

# The patient-centredness of consultations and outcome in primary care

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## SUMMARY

**Background.** There is general support for general practitioners (GPs) using patient-centred styles. However, there is limited British evidence of beneficial outcomes for patients from such styles.

**Aim.** To explore whether, for patients presenting for new episodes of care, the GP's consulting style, specifically the patient-centredness of the consultation, is related to five generic outcomes.

**Method.** General practitioners in South Wales were recruited, and one surgery consulting session was audiotape recorded for each participating clinician. Questionnaires were given to consenting patients before their consultations, immediately afterwards, and, by post, at two weeks to measure the following outcomes: doctor-patient agreement (on the nature of the problem and management), patient satisfaction, resolution of symptoms, resolution of concerns, and functional health status. From the patients consulting for a new episode of care and completing all three questionnaires, one patient was selected at random for each GP and the audiotape of their consultation rated for patient-centredness. Statistical analysis employed correlation coefficients and t-tests, followed by multiple regression and logistic regression to control for potential confounders.

**Results.** In total, 143 patients consulting 143 GPs were studied. The patient-centred score was positively and statistically significantly associated with patient satisfaction (Pearson correlation = 0.28;  $P = 0.002$ ). No other associations were found with the other outcomes measured.

**Conclusion.** The study presents evidence that patient-centred styles of consulting produce benefits in terms of increased patient satisfaction for patients consulting for new episodes of care in Britain.

**Keywords:** patient-centredness; consulting; general practitioners; questionnaire study.

## Introduction

THE consultation is the central task of clinical medicine. Information gathered from the patient is more valuable for achieving an accurate diagnosis than either the physical examin-

ation or subsequent investigations.<sup>1</sup> In Britain, general practitioners (GPs) undertake over half a million consultations each working day. As a consequence, research is needed to identify effective consulting styles.<sup>2,3</sup> There is international consensus that consultation styles that allow patients to express their concerns and in which doctors provide adequate information result in greater patient satisfaction.<sup>4-6</sup> Furthermore, other studies demonstrate that elements of patient-centred styles are associated with other beneficial outcomes including physiological measures.<sup>7-10</sup> However, there is a general absence of studies relating consultation styles to outcomes in the United Kingdom.<sup>11</sup> Indeed, those studies that have been undertaken produce results that challenge the support for facilitative consulting styles.<sup>12,13</sup>

Patient-centred styles of consulting, in contrast to more disease-focused doctor-centred styles, involve the doctor paying particular attention to the patient's symptoms, ideas, concerns, and expectations.<sup>14-19</sup> In the management phase of the consultation, negotiation should take place between doctor and patient to achieve a shared understanding of the nature of the problem and reach agreement on the treatment proposed.<sup>20,21</sup> The specific features of patient-centred consultations have been identified and scoring systems have been developed.<sup>15,19,21,22</sup> Using one of these methods in Canada, Stewart<sup>18</sup> found that patient-centred styles were positively associated with compliance, while Henbest and Stewart<sup>23</sup> found that patient-centred care was associated with resolution of patient concerns.

The principal aim of this research was to investigate the effects of patient-centred consulting styles in primary care in the United Kingdom. Specifically, the intention was to test the association between the patient-centredness of consultations among patients consulting for new episodes of care and the following outcomes: doctor-patient agreement (as perceived by the patient), patient satisfaction, resolution of symptoms, resolution of concerns, and functional health status.

