

# Research in primary care: extent of involvement and perceived determinants among practitioners from one English region

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## SUMMARY

*The lack of research evidence relevant to and generated by general practitioners (GPs) has been a concern in the context of a putative primary care-led National Health Service (NHS). However, very little has been published on the current extent or determinants of research activity among United Kingdom primary care doctors. We surveyed all ( $n = 2770$ ) service GPs in the West Midlands Region in order to quantify their research involvement and to explore determinants of this. The response rate was 49% ( $n = 1351$ ). A total of 84% of responders reported participating in research or audit, with 16% having initiated their own research; 9% of GPs had been published in a peer-reviewed journal; 6% had generated research funding; and 3% had held a research training fellowship. The characteristics positively associated with initiating research included an involvement in teaching, having research-active partners, the availability of protected time, and working in a larger practice. The most commonly perceived barriers to undertaking research were lack of time (92%), lack of staff to collect data (73%), and a lack of funding (71%). In all, 41% of responders reported no interest in research. Overall, the extent of research activity among responding GPs appears to be greater than is often assumed. Recent NHS research and development proposals to strengthen and develop research in primary care are, therefore, relevant in highlighting changes to address these issues.*

**Keywords:** general practitioners; research and development; evidence-based general practice.

## Introduction

NATIONAL strategy documents have stressed the importance of evidence-based general practice as the foundation of a primary care-led National Health Service (NHS).<sup>1,2</sup> Commentators from general practice have endorsed this sentiment.<sup>3-5</sup> However, few studies have examined the extent and determinants of research involvement among primary care doctors.<sup>6-8</sup> In general, they have concluded that involvement is low, reflecting shortcomings in training, financial disincentives, lack of protected time, and lack of infrastructural support.<sup>9,10</sup>

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There are no recent data on the level of research activity or its determinants among United Kingdom (UK) primary care doctors. This survey aimed to quantify research involvement among general practitioners (GPs) and to explore related issues.

## Method

A piloted questionnaire was sent to all ( $n = 2770$ ) GPs in service practice in the West Midlands, followed by one reminder. The questionnaire covered personal characteristics of the responder, practice details, approach to research/audit, and research experience. Area-based measures of deprivation were derived for all practices.<sup>11</sup> Information on GP age, sex, and postgraduate qualifications were obtained from health authorities.

Standard statistical procedures for the comparison of means (independent samples *t*-test), medians (Mann-Whitney U test), and proportions (chi-squared test) were employed. Backward stepwise logistic regression was used to construct a model in order to predict initiation of research by GPs. A significance level of 10% was used for variable removal. All explanatory variables were eligible to be entered into the model. A classification table was constructed using a cut-off of 0.5, and diagnostics were calculated (including sensitivity and specificity) for assessing the predictive ability of the model.

## Results

The overall response rate was 1351 (49%), varying from 61% (Hereford and Worcestershire) to 35% (Wolverhampton). Responders tended to be younger (45 versus 48 years of age, *t*-test [1478] = -6.93,  $P < 0.001$ ) and from larger practices (four versus three partners,  $z = -7.8$ ,  $P < 0.001$ ) in less socially-deprived areas (Townsend score = 0.8 versus 1.2, *t* [2764] = -3.62,  $P < 0.001$ ). Responders were also more likely than non-responders to have postgraduate qualifications (59% versus 48%,  $\chi^2 = 14.4$ ,  $P < 0.001$ ) and to be members of the West Midlands GP Research Network (MidReN) (36% versus 26%,  $\chi^2 = 32.8$ ,  $P < 0.001$ ).

Some involvement in research or audit was reported by 84% ( $n = 1136$ ) of responders: 75% ( $n = 1013$ ) reported current research activity, although in 48% ( $n = 646$ ) this was limited to research initiated by others — usually recruiting patients for clinical trials. A total of 16% ( $n = 218$ ) had initiated original research. At least one publication of a research paper was achieved by 11% ( $n = 153$ ), with 76% ( $n = 116$ ) of these being published in peer-reviewed journals.

Factors found to be significantly associated with initiating original research were male sex, protected time, involvement in teaching, working in a practice with other partners involved in research, and the opportunity to discuss research/audit projects (Table 1). Subjects who had initiated research were significantly more likely to have published in the biomedical literature. Logistic regression analysis was undertaken to explore those characteristics associated with initiating research; however, the final model had a sensitivity of only 30%. The variables in the model concerned participation in multicentre trials, teaching, initiation of audit, RCGP faculty membership, research training,

**Table 1.** Comparison of GP characteristics and barriers preventing/inhibiting research between research and non-research active GPs.

