Research

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Importance of accessibility and opening hours to overall patient experience of general practice:

analysis of repeated cross-sectional data from a national patient survey

Abstract

The UK government aims to improve the accessibility of general practices in England, particularly by extending opening hours in the evenings and at weekends. It is unclear how important these factors are to patients' overall experiences of general practice.

To examine associations between overall experience of general practice and patient experience of making appointments and satisfaction with opening hours.

Design and setting

Analysis of repeated cross-sectional data from the General Practice Patient Surveys conducted from 2011–2012 until 2013–2014. These covered 8289 general practice surgeries in England.

Method

Data from a national survey conducted three times over consecutive years were analysed. The outcome measure was overall experience, rated on a five-level interval scale. Associations were estimated as standardised regression coefficients, adjusted for responder characteristics and clustering within practices using multilevel linear regression.

Results

In total, there were 2 912 535 responders from all practices in England (n = 8289). Experience of making appointments (β 0.24, 95% confidence interval [CI] = 0.24 to 0.25) and satisfaction with opening hours (β 0.15, 95% CI = 0.15 to 0.16) were modestly associated with overall experience. Overall experience was most strongly associated with GP interpersonal quality of care $(\beta 0.34, 95\% CI = 0.34 to 0.35)$ and receptionist helpfulness was positively associated with overall experience (β 0.16, 95% CI = 0.16 to 0.17). Other patient experience measures had minimal associations ($\beta \le 0.06$). Models explained $\ge 90\%$ of variation in overall experience between practices.

Patient experience of making appointments and satisfaction with opening hours were only modestly associated with overall experience. Policymakers in England should not assume that recent policies to improve access will result in large improvements in patients' overall experience of general practice.

access to health care; family practice; healthcare surveys; patient satisfaction; primary health care.

INTRODUCTION

The Institute for Healthcare Improvement has developed a Triple Aim framework to help healthcare systems optimise performance; along with improving population health and reducing per-capita costs, the other main aim to be pursued is improving the patient experience.¹ Patient experience of primary care could be particularly important to this aim,2 especially in countries such as England, where general practices are a first point of contact and coordinate care within the system.

In 2007, the UK Department of Health introduced a national survey — the General Practice Patient Survey (GPPS) - to ascertain patients' experiences of general practice.3 The GPPS is a quantitative postal survey conducted annually for the English NHS. Patients aged at least 18 years who have valid NHS numbers and have been registered with a general practice continuously for the previous 6 months are eligible for sampling. The GPPS includes all practices with eligible patients. Questionnaires are sent to random samples of eligible patients in each practice, stratified by age group, sex, and practice. Survey measures are included in England's NHS Outcomes Framework.4

Since 2010, the three most recent UK governments have each pledged to improve access to general practice services in their election manifestos.5-7 This became a particularly high-profile and contentious area of healthcare policy around the 2015 general election,8 when politicians stated that, by 2020, everyone in England will be able to see a GP 7 days a week, from 8am until 8pm. This was opposed by the Royal College of General Practitioners due to resource constraints and a lack of evidence around the benefits to patients, for example.9 The NHS now has a government mandate to ensure that '100% of population has access to weekend/evening routine GP appointments' by 2020.10

Several national policies have been introduced to help progress towards this goal. The GP Access Fund provided £175 million to around 2560 general practices (out of approximately 8000) to implement interventions that may improve access.¹¹ Schemes focused on providing additional appointments in the evenings and at weekends in particular, often by working in groups or establishing dedicated centres with longer opening hours.12 Previously, most practices offered appointments between 8am and 6.30pm from Monday to Friday only.13 Practices are now contractually obliged to report their opening times to national NHS organisations, and commissioners receive extra payments for providing good experiences of access, as measured by the GPPS.14

Satisfaction with opening hours and patient experience of access to general practice decreased across several GPPS measures from 2011 to 2015, as did overall

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How this fits in

The importance of patient experience of making appointments and satisfaction with opening hours to overall experience of general practice was unknown. This study suggests that these two variables are only modestly associated with overall experience. National policymakers and local commissioners might consider this finding when discussing current policies designed to improve access.

experiences, 8,15 and the UK Secretary of State for Health has referred to these trends when explaining policies. 16 However, it remains unclear how important these factors are to patients' overall experiences relative to other aspects of general practice.