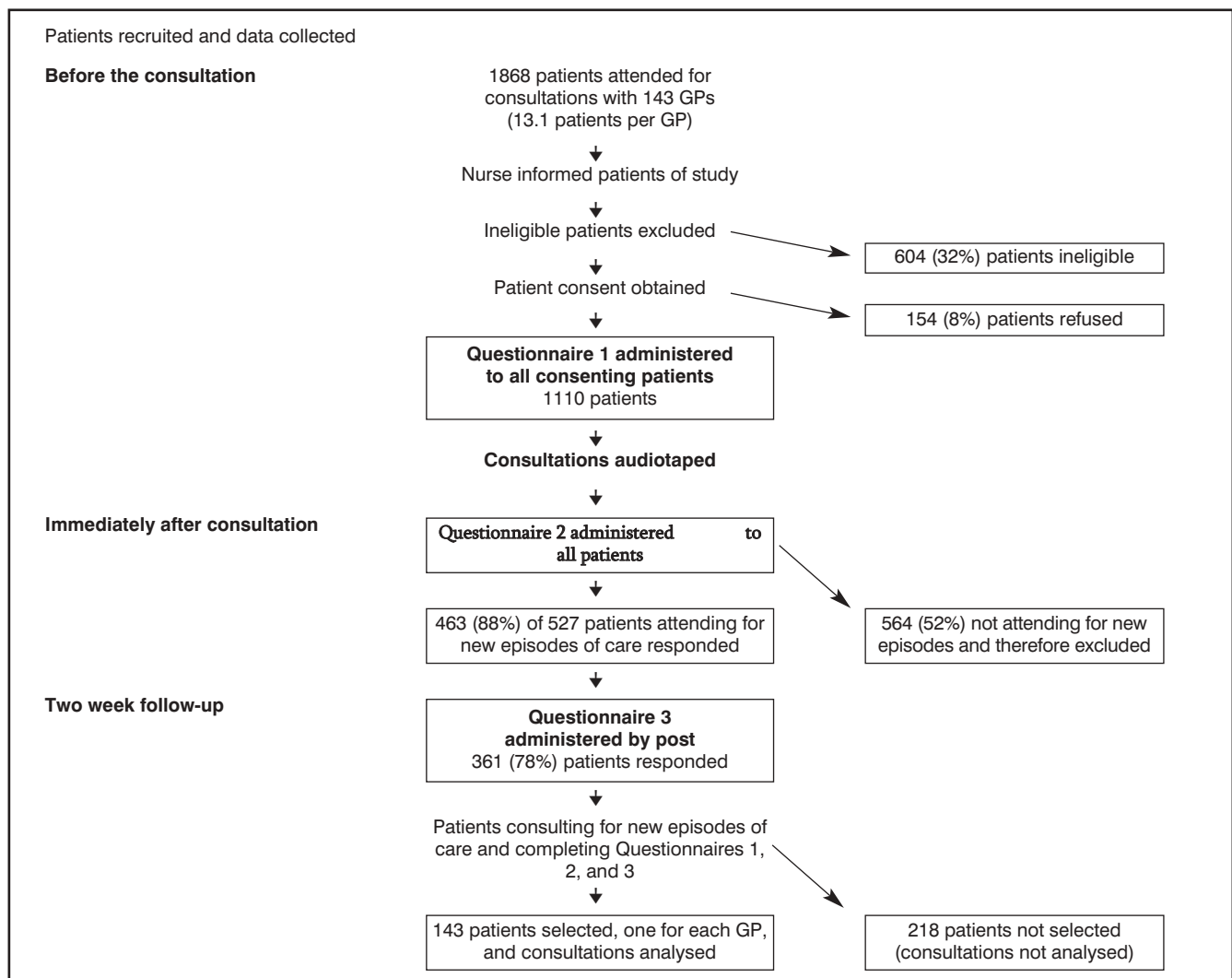
## Method

All GPs in South Glamorgan and the Ogwr district of Mid Glamorgan were invited to participate. One surgery consulting session was audiotape recorded for each doctor agreeing to take part. All patients aged 16 years and over attending the session were informed and consent sought. Patients under the age of 16 years consulting for antenatal care, new patient medical checks, and temporary residents were excluded.

