Recruiting general practitioners as participants for qualitative and experimental primary care studies in Australia

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Recruiting general practitioners (GPs) for participation in primary care research is vitally important, but it can be very difficult for researchers to engage time-poor GPs. This paper describes six different strategies used by a research team recruiting Australian GPs for three qualitative interview studies and one experimental study, and reports the response rates and costs incurred. Strategies included: (1) mailed invitations via Divisions of General Practice; (2) electronic newsletters; (3) combining mailed invitations and newsletter; (4) in-person recruitment at GP conferences; (5) conference satchel inserts; and (6) combining in-person recruitment and satchel inserts. Response rates ranged from 0 (newsletter) to 30% (in-person recruitment). Recruitment costs per participant ranged from A$83 (in-person recruitment) to A$232 (satchel inserts). Mailed invitations can be viable for qualitative studies, especially when free/low-cost mailing lists are used, if the response rate is less important. In-person recruitment at GP conferences can be effective for short quantitative studies, where a higher response rate is important. Newsletters and conference satchel inserts were expensive and ineffective.

Additional keywords: cardiovascular disease, general practice, study methods, study recruitment.

Introduction

General practitioners (GPs) are at the forefront of disease management and prevention (Australian Medical Association (AMA) 2010). In 2012–2013, 81% of Australians aged over 15 years had seen a GP at least once in the previous 12 months (Australian Bureau of Statistics (ABS) 2013). For these reasons, recruiting GPs for participation in primary care research is vitally important. However, it is also difficult. GP response rates in Australia vary widely, ranging from <0.1% (Crouch *et al*. 2011) to 96% (Fielding *et al*. 2005). Due to this wide variation, it is difficult to say what the typical GP response rate is, but the ongoing Bettering the Evaluation and Care of Health (BEACH) study of GP activity in Australia routinely obtains response rates under 30% (Britt *et al*. 2008, 2009, 2010). The reasons for Australian GPs' non-participation in research include being too busy, structural issues (such as the fee-for-service model), perceived demands on practice staff, lack of interest in the subject or research generally, and sensitivity of the subject (Jones *et al*. 2011, 2012; Brodaty *et al*. 2013), with time burden the most common reason given by GPs for non-participation (Brodaty *et al*. 2013).

There has been some previous work on the most effective methods for recruiting and retaining GPs for randomised controlled trials (Veitch *et al*. 2001; McKay-Brown *et al*. 2007; Williamson *et al*. 2007; Treweek *et al*. 2012; Shah *et al*. 2014) and cross-sectional studies (Temple-Smith *et al*. 1998; Bonevski *et al*. 2011). However, there is little information available on the most effective methods and response rates for qualitative studies, or what costs can be expected when recruiting GPs for any type of study. The aim of this paper is to report the response rates and recruitment costs incurred for different methods of recruiting Australian GPs for qualitative and experimental studies.

Methods

Research context

The studies discussed in this paper concern GPs' use of clinical guidelines for cardiovascular disease (CVD) prevention. CVD risk factor management represents a substantial proportion of an Australian GP's workload, with hypertension ranked first and lipid disorders ranked sixth in the list of 10 problems most frequently managed by GPs (Cooke *et al*. 2013). During the recruitment period, the first Australian guidelines for the management of absolute cardiovascular risk were released (National Vascular Disease Prevention Alliance (NVDPA) 2012). It was anticipated that within this context, GP interest in the research topic would be high.

Study descriptions

GPs currently practicing in Australia were recruited for three studies regarding CVD risk management: two qualitative studies where GPs were interviewed over the telephone or in person (interviews ranged from 12–55 min in length) and an experimental study where GPs were

presented with a paper-based survey taking ~12–15 min to complete. Altogether, six separate strategies were used for GP recruitment (Table 1). Ethical approval was obtained from the Sydney Local Health District and the University of Sydney Human Research Ethics Committee.

Sampling

For the qualitative studies, purposive sampling was used to recruit GPs with a range of characteristics. Recruitment took place within 10 Divisions of General Practice (DoGP), organisations that provide services and support to general practice at the local level, between September 2011 and June 2012: seven DoGPs in metropolitan Sydney (defined geographically as the area bound by the Royal National Park to the south, the Blue Mountains to the west and the Hawkesbury River to the north), two regional metropolitan DoGPs, and one rural DoGP.

Different recruitment strategies were used for the experimental study, as a larger and more representative sample was required. GPs were recruited via four GP-focussed conferences: General Practitioner Conference & Exhibition (GPCE) Sydney (May 2012), Brisbane (September 2012) and Melbourne (November 2012), and GP12: The Royal Australian College of General Practitioners Conference for General Practice, Gold Coast (October 2012). Fig. 1 provides a flowchart of all six recruitment strategies.