Responder-level data from the GPPS were analysed to examine associations between overall experiences of general practice and other patient experience measures. This study focused on measures relevant to government policy to improve access to general practice in England, particularly satisfaction with opening hours and experiences of making appointments.

METHOD

A regression analysis of repeated crosssectional data from the GPPSs carried out in 2011-2012, 2012-2013, and 2013-2014 was conducted. In these years, 2 912 535 patients from 8289 practices responded to the survey (35.8% of 8 134 705 questionnaires sent). 17-19 The mean number of responses per practice per year was 119 (standard deviation [SD] 23). All responders were included in the analysis.

Patient experience measures

The outcome measure was overall experience of general practice, as defined by responses to the question: 'Overall, how would you describe your experience of your GP surgery?' The five response options were: 'very good', 'fairly good', 'neither good nor poor', 'fairly poor', and 'very poor'. These response options were treated as lying on a five-level interval scale, in line with previous research.²⁰⁻²²

The two main explanatory variables of interest were:

 experience of making an appointment ('Overall, how would you describe your experience of making an appointment?'); and

 satisfaction with opening hours ('How satisfied are you with the hours that your GP surgery is open?').

Questions had five response options: experience of making an appointment was recorded as 'very good' to 'very poor'; satisfaction with opening hours was recorded as 'very satisfied' to 'very dissatisfied' (further information is available from the authors on request). Again, these responses were treated as lying on interval scales. There was a focus on these variables to address national policy to improve access to, and extend opening hours in, general practice.8,23

The authors selected other patient experience measures that should be used as explanatory variables based on the results of Paddison et al;24 the measures included in Paddison et al's analysis explained 92% of variation in overall satisfaction between practices after accounting for responder characteristics. In the study presented here, a measure of GP interpersonal quality of care was calculated from five questions that related to GPs:

- giving patients enough time;
- listening;
- explaining tests and treatments;
- involving patients in decision making; and
- treating patients with care (further information is available from the authors on request).

Each question had five response options ranging from 'very good' to 'very poor', which were coded on an interval scale. A summary measure of GP interpersonal quality of care was generated as the mean value of responses for those participants who answered three or more of the five relevant guestions.²⁴⁻²⁶ A similar measure of nurse interpersonal quality of care was generated with the same methods, but through use of questions about nurses (further information is available from the authors on request). Previously published factor analyses of the five questions suggest that they measure one construct each for GP interpersonal quality of care and nurse interpersonal quality of care.^{3,27}

The authors analysed measures of how easy it was to contact general practices by telephone (ranging from 'very easy' to 'not at all easy') and the helpfulness of receptionists ('very helpful' to 'not at all helpful') on four-level interval scales (further information is available from the authors on request). In addition, they assessed whether

Table 1. Characteristics of responders to the General Practice Patient Surveys, 2011-2014^a

| | Responders, n | Unweighted percentage of responders, % | Weighted percentage of responders, % | |
|----------------------------------|---------------|--|--------------------------------------|--|
| Age, years | | | | |
| 18–24 | 120 263 | 4.2 | 9.7 | |
| 25–34 | 275 565 | 9.6 | 17.1 | |
| 35–44 | 376 214 | 13.1 | 17.8 | |
| 45–54 | 496 900 | 17.3 | 18.5 | |
| 55–64 | 575 908 | 20.1 | 15.0 | |
| 65–74 | 561 814 | 19.6 | 11.9 | |
| 75–84 | 346 370 | 12.1 | 7.2 | |
| ≥85 | 111 737 | 3.9 | 2.9 | |
| Total | 2 864 771 | | | |
| Sex | | | | |
| Male | 1 237 230 | 43.2 | 49.0 | |
| Female | 1 627 054 | 56.8 | 51.0 | |
| Total | 2 864 284 | | | |
| Ethnicity | | | | |
| White | 2 511 254 | 87.9 | 87.2 | |
| Mixed | 21 459 | 0.8 | 1.0 | |
| Asian | 169 559 | 5.9 | 6.4 | |
| Black | 76 699 | 2.7 | 2.6 | |
| Other | 78 193 | 2.7 | 2.8 | |
| Total | 2 857 164 | | | |
| Deprivation fifth ^b | | | | |
| 1 (most deprived) | 596 503 | 20.5 | 20.5 | |
| 2 | 577 155 | 19.8 | 20.1 | |
| 3 | 597 355 | 20.5 | 20.0 | |
| 4 | 588 258 | 20.2 | 19.7 | |
| 5 (least deprived) | 550 900 | 18.9 | 19.7 | |
| Total | 2 910 171 | | | |
| Can take time off work to see GP | | | | |
| Not working ^c | 1 460 780 | 53.5 | 43.2 | |
| Yes | 883 318 | 32.4 | 38.8 | |
| No | 384 779 | 14.1 | 18.0 | |
| Total | 2 728 877 | | | |
| Confident in managing health | | | | |
| Very | 1 185 895 | 42.5 | 43.2 | |
| Fairly | 1 392 810 | 49.9 | 49.5 | |
| Not very | 172 691 | 6.2 | 6.0 | |
| Not at all | 37 596 | 1.3 | 1.3 | |
| Total | 2 788 992 | | | |