Data collection proceeded as follows (Figure 1). Before their consultations, all consenting patients were given a questionnaire (Questionnaire 1) to complete in the surgery. This measured initial level of concern, using a four-point Likert-type response scale, and the level of functional health status, using the COOP/WONCA charts.<sup>24</sup> The latter comprise six five-point Likert-type scales measuring physical health, feelings, daily activities, social activities, change in health, and overall health, validated for use in the context of British primary care.<sup>25</sup> Data on demographic and other potentially confounding variables were also collected (Table 1). After their consultation, patients were given a second questionnaire (Questionnaire 2) to complete before leaving the doctors' premises. This measured doctor-patient agreement on the nature of the problem, agree-

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**Figure 1.** The research procedure. Data collected: Questionnaire 1 — Baseline level of concerns, functional health status (COOP/WONCA charts), demographic details. Questionnaire 2 — Doctor–patient agreement, patient satisfaction (MISS). Questionnaire 3 — Resolution of symptoms, concerns, and functional health status (COOP/WONCA charts)

ment on the management decision, and patient satisfaction. Four-point Likert-type response ranges were used for each dimension of agreement. Patient satisfaction was measured using the Medical Interview Satisfaction Scale (MISS),<sup>26</sup> which is a 29-item schedule with seven-point Likert-type scales, shown to be valid and reliable in this context.<sup>27</sup>

The GPs were asked to record, on an encounter sheet for each patient, the main reason for consulting, whether recovery at two weeks was likely, and whether the consultation represented a new episode of care. After each tape-recorded surgery, all patients consulting for new episodes of care and completing the questionnaires before and after their consultations were identified. These patients were followed up by post after two weeks with a third questionnaire (Questionnaire 3). This measured doctor–patient agreement on the nature of the problem, resolution of symptoms, and concerns and functional health status. Resolution of symptoms was measured using a three-point response range: symptoms improved, the same, worse. Resolution of concerns and functional health status were measured as in Questionnaire 1 and doctor–patient agreement as in Questionnaire 2. Non-responders to Questionnaire 3 were followed up once by post.

After the consultations, each patient’s medical records were

inspected to record whether or not the patient suffered from any chronic illness, the number of consultations they had had in the past year, and the number of times they had consulted the study doctor.

For each GP, one patient was identified to be entered into the final sample for analysis. This removed unwanted effects owing to the clustering of patients with GPs. The particular patient was selected at random from all those who had consulted each doctor for a new episode of care and who had completed all three questionnaires. The audiotape recordings of the consultations of these patients were analysed to measure the patient-centredness of the consultations using a standardized method.<sup>21</sup> This followed preliminary methodological work comparing different ways of measuring patient-centredness.<sup>28</sup> The method used produces a total consultation score (range = 0 to 1) from the sum of scores for four components of the consultation (understanding the patient’s disease and illness, integrated understanding of the whole person, finding common ground — doctor expressions, finding common ground — the interaction). A higher score indicates a more patient-centred consultation. A single rater (Suzan Tessier), who was one of the original collaborators on the development of this method, listened to and scored each consultation. As a check of

**Table 1.** The potential confounders for the multivariable analyses — for each particular outcome, those variables found to be associated with it at the level of  $P \leq 0.1$  were included.

Variable	Source of Data
<b>Patient factors</b>	
Patient age	Questionnaire 1
Patient sex	Questionnaire 1
Patient school-leaving age	Questionnaire 1
Patient SEC	Questionnaire 1
Patient marital status	Questionnaire 1
Suffer from long-standing illness	Patient records
How well patient knows doctor	Questionnaire 1
Consultations in past year	Patient records
Consultations in past year with study doctor	Patient records
<b>Doctor factors</b>	
Doctor sex	GP encounter sheet
Doctor-patient sex combination	GP encounter sheet
Doctor year of qualification	GP encounter sheet
<b>Before the consultation</b>	
How concerned before visit	Questionnaire 1
How much discomfort before consultation	Questionnaire 1
Category of condition	GP encounter sheet
<b>Process factors</b>	
Prescription	GP encounter sheet
Referral	GP encounter sheet
Prognosis	GP encounter sheet

SEC = socioeconomic classification.

reliability, 30 consultations were re-rated two weeks after their original rating. The rater was blind to the outcomes of the consultations.