Strategy 1: mailed invitations

GPs were recruited to the study via their local DoGP. A total of 3153 individually addressed invitations were mailed to GPs in eight DoGPs: six in metropolitan Sydney, and two in regional metropolitan areas. Several different mail-out methods were used, depending on the available options:

(1) DoGP provided individual GP mailing information. Some Divisions conducted mail-outs to their GP list for a fixed administration cost set by the DoGP (ranging from A$165 to A$345). Other Divisions provided the research team with a full mailing list for free. Mail-outs were sent to GPs in six metropolitan Sydney Divisions, and one regional metropolitan Division.

(2) DoGP provided a practice mailing list, without individual GP details. GP names were sourced by the research team using publicly available information from practice websites, and HealthEngine (www.healthengine.com.au).

After collating a list of contact details, GPs were mailed a package including a cover letter signed by the chief investigator, participant information sheet and expression of interest form to be faxed back to the research team. On their expression of interest forms, GPs nominated days/times they could be contacted by a researcher, who phoned them to explain what the study was about and arrange an interview time. Each GP received A$100 after completing the interview as reimbursement for their time.

Strategy 2: Division of General Practice newsletter

The rural DoGP declined to provide their mailing list, and did not offer a mail-out service; however, they put a short message in their e-newsletter that is sent out regularly to all Division GPs with a brief description of the study, asking interested GPs to contact the research team. This service had no charge.

Strategy 3: mailed invitations and Division of General Practice newsletter

One metropolitan Sydney Division put a short message in their e-newsletter at no charge. They also had a publicly available mailing list of their members available for download from their website, which was used by the research team to mail 672 study invitations as per strategy one.

Strategy 4: in-person recruitment at conference stall

GPCE Conference, Sydney: Two researchers attended each day of the 3-day General Practice Conference and Exhibition in Sydney. One hundred and fifty-eight surveys were handed out to GPs at the University of Sydney stall. As an incentive, if completed surveys were returned to the stall during the conference, GPs went into the draw to win a A$500 gift voucher from www.RedBalloon.com.au. A lottery licence was obtained from the NSW Office of Liquor, Gaming and Racing. GPs could also take part in the GPCE's Passport Competition, whereby GPs were given a stamp at participating stands to enter an additional prize draw, for which a A$50 iTunes voucher was donated by the University of Sydney stall.

Strategy 5: satchel inserts

(1) GPCE Conference, Brisbane: 800 inserts were sent to the GPCE in Brisbane for placement into delegate satchels. After the study had ended, a box of surveys that were intended for satchels was received as returned mail, so only 399 surveys were distributed. As for GPCE Sydney and all subsequent conferences, participants went into the draw to win a A$500 gift voucher. Participants could return completed surveys by fax, mail, or email, or to the Heart Foundation conference stall.

(1) GP12: The Royal Australian College of General Practitioners Conference for General Practice, Gold Coast: 1000 surveys were sent to the GP12 conference for placement into delegate satchels. The Heart Foundation stall again collected completed surveys.

Strategy 6: in-person recruitment and satchel inserts

GPCE Conference, Melbourne: Two researchers attended each day of the 3-day GPCE Conference in Melbourne, and 800 inserts were also sent, of which 798 were placed into GP satchels. Over 3 days, the researchers at the stall also gave out 146 surveys. The GPCE Passport Competition was again used as an incentive to visit the stall.

Results

One hundred and ninety-four GPs were recruited as participants across all studies. Their characteristics are summarised in Table 2.

Strategies 1–3

Fifty-seven expressions of interest were received from GPs in nine DoGPs, of which 50 participated in the study. Seven GPs did not participate for the following reasons: inability to contact the GP after the expression of interest had been received; the expression of interest was returned after recruitment had been completed; or the GP had other commitments. The only DoGP with no responses was the newsletter only Division. The overall response rate for mailed invitations was 1.5%.

Including administration and postage costs, recruitment cost A$3523 (3825 invitations) or A$70 per GP participant. Administration cost refers to the amount charged by individual DoGPs for access to their mailing list and mail-out service. This cost does not include the A$100 reimbursement paid to GPs at the conclusion of their participation. Table 3 shows response rates within individual DoGPs, which ranged from no responses (rural, newsletter only) to 2.5% (metropolitan Sydney, 1; and regional-metro, 1 – both mailed invitations), with the cost per GP ranging from A$31 to A$209. This large range can be partly explained by the variation in administration costs, with cost per invitation ranging from 36 to 90 cents.

