Understanding ethnic and other socio-demographic differences in patient experience of primary care: evidence from the English General Practice Patient Survey

G Lyratzopoulos,[1] M Elliott,[2] J M Barbiere,[1] A Henderson,[1] L Staetsky,[3] C Paddison,[1] J Campbell,[4] M Roland[1]

► Additional appendices are published online only. To view these files please visit the journal online (http://qualitysafety.bmj.com/content/21/1.toc).

[1]Cambridge Centre for Health Services Research, Institute of Public Health, University of Cambridge, Cambridge, UK
[2]Rand Corporation, Santa Monica, California, USA
[3]Rand Europe, Westbrook Centre, Cambridge, UK
[4]Peninsula Medical School, Exeter, UK

Correspondence to
Dr G Lyratzopoulos, Department of Public Health and Primary Care, Institute of Public Health, Forvie Site, Robinson Way, Cambridge CB2 0SR, UK; gl290@medschl.cam.ac.uk

Accepted 21 July 2011
Published Online First 7 September 2011

ABSTRACT

Background: Ethnic minorities and some other patient groups consistently report lower scores on patient surveys, but the reasons for this are unclear. This study examined whether low scores of ethnic minority and other socio-demographic groups reflect their concentration in poorly performing primary care practices, and whether any remaining differences are consistent across practices.

Methods: Using data from the 2009 English General Practice Patient Survey (2 163 456 respondents from 8267 general practices) this study examined associations between patient socio-demographic characteristics and 11 measures of patient-reported experience.

Findings: South Asian and Chinese patients, younger patients, and those in poor health reported a less positive primary care experience than White patients, older patients and those in better health. For doctor communication, about half of the overall difference associated with South Asian patients (ranging from −6 to −9 percentage points) could be explained by their concentration in practices with low scores, but the other half arose because they reported less positive experiences than White patients in the same practices. Practices varied considerably in the direction and extent of ethnic differences. In some practices ethnic minority patients reported better experience than White patients. Differences associated with gender, Black ethnicity and deprivation were small and inconsistent.

Conclusion: Substantial ethnic differences in patient experience exist in a national healthcare system providing universal coverage. Improving the experience of patients in low-scoring practices would not only improve the quality of care provided to their White patients but it would also substantially reduce ethnic group differences in patient experience. There were large variations in the experiences reported by ethnic minority patients in different practices: practices with high patient experience scores from ethnic minority patients could be studied as models for quality improvement.

INTRODUCTION

Patient experience surveys are increasingly used to help assess the quality of primary and hospital care, alongside the evaluation of clinical outcomes.[1–4] As with clinical measures of quality, there are systematic differences in how patients from different socio-demographic groups assess their care: younger patients, those belonging to ethnic minorities, those with higher socioeconomic status and those with poorer self-rated health report less positive experiences of healthcare.[5–11] The causes of these differences are unclear, and may vary across healthcare systems.

In England, primary care is delivered through general practices ('practices' hereafter) with primary care practitioners (GPs) responsible for the care of an average of 6000 patients per practice. In recent years, random samples of patients registered with each practice have been invited to take part in nationally administered patient experience surveys (the General Practice Patient Survey), and details of scores for individual practices are publicly reported.[2] The survey questionnaire was developed iteratively with four rounds of testing involving 50 cognitive interviews with people from varied socioeconomic and ethnic backgrounds and analysis of the survey's psychometric properties on a sample of 1500 patients. The survey

questionnaire is available in English and also online and by phone in another 13 languages and the British sign language. The majority of respondents completed the survey in English, either by post (96%) or online (3.9%). Two access measures from this survey were used during 2009–2011 as part of pay-for-performance schemes providing additional income to practices meeting pre-specified quality thresholds.[12]

Policy makers attribute great importance to equality in healthcare access and outcomes among all population groups.[13 14] In the UK, 99% of the resident population is registered with a general practice and access to care is universal.[15] Therefore, insights about the causes of socio-demographic differences in patient experience of primary care can be gained without potential confounding by variation in healthcare coverage.

Using data from the English General Practice Patient Survey we investigated causes of socio-demographic differences in patient experience. We specifically aimed to provide insights to help address two areas of uncertainty.[5 7 9] First, whether overall ethnic differences in experience of care arise from the concentration of ethnic minority patients in practices with lower than average performance; and second, whether ethnic differences vary substantially across practices. Different policy implications arising from these two research questions are summarised in table 1.

