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## Patient experience and the role of postgraduate GP training:

a cross-sectional analysis of national Patient Survey data in England

### Abstract

#### Background

Quality indicators for primary care focus predominantly on the public health model and organisational measures. Patient experience is an important dimension of quality. Accreditation for GP training practices requires demonstration of a series of attributes including patient-centred care.

#### Aim

The national GP Patient Survey (GPPS) was used to determine the characteristics of general practices scoring highly in responses relating to the professional skills and characteristics of doctors. Specifically, to determine whether active participation in postgraduate GP training was associated with more positive experiences of care.

#### Design and setting

Retrospective cross-sectional study in general practices in England.

#### Method

Data were obtained from the national QOF dataset for England, 2011/12 (8164 general practices); the GPPS in 2012 (2.7 million questionnaires in England; response rate 36%); general practice and demographic characteristics. Sensitivity analyses included local data validated by practice inspections. Outcome measures: multilevel regression models adjusted for clustering.

#### Results

GP training practice status (29% of practices) was a significant predictor of positive GPPS responses to all questions in the 'doctor care' ( $n = 6$ ) and 'overall satisfaction' ( $n = 2$ ) domains but not to any of the 'nurse care' or 'out-of-hours' domain questions. The findings were supported by the sensitivity analyses. Other positive determinants were: smaller practice and individual GP list sizes, more older patients, lower social deprivation and fewer ethnic minority patients.

#### Conclusion

Based on GPPS responses, doctors in GP training practices appeared to offer more patient-centred care with patients reporting more positively on attributes of doctors such as 'listening' or 'care and concern'.

#### Keywords

medical education; primary health care; quality indicators.

### INTRODUCTION

Undue emphasis on financial and organisational indicators has been blamed for the failings in clinical care which resulted in recent concerns in the UK about patient safety in secondary care settings.<sup>1</sup> In response to preliminary findings following the Mid Staffordshire enquiry into hospital deaths, the UK Chief Nursing Officer published the document, *Compassion in Practice*, highlighting the universal importance of professional values such as compassion, care, and concern.<sup>2</sup> These values were proposed as an alternative to the more managerially driven targets which prevailed at the time of the events in Mid Staffordshire.

Acceptance of quality indicators in primary care has been hampered by the dilemma that what is measurable is often not what is most important, or that success at target achievement might hide failings in less readily measurable aspects of care ('hitting the target but missing the point').<sup>3</sup> Moreover, commonly-used clinical quality indicators such as the 110 currently contained within the Quality and Outcomes Framework (QOF), only apply to about one-quarter of patients.<sup>4</sup> They focus predominantly on the public health model of primary care, almost entirely bypassing any measure of interpersonal care.

Patient perceptions of interpersonal care can be measured and the national GP Patient Survey (GPPS) is one attempt

to capture and quantify patient experience. Introduced in England in 2006/2007, the GPPS now covers the whole of the UK. In England, this questionnaire is sent each year to around 2.7 million adults registered with a GP.<sup>5</sup> Questions cover a variety of domains including perceptions of the quality of care from GPs and practice nurses, access, the functioning of reception, premises, and out-of-hours care. Principal components analysis has identified that three components of the survey, doctor care, nurse care, and access account for over two-thirds of the sample variance.<sup>6</sup>

GP training practices constitute just over one-quarter of all practices in England and like all general practices are accountable to local health service managers for performance. However, they have additional accountability to local GP training organisations, currently termed Schools of General Practice, which are responsible for approval of GP trainers and training practices as part of the General Medical Council's responsibilities to ensure the quality of GP training. These bodies approve the practice training status based on one to three yearly inspections. General practice training itself emphasises the importance of the doctor-patient relationship, patient-centred care and the dynamics of the consultation.<sup>7</sup> Moreover, acquisition of these attributes and the development of an educational ethos in general are expected to apply to the whole practice, not just to the individual GP trainer

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## How this fits in

This is the first study to explore the relationship between GP training practice status and the dimensions of patient experience which relate to the professional attributes of doctors such as 'care and concern', as elicited by the GP Patient Survey. The findings are based on national survey responses to almost 1 million questionnaires and emphasise the importance of postgraduate GP training as a determinant of positive patient experience.

or to the trainee attached to the practice. Demonstration of these attributes is part of the training practice approval process.<sup>8</sup>

The study aimed to use the GPPS to determine the characteristics of practices scoring highly on the doctor care domain. In particular, the authors wished to determine the extent to which positive experiences of doctor care were related to the GP training practice status of the practice.

## METHOD

### Study design

A retrospective cross-sectional study was constructed using databases over two time periods and two geographical areas.

### GP Patient Survey

GPPS data for the 2012 calendar year were obtained. The GPPS mailout in 2012 consisted of 2.7 million questionnaires, approximately half distributed in January and half in July. They were sent to a random sample of adult patients registered with GPs in England with follow-up questionnaires sent to non-responders in the subsequent 2 months. Since 2011, the GPPS has utilised a weighting scheme with larger numbers of questionnaires sent to some demographic groups in order to compensate for differential non-response according to age, sex, practice, deprivation and ethnicity.<sup>9</sup> The overall response rate in 2012 was 36% based on 982 999 completed responses.<sup>10</sup>

The 2012 GPPS version contained 41 questions eliciting patient experience relating to primary care and the associated out-of-hours primary care service; the remaining questions related to demographic descriptors and administrative information. Most questions eliciting patient experience consisted of five response options (such as, 'very good' ranging to 'very poor'). The most positive response option was selected for the principal analysis.

