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# Response rates in GP surveys

## Trialling two recruitment strategies

### Background

This study aimed to examine the efficacy of two strategies for improving general practitioner response to a survey. A secondary aim was to assess GPs' self reported preferred mode of survey administration.

### Method

A random sample of 1666 GPs practising in New South Wales was selected from the Australasian Medical Publishing Company database. Two randomised trials of strategies aimed at increasing response rates were embedded in a larger cross sectional survey.

### Results

Of the 1666 GPs sampled, 52 were ineligible and 500 completed the survey. The response rates obtained in the trial of standard research group letterhead invitations alone (25.8%) versus division of general practice cover letter (32.5%) were not statistically significantly different; nor were the response rates obtained in the trial of a telephone reminder call. When asked about preferred mode of survey administration, 81.1% of respondents nominated mailed survey.

### Discussion

The study failed to identify strategies to improve GP participation in the survey. This survey found no basis for supporting electronic GPs surveys.

**Keywords:** questionnaires; general practice; research; data collection/ methods; health care surveys

Surveys are vital for obtaining information about the knowledge, attitudes, practice patterns and needs of general practitioners. This information is often used in service and program planning and delivery. However, GP response rates to surveys are lower than those from the general population,<sup>1</sup> and are falling.<sup>2-4</sup> While there is no agreed standard for an acceptable minimal response rate to a survey, response rates of 70% or higher are considered good.<sup>5,6</sup> However, published response rates with medical practitioners are often lower than 30%.<sup>1,4,6,7</sup> Low response rates raise concerns about response bias.<sup>8</sup> Low response rates from GPs may also mean that their voice is not heard in periods of change in delivery of primary care.

Recent reviews<sup>9,10</sup> of ways to improve clinician response to surveys found that monetary incentives helped boost survey response rates, as did some nonmonetary incentives, such as the opportunity to win a holiday, shorter survey lengths, closed ended questions, endorsement by relevant authorities, mixed mode of delivery, pretesting the cover letter and survey, contacting clinicians multiple times, and using 'reply paid' envelopes in mailed surveys.

This study aimed to explore the impact of a number of evidence based strategies for improving GP response rates to a healthcare survey. A secondary aim of the study was to assess GP self reported preferences for mode of survey administration.

### Method

#### Study design

This study was embedded within a larger cross sectional survey of the knowledge and

attitudes of, and practices around vitamin D of GPs, conducted between August and December 2009 with a random sample of GPs practising in New South Wales (NSW), Australia. Two randomised trials of recruitment strategies – the first, the use of a general practice authority (local division of general practice) endorsement cover letter and the second, telephone follow up calls of nonresponders – were conducted with subsamples of practitioners.

#### Survey sample

The Australasian Medical Publishing Company (AMPCo) 'Masterlink' database<sup>11</sup> was used to randomly select GPs practising in NSW. The database contains the details of 6341 GPs in NSW, is regularly updated, and correlates well with the lists of doctors from the Australian Government Department of Health and Ageing.<sup>12</sup> In order to obtain a final sample of 500 GPs, assuming a 30% response rate,<sup>1-4</sup> a random sample of 1666 GPs was extracted.

#### Procedures

Study materials were mailed to all GPs. An information letter informed of the study, and a note (with tea and coffee sachets attached) asked GPs to 'take a break from their busy day' and complete the survey. General practitioners were offered two options for completion and return of the survey: online, using a website address provided in the information letter; or hardcopy, using the paper version sent with the letter (with a 'reply paid' envelope and a facsimile number included for return of the paper version of the survey). Completion of the survey constituted consent. General practitioners who completed the survey were offered the chance to receive a holiday voucher valued at \$500. About 4–6 weeks after the initial mailout, a reminder