### Statistical methods

The sample size planned for this study was to comprise 120 to 160 consultations for which patient-centredness had been rated. There was no single primary outcome measure for the consultations; rather a broad approach to assessing the effects of different consulting styles was adopted. As an illustration of the power of the study, the intended sample was sufficient to detect a 20% to 25% improvement in the outcome of resolution of symptoms, with a power of 0.9 and a two-sided significance level of 0.05.

The statistical package, SPSS for Windows (Version 6.0), was used for all analyses. To describe and quantify the test-retest reliability of the rating of consultations, the scores for each rating were plotted against each other and the mean and standard deviation of the differences calculated.<sup>29</sup>

For the outcomes of resolution of concerns and functional health status, change scores were calculated by subtracting the score at two weeks (Questionnaire 3) from the baselines measured immediately before the consultations (Questionnaire 1). As a result, positive scores indicated beneficial outcomes (resolution of concerns or improvements in functional health status). For the outcome of patient satisfaction, a percentage total score on the MISS was calculated.

The categorical outcome variables were all dichotomized to binary variables (for agreement: complete agreement versus less than complete agreement; for resolution of symptoms: symptoms better versus symptoms the same or worse). This followed inspection of their marginal distributions; that is, from their overall distributions before considering their relationships with patient-centredness.

The tests of association for the explanatory variable (patient-centredness) with the outcome variables were then Pearson correlation coefficients for quantitative/ordinal variables (patient satisfaction, resolution of concerns, functional health status) and *t*-tests for categorical variables (doctor-patient agreement, resolution of symptoms).

Multivariable analyses were performed to adjust for potential confounding variables, using multiple regression/analysis of variance or multiple logistic regression depending on the nature of the outcome variable. Odds ratios for binary outcomes and regression coefficients for the other outcomes were calculated both unadjusted and adjusted for the effects of those other variables that might have been acting as potential confounders (Table 1).

## Results

### The sample

One hundred and forty-seven (46%) of the 319 GPs agreed to participate. The participants had been medically qualified for fewer years than non-participants and were more likely to be members of the Royal College of General Practitioners (Table 2). They were similar to other groups of GPs agreeing to take part in research studies in South Wales.<sup>30</sup> For four GPs, the audio recordings of the consultations were technically unsatisfactory. As a result, the final sample for analysis was from the patients consulting the remaining 143 GPs.

During data collection (Figure 1), 1868 patients consulted the 143 GPs (13.1 patients per GP). Of the 604 patients excluded from the study, 307 (51%) were patients under the age of 16 years, were attending for antenatal or new patient checks, or were temporary residents. The remainder included 203 (34%) patients who informed the research assistant that they were attending for follow-up appointments and 94 (16%) patients who were judged too unwell to take part in the study or unable to complete the questionnaires.

From the remaining patients, 1110 (88%) completed the first questionnaire and agreed to their consultation being recorded, while 154 (12%) refused. The GPs categorized 527 (47%) patients as attending for new episodes of care and 583 (53%) as attending for continuing care. Of the former, 463 (88%) completed Questionnaire 2 immediately after the consultation and, of these, 361 (78%) completed and returned Questionnaire 3 after two weeks. Finally, from the 361 patients consulting for new episodes of care and completing all three questionnaires, one patient was selected randomly from those consulting each of the 143 GPs. The age and sex composition along with details of marital status and socioeconomic classification of this sample is described in Table 3.

Morbidity was categorized from the GPs' reports of the main reason for consulting using the Royal College of General Practitioners morbidity codes.<sup>31</sup> Ninety (63%) patients consulted for 'trivial' conditions, 47 (33%) for 'intermediate' conditions, and five (4%) for 'serious' conditions. The commonest specific presenting problems were diseases of the respiratory system (23%).

### Analysis of the audiotapes of the consultations

The mean patient-centred score was 0.51 (SD = 0.17). The distribution of overall scores is presented in Figure 2. The only patient variable associated with the patient-centred score at the 5% level was marital status (one way ANOVA;  $P = 0.015$ ).