## Practice data

Descriptive data for all general practices in England from the General Medical Services database were obtained, based on practice data submitted on 31 March 2012.<sup>11-12</sup> These data included registered patient list size, age and sex profile of registered patients, number of full-time equivalent (FTE) GPs, the age and sex of GPs, and training practice status for the year 2011/2012.

Sociodemographic data for each general practice, based on the lower layer super output area for the practice postcode were also obtained. Patient level ethnicity and deprivation data are not available for general practices in England so pooled demographic data were used from these localities of approximately 1500 residents as a proxy for the characteristics of registered populations. Ethnicity data were based on the 2011 national census and deprivation data from the Index of Multiple Deprivation, IMD 2010.<sup>13-15</sup>

## Sensitivity analyses

Firstly, the definition of a positive response on the GPPS was broadened by including both the most positive and the second most positive responses. The sum of these two responses was then applied to a further analysis of the national dataset of practices.

Two additional databases were then constructed to conduct further sensitivity analyses based on locally verified data. Firstly, a dataset from the London School of General Practice, formerly the London Deanery, was obtained which consisted of all general practices in the London area (defined by the boundary of the London Strategic Health Authority) approved as GP training practices and with a GP trainee in post, in mid-2012. This database also contained a list of practices approved as foundation year 2 (F2) postgraduate training practices and providing placements to foundation doctors, an accreditation process which is less intensive than required for acquisition of GP training practice status.<sup>16</sup> Training practice data and F2 training data were based on information obtained from the 3-yearly cycle of practice visits and inspections conducted by the London School of General Practice and updated in 2012. In contrast, the national dataset of GP training practices used in the study's principal analysis was based on practice self-report. Secondly, a similar dataset based on local verification following inspection for London GP training and F2 training practices in mid 2009 was obtained. These two London datasets were then matched with GPPS responses and practice data obtained from

national datasets for the relevant years.

The sensitivity analyses therefore consisted of five further investigations: deriving a broader definition of a positive GPPS response and applying this to the national dataset for 2012; analyses of GPPS responses from London practices in 2012 and 2009, with and without the inclusion of F2 training practices.

### Participants

Practice data for the year 2011/2012 were available for 8164 general practices in England and GP Patient Survey data could be matched to 8140 (99.7%) of these practices. Practices with  $\leq 750$  patients or  $\leq 500$  patients per FTE GP were omitted from the database on the grounds that these practices were atypical; this resulted in the exclusion of a further 89 practices. For similar reasons, a further 165 practices were also excluded on the basis that they were described as having more than 5000 patients per FTE GP. The principal analysis was therefore conducted on 7886 practices (96.6% of all those submitting data in 2011/2012).

In the 2011/2012 national dataset, a total of 2288 (29.0%) of practices were recorded as GP training practices.

For the sensitivity analyses involving London general practices the same exclusion criteria used in the principal analysis was adopted. This resulted in a cohort of 1513 (96.3%) in 2009 and 1486 (95.5%) practices in 2012; of these, 317 (21.0%) and 351 (23.6%) were GP training practices, respectively.

Discrepancies between the 2011/2012 national and 2012 London datasets were identified: 31 (2.2%) London practices were recorded as GP training practices in the national dataset but as non-training practices

in the London dataset; conversely, 49 (3.5%) practices were recorded as GP training practices in the London dataset but not in the national dataset; there was agreement on GP training practice status between the two datasets for 94.3% of London practices.

The two further analyses which included data on F2 training practices resulted in the addition of 25 (1.7%) to the 2009 London dataset and 34 (2.3%) practices to the 2012 London dataset.

### Analysis

A multivariable analysis was conducted to identify the determinants of positive GPPS responses. For the main analysis, the most positive response option for each GPPS question was selected as the dependent variable in each regression equation. For one of the sensitivity analyses, the dependent variable was replaced with the sum of the two most positive responses (usually, 'very good' and 'good').

Regression models were constructed to identify the determinants of positive responses to each question and in particular, to identify the role of training practice status in determining positive responses. Nine predictor variables were tested in the model. Multi-collinearity was tested for by calculating the variance inflation factor (VIF) and excluding variables with  $VIF > 10$ .

The interest was in exploring practice level factors. However, these effects are likely to be clustered within different local areas. To account for this in the analysis a multilevel regression approach was used which allowed adjustments for clustering at local level ('primary care trust', now termed 'clinical commissioning group') and at practice level using a random intercept model.

The outcome variable was the B coefficient with 95% confidence intervals, adjusted for clustering effects, for each predictor variable.

## RESULTS

### Sample characteristics

The distribution of practice and population characteristics for the 7886 practices included in the national sample are summarised in Table 1.