METHODS

Data

We analysed data from patients responding to the 2009 English General Practice Patient Survey (2 163 456 respondents from 8267 general practices, response rate 38%). As reported for other patient experience surveys,[11 23] women, middle-aged patients and those living in more affluent areas were more likely to respond to the survey, but we found no evidence of non-response bias attributable to these variables for scores of two questions linked to financial rewards.[12] The response rate is comparable with similar patient surveys.[3 4]

Patient experience measures

We used 11 patient experience measures: healthcare professional communication (questions 4, 20a-g, 21, 24a-g); access to care (questions 5a, 7, 10, 14, 17); continuity of care (question 16); and overall satisfaction with care (question 25). Binary ('yes/no') and ordinal

Table 1 Potential causes of ethnic differences in self-rated experience of healthcare, and associated policy implications

Potential cause	Potential policy implication
1. Ethnic minority patients are concentrated in poorly performing practices	
Ethnic minority patients receive care from healthcare provider organisations whose performance is lower than average. For example, most ethnic minority patients are enrolled with urban healthcare providers,[16] and urban practices tend to have lower than average patient experience scores.[8 17]	Efforts to reduce variation in the performance of different provider organisations will also result in reduction of ethnic group inequalities.[18]
2. Ethnic minority patients get same care but report worse experience	
Socio-cultural factors associated with ethnicity mean that patients of some ethnic groups score their experience systematically lower than patients of other ethnic groups even though their care is similar. This may occur for two reasons. First, some minority ethnic group patients may have higher than average expectations of quality.[5] Second, survey questions may be understood differently by patients of different ethnic (and/or linguistic) groups, resulting in variations in measured patient experience.[19] This may be more likely when general as opposed to specific/report or composite experience measures are used.[20]	Socio-cultural factors associated with ethnic minority identity are outside the strict control of the healthcare system. However, different socio-cultural norms need to be better understood, as such understanding could inform service provision, increase the 'cultural competency' of the healthcare system,[21] and enhance service quality for ethnic minority patients. Differences in response tendency could be accommodated by avoiding measures that are particularly sensitive to socio-demographic differences in scale use, and/or development of adjustment methods for these differences.[19]
3. Ethnic minority patients get worse care	
Worse care is provided to ethnic minority patients compared with other patients in the same practice. This may be the result of different factors, including communication or access barriers (eg, because of imperfect comprehension of spoken or written language),[7] or discrimination, unintended or otherwise.	If applicable, removing barriers to communication or access (eg, increase of consultation time, availability of interpreters,[22] or patient information leaflets in different languages) could improve the experience of ethnic minority patients.

(Likert) scale response options were linearly rescaled to a 0–100 range (100=most favourable response) to facilitate comparisons of socio-demographic associations across different patient measures.[5 7 9] Questions 20a-g and 24a-g each encompassed seven items about doctor or nurse communication respectively (eg, provision of sufficient time, explanation of tests and treatments, etc). For these, a single composite score was calculated as the mean of these items for all respondents who answered at least four of the seven sub-questions.[5]

Patient characteristics

Patient characteristics were considered as potentially important predictors of patient-reported experience based on evidence indicating associations with ethnicity, socioeconomic status and self-rated health status.[5–7 9] We analysed information on patient gender (men used as the reference group), age (eight groups from 18–24 to 85+, 55–64 reference), ethnic group (using either 16-group or six-group classifications from the UK Office of National Statistics,[24] with either the 'White British' or the 'White' group as reference, respectively), self-rated health status (five ordinal groups from 'excellent' to 'poor' health, 'excellent' used as reference) and presence of a longstanding psychological or emotional condition ('no' such condition used as reference)—all these items were self-reported by the survey respondents. In addition, socioeconomic status information based on the postal codes of patient residential area was available (quintiles of deprivation,[25] with the least deprived group used as reference).