Strategies 4–6

Response rates and costs for strategies 4–6 are reported in Table 4, which compares response rates and costs per GP across all recruitment methods. The overall response rate for the experimental study was 6.8% (n = 144), with a total recruitment cost of A$16 895, or A$117 per GP participant.

Discussion

In spite of the low response rate of 1.4%, mailed invitations in combination with a DoGP newsletter advertisement (strategy 3) was the most economical method of recruiting GPs for a qualitative study, at A$50 per GP (not including the A$100 reimbursement). However, this strategy was conducted in a DoGP that had a freely available mailing list. Two DoGPs within the mailed invites-only group (strategy 1) had even lower costs per GP at A$31–A$32; these DoGPs also provided a free mailing list. For strategy 1 overall, including those DoGPs that charged for mailing list access, the cost was A$74 per GP, compared with A$70 per GP across strategies 1–3. The cost per GP increases substantially when the A$100 reimbursement is incorporated, to A$170. Previous studies have suggested that Australian GPs are not particularly motivated by financial remuneration (Jones *et al*. 2012; Brodaty *et al*. 2013), except to cover staff/administrative costs incurred in the course of conducting the research, which, in the case of these studies, were

minimal. GPs who assisted in subsequent patient recruitment were compensated for the recruitment costs, in addition to the A$100 reimbursement they received for completing the interview (A$5 per patient information pack sent out, up to a total of A$50 for 10 patients). Therefore, even when including the A$100 reimbursement, the mailed invitation strategies were effective, as the 50 GPs recruited for these studies subsequently recruited 94 patients for three related interview studies. Over the five GP and patient interview studies, when incentive and administration costs are included, costs come down from A$170 per participant (for 50 GPs) to A$72 per participant (for 50 GPs and 94 patients). Mailed invitations could perhaps have been made more cost-effective by adopting a similar incentive for the interview study as for the experiment, where participants went into a draw to win a gift voucher.

Division newsletters (strategy 2) were not an effective method of recruitment, with no GPs recruited from the newsletter-only division. This is consistent with previous Australian research that recruited GPs via electronic newsletters, with a response rate of <0.1% (Crouch *et al*. 2011). The response rate from the DoGP that received a mailed invitation and a newsletter invitation (1.4%) was consistent with the average response rate across the mail-out-only divisions (1.5%). However, the newsletter invitation was sent to GPs several months before the mailed invitations, and in the intervening time only, one GP contacted the research team (by phone) from that division. Post mail-out, eight more GPs from that division contacted the research team via the fax-back form included with the mailed invitation. It is unknown whether these eight GPs were also influenced by the newsletter invitation. Nonetheless, the newsletter invitations were free to submit, and required minimal staff time.

In-person presence at a conference stall (strategy 4) was fairly inexpensive and resulted in a relatively high response rate of 30.4%. The GPCE Passport Competition was a useful incentive, as it attracted GPs to the stand and enabled research staff to engage with them about the study. However, this method required a large amount of staff time, and is perhaps most feasible when conducting self-administered, paper-based research that has a low time burden for the participants, so that participation can take place during break times. We note that staff time has not been included in the cost calculations for this paper.

Conference satchel inserts (strategy 5), while requiring less staff time, had a low overall response rate (2.6%) and were expensive. Providing inserts in combination with in-person recruitment did not improve the satchel insert response rate when compared with the two conferences where there was no in-person presence. Response rates for the GPCE Conference in Brisbane (inserts only) and the GPCE Conference in Melbourne (stall and inserts) were the same, at 3.5%. Satchel inserts, whether on their own or combined with in-person recruitment (strategy 6), are not a recommended strategy for GP recruitment. Resources could perhaps have been more effectively used by establishing an in-person presence at these conferences instead. The possibility

of using online recruitment via email was discussed, as previous research in the UK has found that while email invitations did not improve response rates to surveys, it is substantially cheaper and more efficient (Treweek *et al*. 2012). However, Australian research suggests that the majority of GPs (81%) still prefer mailed surveys over alternative methods of survey administration (email, face-to-face, phone) (Bonevski *et al*. 2011).

In conclusion, mailed invitations can be a viable method for inviting GPs to participate in research, particularly for qualitative research that doesn't require a large and/or a representative sample, or a high response rate. This method is most practical when GPs will be recruiting patients for related studies, and when researchers target DoGPs with free/low-cost mailing lists. In-person recruitment at GP conferences can be effective for short quantitative studies, where a higher response rate is important. Newsletters and conference satchel inserts were expensive and ineffective.

Conflicts of interest

None declared.