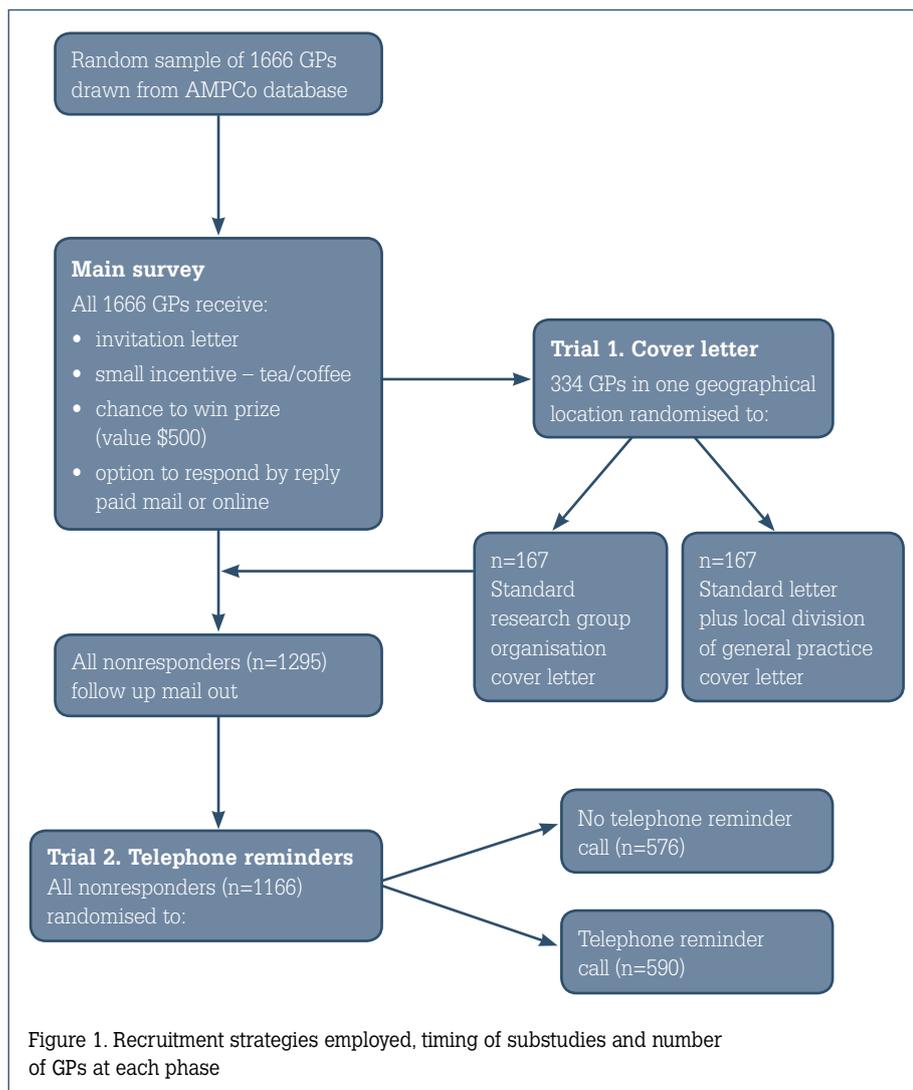


Figure 1. Recruitment strategies employed, timing of substudies and number of GPs at each phase

mailout was sent to GPs who had not responded to the survey.

### Recruitment strategies embedded in the survey

The first recruitment strategy trialled was the endorsement by a general practice organisation – all recruitment letters were printed on the research group letterhead (Cancer Council NSW) with the logo prominently displayed. A random sample of 334 GPs practising in the Hunter Valley region were randomly allocated to either receive a standard (Cancer Council NSW) invitation letter only, or the standard invitation letter along with the local Hunter Urban Division of General Practice (GP Access) cover letter. The GP Access cover letter described the research, invited participation, and was signed by the chief executive officer.

The second recruitment strategy trialled was the use of telephone reminder calls – all GPs received a mailout reminder, which included a second copy of the survey, approximately 4–6 weeks following the initial mailout, but GPs who did not respond to the reminder mailout were randomly allocated to either receive a reminder telephone call 4–6 weeks later or not. A maximum of five callbacks were made in order to reach the practitioner. Interviewers were successful at reaching practitioners for 90% of calls.

Figure 1 illustrates the recruitment strategies used, the numbers of GPs receiving each strategy, and the timing of the substudies.