Analysis

Our first objective was to distinguish the effects of the concentration of some population groups in low-scoring practices (table 1), from the variation of scores of different population groups within practices.[9] To examine this question, we combined two analytical strategies:

- Initially, we used fixed effects multivariable linear regression models to predict patient experience measures only from patient socio-demographic characteristics. These models estimate overall socio-demographic differences in patient experience which arise both because some patient groups are concentrated in low-performing practices and because the scores of patients of different groups vary within the same practices.[9]
- Subsequently, we used mixed effects models that included patient socio-demographic variables as fixed effects plus a random effect for practice. They estimate only the socio-demographic differences that arise because the scores of patients of different groups vary within the same practices.[5 8 9 26]

Therefore, for a given socio-demographic group, the difference between the respective coefficients of the first and the second models indicates the amount of overall difference arising from the concentration of this population group in practices with low scores. Such a difference may be positive (ie, the co-efficient obtained from the fixed effects model being greater than that obtained by the mixed effects model) or negative. A positive difference indicates the proportion of the overall difference associated with concentration of patients of that socio-demographic group within practices with lower mean scores, and vice versa.

Our second objective was to assess whether socio-demographic differences are consistent among practices. We used models that built on the multi-level models described above, adding random effects corresponding to the interaction of each patient characteristic variable with the 'practice' random effect (random slope random intercept models). From those models, using a normal approximation, we derived the '95% midrange of practice-level coefficients' for each socio-demographic group, which indicates the range of practice-level socio-demographic differences within which 95% of all practices lie. If the fixed effect for women (vs men) is a and the random effect for women by practice random effects has a variance of b, approximately 95% of practices will have women (vs men) coefficients between a-1.96×sqrt(b) and a+1.96×sqrt(b).[10] For example, if women evaluated their patient experience less positively than men by an average difference of −3 percentile points across all practices and the 95% midrange limits ranged from −1 points to −5 points, then for 95% of practices, true mean differences between women and men would range from −1 to −5 points. In this hypothetical example, although the magnitude of the gender difference among practices varies substantially, almost all practices have care that is rated worse by women. SAS V.9.2 was used for random slope random intercept models and STATA V.11 for all other analyses.

RESULTS

The characteristics of survey respondents appear in table 2. Except where noted, we present socio-demographic differences for doctor communication (question 20) as the measure with the strongest partial correlation with overall satisfaction with care. Results for all other questions were similar and are shown in online appendix s1.

Socio-demographic differences

For all measures of patient experience, there were relatively large and statistically significant differences in the mean scores of patients of different age, health status

Table 2 Demographic characteristics of respondents to the 2009 General Practice Patient Survey (England)

		Survey respondents (n)	Percentage of survey respondents
Gender			
Men		890 241	42.4
Women		1 207 171	57.6
Age group			
18–24		103 040	4.9
25–34		229 546	10.9
35–44		332 017	15.8
45–54		374 722	17.8
55–64		426 786	20.3
65–74		349 759	16.6
75–84		220 795	10.5
85+		64 943	3.1
Ethnic group (ONS 6)	Ethnic group (ONS 16)		
White	White British	1 718 133	82.0
	Irish	29 930	1.4
	Any other White	61 087	2.9
Mixed	White and Black Caribbean	4549	0.2
	White and Black African	2825	0.1
	White and Asian	4142	0.2
	Any other mixed	3564	0.2
South Asian	Indian	53 484	2.6
	Pakistani	33 517	1.6
	Bangladeshi	10 974	0.5
	Any other Asian	14 930	0.7
Black	Black Caribbean	25 231	1.2
	Black African	28 349	1.4
	Any other Black	4174	0.2
Chinese	Chinese	9759	0.5
Other ethnic group	Other ethnic group	90 644	4.3
Deprivation quintile			
'1' (least deprived)		431 902	20.0
'2'		431 794	20.0
'3'		431 793	20.0
'4'		431 875	20.0
'5' (most deprived)		431 771	20.0
Self-rated health status			
Excellent		194 735	9.5
Very good		610 217	29.6
Good		737 993	35.8
Fair		398 319	19.3
Poor		118 102	5.7
Presence of longstanding psychological or emotional condition			
Yes		104 946	5.6
No		1 781 821	94.4

ONS, Office for National Statistics.

and ethnicity. Conversely, differences associated with gender, area deprivation and presence of longstanding psychological or emotional condition were generally smaller and inconsistent in their direction.