Acknowledgements

The authors thank the GPs who took part in the studies, and Haryana Dhillon for assistance with recruitment.

References

Australian Bureau of Statistics (ABS) (2013) 4839.0 – Patient experience in Australia: summary of findings, 2012–13. Australian Bureau of Statistics, Canberra.

Australian Medical Assocation (AMA) (2010) AMA position statement: primary health care. Australian Medical Association, Canberra.

Bonevski B, Magin P, Horton G, Foster M, Girgis A (2011) Response rates in GP surveys – trialling two recruitment strategies. *Australian Family Physician* **40**(6), 427–430.

Britt H, Miller GC, Charles J, Henderson J, Bayram C, Harrison C, Valenti L, Fahridin S, Pan Y, O'Halloran J (2008) General practice activity in Australia 2007–08. General practice series no. 22. Cat. no. GEP 22. AIHW, Canberra.

Britt H, Miller GC, Charles J, Henderson J, Bayram C, Pan Y, Valenti L, Harrison C, Fahridin S, O'Halloran J (2009) General practice activity in Australia, 2008–09. General practice series no. 25. Cat. no. GEP 25. AIHW, Canberra.

Britt H, Miller GC, Charles J, Henderson J, Bayram C, Pan Y, Valenti L, Harrison C, O'Halloran J, Fahridin S (2010) General practice activity in Australia 2009–10. General practice series no. 27. Cat. no. GEP 27. AIHW, Canberra.

Brodaty H, Gibson LH, Waine ML, Shell AM, Lilian R, Pond CD (2013) Research in general practice: a survey of incentives and disincentives for research participation. *Mental Health in Family Medicine* **10**(3), 163–173.

Cooke G, Valenti L, Glasziou P, Britt H (2013) Common general practice presentations and publication frequency. *Australian Family Physician* **42**(1–2), 65–68.

Crouch S, Robinson P, Pitts M (2011) A comparison of general practitioner response rates to electronic and postal surveys in the setting of the National STI Prevention Program. *Australian and New Zealand Journal of Public Health* **35**(2), 187–189. doi:10.1111/j.1753-6405.2011.00687.x

Fielding J, Clothier H, Stocks N, Kelly H (2005) What factors facilitate a GP survey high response rate? *Australian Family Physician* **34**(10), 895–896.

Jones KM, Dixon ME, Falkingham L, Piteman L, Dixon JB (2011) Barriers to recruitment of professionals into a general practice childhood obesity program. *Australian Journal of Primary Health* **17**(2), 156–161. doi:10.1071/PY10017

Jones KM, Dixon ME, Dixon JB (2012) General practice research – does gender affect the decision to participate? *Australian Family Physician* **41**(6), 419–423.

McKay-Brown L, Borland R, Balmford J, Segan CJ, Andrews C, Tasker C, Piterman L (2007) The challenges of recruiting and retaining GPs in research: findings from a smoking cessation project. *Australian Journal of Primary Health* **13**(1), 61–67.

National Vascular Disease Prevention Alliance (NVDPA) (2012) 'Guidelines for the management of absolute cardiovascular disease risk.' (National Stroke Foundation: Australia)

Shah S, Roydhouse JK, Toelle BG, Mellis CM, Jenkins CR, Edwards P, Sawyer SM (2014) Recruiting and retaining general practitioners to a primary care asthma-intervention study in Australia. *Australian Journal of Primary Health* **20**(1), 98–102. doi:10.1071/PY12093

Temple-Smith M, Mulvey G, Doyle W (1998) Maximising response rates in a survey of general practitioners. Lessons from a Victorian survey on sexually transmissible diseases. *Australian Family Physician* **27**(Suppl. 1), S15–S18.

Treweek S, Barnett K, Maclennan G, Bonetti D, Eccles MP, Francis JJ, Jones C, Pitts NB, Ricketts IW, Weal M, Sullivan F (2012) E-mail invitations to general practitioners were as effective as postal invitations and were more efficient. *Journal of Clinical Epidemiology* **65**(7), 793–797. doi:10.1016/j.jclinepi.2011.11.010

Veitch C, Hollins J, Worley P, Mitchell G (2001) General practice research. Problems and solutions in participant recruitment and retention. *Australian Family Physician* **30**(4), 399–406.