### Survey instrument

A study specific survey instrument was developed and pilot tested. The final survey instrument contained 31 items about vitamin D and took

approximately 15 minutes to complete. The paper version of the survey was printed on bright yellow paper in order to stand out among the heavy load of mail GPs receive.<sup>3</sup>

The survey also included an item asking respondents to nominate their preferred mode of survey administration with response options: ‘mailed survey’, ‘online survey’, ‘face-to-face survey’ or ‘telephone survey’. This article reports the results of this survey item only.

### Analyses

Categorical data is presented as proportions with 95% confidence intervals (95% CI). Chi-square analyses were used to compare outcomes of interest between groups. All analyses were conducted using SAS version 9.1 statistical software.

### Results

Of the 1666 GPs selected in the sample, 52 were ineligible (retired, no longer working in general practice, or moved from practice). Of the remaining 1614 GPs, 500 completed the survey (overall response rate 30.3%).

Table 1 details the demographic and professional profile of the study sample and the entire AMPCo population from which the sample was drawn. The study sample had significantly higher proportions of female (47.9% vs. 36.9%;  $c^2=49.5$ ,  $df=1$ ,  $p<0.0001$ ) and part time GPs (18.5% vs. 13.6%;  $c^2=10.0$ ,  $df=1$ ,  $p=0.0015$ ) than the AMPCo database sample.

### Effect of endorsement letter

In the Hunter substudy, of the 334 GPs approached, 97 completed surveys (response rate 29%). The response rates obtained using either standard research group letterhead invitations alone (25.8%, 95% CI: 19.1–32.5) or along with a GP Access cover letter (32.5%, 95% CI: 25.4–39.6) were not statistically significantly different ( $c^2=1.89$ ,  $df=1$ ,  $p=0.17$ ).

### Effect of telephone reminder call

Of the 590 GPs randomised to receive a telephone reminder call, three were ineligible and 27 completed the survey (response rate 4.6%, 95% CI: 2.9–6.3). Of the 576 GPs randomised to not receive a follow up reminder telephone call, 22 completed and returned the survey within the

**Table 1. Characteristics of study respondents compared with those of the AMPCo database\* sample**

	Study respondents (n=500)	NSW AMPCo sample (n=6341)	
	% (95% CI)	% (95% CI)	c <sup>2</sup> ; df; p
<b>Gender</b>			
Male	52.1 (47.7–56.5)	63.1 (61.9–64.3)	49.5; 1; p<0.0001
Female	47.9 (43.5–52.3)	36.9 (35.8–38.2)	
<b>Age (years)</b>			
29–40	12.5 (9.5–15.5)	11.7 (10.9–12.5)	2.7; 3; p=0.43
40–50	29.4 (25.3–33.5)	29.8 (28.7–30.9)	
51–60	37.1 (32.8–41.4)	34.6 (33.4–35.8)	
61+	21.0 (17.4–24.7)	23.9 (22.9–24.9)	
<b>Geographical location</b>			
Major city	72.5 (68.5–76.5)	72.1 (71.0–73.2)	1.3; 2; p=0.52
Inner regional	19.2 (15.6–22.7)	18.2 (17.3–19.2)	
Outer regional/remote	8.3 (5.9–10.8)	9.7 (9.1–10.5)	
<b>Employment</b>			
Full time	81.5 (78.0–85.0)	86.4 (85.6–87.2)	10.0; 1; p=0.0015
Part time	18.5 (15.1–22.0)	13.6 (12.8–14.4)	
* Data obtained from the AMPCo database (not survey)			

**Table 2. Response data for GPs following each mailout and reminder**

	Total (n)	Ineligible (n)	Completed surveys (n)	
First mailout	1666	44	327	20.2%
Second mailout	1295	5	124	16.3%
1166 randomised to:				
• reminder phone call	590	3	27	4.6%
• no reminder phone call	576	–	22	3.8%
• final response rate			500	30.3%
Note: Ineligibility criteria included retired, no longer working in general practice, or moved from practice				

study time frame (response rate 3.8%, 95% CI: 2.2–5.4). The response rates for the two groups were not statistically significantly different ( $c^2=0.63$ ,  $df=1$ ,  $p=0.43$ ). Table 2 provides a detailed summary of the response rates for each mail out and reminder phase.

### Preferences for survey mode

Of the 500 GPs who completed the survey, 490 (98%, 95% CI: 96.8–99.2) completed the postal paper survey and 10 (2%, 95% CI: 0.8–3.2) completed the survey online.