Overall Bangladeshi, Pakistani, Indian and Chinese patients reported experiences of doctor communication (question 20) that were −9, −7, −6 and −8 percentile points more negative than White British patients (table 3). As indicated by the comparison of coefficients obtained from the fixed and mixed effects model, concentration of ethnic minorities in low-scoring practices was responsible for about 50% of the difference for South Asian patients and 14% of the difference for Chinese patients. However, even when the effect of concentration of these groups in practices with lower scores was accounted for, relatively large differences (−7 to −3 percentile points) remained when comparing South Asian and Chinese with White patients cared for by the same practices. Conversely, Black versus White differences were typically small (<2 percentile points)

Table 3 Socio-demographic differences in reports of doctor patient communication (scale 0–100)*

Variable category	Overall difference* Difference (SE)	Difference attributable to different evaluation of care within the same practice* Difference (SE)	Difference attributable to concentration of different patient groups in practices with different mean scores	Percentage of overall difference attributable to patient group concentration in practices with different mean scores
Gender				
Men	Reference			
Women	0.6 (0.032)	0.5 (0.031)	0.1	0%
Age group				
18–24	−9.4 (0.082)	−9.2 (0.080)	−0.2	2%
25–34	−8.4 (0.061)	−8.1 (0.060)	−0.3	3%
35–44	−5.0 (0.054)	−4.9 (0.052)	−0.1	2%
45–54	−2.8 (0.050)	−2.8 (0.049)	−0.0	1%
55–64	Reference			
65–74	3.0 (0.052)	2.9 (0.050)	0.0	1%
75–84	4.0 (0.062)	3.9 (0.060)	0.1	2%
85+	3.4 (0.106)	3.2 (0.103)	0.2	5%
Ethnic group				
White				
British White	Reference			
Irish	−0.2 (0.141)	0.6 (0.138)	−0.8	353%§§
Any other White	−4.1 (0·096)	−3.2 (0.094)	−0.9	22%
Mixed				
White & Black Caribbean	−1.9 (0.355)	−0.8‡ (0.346)	−1.1	56%
White & Black African	−3.5 (0.447)	−1.9 (0.435)	−1.6	46%
White & Black Asian	−3.4 (0.358)	−2.2 (0.348)	−1.1	33%
Any other Mixed	−4.7 (0.405)	−3.3 (0.394)	−1.4	31%
South-Asian				
Indian	−6.1 (0.101)	−3.2 (0.109)	−3.0	48%
Pakistani	−7.2 (0.132)	−3.8 (0.145)	−3.4	48%
Bangladeshi	−8.6 (0.233)	−5.3 (0.242)	−3.4	39%
Any other Asian	−4.3 (0.194)	−2.1 (0.192)	−2.2	51%
Black				
Black Carribean	−2.7 (0.155)	−0.5§ (0.156)	−2.2	82%
Black African	−2.6 (0.143)	−0.2¶ (0.144)	−2.4	94%
Any other Black	−2.0 (0.405)	−0.2** (0.394)	−1.8	89%
Chinese				
Chinese	−8.3 (0.230)	−7.2 (0.225)	−1.1	14%
Other ethnic group				
Other ethnic group	−4.7 (0.081)	−3.2 (0.081)	−1.5	32%
Deprivation group				
'1' (least deprived)	Reference			
'2'	−0.0† (0.050)	0.1†† (0.054)	−0.2	438%§§
'3'	−0.5 (0.050)	0.1‡‡ (0.072)	−0.6	114%§§
'4'	−1.2 (0.051)	0.3 (0.257)	−1.4	122%§§
'5' (most deprived)	−0.9 (0.052)	0.7 (0.649)	−1.6	169%§§
Self-rated health status				
Excellent	Reference			
Very good	−4.0 (0.062)	−3.8 (0.060)	−0.2	5%
Good	−7.6 (0.061)	−7.2 (0.060)	−0.4	6%
Fair	−9.4 (0.067)	−8.8 (0.065)	−0.6	7%
Poor	−10.0 (0.086)	−9.3 (0.084)	−0.7	7%
Long-standing psychological or emotional condition				
'No'	Reference			
'Yes'	2.0 (0.070)	1.7 (0.068)	0.3	14%

*All coefficients are significant at the <0·001 level except as annotated: †p=0.400; ‡p=0.015; §p=0.015; ¶p=0.269; **p=0.579; ††p=0.009; ‡‡p=0.211.

§§Proportions >100% reflect situations where differences attributable to different evaluation of care within the same practice, and differences attributable to concentration of different patient groups in practices with different mean scores are opposite in direction.[9] Here for example, more deprived patients are concentrated in low-scoring practices but report better care compared with more affluent patients looked after by the same practices. This is also the case for Irish White compared with British White patients.

and inconsistent in their direction. For doctor communication, more than 80% of Black/White differences related to the concentration of Black patients in low-scoring practices (table 3). Thus within-practice Black/White differences were small.