### Predictors of GP Patient Survey scores

GP training practice status was a significant predictor of positive responses to all six GPPS questions in the 'doctor care domain' (Q21a-e, Q22) and to both the questions relating to 'overall satisfaction' (Q28, Q29). Patients registered with GP training

**Table 1. National sample of general practices in England, 2012 ( $n = 7886$ )**

Practice or population characteristic	Mean (SD) <sup>a</sup> or n (%)
GP training practice	2288 (29%)
Practice list size	6962 (4256)
Practice list size per full-time equivalent GP	1769 (648)
Registered patients aged $\geq 65$ years (%)	16.1 (6.1)
GP age, years	47.6 (7.6)
Female GPs (%)	43.6 (26.1)
Index of Multiple Deprivation (IMD), 2010 score	26.1 (17.2)
Ethnicity: South Asian (%)	10.0 (16.1)
Ethnicity: Black African or Caribbean (%)	4.2 (7.5)

<sup>a</sup>SD = standard deviation

**Table 2. Determinants of positive responses to questions in the 'doctor care domain' in the GP Patient Survey 2012**

GP Patient Survey question <sup>b</sup>	Predictor variables: adjusted regression coefficients, B (95% CI) <sup>a</sup>									
	Median (interquartile range)	GP training practice	% registered patients aged ≥65 years	IMD, 2010 score	Ethnicity		Practice list size	Practice list size per FTE GP	Female GPs, %	Mean GP age, years
					Black African	South Asian, or Caribbean, %				
Q21a: Rating of GP giving you enough time, % very good	53.5 (45.6–61.0)	1.00 (0.36 to 1.64)	0.34 (0.29 to 0.39)	-0.02 [-0.04 to -0.01] [-0.14 to -0.10] [-0.16 to -0.07] [-0.52 to -0.39] [-2.85 to -2.02]	-0.12	-0.11	-0.45	-2.44	n/s	n/s
Q21b: Rating of GP listening to you, % very good	55.6 (47.5–63.1)	1.11 (0.45 to 1.76)	0.35 (0.30 to 0.41)	-0.02 [-0.04 to -0.01] [-0.13 to -0.10] [-0.13 to -0.03] [-0.41 to -0.28] [-2.58 to -1.74] [0.00 to 0.02] [-0.14 to -0.07]	-0.12	-0.08	-0.35	-2.16	0.01	-0.10
Q21c: Rating of GP explaining tests and treatments, % very good	50.8 (43.0–58.4)	0.78 (0.13 to 1.43)	0.32 (0.26 to 0.37)	n/s [-0.13 to -0.09] [-0.11 to -0.02] [-0.43 to -0.30] [-2.67 to -1.83]	-0.11	-0.06	-0.37	-2.25	n/s [-0.14 to -0.06]	-0.10
Q21d: Rating of GP involving you in decisions about your care, % very good	43.4 (36.0–50.8)	0.99 (0.37 to 1.61)	0.26 (0.21 to 0.31)	-0.02 [-0.04 to -0.00] [-0.12 to -0.09] [-0.12 to -0.03] [-0.47 to -0.35] [-2.64 to -1.84]	-0.11	-0.07	-0.41	-2.24	n/s [-0.09 to -0.02]	-0.06
Q21e: Rating of GP treating you with care and concern, % very good	50.9 (42.9–58.8)	1.22 (0.55 to 1.89)	0.34 (0.28 to 0.39)	-0.02 [-0.04 to -0.00] [-0.15 to -0.11] [-0.15 to -0.05] [-0.46 to -0.32] [-2.85 to -1.99]	-0.13	-0.10	-0.39	-2.42	n/s [-0.09 to -0.02]	-0.06
Q22: Confidence and trust in GP, % yes definitely	68.7 (60.5–75.3)	0.68 (0.08 to 1.28)	0.38 (0.34 to 0.43)	-0.03 [-0.05 to -0.02] [-0.10 to -0.07] [-0.15 to -0.06] [-0.22 to -0.10] [-2.37 to -1.59]	-0.08	-0.11	-0.16	-1.98	n/s [-0.09 to -0.02]	-0.05

<sup>a</sup>B values only included if P<0.05; values for P>0.05 denoted by 'n/s' (not significant). <sup>b</sup>Questionnaire numbers as they appear on the GP Patient Survey, 2011/2012. FTE = full-time equivalent. IMD = Index of Multiple Deprivation.

practices rated the 'doctor care domain' questions from 0.68% to 1.11% higher than patients registered with non-training practices; they rated the 'overall satisfaction' questions 1.52% to 1.98% higher. The full results are displayed in Tables 2–6.

In contrast, GP training practice status was not a significant predictor of positive responses to any of the six 'nurse care domain' questions (Q23a–e, Q24), nor to any of the four 'out-of-hours' questions (Q38–41). Training practice status was a significant predictor of only four of the 12 'access' questions (Q4, Q12, Q18, Q19).

Training practice status was a negative predictor for one of the 41 questions included in the analysis: 'How long after your appointment do you normally wait to be seen?' (Q19). Patients registered at a GP training practice reported worse access on this criterion.

Factors additional to GP training practice status that were significant predictors of positive GPPS responses to both 'doctor care domain' and 'overall satisfaction'

questions were: smaller list size of registered patients, smaller list size per FTE GP, lower deprivation score, smaller ethnic minority proportion; higher proportion of older patients (Tables 2 and 3). The sex of the GPs in the practice and GP age were not consistently associated with positive GPPS responses.

### Sensitivity analyses

Firstly, when the definition of a 'positive' response was broadened to include the top two positive responses, GP training practice status remained a significant predictor of positive responses to all the 'doctor care domain' of Q21, although not to Q22 ('confidence and trust in GP') nor to the 'overall satisfaction' questions (Q28, Q29), (Tables 2, 3). As with the primary analysis, GP training practice status was not a significant predictor of positive responses to the 'nurse care domain', 'access' and 'out-of-hours' questions (Tables 4–6).

