

# Primary care

## Observational study of effect of patient centredness and positive approach on outcomes of general practice consultations

Paul Little, Hazel Everitt, Ian Williamson, Greg Warner, Michael Moore, Clare Gould, Kate Ferrier, Sheila Payne

Primary Medical Care Group, Community Clinical Sciences Division, Faculty of Medicine, Health and Biological Sciences, Southampton University, Aldermoor Health Centre, Southampton SO16 5ST

Paul Little  
Medical Research Council clinician scientist

Hazel Everitt  
Medical Research Council training fellow

Ian Williamson  
senior lecturer  
Clare Gould  
research assistant  
Kate Ferrier  
medical student

Nightingale Surgery, Romsey, Hampshire SO51 7QM

Greg Warner  
general practitioner

Three Swans Surgery, Salisbury, Wiltshire SP1 1DX  
Michael Moore  
general practitioner

Sheffield Palliative Care Studies Group, University of Sheffield, Sheffield S11 9NE  
Sheila Payne  
professor

Correspondence to: P Little  
psl3@soton.ac.uk

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### Abstract

**Objective** To measure patients' perceptions of patient centredness and the relation of these perceptions to outcomes.

**Design** Observational study using questionnaires.

**Setting** Three general practices.

**Participants** 865 consecutive patients attending the practices.

**Main outcome measures** Patients' enablement, satisfaction, and burden of symptoms.

**Results** Factor analysis identified five components.

These were communication and partnership (a sympathetic doctor interested in patients' worries and expectations and who discusses and agrees the problem and treatment, Cronbach's  $\alpha = 0.96$ ); personal relationship (a doctor who knows the patient and their emotional needs,  $\alpha = 0.89$ ); health promotion ( $\alpha = 0.87$ ); positive approach (being definite about the problem and when it would settle,  $\alpha = 0.84$ ); and interest in effect on patient's life ( $\alpha = 0.89$ ). Satisfaction was related to communication and partnership (adjusted  $\beta = 19.1$ ; 95% confidence interval 17.7 to 20.7) and a positive approach (4.28; 2.96 to 5.60). Enablement was greater with interest in the effect on life (0.55; 0.25 to 0.86), health promotion (0.57; 0.30 to 0.85), and a positive approach (0.82; 0.52 to 1.11). A positive approach was also associated with reduced symptom burden at one month ( $\beta = -0.25$ ;  $-0.41$  to  $-0.10$ ). Referrals were fewer if patients felt they had a personal relationship with their doctor (odds ratio 0.70; 0.54 to 0.90).

**Conclusions** Components of patients' perceptions can be measured reliably and predict different outcomes. If doctors don't provide a positive, patient centred approach patients will be less satisfied, less enabled, and may have greater symptom burden and higher rates of referral.

### Introduction

Although the patient centred model of doctor consultation is widely advocated, its use in practice is probably rather limited.<sup>1-3</sup> The model encompasses five principal domains—exploring the illness experience or expectations, the whole person, finding common ground,

health promotion, and enhancing the doctor-patient relationship.<sup>4</sup> An important perceived limitation on implementation is pressure on consultation time. Thus, evidence that specific components of the model affect outcome is important to increase its use.

A systematic review of 21 studies found that better communication improved outcomes, although most studies didn't specifically assess the patient centred model and a minority were from general practice.<sup>5</sup> Furthermore, other approaches such as empowerment and a positive approach may be equally powerful.<sup>5-6</sup> The few studies in general practice that specifically assessed patient centredness suggest it is related to satisfaction and use of resources.<sup>7-9</sup> They also found it may be as important to measure patients' perceptions than what doctors say in a consultation. However, the most important components of the patient centred model are unclear, and their relation to outcomes requires confirmation.

Conventionally, patient centredness is measured by doctors' verbal behaviour.<sup>4</sup> It therefore does not capture patient perceptions, non-verbal behaviour, or the ongoing patient-doctor relationship. Existing patient questionnaires<sup>4,7</sup> do not document diverse domains of perceptions and may incorporate difficult concepts for some patients (such as questions about the doctor discussing respective roles). Domains that could affect patients' preferences include communication, partnership, health promotion, and understanding the whole person,<sup>10</sup> but it is unclear whether these are relevant to patients' perceptions of doctors' behaviour or how such perceptions relate to outcome. We conducted this study to document measures of patients' perceptions of patient centredness and how these measures relate to outcomes.