Differences by age were large—typically a difference of approximately −16 percentile points between patients aged 18–24 and those aged 75–84 across all experience measures (online appendix s1). In general, increasing age was strongly associated with more positive patient experiences, except for patients in the oldest age group (85+) who reported slightly worse experiences than those aged 75–84. The proportion of overall age differences explained by differences among practices was very limited (ie, <10% of overall differences), reflecting similar age distributions across practices.

Patients with poorer self-rated health reported worse experiences than patients in better health, following an ordinal trend (online appendix s1). Typically there was a difference of −10 percentile points in reported experience between individuals reporting 'poor' and 'excellent' health status. As with age, differences among practices explained little of the differences among patients with different self-rated health status (ie, <10%).

The association of area socioeconomic deprivation with healthcare professional communication (questions 4, 20, 21, 24) and other patient experience measures was generally limited and inconsistent in direction (online appendix 1). Gender had a small and inconsistent association (typically differences of <1 percentile point) (online appendix s1). As reported previously,[27] presence of longstanding psychological or emotional condition was associated with more positive evaluation of patient experience for most questions, although the size of associated differences was small.

Consistency of socio-demographic differences across practices

Within-practice ethnic group differences varied substantially across practices (table 4, online appendix s2). For example, although on average South Asian and Chinese patients evaluated doctor communication more negatively than White patients (−4 and −9 percentile points respectively), in some practices South Asian and Chinese patients reported more positive experiences of doctor communication than the White patients cared for by the same practice (95% practice midrange for differences in doctor communication: −13 to +4 percentile points for South Asian/White differences; and −18 to +1 for Chinese/White differences—positive values indicate better patient experience reported by ethnic minority patients).

Age-related differences in patient experience were highly consistent across practices. Practices varied substantially with respect to within-practice differences in self-rated health, with a 95% midrange of −12 to 0 percentile points for differences between patients with

Table 4 Mean socio-demographic group difference (percentile points) and degree of consistency in socio-demographic differences across practices (indicated by the respective 95% midrange)*

Variable		Mean difference	95% midrange of practice differences (within which ~95% of practices lie)†	
			Lower limit	Upper limit
Gender	Women (vs men)	−0.4	−2.7	1.9
Age group‡	18–25 (vs 75–84)	4.6	4.6	4.6
Ethnic group‡	Mixed (vs White)	−3.9	−16.1	8.2
	South Asian (vs White)	−4.3	−12.6	4.0
	Black (vs White)	−1.4	−7.9	5.0
	Chinese (vs White)	−8.5	−18.3	1.3
	Other (vs White)	−4.3	−11.8	3.1
Deprivation‡	Deprivation group 1 (least deprived) vs deprivation group 5 (most deprived))	−0.3	−3.9	3.3
Self-rated health status‡	'Poor' (vs 'excellent')	−6.1	−12.5	0.3
Longstanding psychological or emotional condition	'Yes' (vs 'no')	0.7	−5.4	6.8

*All interaction variance components were significant at <0.0001.
†The squared root of the coefficient for the interaction term variables (case mix adjuster by practice) represents the practice-level SD of the mean practice-level differences associated with the respective variable category or unit. Using normal approximation, the mean difference ±1.96 practice-level SDs represents the 95% midrange intervals of practice-level demographic coefficients.
‡To improve the accuracy of the interaction variance components in these models, age, self-rated health, and deprivation groups were treated linearly (as opposed to categorically); in addition, the abbreviated six-group (as opposed to 16-group) categorisation of ethnicity was used.[24]

'poor' compared with 'excellent' self-rated health. Although overall differences among patients of different gender, longstanding psychological or emotional condition status and deprivation quintiles (lowest vs highest) were relatively small (<1 percentile point) there was clear variation in these differences across practices (95% midranges of −3 to +2, −5 to +7 and −4 to +3 percentile points, respectively).