Thirty consultations were rated a second time for test-retest reliability. For these consultations, the mean differences between ratings was 0.05 (SD = 0.09). These results suggest that a 95% reference range for the differences between paired ratings would be between -0.13 and 0.23.<sup>29</sup>

**Table 2.** Comparison of participating and non-participating general practitioners.

	Participants (n = 147)	Non-participants (n = 172)
Years since qualification		
0–9	32 (22%)	22 (13%)
10–19	77 (52%)	69 (40%)
20–29	24 (16%)	47 (27%)
30 and over	14 (10%)	34 (20%)
Proportion male	72%	66%
Proportion with MRCGP qualification	57%	33%

For years qualified:  $\chi^2 = 16.2$ , 3 df,  $P = 0.001$ . For sex:  $\chi^2 = 1.26$ , 1 df,  $P = 0.26$ . For MRCGP:  $\chi^2 = 19.5$ , 1 df,  $P < 0.0001$ .

**Table 3.** The sample of patients selected at random (one patient for each GP) to make up the final study sample from all those consulting for new episodes of care and completing all three questionnaires.

Patients (n = 143)	
Age (years)	
16–44	75 (53%)
45–64	42 (30%)
65 and over	25 (18%)
Mean age	44.8
Proportion male	24%
Marital Status	
Single	27 (19%)
Married/co-habiting	94 (66%)
Divorced/separated	11 (8%)
Widow(er)	10 (7%)
SEC category	
I	3 (2%)
II	38 (30%)
III	59 (46%)
IV	24 (19%)
V	4 (3%)

Missing data for age of one patient, for marital status of one patient, for socioeconomic classification (SEC) of 15 patients.

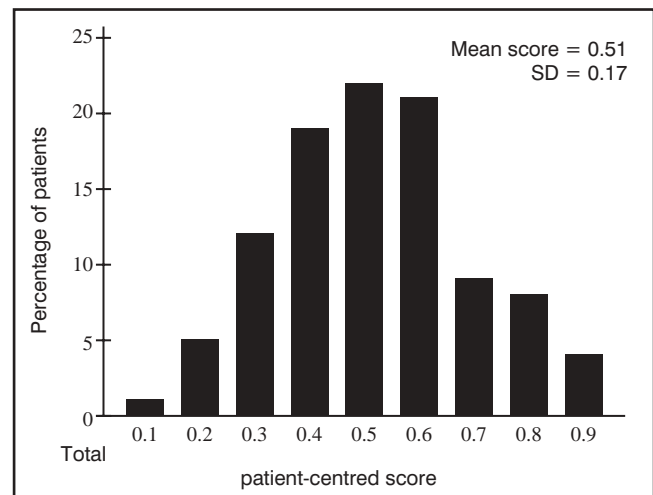
### The relationship between patient-centredness and outcomes

For patient satisfaction, the total score on the MISS questionnaire was significantly and positively correlated with the patient-centred score for the consultations (correlation coefficient = 0.28;  $P = 0.002$ ). For the remaining outcomes — doctor–patient agreement, resolution of symptoms, resolution of concerns, and functional health status — there were no notable or statistically significant associations with patient-centredness.

### Multivariable analyses

Marital status and morbidity category (trivial/moderate/serious)<sup>31</sup> were found to be associated with the patient-centred score at the level of  $P \leq 0.1$  and were therefore entered into the models for each outcome. In addition, for each particular outcome, those other variables (Table 1) found to be associated at the same significance level ( $P \leq 0.1$ ) were included in each relevant analysis as potential confounders.

The results of the multivariable analyses are shown in Table 4. For the binary outcomes, an odds ratio of less than one indicates that the group of patients with the better outcome (for example, complete agreement or resolution of symptoms) had a lower mean, patient-centred score for the consultations; that is, the con-

**Figure 2.** The distribution of overall patient-centred scores.

sultations were less patient-centred than those of the patients with the worse outcome. For the quantitative variables, the size of the regression coefficient indicates the change in outcome score per 0.1 unit change in the patient-centred score.