^aIn total, there were 2 912 535 survey responders from 8289 general practices; data presented where available for each variable. Weighted percentages account for survey design and non-response. ^bFifths of the national Index of Multiple Deprivation rank for lower-layer super output areas of residence. Full-time education, unemployed, sick or disabled, retired, looking after home, other.

> responders were able to get an appointment to see or speak with someone on their last attempt as a dichotomous variable ('Yes' or 'Yes, but I had to call back' versus 'No'). For responders who were able to get an appointment, three additional measures were generated:

> · whether the patient got the type of appointment they wanted (such as, to see a GP at the practice);

- whether the patient got the time period they wanted (for example, on the same day); and
- how convenient the appointment was ffurther information is available from the authors on request).

The first two of these measures were dichotomous, whereas appointment convenience had a four-level interval scale ('very convenient' to 'not at all convenient').

In this article, all measures are referred to as patient 'experience' measures for conciseness, but it is acknowledged that these measures include subjective items about satisfaction, ratings of past experiences, and reports of what has happened in the past.

Patient characteristics

Six patient characteristics were considered to be potential confounders of the associations between patient experience measures:

- age group (eight ordinal categories, as outlined in Table 1):
- ethnicity (white, mixed, Asian, black, or other);
- socioeconomic status (fifths of the Index of Multiple Deprivation 2010 for patients' residential areas);
- confidence in managing own health (four ordinal categories, as outlined in Table 1);
- ability to take time off work to see a GP (yes, no, not working).²⁸

The first four of these characteristics are those most often included in previous GPPS analyses. Confidence in managing own health and ability to take time off work to see a GP were also included because of their strong associations with patient experience measures.^{28,29}

Statistical methods

Descriptive statistics for all GPPS responders were calculated, both before and after weighting responses using the weights given in the GPPS datasets. These weights account for differential probabilities of nonresponse (based on patient age, sex, region of England, and area-based demographic and socioeconomic indicators) and of eligible patients being sent questionnaires in each practice. 17-19 When estimating associations between variables, each model included all responders without missing

Table 2. Satisfaction with opening hours, experience of making an appointment, and overall experience in the General Practice Patient Surveys, 2011–2014^a

| | | Unweighted percentage of | Weighted percentage of |
|--|---------------|--------------------------|------------------------|
| | Responses,b n | responders, % | responders, % |
| Satisfaction with opening hours ^a | | | |
| Very satisfied | 1 235 576 | 44.8 | 40.0 |
| Fairly satisfied | 1 109 522 | 40.2 | 42.3 |
| Neither satisfied nor dissatisfied | 224 494 | 8.1 | 9.3 |
| Fairly dissatisfied | 132 747 | 4.8 | 5.9 |
| Very dissatisfied | 55 309 | 2.0 | 2.5 |
| Total | 2 757 648 | | |
| Experience of making an appointmen | nt | | |
| Very good | 1 176 083 | 42.4 | 35.7 |
| Fairly good | 1 080 176 | 38.9 | 41.2 |
| Neither good nor poor | 301 154 | 10.8 | 13.2 |
| Fairly poor | 145 114 | 5.2 | 6.6 |
| Very poor | 74 139 | 2.7 | 3.5 |
| Total | 2 776 666 | | |
| Overall experience | | | |
| Very good | 1 452 265 | 51.2 | 44.8 |
| Fairly good | 1 080 961 | 38.1 | 42.2 |
| Neither good nor poor | 208 637 | 7.4 | 8.8 |
| Fairly poor | 71 511 | 2.5 | 3.2 |
| Very poor | 23 300 | 0.8 | 1.0 |
| Total | 2 836 674 | | |

^aIn total, there were 2 912 535 survey responders from 8289 general practices; data presented where available for each variable. Weighted percentages account for survey design and non-response. Besponses of I'm not sure when my GP surgery is open' were excluded (n = 80 636, 2.8%).