DISCUSSION

Using data from a large national English patient survey we found substantially more negative experiences reported by ethnic minorities (particularly South Asians and Chinese), younger patients and those with poor self-rated health. Differences by gender and socioeconomic deprivation were limited and inconsistent. A substantial proportion of ethnic differences reflected concentration of ethnic minority patients in low-performing practices (consistent with the 'minorities concentrated in poor practices' hypothesis, table 1), but concentration in low-scoring practices explained little of the large differences observed among patients of different age and self-rated health. In spite of large within-practice differences among patients of different ethnicity and self-rated health, primary care practices varied substantially in respect of these differences and in some practices South Asian and Chinese patients evaluated their experience similarly or more positively compared with White patients. This finding suggests that differences in care ('worse care' hypothesis, table 1) may at least in part be responsible for the observed ethnic differences.[20]

The largest ethnic differences in patient experience were comparable in magnitude to the differences observed between patients in 'poor' and 'excellent' self-rated health. Although South Asian and Chinese patients reported substantially more negative experiences than White patients, Black/White differences were small and inconsistent in direction. These findings are similar to previous UK findings,[5 6 8] and could point to linguistic proficiency as one determinant of ethnic differences (consistent with the 'receive same care but report worse experience' hypothesis, table 1).[7] Most UK Black patients are descendents of immigrants from English-speaking countries, which contrasts sharply with the distinct linguistic heritage of many South Asian and Chinese patients. Further research about the interaction between English language proficiency ('linguistic acculturation') of ethnic minorities and ethnic differences in patient experience would be useful.[28] However, socio-cultural aspects of ethnic identity other than linguistic competency may also be responsible. For South Asian patients, ethnic differences were consistent across different measures of patient experience (online appendix s1 and s2). For Chinese patients, however, reported differences were smaller for access questions and larger for all other questions (including doctor communication and overall satisfaction). These findings may reflect differences in care or in the understanding of the meaning of questions among patients of different ethnic minority groups, which may particularly occur for general as opposed to specific (report-like) questions (table 1).[20] We plan to conduct primary research on the understanding of different questions from the General Practice Patient Survey by patients of different ethnic groups.

In common with other studies, we found that older patients evaluate their experience more positively compared with younger patients.[6 11] Like two other UK studies (measuring socioeconomic status either with individual measures,[6] or practice area deprivation[8]) we found that socioeconomic differences in patient experience of primary care were limited and inconsistent.[6 8] These UK findings contrast with many US studies reporting that higher levels of patient education are associated with lower patient experience scores.[7 11 19]

A particular strength of our study is its UK setting, where there is universal access to healthcare, so our findings indicate that large ethnic group differences in patient experience may be present even within countries with universal healthcare coverage. Another strength of the study is its large sample size, enabling the precise measurement of the experience of patients belonging to relatively small ethnic groups; and of the variation in such differences across practices. For example, we were able to determine that the less positive experiences reported by South Asian patients held for Indian, Pakistani and Bangladeshi patients, and that Black patient subgroups (defined by national origin) reported similar experiences.

A limitation of our study is that although we provide some insight about potential causes of ethnic differences, we were not able to directly measure whether expectations of healthcare quality or survey responses tendencies varied among patients of different ethnic groups[20]; nor whether the quality of care provided (particularly the standard of inter-personal care and doctor communication quality) was actually different.[28] Another limitation is that the overall average response rate was 38%. Groves and Peytcheva, in recent reviews of the survey methodology literature, suggest that among probability sample surveys adhering to typical process standards of survey methodology, response rates are only weakly associated with non-response bias,[29] a conclusion consistent with our previous analysis of non-response bias for the two questions associated with payments to practices.[12]

Our findings have clear policy implications (box 1). First, they indicate that large differences in healthcare experiences may exist among patients belonging to different socio-demographic groups, even when arrangements for universal coverage of healthcare are in place. However, such differences are not inevitable because we found that minority ethnic group patients reported a range of experience scores in different primary care practices, sometimes comparable with, or even better than those reported by White patients. Providers could seek to mitigate potential ethnic inequalities by introducing measures such as access to translation or interpreting services for non-native speaker patients, and interventions to increase the cultural competency of healthcare professionals.

Second, a substantial proportion of the observed lower patient experience scores of South Asian and Chinese ethnic group patients in England reflects their concentration in practices with lower than average scores. Therefore, if the overall performance of low-performing practices were improved (as is the goal of a series of major UK government policy initiatives) this would also help improve the patient experiences of South Asian and Chinese patients and reduce ethnic inequalities.