When asked about their preferred mode of survey administration 81.1% (95% CI: 77.7–84.5)

of respondents nominated mailed survey; 17.1% (95% CI: 13.8–20.4) nominated online survey; 1.7% (95% CI: 0.6–2.8) nominated face-to-face survey; and telephone survey was the least preferred method (0.2%, 95% CI: –0.2–0.6).

### Discussion

Despite employing a range of strategies proffered in the literature as effective at increasing practitioner response to survey invitations,<sup>9,10</sup> this study achieved a modest response rate. Two previously inadequately tested methods were trialled in this study: cover letter with endorsement from a division of general practice

and telephone reminder calls following a mailout reminder. There was no statistically significant difference in response rates between those GPs who received a cover letter from the division of general practice and those who received the standard research group invitation only. There was also no benefit in using a telephone reminder call. The majority of GPs who completed the survey indicated that a mailed survey was their preferred method of administration compared to online, telephone or face-to-face. There is a need to explore the preferred survey administration method among nonresponders since there is the possibility that those GPs who did not respond to this mailout survey may have preferred alternative modes.

Falling response rates in GP surveys are a great concern among researchers. This study suggests that using traditional boosting strategies may not be sufficient to achieve optimal response rates. The causes of the low response rates need to be explored and strategies designed that tackle the barriers to participation. While most studies of medical practitioners' barriers to research participation have indicated that time and workload pressures are the main self reported reasons for lack of participation,<sup>3,13</sup> others have suggested that negative attitudes toward research, concerns about the researchers' motives, and lack of interest in the research topic also play a part.<sup>14</sup> These attitudinal barriers require careful attention. There is also evidence of 'survey fatigue',<sup>15</sup> especially among Australian GPs where academic research surveys and studies conducted by pharmaceutical and marketing companies are competing for doctors' limited time.<sup>16</sup>

This study provides some pertinent considerations for those who are designing surveys that target GPs. First, the cover letter from a division of general practice may have had a positive effect on response rates had this substudy been more adequately powered (32.5% vs. 25.8%). This nonsignificant trend provides preliminary support for more research on the effectiveness of division of general practice endorsement of research using a cover letter. The strategy is inexpensive and tailored to individual division areas. Other variables worth exploring in further research include the language and framing

of the letter and use of the letter for follow up reminders. The use of meaningful cover letters is an important area for further investigation, since some research suggests that one of the barriers to the recruitment of GPs into research is a distrust of the researchers.<sup>14</sup>

The results of the survey item indicating the preferences of GPs for mode of survey administration strongly supported the use of mailed survey over online, face-to-face or telephone administration. Only 2% of our respondents completed the survey online. These results are similar to others that have found decreasing response rates to emailed surveys since 1986.<sup>17,18</sup> Given the ease and low cost of online survey administration and data management, further research is required to enhance the acceptability of this medium to target groups. This is particularly pertinent as 17% of GPs said that online survey was their preferred mode of administration, yet most completed the paper survey. Until more GPs are routinely using email and other online resources it is difficult to recommend this strategy.

Finally it is worth noting that this survey was conducted during a 2009 H1N1 influenza pandemic which made considerable demands on primary care across Australia,<sup>19</sup> and may have contributed to the low response rate of this survey. Delaying the survey may have had beneficial effects on survey participation and researchers should consider external factors such as this when timing their research.

## Conclusion

The study failed to identify strategies to improve GP participation in a research survey. This is due in part to an inadequate sample size in the trials, resulting from the low response rates. A range of evidence based, doctor specific strategies were utilised. This raises questions about the future utility of research surveys directed at GPs. It is difficult to identify any GP research studies with good response rates (defined as 70% or more),<sup>5,6</sup> Even the ongoing, Australian benchmark study of general practice activity repeatedly obtains response rates under 30%.<sup>7</sup> It is difficult to generalise results to the population of interest when response rates are low. Conversely, studies have found that internal comparisons remain reliable despite low response rates.<sup>20</sup> As a result,

it may be more prudent to use GP surveys to investigate associations instead of estimating prevalence. This survey also found no basis for supporting electronic surveys with GPs. This may change in the future when more GPs come 'online'.

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