Characteristics of research and non-research active GPs	Initiated research (n = 218) n (%)	Remainder (n = 1133) n (%)	Statistical test c <sup>2</sup> (d.f. = 1)	P-value
Mean age <sup>a</sup>	44.2	45.3	t = -1.3 (d.f. = 204)	0.199
Sex <sup>a</sup> (male)	160 (81.6)	702 (73.6)	5.5	0.019
Postgraduate qualification <sup>b</sup>	66 (67.3)	294 (57.0)	3.7	0.056
Teaching (past or present)	179 (82.1)	595 (52.5)	65.4	<0.001
Protected time available	53 (24.3)	151 (13.3)	17.2	<0.001
Spend time on research/audit	158 (72.5)	429 (37.9)	89.1	<0.001
Partner(s) involved in research	72 (33.0)	192 (16.9)	30.1	<0.001
Discuss research/audit projects with partners	189 (86.7)	754 (66.5)	35.2	<0.001
MidReN membership	83 (38.1)	398 (35.1)	0.7	0.406
Published research	102 (46.8)	51 (4.5)	325.6	<0.001
Published in peer-reviewed journal	82 (37.6)	34 (3.0)	279.1	<0.001
Practice size				
Single-handed	18 (11.3)	141 (88.7)		
2-3 partners	49 (13.4)	318 (86.6)	7.3 (c <sup>2</sup> for trend)	0.007
>3 partners	151 (18.3)	674 (81.7)		
Barriers preventing/inhibiting research	n (%)	n (%)	c <sup>2</sup>	P-value
Insufficient time	201 (92.2)	1039 (91.7)	0.1	0.806
Lack of research training	113 (51.8)	839 (74.1)	43.4	<0.001
Lack of advice/support	116 (53.2)	714 (63.0)	7.4	0.006
Lack of funding	169 (77.5)	787 (69.5)	5.7	0.017
Lack of staff for data collection	156 (71.6)	825 (72.8)	0.1	0.703
Financially penalising	115 (52.8)	585 (51.6)	0.1	0.762
Lack of support from partners	61 (28.0)	314 (27.7)	0.0	0.936
No question to answer	22 (10.1)	229 (20.2)	12.4	<0.001
Not a priority at present	95 (43.6)	720 (63.5)	30.5	<0.001
Insufficient patients	17 (7.8)	128 (11.3)	2.3	0.126
Not interested in research	31 (14.2)	525 (46.3)	77.9	<0.001

<sup>a</sup>Data available for six health authorities; <sup>b</sup>data available for five health authorities.

and award of a grant.

Availability of time was the most frequently cited determinant of participation in research, irrespective of whether responders had initiated research. Logistical problems (e.g. lack of support staff) were the next most frequent, followed by difficulties securing funding. Around half of responders felt that participation in research was financially penalising. Non-research initiating GPs felt that a lack of training was an important determinant of their non-participation; however, 49% also cited lack of interest in research. Only 14% of research active GPs felt that the latter was significant.

## Discussion

The low response rate (49%) limits the generalisability of this study. Responders differed significantly from non-responders: although differences were generally small, their significance was, in part, attributable to the large sample size. GPs interested in research may have been over-represented. The lack of discriminatory power in the logistic regression model suggests that either important determinants of research involvement were not measured or that there is no single model that predicts the behaviour of a diverse group such as GPs.

A lower level of research activity might be expected in general practice than in hospital-based specialities, given that hospital career progression is more dependent on demonstration of research capability, and logistical support and protected time are more likely to be available. However, our data suggest a greater level of research activity among service practitioners than has been previously reported.<sup>6</sup>

## Conclusions

It has been suggested that much of the evidence base that the future primary care-led health service will be built on can only be generated within primary care itself. A strategy for achieving this has been published<sup>2</sup> and is supported by this study. Availability of protected time and a supportive environment within practices where more than one partner was research active were positively associated with the probability of having initiated research.

Primary care 'research networks' now exist in most regions of the UK. Members of MidReN were more likely to respond to the survey but not to have initiated research. Membership of a research network may not, in itself, increase the probability of initiating research. Almost half of the responders who had never initiated original research cited disinterest. The perception that research is unimportant and peripheral to the work of primary care has previously been reported.<sup>12</sup> While some research interest may be stimulated by the new strategy, it is probable that many will remain unenthusiastic. Training in critical appraisal rather

### Key points

- Research activity among GPs is greater than often assumed.
- Characteristics positively associated with initiating research include teaching involvement, availability of protected time, partners' research involvement, and practice size.
- Lack of time, support, and money are the main constraints to carrying out research; however, almost half of responders have no interest in undertaking research.
- The results of the study support the findings of the NHS R&D Programme report.

than research methodology may be more appropriate for these practitioners.

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