Box 1 Putting the findings into context

Previous evidence

Previous studies have indicated that patient experience of either primary or hospital care varies among different socio-demographic groups,[3–11 17 26 27] (see also online appendix s3). Most available evidence relates to studies of sub-national healthcare systems. There is evidence from various contexts that concentration of patients of different groups in healthcare provider organisations with lower than average performance is responsible for a proportion of socio-demographic differences. Variation in differences among organisations across a national healthcare system with universal coverage has not been previously described.

Interpretation

In England, a country with universal healthcare coverage, ethnic minority patients (particularly South Asians and Chinese), younger patients and those with poor self-rated health reported substantially more negative experiences of primary care than White patients, older patients and those in better health. Ethnic differences in patient experience were comparable in magnitude to the differences observed among patients in 'poor' and 'excellent' self-rated health. A substantial proportion of ethnic differences reflected concentration of ethnic minority patients in low-performing practices. Primary care practices showed substantial ethnic differences. In some practices ethnic minority patients evaluated their experience similarly or more positively compared with White patients, and such practices could be studied as models for quality improvement.

Previous UK research indicates that national primary care quality improvement schemes could help reduce variability and socioeconomic inequalities in technical processes of primary care,[30] though whether such improvements can also be expected for non-technical dimensions of care quality such as patient experience is currently uncertain. Alternatively, if patients were able to change their practice (ie, moving from practices with low to high mean patient experience scores) this could in principle also reduce ethnic differences. Current policy initiatives of the UK government aim to support patients by giving them a wider choice of practice.[14] However, the impact of such policies may be limited by the potential geographical clustering of low-performing practices; by patient preference for geographical proximity to their practice (particularly in rural areas); or other trade-offs between preferences for quality of patient experience and other aspects of care quality.

Third, the fact that within-practice ethnic differences varied markedly from practice to practice suggests that, at least in part, ethnic differences arise from differences in what practices do ('worse care' hypothesis, table 1). Practices that provide uniformly positive experiences to patients of all socio-demographic groups (including ethnic minorities and patients with poor self-rated health) could be studied as models for quality improvement in other practices.

Funding The study was funded with a grant from the UK Department of Health. The opinions expressed are those of the authors and not of the funder. The UK Department of Health had no direct involvement in the design and conduct of the study; nor the collection, management, analysis and interpretation of the data, nor in the preparation, review or approval of the manuscript. All authors had full access to the data and take responsibility for the integrity of the data and the accuracy of the data analysis.

Competing interests MR and JC act as academic advisers to Ipsos MORI for the survey. All other authors have no conflict of interest to declare.

Contributors All authors were involved in conceiving and designing the study, reviewing intermediate analyses, and contributing to the final paper.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

1. Agency for Healthcare Research and Quality. *Consumer assessment of healthcare providers and systems*. https://www.cahps.ahrq.gov/default.asp (accessed 7 Mar 2011).
2. Department of Health. *NHS. The GP Patient Survey*. http://www.gp-patient.co.uk/results/ (accessed 7 Mar 2011).
3. Elliott MN, Lehrman WG, Goldstein EH, *et al*. Hospital survey shows improvements in patient experience. *Health Aff (Millwood)* 2010;29:2061–7.
4. Jha AK, Orav EJ, Zheng J, *et al*. Patients' perception of hospital care in the United States. *N Engl J Med* 2008;359:1921–31.
5. Mead N, Roland M. Understanding why some ethnic minority patients evaluate medical care more negatively than White patients: a cross sectional analysis of a routine patient survey in English general practices. *BMJ* 2009;339:b3450.
6. Campbell JL, Ramsay J, Green J. Age, gender, socioeconomic, and ethnic differences in patients' assessments of primary health care. *Qual Health Care* 2001;10:90–5.
7. Weech-Maldonado R, Morales LS, Elliott M, *et al*. Race/ethnicity, language, and patients' assessments of care in Medicaid managed care. *Health Serv Res* 2003;38:789–808.