In general, the effects of the adjustment were minor and, in particular, there was no evidence of confounding having a major effect on the strength of the relationship between patient-centredness and patient satisfaction. There would appear to be some evidence of augmentation of the relationship between patient-centredness and the physical health component of functional health status, leading to a marginally non-significant negative correlation after adjustment.

### Discussion

This study adds British evidence to the international consensus<sup>6</sup> that patient-centred consultation styles increase patient satisfaction. Patient satisfaction is not only an outcome of value in its own right but also has been shown to be related to other beneficial outcomes.<sup>32,33</sup> There is a wide range of approaches that can be taken when analysing the consultation process. For example, Howie<sup>34</sup> has demonstrated the importance of the length of the consultation as an indicator of quality. Our particular interest is in doctor–patient communication, and therefore we chose to focus on the verbal style of the GPs. A preliminary study demonstrated that the Canadian approach used had more validity than the method of measuring patient-centredness proposed by Byrne and Long.<sup>28</sup> Other aspects of the doctors' behaviour, for example, non-verbal communication, will also be of importance, and their impact on outcomes needs to be studied.

With regard to test–retest reliability, the arbitrary scale for the

**Table 4.** The results of the multivariable analyses.

Binary outcomes		Odds ratio	95% CI	P-value
Agreement on nature of the problem after consultation				
Unadjusted		4.66	0.21–104	0.33
Adjusted		3.74	0.11–130	0.47
Agreement on management after consultation				
Unadjusted		0.049	0.0009–2.72	0.14
Adjusted		0.027	0.00004–16.7	0.27
Agreement on the nature of the problem at two weeks				
Unadjusted		0.79	0.072–8.6	0.84
Adjusted		0.25	0.015–4.1	0.33
Resolution of symptoms				
Unadjusted		0.34	0.043–2.7	0.31
Adjusted		0.67	0.44–2.6	0.79
Quantitative outcomes		Regression coefficient	95% CI	P-value
Patient satisfaction				
Unadjusted		1.62	0.59–2.65	0.002
Adjusted		1.57	0.54–2.61	0.003
Resolution of concerns				
Unadjusted		-0.05	-0.15–0.04	0.26
Adjusted		-0.02	-0.01–0.06	0.68
Functional health status				
Physical health				
Unadjusted		-0.07	-0.18–0.03	0.17
Adjusted		-0.116	-0.22–0.004	0.058
Feelings				
Unadjusted		-0.02	-0.14–0.01	0.70
Adjusted		-0.027	-0.15–0.12	0.80
Daily activities				
Unadjusted		0.03	-0.07–0.13	0.57
Adjusted		0.006	-0.10–0.11	0.92
Social activities				
Unadjusted		0.04	-0.07–0.14	0.50
Adjusted		0.05	-0.07–0.16	0.43
Change in health				
Unadjusted		-0.11	-0.24–0.03	0.11
Adjusted		-0.07	-0.20–0.06	0.27
Overall health				
Unadjusted		0.03	-0.07–0.13	0.55
Adjusted		0.11	-0.02–0.24	0.10

patient-centred score makes it difficult to assess the practical implications of the reference range given above. Given a standard deviation of 0.17 for the score, however, it seems to indicate moderate levels of intra-rater reliability. There were good response rates to the questionnaires used, and the proportion of patients declining to have their consultations recorded was similar to other studies.<sup>15,20</sup> It may be the case that those patients who completed all three questionnaires were eager to please either their GP or the researchers. Thus, they may be more likely to report themselves as being more satisfied. However, for this effect to have a consistent bias on the results, it would have to be the case that such patients were consistently more likely to consult patient-centred GPs.