> data for any of the variables included in that model. This complete-case analysis should introduce minimal bias as variables had similar distributions between complete cases and all GPPS responders (further information is available from the authors on request). Past analysis of the GPPS, comparing results from complete-case analysis and multiple imputation, found no meaningful differences.24

> Linear regression was used to estimate associations between patient experience measures. Models were adjusted for the six patient characteristics stated above by including them as categorical variables in the regression equation. Models also included fixed effects at the general practice level to account for the clustering of responders within general practices. This adjusted results for possible confounding from factors that do not vary between patients within a practice (such as the characteristics of that practice). Associations can be interpreted in terms of the relationships between variables within practices. The results were also adjusted for the survey year; the authors calculated 95% confidence intervals (CIs) from Huber

White standard errors to account for possible heteroscedasticity.

Before estimating associations, all patient experience measures were standardised to have means of zero and SDs of one. The regression models return standardised regression coefficients; these coefficients are interpreted as the estimated change in the outcome variable, in terms of SDs of this outcome for a one SD increase in an explanatory variable. The authors also estimated associations, with overall experience (the outcome variable) coded on a scale of 0-100 to help interpret the magnitudes of associations. The corresponding coefficients are the estimated change in the outcome variable on a 0-100 scale for a one SD increase in an explanatory variable.

The regression analyses were separated into three models:

- model A this estimated associations between overall experience and each of the explanatory experience measures in turn, adjusting only for patient characteristics and survey year;
- model B as model A, but this included explanatory experience measures relevant to all responders simultaneously so associations were also adjusted for the correlations between experience measures; and
- model C as model A and also adjusted for the correlations between experience measures, but only included responders who were able to get an appointment on their last attempt; it added the type, timing, and convenience of appointments as explanatory variables.

The authors conducted a sensitivity analysis with a measure of relational continuity of care as an additional explanatory variable. This variable was examined in a sensitivity analysis only as it is defined for just the 59% of responders who stated that they had a preferred GP. For these responders, the authors measured how often they consulted that particular GP on a four-level interval scale ('always or almost always', 'a lot of the time', 'some of the time, or 'never or almost never').

The assumption of linear associations between patient experience measures were checked by adding quadratic terms for each of them, which did not improve the explanatory power of the models. The authors report 95% CIs in the main text but not in results tables because the interval limits were often equal to the coefficients

Table 3. Ease of contacting practices by telephone, helpfulness of receptionists, appointment characteristics, frequency of consulting a preferred GP, and interpersonal quality of care in the General Practice Patient Surveys, 2011–2014^a