Williamson MK, Pirkis J, Pfaff JJ, Tyson O, Sim M, Kerse N, Lautenschlager NT, Stocks NP, Almeida OP (2007) Recruiting and retaining GPs and patients in intervention studies: the DEPS-GP project as a case study. *BMC Medical Research Methodology* **7**, 42. doi:10.1186/1471-2288-7-42

Table 1. GP recruitment strategies

	Strategy	Description
Interview studies	1	Mailed invitations
	2	Division of General Practice newsletter
	3	Combination of mailed invites and newsletter
Experimental study	4	In-person recruitment
	5	Delegate satchel inserts
	6	Combination of in-person recruitment and inserts

Table 2. Characteristics of GP participants

N/A, not applicable

		Interview study	Experimental study
Characteristic	Category	*n*	*n*
Gender	Female	28 (56%)	82 (57%)
	Male	22 (44%)	62 (43%)
Age (years)	<40	11 (22%)	18 (13%)
	40–49	9 (18%)	33 (23%)
	50–59	17 (34%)	61 (42%)
	60+	13 (26%)	30 (21%)
	No response	0	2 (1%)
Years of practice	<10	7 (17%)	-
	10–19	10 (24%)	-
	20–29	16 (38%)	-
	30+	9 (21%)	-
GP role in practice	Registrar/in training	1 (2%)	-
	Contractor/sessional/retainer/salaried	26 (52%)	-
	Partner/principal	23 (46%)	-
Number of GPs in practice	1–5	25 (50%)	72 (50%)
	6–10	19 (38%)	44 (31%)
	11+	6 (12%)	24 (17%)
	N/A (locum, hospital based)	0	4 (3%)

Table 3. Response rates and cost per GP by Division of General Practice (DoGP) for strategies 1–3

EoI, expressions of interest; Met., metropolitan; N/A, not applicable; RTS, returned to sender

Strategy	DoGP	Sent	RTS	EoI	Response rate (%)	No. of participants	Administration cost (per invite)	Cost/GP
Strategy 1[A]	Regional-Metro 1	258	18	6	2.5	5	A$0	A$31
Strategy 1	Met. Sydney 5	215	0	4	1.9	4	A$0	A$32
Strategy 1	Regional Metro 2	543	7	7	1.3	6	A$0	A$54
Strategy 1	Met. Sydney 1	281	0	7	2.5	5	A$165 (59c)	A$66
Strategy 1	Met. Sydney 6	230	1	4	1.7	4	A$193 (84c)	A$83
Strategy 1	Met. Sydney 2	586	9	8	1.4	8	A$345 (59c)	A$87
Strategy 1	Met. Sydney 3	760	0	9	1.2	8	A$275 (36c)	A$91
Strategy 1	Met. Sydney 4	280	0	3	1.1	2	A$251 (90c)	A$209
Strategy 1	All above	3153	35	48	1.5	42	A$1228	A$74
Strategy 2[B]	Rural	0	0	0	–[C]	0	–	N/A
Strategy 3[D]	Met. Sydney 7	672	46	9	1.4	8	A$0	A$50
Overall	**All**	**3825**	**81**	**57**	**1.5**	**50**	**A$1228**	**A$70**

[A]Mail-out only.

[B]Newsletter only.

[C]Strategy 2 (DoGP newsletter) has no response rate because we did not receive any expressions of interest from this DoGP.

[D]Mail-out and newsletter.

Table 4. Response rates and costs per GP for all strategies

EoI, expressions of interest; N/A, not applicable RTS, returned to sender

Method	Sent/distributed	RTS	EoI	Response rate (%)	No. of GP participants	Recruitment cost per GP
	Interview studies					
Strategy 1: mailed invitations	3153	35	48	1.5	42	A$174 (A$74 to recruit + A$100 reimbursement)
Strategy 2: DoGP newsletter	N/A	N/A	0	–	0	–
Strategy 3: mailed invitations and newsletter	672	46	9	1.4	8	A$150 (A$50 to recruit + A$100 reimbursement)
Total: strategies 1–3	**3825**	**81**	**57**	**1.5**	**50**	**A$170 (A$70 to recruit + A$100 reimbursement). A$72 per participant (including 94 patient participants at A$19 each) (including A$100 GP reimbursement)**
	Experimental study[A]					
Strategy 4: in-person only	158	N/A	N/A	30.4	48	A$83
Strategy 5: inserts only						
GPCE	399	N/A	N/A	3.5	14	A$185
GP 12	606	N/A	N/A	2	12	A$232
Total	1005	N/A	N/A	2.6	26	A$206
Strategy 6						
In-person	146	N/A	N/A	28.8	42	-
Inserts	798	N/A	N/A	3.5	28	-
Total	944	N/A	N/A	7.4	70	A$108
Total: strategies 4–6	**2107**	**N/A**	**N/A**	**6.8**	**144**	**A$117**

[A]Costs for the experimental study include stall hire and satchel insert charges, gift voucher and lottery licence, printing and mailing, and travel costs.