Secondly, when the analysis was repeated on the dataset for London GP training

**Table 3. Determinants of positive responses to the 'overall satisfaction' questions in the GP Patient Survey 2012**

GP Patient Survey question <sup>b</sup>	Median (interquartile range)	GP training practice	% registered patients aged ≥65 years	IMD, 2010 score	Ethnicity:		Practice list size	Practice list size per FTE GP	Female GPs, %	Mean GP age, years
					South Asian, %	Black African, or Caribbean, %				
Q28: Overall experience of GP surgery, % very good	51.5 (41.8–61.3)	1.52 (0.76 to 2.29)	0.32 (0.26 to 0.38)	-0.05 [-0.07 to -0.03] [-0.20 to -0.16] [-0.21 to -0.10] [-1.00 to -0.85] [-3.52 to -2.53] [-0.03 to -0.00] [0.00 to 0.09]	-0.18 [-0.20 to -0.16] [-0.21 to -0.10] [-1.00 to -0.85] [-3.52 to -2.53] [-0.03 to -0.00] [0.00 to 0.09]	-0.15 [-0.20 to -0.16] [-0.21 to -0.10] [-1.00 to -0.85] [-3.52 to -2.53] [-0.03 to -0.00] [0.00 to 0.09]	-0.92 [-0.92 to -0.86] [-0.57 to -0.53] [-3.32 to -3.28]	-3.02 [-3.02 to -2.96] [-0.57 to -0.53] [-3.32 to -2.78]	-0.01 [-0.01 to -0.00] [n/s]	0.05 [-0.14 to -0.05]
Q29: Recommending GP surgery to someone who has just moved to local area, % yes definitely	54.3 (44.2–64.2)	1.98 (1.16 to 2.81)	0.23 (0.16 to 0.29)	-0.09 [-0.12 to -0.07] [-0.19 to -0.14] [-0.12 to -0.00] [-0.65 to -0.49] [-3.85 to -2.78]	-0.16 [-0.19 to -0.14] [-0.12 to -0.00] [-0.65 to -0.49] [-3.85 to -2.78]	-0.06 [-0.16 to -0.12] [-0.12 to -0.06] [-0.75 to -0.69] [-0.01 to -0.00]	-0.57 [-0.57 to -0.53] [-0.57 to -0.53] [-0.75 to -0.71] [-0.01 to -0.00]	-3.32 [-3.32 to -2.88] [-0.57 to -0.53] [-3.32 to -2.78]	n/s [-0.14 to -0.05]	-0.09 [-0.14 to -0.05]

<sup>a</sup>B values only included if  $P<0.05$ ; values for  $P>0.05$  denoted by 'n/s' (not significant). <sup>b</sup>Questionnaire numbers as they appear on the GP Patient Survey, 2011/2012. FTE = full-time equivalent. IMD = Index of Multiple Deprivation.