| | Responses, <i>n</i> | Unweighted percentage of responders, % | Weighted percentage of responders, % |
|---|---------------------|--|--------------------------------------|
| Ease of contact by telephone ^b | | | |
| Very easy | 1 020 288 | 36.3 | 29.6 |
| Fairly easy | 1 293 282 | 46.0 | 48.5 |
| Not very easy | 355 258 | 12.6 | 15.2 |
| Not at all easy | 144 488 | 5.1 | 6.7 |
| Total | 2813316 | | |
| Helpfulness of receptionists ^c | | | |
| Very helpful | 1 561 893 | 54.8 | 47.3 |
| Fairly helpful | 1 070 939 | 37.6 | 42.8 |
| Not very helpful | 165 141 | 5.8 | 7.5 |
| Not at all helpful | 53 161 | 1.9 | 2.6 |
| Total | 2 851 134 | | |
| Able to get an appointment ^d | | | |
| Yes | 2 486 136 | 91.5 | 89.7 |
| No | 230 237 | 8.5 | 10.3 |
| Total | 2 716 373 | | |
| Got the type of appointment wantede | | | |
| Yes | 2 333 194 | 94.1 | 93.7 |
| No | 145 954 | 5.9 | 6.3 |
| Total | 2 479 148 | | |
| Got the timing of appointment wanted ^{e,f} | | | |
| Yes | 1 818 058 | 77.8 | 77.5 |
| No | 520 132 | 22.2 | 22.5 |
| Total | 2 338 190 | | |
| Convenience of appointmente | | | |
| Very convenient | 1 282 530 | 52.4 | 47.0 |
| Fairly convenient | 1 024 922 | 41.9 | 45.7 |
| Not very convenient | 123 640 | 5.1 | 6.5 |
| Not at all convenient | 17 145 | 0.7 | 0.9 |
| Total | 2 448 237 | | |
| Frequency of consulting preferred GP ⁹ | | | |
| Always or almost always | 744 438 | 46.4 | 40.0 |
| A lot of the time | 364 934 | 22.8 | 23.4 |
| Some of the time | 412 203 | 25.7 | 29.7 |
| Never or almost never | 82 214 | 5.1 | 6.9 |
| Total | 1 603 789 | | |
| | Responses, | Unweighted mean | Weighted mear |
| | n | (SD) | (SD) |
| GP interpersonal quality of care ^h | 2 778 536 | 1.6 (0.7) | 1.7 (0.8) |

| Total | 1 603 789 | | |
|--|-----------------|----------------------|-----------------------|
| | Responses, n | Unweighted mean (SD) | Weighted mean (SD) |
| GP interpersonal quality of care ^h | 2 778 536 | 1.6 (0.7) | 1.7 (0.8) |
| Nurse interpersonal quality of care ^h | 2 487 778 | 1.6 (0.7) | 1.6 (0.7) |

^aIn total there were 2 912 535 survey responders from 8289 general practices; data presented where available for each variable. Weighted percentages account for survey design and non-response. ^bResponse excluded from analysis: 'Haven't tried', n = 79 574. 'Response excluded from analysis: 'Don't know', n = 40 588. 'Response excluded from analysis: 'Can't remember', n = 77 477. "Measure only applicable to responders who were able to get an appointment, n = 2 486 136. Response excluded from analysis: 'Can't remember', n = 124 602. Measure only applicable to responders who had a preferred GP, n = 1 677 868. hMeasures range from 1 (all items 'very good') to 5 (all items 'very poor'). SD = standard deviation.

(to two decimal places); this was because of small standard errors resulting partly from the large sample size. All statistical analyses used Stata/MP (version 13).

RESULTS

The characteristics of patients who completed the GPPS dated 2011-2012, 2012-2013, and 2013-2014 are outlined in Table 1. In total, 18.0% reported not being able to take time off work to see a GP, 38.8% could take such time off, and 43.2% were not working (due, for example, to unemployment, full-time education, and retirement).

Patients generally reported positive experiences of their general practices: Table 2 shows that 44.8% and 42.2% of weighted GPPS responders described their overall experiences as 'very good' or 'fairly good' respectively. The corresponding percentages for satisfaction with opening hours and experiences of making appointments were lower, but still indicated generally positive results (Table 2).

Table 3 presents descriptive statistics for the other patient experience measures analysed. Most patients (89.7%) were able to get an appointment on their last attempt, and 92.7% of these patients stated that this appointment was 'very convenient' or' fairly convenient' (Table 3); this equates to 83.1% of patients reporting having a convenient appointment.

Table 4 reports standardised regression coefficients (β) for associations between overall experience and other patient experience measures. In model A (when correlations between experience measures were not adjusted for), the experience of making appointments was most strongly associated with overall experience (β 0.61, 95% CI = 0.60 to 0.61). Satisfaction with opening hours was moderately associated with overall experience in this model (β 0.48, 95% CI = 0.47 to 0.48). In model B (when correlations between experience measures were adjusted for), these associations weakened substantially for both the experience of making appointments (β 0.24, 95% CI = 0.24 to 0.25) and satisfaction with opening hours (β 0.15, 95% CI = 0.15 to 0.16) (Table 4). One SD increases in these variables corresponded to increases of 4.8 (95% CI = 4.8 to 4.9) and 3.1 (95% CI = 3.0 to 3.1) points in overall experience on a 0–100 scale (Table 4). These associations were similar in model C, which only included responders who were able to get an appointment.

