in the number of women having Pap smears was assessed by comparing the number that would be expected had the intervention not occurred (expected values) with the actual number (observed values).

Expected values were calculated from observed values for pre-intervention quarters using a contingency table approach, which is the standard method for obtaining expected values for the chi square statistic (Bland, 1987). The statistical significance of the difference between observed and expected values was assessed from the statistic $z$ (Armitage and Barry, 1987).

The combined television media and general-practitioner-based intervention was associated with significant increases in all three regions where it was trialled. In Region 1, attendances for the entire 6-month intervention period were 74.8% higher than expected from previous attendance patterns ($z = 6.83, p < 0.0001$). In Region 2 attendances were 83.1% higher than

| Table 3: Proportion of women attending for cervical screening during the second intervention quarter |
|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Region 2                                        | Control region                                  | Letter region                                    |
| Target population: total women aged 18–69 with no record of a Pap smear in the past 3 years* | No. of unscreened or overdue women attending in addition to expected | Additional unscreened or overdue women attending/100 in target population (95% confidence interval) |
| 1148                                            | 88.7                                            | 7.73 (6.18, 9.27)                                |
| 1004                                            | 5.16                                             | 0.51 (0.07, 0.95)                                |
| 1542                                            | 15.1                                             | 0.98 (0.49, 1.47)                                |
| 1038                                            | 21.6                                             | 2.08 (1.21, 2.95)                                |
| Region 3                                        | Control region                                  | Letter region                                    |
| 2946                                            | 73.74                                            | 2.5 (1.94, 3.307)                                |
| 2780                                            | 26.4                                             | 0.95 (−1.31, −0.589)                             |
| 2292                                            | 72.25                                            | 3.15 (2.43, 3.87)                                |
| 3266                                            | 142.13                                           | 4.35 (3.65, 5.05)                                |

* Adjusted for estimated hysterectomy rate of 15%.
DISCUSSION

Previous research indicates that general practitioners can have an important role in promoting screening for cervical cancer. This paper describes a programme for encouraging greater involvement of general practitioners in recruiting women to have regular Pap smears. Assessment of the implementation of the programme indicates that it reached a high number of women, and that these women had good knowledge of cervical screening and favourable attitudes regarding the test's capacity to alter the course of cervical cancer. In the post-intervention survey, 80% of women reported they had been exposed to at least one campaign component. However, women were more likely to report exposure to media (television campaign and posters) than direct advice from their general practitioner.

Although 73% of women reported that they had visited a general practitioner during the intervention period, only 18.5% of these women reported that their doctor had taken the opportunity to remind them of the importance of cervical screening. While this may reflect the failure of practitioners to capitalise on these opportunities, alternative explanations need to be considered. First, other issues may have been more pressing, requiring the omission of advice regarding cervical screening. Second, the practitioner may have had evidence that the women had a recent Pap smear and therefore elected not to mention the Pap smear during this consultation. Since up to 76% of women would be adequately screened (Byles et al., 1994), this could account for a high proportion of attendees. Thirdly, the practitioner may have mentioned the Pap smear, but this was not recalled by the women. Taking these factors into account, it is likely that the proportion of women who were appropriately advised by their general practitioner regarding cervical screening was > 18.5%.

A weakness of this study is that assessment of practitioner involvement was based largely on self-report. Practitioners may have agreed to implement a strategy, simply to please the project team. Attempts were made to validate the use of strategies through the ordering of resources and through observation during review visits. These observations were consistent with the practitioners' self-reports.

The programme was associated with recruitment of up to 8% of previously unscreened or overdue women during a 3-month period. If this rate
was maintained, around one-third of unscreened women would be recruited in 1 year. Such programmes appear to have great potential. Furthermore, the programme in Region 2 was significantly more successful than the television campaign alone or the television campaign in combination with letters—commonly advocated recruitment strategies (Mitchell and Medley, 1987; Byles et al., 1994). In view of these results, there is a clear need for further research to identify the factors associated with the success or failure of general-practitioner-based recruitment programmes, and to develop further ways to expand and maintain general practitioners' roles in promoting and providing screening for cervical cancer.

Potentially to improve the programme

The general-practitioner-based campaign could have been improved in several ways. More frequent meetings may have encouraged a higher level of peer support and, where this approach proved difficult, the co-operation of the most influential general practitioner could have been sought with greater tenacity.

Support staff could have been involved in the meetings. Support staff can have a primary role in recruitment by initiating discussion about screening, distributing patient information, record tagging and scheduling appointments. Other studies have shown that support staff can be used effectively to promote preventive behaviours (Robson et al., 1989; Fowler and Fullard, 1989). Further, the attitudes of support staff may have a powerful influence on the general practitioner's attitudes towards screening.

Financial incentives for practitioners to encourage screening for cervical cancer have been introduced in the United Kingdom and have been associated with increased screening coverage (Reid et al., 1991; Austoker et al., 1994). Whether such incentives would be effective under the Australian system is currently unknown.

Office detailers (Soumerai and Avorn, 1990) may have been able to advise general practitioners on means to improve their existing office systems. It has been argued that the level of preventive services provided is largely determined by factors within the office setting (Pommerenke and Dietrich, 1992; Dickey and Kamerow, 1994). Many of these factors can be modified to increase preventive care (Dietrich et al., 1994a). Pommerenke and Dietrich (1992) have developed a 'patient path model' which can be used to analyse the opportunities to provide preventive care within the clinical practice setting, resulting in enhanced preventive care in both the short (Dietrich et al., 1992) and longer term (Dietrich et al., 1994b). This model could have been used to assess the practice environment and identify structural aspects which could be modified to improve delivery of preventive care.

Finally, the potential for feedback to motivate and maintain behaviour change could have been used to greater advantage. We applied a self-report system. This system required some effort on the part of the general practitioners and was not adopted by all practitioners. In all likelihood, the practitioners who did not participate in the feedback system were those who were least involved in recruiting women to be screened. The programme could have included an independent audit of patient records. This would have provided objective evidence of the proportion of women screened and the change in the recruitment rates over time. Project staff could have been employed to conduct the audits, lowering the response cost for general practitioners. This should have resulted in higher rates of participation in the feedback programme (Rogers, 1983).

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