**Table 4. Determinants of positive responses to questions in the 'nurse care domain' in the GP Patient Survey 2012**

GP Patient Survey question <sup>b</sup>	Median (interquartile range)	GP training practice	% registered patients aged ≥65 years	IMD, 2010 score	Ethnicity:		Practice list size	Practice list size per FTE GP	Female GPs, %	Mean GP age, years
					South Asian, %	Black African, or Caribbean, %				
Q23a: Rating of nurse giving you enough time, % very good	53.7 (46.4–61.1)	n/s [0.22 to 0.32]	0.27 [0.22 to 0.32]	n/s [-0.17 to -0.13] [-0.21 to -0.12] [-0.65 to -0.53] [-1.25 to -0.47]	-0.15 [-0.17 to -0.13] [-0.21 to -0.12] [-0.65 to -0.53] [-1.25 to -0.47]	-0.17 [-0.17 to -0.13] [-0.21 to -0.12] [-0.65 to -0.53] [-1.25 to -0.47]	-0.59 [-0.59 to -0.53] [-0.59 to -0.53] [-0.86 to -0.82]	-0.86 [-0.86 to -0.82] [-0.59 to -0.53]	n/s [-0.09 to -0.03]	-0.06 [-0.09 to -0.03]
Q23b: Rating of nurse listening to you, % very good	52.1 (44.7–59.3)	n/s [0.17 to 0.27]	0.22 [0.17 to 0.27]	n/s [-0.16 to -0.13] [-0.21 to -0.12] [-0.68 to -0.56] [-1.14 to -0.36] [-0.02 to -0.00] [-0.10 to -0.03]	-0.14 [-0.16 to -0.13] [-0.21 to -0.12] [-0.68 to -0.56] [-1.14 to -0.36] [-0.02 to -0.00] [-0.10 to -0.03]	-0.16 [-0.16 to -0.13] [-0.21 to -0.12] [-0.68 to -0.56] [-1.14 to -0.36] [-0.02 to -0.00] [-0.10 to -0.03]	-0.62 [-0.62 to -0.56] [-0.62 to -0.56] [-0.75 to -0.71]	-0.75 [-0.75 to -0.71] [-0.62 to -0.56]	-0.01 [-0.02 to -0.00]	-0.06 [-0.10 to -0.03]
Q23c: Rating of nurse explaining tests and treatment, % very good	50.0 (42.9–57.0)	n/s [0.11 to 0.21]	0.16 [0.11 to 0.21]	n/s [-0.16 to -0.12] [-0.20 to -0.10] [-0.66 to -0.54] [-1.26 to -0.49] [-0.02 to -0.00] [-0.09 to -0.02]	-0.14 [-0.16 to -0.12] [-0.20 to -0.10] [-0.66 to -0.54] [-1.26 to -0.49] [-0.02 to -0.00] [-0.09 to -0.02]	-0.15 [-0.16 to -0.12] [-0.20 to -0.10] [-0.66 to -0.54] [-1.26 to -0.49] [-0.02 to -0.00] [-0.09 to -0.02]	-0.60 [-0.60 to -0.54] [-0.60 to -0.54] [-0.87 to -0.83]	-0.87 [-0.87 to -0.83] [-0.60 to -0.54]	-0.01 [-0.02 to -0.00]	-0.06 [-0.09 to -0.02]
Q23d: Rating of nurse involving you in decisions about your care, % very good	40.7 (34.3–47.6)	n/s [0.04 to 0.13]	0.08 [0.04 to 0.13]	0.02 [0.00 to 0.03] [-0.14 to -0.11] [-0.17 to -0.08] [-0.69 to -0.58] [-1.27 to -0.55] [-0.02 to -0.00] [-0.07 to -0.00]	-0.12 [-0.14 to -0.11] [-0.17 to -0.08] [-0.69 to -0.58] [-1.27 to -0.55] [-0.02 to -0.00] [-0.07 to -0.00]	-0.13 [-0.14 to -0.11] [-0.17 to -0.08] [-0.69 to -0.58] [-1.27 to -0.55] [-0.02 to -0.00] [-0.07 to -0.00]	-0.63 [-0.63 to -0.58] [-0.63 to -0.58] [-0.91 to -0.87]	-0.91 [-0.91 to -0.87] [-0.63 to -0.58]	-0.01 [-0.02 to -0.00]	-0.04 [-0.07 to -0.00]
Q23e: Rating of nurse treating you with care and concern, % very good	50.9 (43.5–58.1)	n/s [0.15 to 0.25]	0.20 [0.15 to 0.25]	n/s [-0.17 to -0.13] [-0.21 to -0.12] [-0.66 to -0.54] [-1.30 to -0.52]	-0.15 [-0.17 to -0.13] [-0.21 to -0.12] [-0.66 to -0.54] [-1.30 to -0.52]	-0.17 [-0.17 to -0.13] [-0.21 to -0.12] [-0.66 to -0.54] [-1.30 to -0.52]	-0.60 [-0.60 to -0.54] [-0.60 to -0.54]	-0.91 [-0.91 to -0.87] [-0.60 to -0.54]	n/s [-0.10, -0.03]	-0.06 [-0.10, -0.03]
Q24: Confidence and trust in nurse, % yes definitely	69.4 (61.9–75.5)	n/s [0.27 to 0.36]	0.32 [0.27 to 0.36]	n/s [-0.15 to -0.12] [-0.23 to -0.14] [-0.39 to -0.28] [-1.14 to -0.43]	-0.14 [-0.15 to -0.12] [-0.23 to -0.14] [-0.39 to -0.28] [-1.14 to -0.43]	-0.18 [-0.15 to -0.12] [-0.23 to -0.14] [-0.39 to -0.28] [-1.14 to -0.43]	-0.34 [-0.34 to -0.28] [-0.34 to -0.28]	-0.79 [-0.79 to -0.71] [-0.34 to -0.28]	n/s [-0.10 to -0.04]	-0.07 [-0.10 to -0.04]

<sup>a</sup>B values only included if  $P<0.05$ ; values for  $P>0.05$  denoted by 'n/s' (not significant). <sup>b</sup>Questionnaire numbers as they appear on the GP Patient Survey, 2011/2012. FTE = full-time equivalent. IMD = Index of Multiple Deprivation.

practices in 2012, GP training practice status was again a significant predictor of all positive responses to the 'doctor care domain' and 'overall satisfaction' questions. Again, GP training practice status was not a significant

predictor of positive responses to the 'nurse care domain' and 'out-of-hours' questions. In the 'access domain', only responses to Q15 (positive predictor) and Q26 (negative predictor) were significantly related.