A range of generic outcome measures was used. For patient satisfaction and functional health status, preliminary studies were undertaken to test the validity of the methods of measurement.<sup>25,27</sup> Given the number of outcomes, it might be argued that a correction for multiple testing should be considered. On the other hand, if the outcomes were viewed as addressing essentially separate questions, then this would be excessively conservative. In any case, following a Bonferroni correction, the association with patient satisfaction would still be statistically significant and there would remain no statistically significant disadvantages associated with patient-centred consultations.

For any study relating GPs' clinical work to outcomes, the encounter, the patient, or the GP could be considered the unit of investigation. Commonly, studies have been made up of cohorts of patients consulting small numbers of GPs.<sup>8,23</sup> However, this is

problematic since the variation between consultations by the same doctor differs from the variation between consultations by different doctors. Indeed, there is evidence that GPs are relatively inflexible in the consulting style.<sup>15</sup> An alternative is to study the consultations of a single practitioner.<sup>12,13</sup> However, if the practitioner consults normally, little variation in style may occur. If the practitioner deliberately alters consulting style, an artificial situation is created. In either event, the generalizability of the results is limited. Another option, as used here, is to accept the doctor as the fundamental unit of investigation and study only one patient for each GP. In this case, statistical analysis is more straightforward because there is only one form of variation in the sample; namely, the consultation/doctor–patient interaction. It should be noted that the study is not attempting to make judgements about particular practitioner's consulting styles. Our approach appears to have been used only once previously.<sup>35</sup>

In this study, importance was placed on studying normal practice style and therefore no attempt was made to alter the consulting of the GPs or patients involved in the study. New episodes of care were studied because these form a large proportion of consultations in primary care. In addition, if the consultation studied is part of a continuing episode of care, the outcomes may not be related specifically to the style of that particular consultation. Other consultations, possibly by other doctors, would then have been of importance. Since the patient-centred approach is intended to be generic, the study was not restricted to patients with particular conditions.

The failure to find associations between patient-centred styles

of consulting and the other outcomes may indicate a lack of effectiveness. However, it would appear equally likely that the failure reflects the challenge of measuring generic outcomes in primary care for patients with unselected conditions. Different outcomes present different problems. For example, for resolution of symptoms, some patients will have self-limiting illnesses and consequently will recover, whatever the style of consultation; others may be presenting with the first symptoms of a chronic illness, for which short-term resolution of symptoms is unlikely. Disease-specific measures are not suitable for unselected patients in primary care as they are likely to be suffering from a wide range of complaints. Patient satisfaction indicates the judgement by all patients on the care they have received and should be valued appropriately. Another possible explanation for the number of non-significant findings is that the study power may not have been sufficient for all the outcomes considered. While the width of some of the confidence intervals indicates that some clinically significant effects could not be ruled out, there remains a clear beneficial effect in terms of patient satisfaction. Moreover, for the other outcomes there does not appear to be a consistent pattern for the findings, although it should be recognized that a larger study would be required to confirm this.

There is increasing evidence that, for certain common conditions, GPs should prescribe medication less frequently.<sup>36,37</sup> In these circumstances, patient satisfaction is likely to be of increased importance and we need evidence of how this can be achieved. Patient-centred consulting styles lead to increased patient satisfaction and therefore should be adopted and taught at undergraduate and postgraduate levels.

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## Acknowledgements

This research was supported financially by the Department of Health. Preliminary testing of the methods to measure patient-centredness was supported by a grant from the Scientific Foundation of the Royal College of General Practitioners. Mags Rees, Irene Jones, Penny Cody, and Andrea Worsey of the Department of General Practice, University of Wales College of Medicine, played important roles in the development of the methods, data collection, and project management. Suzan Tessier rated the consultations. Professor Moira Stewart and Associate Professor Judy Brown of the University of Western Ontario provided valuable advice and encouragement. Professor Debbie Sharp, Dr Jonathan Silverman, and an anonymous statistical referee provided valuable advice on the presentation of the results. Thanks are due to the GPs and patients who took part and consented to the tape recording of their consultations.

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