GP interpersonal quality of care was most strongly associated with overall experience in models B and C (β 0.34, 95% CI = 0.34 to 0.35). Other variables were modestly associated (helpfulness of receptionists: β 0.16, 95% CI = 0.16 to 0.17) or minimally associated with overall experience ($\beta \le 0.06$).

Table 4. Regression coefficients for associations between overall experience and other patient experience measures, estimated using multi-level fixed-effects linear regression^a

| | SDb | Overall standardised experience, β | | Overall experience on scale of 0–100 | | | |
|-------------------------------------|------|--|----------------------|--------------------------------------|----------------------|----------------------|----------|
| | | Model A ^c | Model B ^d | Model C ^e | Model A ^c | Model B ^d | Model Ce |
| GP interpersonal quality of care | 18.5 | 0.60 | 0.34 | 0.34 | 11.8 | 6.8 | 6.7 |
| Nurse interpersonal quality of care | 16.5 | 0.39 | 0.06 | 0.06 | 7.8 | 1.2 | 1.2 |
| Ease of telephone contact | 27.4 | 0.45 | 0.04 | 0.04 | 8.9 | 0.9 | 0.8 |
| Helpfulness of receptionists | 23.0 | 0.52 | 0.16 | 0.16 | 10.4 | 3.3 | 3.1 |
| Able to get appointment | 27.9 | 0.24 | 0.02 | - | 4.8 | 0.3 | - |
| Type of appointment wanted | 23.5 | 0.04 | - | 0.00 | 0.7 | - | 0.0 |
| Timing of appointment wanted | 41.6 | 0.09 | _ | 0.00 | 1.8 | - | 0.0 |
| Convenience of appointment | 20.9 | 0.36 | _ | 0.02 | 7.1 | _ | 0.4 |
| Satisfaction with opening hours | 23.2 | 0.48 | 0.15 | 0.15 | 9.4 | 3.1 | 3.0 |
| Experience of making appointments | 24.6 | 0.61 | 0.24 | 0.23 | 12.0 | 4.8 | 4.5 |

^{*}All models included a fixed effect at the general practice level. The SD of overall experience was 19.8 on a scale of 0–100. Adjusted for patient characteristics and survey year; only one experience measure was included as an explanatory variable at any one time, 2 080 925 ≤ n ≤ 2 503 720. ⁴Adjusted for patient characteristics, survey year, and other explanatory experience measures, n = 1 978 600. Adjusted for patient characteristics, survey year, and other explanatory experience measures among responders who were able to get an appointment, n = 1 698 043. SD = standard deviation.

Model B explained 65% of variation in overall experience (R^2 within 0.63, between 0.92). Model C explained 62% of variation in this outcome variable (R^2 within 0.60, between 0.90). This is substantially more than when only patient characteristics and survey year were used as explanatory variables (R^2 overall 0.12, within 0.11, between 0.30) (data not shown).

In the sensitivity analysis that examined associations among responders who had a preferred GP, the measure of relational continuity was weakly associated with overall experience (β 0.05, data not shown). Coefficients for other explanatory experience measures were similar to those presented for model B in Table 4.

DISCUSSION

Summary

Experiences of making appointments and satisfaction with opening hours were modestly associated with overall experience. Increases in the former variables of one SD (equating to 23-25 points on scales of 0-100) were independently associated with increases of 3–5 points in overall experience when measured on a scale of 0-100. Overall experience was most strongly associated with the interpersonal quality of care provided by GPs. With the exception of the helpfulness of receptionists, other variables — nurse interpersonal quality; ease of telephone contact; and appointment type, timing, and convenience — had minimal independent associations with overall experience. The models explained most variation in overall experience and almost all variation in this measure between practices.

Strengths and limitations

A strength of this study is that it was based on a national data source — the GPPS — that includes all general practices in England. The authors examined patient experience measures that are included in the national outcomes framework for the NHS⁴ and have been used to evaluate recent policies to improve access to general practice. 12 The findings should, therefore, be of direct interest to national policy makers. The GPPS' large sample size helped to give very precise estimates (narrow Cls) of the associations between patient experience measures.