8. Kontopantelis E, Roland M, Reeves D. Patient experience of access to primary care: identification of predictors in a national patient survey. *BMC Fam Pract* 2010;11:61.
9. Goldstein E, Elliott MN, Lehrman WG, *et al*. Racial/ethnic differences in patients' perceptions of inpatient care using the HCAHPS survey. *Med Care Res Rev* 2010;67:74–92.
10. Elliott MN, Lehrman WG, Goldstein E, *et al*. Do hospitals rank differently on HCAHPS for different patient subgroups? *Med Care Res Rev* 2010;67:56–73.
11. Elliott MN, Zaslavsky AM, Goldstein E, *et al*. Effects of survey mode, patient mix, and nonresponse on CAHPS hospital survey scores. *Health Serv Res* 2009;44:501–18.
12. Roland M, Elliott M, Lyratzopoulos G, *et al*. Reliability of patient responses in pay for performance schemes: analysis of national General Practitioner Patient Survey data in England. *BMJ* 2009; 339:b3851.
13. US Department of Health and Human Services Agency for Healthcare Research and Quality. *National health care disparities report, 2009*. AHRQ Publication No. 10–0004 March. 2010. http:\\www.ahrq.gov/qual/qrdr09.htm (accessed 7 Mar 2011).
14. Department of Health. *Equity and excellence: liberating the NHS*. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_117794.pdf (accessed 7 Mar 2011).
15. National Health Service. *The Information Centre for Health and Social Care. Attribution Dataset GP Registered Populations 2009*. http://www.ic.nhs.uk/webfiles/publications/gpregpop09/ADS_2009_Final_%20GP_Registered_Populations.xls (accessed 7 Mar 2011).
16. Office for National Statistics. *EE1: Estimated resident population by ethnic group and sex, mid-2007, (experimental statistics)*. http://www.statistics.gov.uk/downloads/theme_population/Tables_EE1-EE6_PCO2007.xls (accessed 7 Mar 2011).
17. Lamarche PA, Pineault R, Haggerty J, *et al*. The experience of primary health care users: a rural–urban paradox. *Can J Rural Med* 2010;15:61–6.
18. Virnig BA, Scholle SH, Chou AF, *et al*. Efforts to reduce racial disparities in Medicare managed care must consider the disproportionate effects of geography. *Am J Manag Care* 2007;13:51–6.
19. Elliott MN, Haviland AM, Kanouse DE, *et al*. Adjusting for subgroup differences in extreme response tendency in ratings of health care: impact on disparity estimates. *Health Serv Res* 2009;44:542–61.
20. Weinick RM, Elliott MN, Volandes AE, *et al*. Using standardized encounters to understand reported racial/ethnic disparities in patient experiences with care. *Health Serv Res* 2011;46:491–509.
21. Anderson LM, Scrimshaw SC, Fullilove MT, *et al*. Task Force on Community Preventive Services. Culturally competent healthcare systems. A systematic review. *Am J Prev Med* 2003;24(3 Suppl):68–79.
22. Karliner LS, Jacobs EA, Chen AH, *et al*. Do professional interpreters improve clinical care for patients with limited English proficiency? A systematic review of the literature. *Health Serv Res* 2007;42:727–54.
23. Elliott MN, Edwards C, Angeles J, *et al*. Patterns of unit and item nonresponse in the CAHPS Hospital Survey. *Health Serv Res* 2005;40:2096–119.
24. Office for National Statistics. *Population estimates by ethnic group: methodology paper*. http://www.statistics.gov.uk/downloads/theme_population/MethodologyforPEEG.pdf (accessed 7 Mar 2011).
25. Noble M, McLennan D, Wilkinson K, *et al*. *The English indices of deprivation. Department for Communities and Local Government*. 2007. http://www.communities.gov.uk/publications/communities/indiciesdeprivation07 (accessed 7 Mar 2011).
26. Rodriguez HP, Scoggins JF, von Glahn T, *et al*. Attributing sources of variation in patients' experiences of ambulatory care. *Med Care* 2009;47:835–41.
27. Abel G, Mavaddat N, Elliott M, *et al*. Primary care experience of people with longstanding psychological problems: evidence from a national UK survey. *Int Rev Psychiatry* 2011;23:2–9.
28. Neal RD, Ali N, Atkin K, *et al*. Communication between South Asian patients and GPs: comparative study using the Roter Interactional Analysis System. *Br J Gen Pract* 2006;56:869–75.
29. Groves RM, Peytcheva E. The impact of nonresponse rates on nonresponse bias: a meta-analysis. *Publ Opin Q* 2008;72:167–89.
30. Doran T, Fullwood C, Kontopantelis E, *et al*. Effect of financial incentives on inequalities in the delivery of primary clinical care in England: analysis of clinical activity indicators for the quality and outcomes framework. *Lancet* 2008;372:728–36.