**Table 5. Determinants of positive responses to the 'access' questions in the GP Patient Survey 2012**

GP Patient Survey question <sup>b</sup>	Median (interquartile range)	Predictor variables: adjusted regression coefficients, B (95% CI) <sup>a</sup>									
		GP training practice	% registered patients aged ≥65 years		IMD, 2010 score	Ethnicity: South Asian, or Caribbean, %		Practice list size	Practice list size per FTE GP	Female GPs, %	Mean GP age, years
			Black African %	Caribbean %							
Q3: Ease of getting through on the phone, % very easy	34.1 (22.4–48.6)	n/s	-0.15 (-0.22 to -0.07)	-0.08 (-0.10 to -0.05)	-0.17 (-0.20 to -0.14)	-0.12 (-0.19 to -0.05)	-1.99 (-2.08 to -1.89)	-3.57 (-4.19 to -2.94)	-0.03 (-0.04 to -0.02)	0.31 (0.25 to 0.36)	
Q4: Helpfulness of reception, % very helpful	54.0 (44.4–64.4)	1.18 (0.41 to 1.95)	0.16 (0.09 to 0.22)	n/s	-0.20 (-0.23 to -0.18)	-0.09 (-0.14 to -0.03)	-1.37 (-1.44 to -1.29)	-2.37 (-2.87 to -1.87)	-0.02 (-0.03 to -0.01)	0.20 (0.16 to 0.24)	
Q5: Overheard at reception, % not overheard	7.14 (4.35–11.5)	n/s	0.05 (0.02 to 0.09)	-0.02 (-0.03 to -0.01)	n/s	n/s	-0.15 (-0.20 to -0.11)	-0.45 (-0.74 to -0.16)	n/s	0.03 (0.01 to 0.06)	
Q9: Frequency of seeing preferred GP, % always or almost always	45.3 (34.3–57.7)	n/s	0.48 (0.40 to 0.55)	-0.04 (-0.06 to -0.01)	-0.15 (-0.17 to -0.12)	-0.22 (-0.29 to -0.16)	-1.08 (-1.17 to -0.99)	n/s	-0.06 (-0.07 to -0.04)	0.56 (0.51 to 0.61)	
Q12: Able to get an appointment or speak to someone, % yes	78.3 (70.3–85.6)	1.38 (0.78 to 1.97)	0.22 (0.18 to 0.27)	-0.10 (-0.12 to -0.08)	-0.15 (-0.17 to -0.13)	-0.14 (-0.18 to -0.10)	-0.57 (-0.63 to -0.52)	-1.84 (-2.22 to -1.45)	-0.01 (-0.02 to -0.00)	0.19 (0.15 to 0.22)	
Q14: How long until you actually saw or spoke to a GP/nurse, % on the same day	32.6 (24.5–43.6)	n/s	n/s (-0.08 to -0.03)	n/s	-0.06	n/s	n/s	n/s	n/s	n/s	n/s
Q15: Convenience of appointment, % very convenient	51.6 (43.9–59.7)	n/s	0.16 (0.11 to 0.21)	-0.02 (-0.04 to -0.00)	-0.19 (-0.21 to -0.17)	-0.11 (-0.16 to -0.06)	-1.00 (-1.06 to -0.93)	-1.92 (-2.33 to -1.51)	-0.03 (-0.04 to -0.02)	0.17 (0.13 to 0.20)	
Q18: Overall experience of making an appointment, % very good	41.4 (31.1–53.3)	1.16 (0.30 to 2.02)	0.14 (0.07 to 0.20)	-0.07 (-0.09 to -0.05)	-0.19 (-0.22 to -0.17)	-0.15 (-0.21 to -0.09)	-1.52 (-1.61 to -1.44)	-2.96 (-3.52 to -2.41)	-0.03 (-0.04 to -0.02)	0.28 (0.23 to 0.33)	
Q19: Waiting time at surgery, % less than 5 minutes	8.57 (5.30–13.4)	-0.61 (-1.06 to -0.17)	-0.09 (-0.12 to -0.05)	-0.02 (-0.03 to -0.01)	-0.04 (-0.05 to -0.03)	-0.09 (-0.12 to -0.06)	-0.24 (-0.29 to -0.20)	-0.43 (-0.72 to -0.14)	-0.04 (-0.04 to -0.03)	n/s	
Q20: How do you feel about how long you normally have to wait to be seen, % I don't have to wait too long	66.4 (55.6–75.4)	n/s	0.34 (0.28 to 0.40)	n/s	-0.20 (-0.23 to -0.18)	-0.29 (-0.34 to -0.23)	-0.50 (-0.58 to -0.42)	-1.48 (-2.00 to -0.95)	-0.05 (-0.06 to -0.04)	n/s	
Q25: Satisfaction with opening hours, % very satisfied	44.3 (36.8–52.5)	n/s	-0.12 (-0.18 to -0.07)	0.07 (0.05 to 0.09)	-0.14 (-0.16 to -0.12)	n/s	-0.52 (-0.59 to -0.45)	-2.72 (-3.16 to -2.28)	-0.03 (-0.04 to -0.02)	n/s	
Q26 GP surgery currently open at times convenient for you, % yes	82.6 (78.0–86.8)	n/s	0.14 (0.11 to 0.17)	0.05 (0.04 to 0.06)	-0.08 (-0.09 to -0.07)	-0.04 (-0.07 to -0.01)	-0.24 (-0.27 to -0.20)	-1.16 (-1.41 to -0.92)	-0.02 (-0.02 to -0.01)	n/s	

<sup>a</sup>B values only included if P<0.05; values for P>0.05 denoted by 'n/s' (not significant). <sup>b</sup>Questionnaire numbers as they appear on the GP Patient Survey, 2011/2012. FTE = full-time equivalent. IMD = Index of Multiple Deprivation.