The authors used the multilevel structure of the GPPS data to examine associations between responders' answers, while accounting for the clustering of patients within practices; the results could not be confounded by variables that are constant within each practice. However, associations between two experience measures could be confounded by, for example, a third experience measure that differs between patients within practices. A patient characteristic that was not analysed may bias some associations; this possibility could be partly addressed if the GPPS had a cohort of responders that completed a questionnaire each year, but such a cohort does not yet exist.

Results could be influenced by the design of GPPS questionnaires, such as question ordering where responders may be more likely to give similar answers to adjacent questions than two distant ones. However, any ordering effect may be small, as weak associations were found between measures from adjacent sections, such as satisfaction with opening hours (question 25) and overall experience (question 28).

A limitation of the GPPS questions, in the context of this study, is that responders are only asked about their last contact with their general practice for some questions. These include the questions relating to appointments, and GP and nurse interpersonal quality of care. Assuming that typical experiences are more important to overall experience, and that patients' last contacts do not reflect their typical experiences (by a random amount), estimated associations between the above variables and overall experience could be weaker than is true. For example, being unable to get an appointment on the last attempt may not affect overall experience to a great extent if appointments are usually available. Measurement error due to responders' recall of past experiences could also weaken associations.

It should not be concluded that GP interpersonal quality of care is more important to overall experience than access as patients must be able to access general practice services to consult their GP and for GP interpersonal quality of care to even be relevant. What can be concluded, however, is that overall experience was more strongly associated with GP interpersonal quality of care than patients' experiences of making an appointment specifically on their last attempt.

Comparison with existing literature

The study presented here builds on earlier work by Paddison et al,24 which examined associations between overall satisfaction with general practice and other patient experience measures in the 2009-2010 GPPS. Their study was unable to examine several policy-relevant measures that became available from the 2011-2012 GPPS onwards, including experiences of making appointments, satisfaction with opening hours, and appointment availability and characteristics. Still, the study presented here is consistent with Paddison et al's findings²⁴ in suggesting that GP interpersonal quality of care is the measure most strongly associated with overall satisfaction or experience. In 2011, the question about overall satisfaction was replaced by one about overall experience, which is why the outcome measure differs between the two studies

Several studies in England^{30–33} have used discrete-choice experiments to assess the factors that patients consider most important when booking appointments. These experiments are limited by their simplification of the choice options and because stated preferences may differ from patients' actions and actual feelings, but the studies all suggest that patients are willing to make reasonable trade-offs between different appointment characteristics. This may explain why the type, timing, and convenience of appointments, and how often a preferred GP was consulted, were minimally associated with overall experience.

Other studies^{28,29,34-36} have used the GPPS to investigate associations between characteristics of general practices or other primary care providers and patient experience. One of these studies²⁸ suggests that patients registered to practices with extended opening hours were slightly more satisfied with opening hours, particularly if they could not take time off work to see a GP; however, this finding did not apply to the experience of making appointments and overall experience.

Weak associations between nurse interpersonal quality of care and overall experience, in contrast with the much stronger association for GP interpersonal quality, may reflect lower frequencies of nurse consultations.³⁷ This could also be explained by the nature of consultations: patients may see their GP for the more important problems that have greater potential to affect their experiences.

Implications for research and practice

Findings of the study presented here highlight that satisfaction with opening hours and experience of making appointments independently had modest associations with overall experience. As such, policymakers should not expect large improvements in overall experiences with short-term improvements to either of these variables. This includes national policies such as the GP Access Fund¹¹ and incentive payments to commissioners.¹⁴ However, policy may be able to improve satisfaction with opening hours and experience of making appointments simultaneously, which could have larger effects on overall experience. Interventions that aim to improve access could also improve overall experience independently of satisfaction with opening hours and experience of making appointments.

This study also highlights that the strongest association found was between the interpersonal quality of care provided by GPs and overall experience. Policymakers could reflect on this finding and consider the contexts of GPs' work that affect interactions with patients; for example, a large workload could affect whether GPs can give each patient enough time at consultation. Behaviours of individual GPs may also be important, as ratings of interpersonal quality vary more between GPs (within practices) than between practices.²¹

Some interventions being promoted to improve access to general practice, such as telephone and video consultations, change the GP-patient interaction substantially — an unintended consequence could be reduced interpersonal quality of care.

To conclude, it is suggested that policymakers should not assume that recent national policies focused on access to general practice will translate into large improvements in patients' overall experiences, even if they do actually improve access.

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