Thirdly, the analysis was repeated on the 2009 dataset of London GP training practices. Again, GP training practice status was a significant predictor of all positive responses to both 'doctor care domain' and the 'overall satisfaction' question; note that

in 2009 only one question was asked about overall satisfaction. Just as in the principal analysis, GP training practice status was not a significant predictor of positive responses to any 'nurse care domain' nor 'out-of-hours' questions. Of the 'access' questions,

**Table 6. Determinants of positive responses to the 'out-of-hours' questions in the GP Patient Survey 2012**

GP Patient Survey question <sup>b</sup>	Median (interquartile range)	GP training practice	% registered patients aged ≥65 years	IMD, 2010 score	Predictor variables: adjusted regression coefficients, B (95% CI) <sup>a</sup>						Mean GP age, years
					Ethnicity:		Black African	Practice list size	Practice list size per GP	Female GPs, %	
Q38: Ease of contacting the OOH GP service by telephone, % very easy	39.2 (30.0–50.0)	n/s	n/s	n/s	-0.11 (-0.14 to -0.08)	-0.15 (-0.23 to -0.07)	-0.21 (-0.31 to -0.12)	n/s	n/s	n/s	0.10 (0.03 to 0.16)
Q39: Impression of how quickly OOH care was received, % about right	64.7 (54.5–73.9)	n/s	0.11 (0.03 to 0.19)	0.04 (0.01 to 0.07)	-0.12 (-0.15 to -0.09)	-0.34 (-0.42 to -0.26)	n/s	n/s	n/s	n/s	n/s
Q40: Confidence and trust in OOH clinician, % yes to definitely	40.0 (30.8–50.0)	n/s	0.08 (0.00 to 0.16)	0.04 (0.01 to 0.06)	-0.08 (-0.11 to -0.05)	-0.22 (-0.30 to -0.14)	-0.22 (-0.31 to -0.12)	-1.03 (-1.71 to -0.35)	n/s	n/s	0.15 (0.09 to 0.21)
Q41: Overall experience of OOH GP services, % very good	31.8 (23.3–41.7)	n/s	n/s	0.03 (0.00 to 0.05)	-0.09 (-0.12 to -0.06)	-0.19 (-0.27 to -0.12)	-0.16 (-0.25 to -0.07)	-1.14 (-1.80 to -0.48)	n/s	n/s	0.16 (0.10 to 0.22)

<sup>a</sup>B values only included if  $P < 0.05$ ; values for  $P > 0.05$  denoted by 'n/s' (not significant). <sup>b</sup>Questionnaire numbers as they appear on the GP Patient Survey, 2011/2012. FTE = full-time equivalent. IMD = Index of Multiple Deprivation. OOH = out of hours.

training practice status was a significant predictor of positive responses to just two questions, Q4 and Q14; note that in 2009, Q14 was given a different question number and split into two parts, asking separately about the ease of speaking to a doctor or to a nurse on the phone.

Finally, the study added in the London F2 training practices and repeated the analysis in both years, 2012 and 2009. This resulted in no further changes to the significance of GP training practice status as a predictor variable.

[Additional data is available from the authors on request].

## DISCUSSION

### Summary

Just over one-quarter of general practices in England are GP training practices. Patients registered at GP training practices gave consistently more positive GPPS responses to all questions relating to professional attributes of the GP. These questions, summarised in Table 2, cover attributes such as 'giving you enough time', 'listening to you', 'explaining tests and treatments', 'involving you in decisions about your care', 'treating you with care and concern' and 'confidence and trust in your GP'. Patients registered at GP training practices also gave significantly more positive ratings to the two 'satisfaction' indicators included in the survey: 'overall experience' and 'recommending' the GP surgery.

In contrast, positive responses associated with training practice status were not a feature of any of the questions about nursing attributes, nor about out-of-hours care experienced by patients registered at these practices, nor for most of the 12 questions about 'access'.

The five sensitivity analyses confirm the persistence of the GP training practice effect on positive responses to the 'doctor care domain'. Based on locally verified GP training practice data in London, covering two separate years and re-analysed both including and excluding F2 training practices, each analysis demonstrated a consistent relationship between training practice status and positive GPPS responses to all six of the 'doctor care domain' and to both 'overall satisfaction' questions. It was only when the national analysis was repeated using a broader definition of a positive response, that GP training practice status ceased to be a significant predictor of 'overall satisfaction', while remaining a determinant of positive responses to five out of six of the 'doctor care domain' questions.

GP training practice status was not the only predictor of positive GPPS responses to 'doctor care domain' and 'overall satisfaction' questions. After adjusting for confounding and clustering, patients registered at smaller practices with smaller list sizes per GP gave more positive responses, a finding in keeping with other studies which have reported higher patient satisfaction ratings associated

with smaller practices.<sup>17</sup> Older patients, a group who could be assumed to have greater health needs, gave more positive responses; positive response bias in the older population has been consistently reported for several decades.<sup>18</sup> However, patients registered at practices in more deprived areas and with larger ethnic minority communities, both demographic factors associated with greater health need, gave significantly less positive GPPS responses to questions in these domains. Persistently negative satisfaction ratings among ethnic minority groups concerning their experience of UK primary care have been the subject of detailed analysis, with notable shortfalls in access and continuity contributing to lower overall satisfaction ratings.<sup>19</sup>

### Strengths and limitations

This is the first study to explore the relationship between GP training practice status and the dimensions of patient experience which relate to the professional attributes of doctors such as 'care and concern', as elicited by the GPPS.

There were some discrepancies between local (London) and national datasets in the allocation of GP training practice status although overall there was agreement for 94% of practices. Differences may have arisen because of differences in data collection methods. However, when GP training practice data was validated by inspection (the London dataset), the pattern of association between positive GPPS responses and training practice status was unchanged. Although the positive relationship between GPPS responses to the 'doctor domain' and 'satisfaction' questions remained when F2 training practices were added to the analysis, the numbers are too small to determine the strength of the association for F2 training practices alone.

The study has demonstrated the extent to which positive experiences of GP care throughout the 'doctor care domain' and 'overall satisfaction' questions are linked to GP training practice status. Accreditation and inspection for GP training practices ensures that they can demonstrate several of the attributes that are measured in the 'doctor care domain' of the GPPS. All six questions in the 'doctor care domain' could be considered as measures of the degree of 'patient-centredness' of the GP during their consultation.<sup>20</sup> This is reflected in the national 'core curriculum' taught by all training practices in England which covers six areas of competence, two of which are 'person-centred care' and 'a holistic approach' that demonstrates an understanding of

patients' values, culture and family beliefs.<sup>21</sup> Successful implementation of these values and attributes may have contributed to the higher GPPS scores in the 'doctor care domain'. Qualitative interview studies are needed to provide data enabling patient experience to be more closely compared and contrasted with the professional attributes of a practice achieving training practice status.

The GPPS survey data are analysed at practice level rather than at the level of individual healthcare professionals. Thus the extent of variation in GPPS responses according to care by different clinicians is unknown and the data cannot differentiate between patient responses attributable to care from those more directly involved in the process of GP training.

The lack of an association between GP training practice status and positive responses to the 'nurse care domain' and 'out-of-hours' questions may suggest that GP training practices have been less successful at translating the values of 'person-centred care' and a 'holistic approach' to the wider clinical team or to their out-of-hours arrangements.

### Comparisons with existing literature

The importance of attributes such as 'care and concern' for patients has been emphasised both by those concerned at recent shortcomings in the provision of secondary care and those seeking to make quality indicators more aligned to professional values.<sup>1,2,22</sup> General practice has many roles and one which patients value highly is for GPs who listen and who demonstrate 'care and concern'.<sup>23</sup>

Patient perceptions related to GP training practice status have not previously been reported in a national study. This, in part, may be related to the fact that until late 2010, there was no national dataset available of GP training practices.<sup>12</sup> The finding of more positive perceptions of the 'doctor care domain' questions could be interpreted as an expected outcome of the values and attributes of a GP training practice. Indeed, there is evidence that if healthcare professionals are trained in patient-centredness, this translates into differences in care which are perceived by patients and reported as better communication and treatment satisfaction.<sup>24,25</sup> Not all studies have confirmed the relationship between the professional value of patient centredness and patient outcomes.<sup>26</sup> In spite of the ambiguity of research findings about outcomes, patients have a strong preference for patient centredness.<sup>27</sup>

Quality indicators in primary care are currently focused on public health, organisational and financial indicators.<sup>22</sup> More recently, there has been an increasing focus on 'outcomes' indicators, aligned to the NHS Outcomes Framework.<sup>22</sup> The findings suggest the importance of indicators which reflect patient experience. Based on the findings of a systematic review of 57 studies conducted in primary care, patients rate the interpersonal quality of care as their foremost priority.<sup>28</sup> Other research based on the GPPS has demonstrated that GP communication with patients is the strongest predictor of overall satisfaction with care.<sup>29</sup>

#### Implications for research and practice

GP training practices have been found to exceed the performance of non-training practices both in the UK and in Holland.<sup>30,31</sup> In the Dutch study, probably the most detailed study of training practices to date, a large cohort of general practices were assessed on the basis of 369 criteria. Both training practices and GP trainers provided more diagnostic and therapeutic services, and scored higher on team skills and organisational strengths. Moreover, GP trainers reported more job satisfaction and less job stress than their non-trainer counterparts. Patient evaluations were not included in the Dutch study even though validated instruments such as the 23-item EUROPEP have been used in European studies to determine patient experience.<sup>32</sup> Vocational training for GPs has become mandatory in the European Union requiring an infrastructure of GP training practices.<sup>33</sup> Further international comparisons of GP training practices based on patient evaluations are required to fill the current gaps in knowledge.

The findings support the utility of including patient experience indicators

within the domains of primary care indicators in current use, especially those which focus on professional attributes and communication skills. Further research is needed on those factors which contribute to improvements in these aspects of care.

Practices with younger GPs were found to perform less well on the 'doctor care domain', even though these GPs are likely to have recently emerged from a GP training environment. This could be an argument for greater educational input into the early years of employment as a GP.

Finally, the positive benefits of being a GP training practice were not evenly spread throughout the domains of the GPPS. Further work is needed to determine whether the reported benefits of GP training practice status can be extended to practice nurse consultations. In the UK, there is no parallel educational scheme for practice nurse training based in nationally accredited practices. A broader involvement of practice nurses in GP training and in the practice accreditation process may contribute to improved ratings of nurse consultations. Alternatively, training organisations may need to contribute more to the professional development and education of practice nurses, and of other practice staff.

To conclude, the accreditation process for GP training practices requires practices to demonstrate a series of attributes including patient-centred care. Based on GPPS responses, doctors in GP training practices appeared to offer more patient-centred care with patients reporting more positively concerning attributes of doctors such as 'listening' or 'care and concern'. Less positive perceptions of patient-centred care were a feature of practices located in deprived communities with higher proportions of ethnic minorities.

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Not applicable.

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#### Competing interests

Sanjiv Ahluwalia is employed by the London School of General Practice. All other authors have no other competing interests to declare.

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