### Participants and methods

The study was approved by the Salisbury and South East Hampshire local research ethics committees. We approached three local practices that were active in research and had the infrastructure to provide reception and clerical help. The practices served 24 100 patients, with an average patient turnover of 8.3% a year. One practice was in a deprived area of a large provincial city the second was a training practice

in a cathedral city, and the third was a training practice in a market town with patients from urban and rural areas.<sup>10</sup> We invited consecutive patients attending the surgery to participate. All patients able to complete the questionnaire were eligible.

### Questionnaire

Participants completed a short questionnaire before their consultation in which they were asked to agree or disagree on a seven point Likert scale (very strongly agree to very strongly disagree) with statements about what they wanted the doctor to do. A questionnaire after the consultation asked patients about their perception of the doctor's approach. Both questionnaires were based on the five main domains of the patient centred model: exploring the disease and illness experience, understanding the whole person, finding common ground, health promotion, and enhancing the doctor-patient relationship.<sup>4-10</sup>

The questionnaires were piloted, and patients were interviewed to clarify the wording of ambiguous questions. To limit the "halo" effect (groups of similar questions being answered routinely), we included some negatively worded items interspersed with positive items.<sup>10</sup>

The post-consultation questionnaire included items about the reason for consultation (which was subsequently classified according to British National Formulary chapter) and a positive and definite approach of the doctor to diagnosis and prognosis<sup>6</sup> as well as sociodemographic details (age, sex, paid work, manual work, marital status, partner's work, years in higher education), the short state anxiety questionnaire,<sup>11</sup> number of medical problems, and current treatment. We also included questions relating to important patient related outcomes from the consultation: enablement (six questions about being enabled to cope with the problem and with life),<sup>12</sup> satisfaction (medical interview satisfaction scale<sup>13</sup>), and symptom burden (measure yourself medical outcome profile, which measures the severity of symptoms, feeling unwell, and daily restriction of activity<sup>14</sup>).

Patients were followed up after one month with the measure yourself medical outcome profile, and we reviewed notes after two months for reattendance, investigation, and referral.

### Sample size

To detect a correlation of 0.15 (half the previous effect size<sup>9</sup>) between patients' rating of doctor behaviour and outcome with a power of 80% and 95% confidence we needed 526 patients, allowing for a third loss to follow up. If patient centredness was assumed to explain 5% of the variance of satisfaction, we needed 482 patients to detect an  $R^2$  of 0.05 with up to 10 variables.

### Analysis of data

We scanned data using Formic 3 software and analysed them with SPSS for Windows and Stata for Windows software. We used the factor analysis technique to establish whether there were distinct components within the data on patient centredness. Varimax rotation ensured that the factors identified were as distinct as possible. We built scale scores from the factors by adding the component questionnaire items together (unweighted) and dividing by the number of items and assessed the internal reliability using Cronbach's  $\alpha$  statistic.

To relate patient centredness to outcome we measured the associations of the scale scores with dichotomous variables (investigation, referral, reattendance, etc), continuous variables (satisfaction and enablement), and continuous variables measured at baseline and follow up (such as measure yourself medical outcome profile) using logistic regression, multiple linear regression, and analysis of covariance respectively.

## Results

In all, 865 consecutive patients attending the surgery agreed to participate and 661 (76%) returned the questionnaires. Respondents were similar to non-respondents in feeling unwell (44% (279/635) *v* 38% (66/165)) or worried (55% (352/640) *v* 58% (98/168)) and strongly wanting good communication (43% (264/610) *v* 45% (69/154)), partnership (27% (166/617) *v* 32% (50/157)), and health promotion (25% (159/637) *v* 25% (42/166)). Compared with data from the national morbidity survey on patients attending general practice, a similar proportion of respondents were adults aged 17 to 64 (10% aged 0-16, 73% aged 17-64, and 18% aged  $\geq 65$  in sample *v* 20%, 62%, and 18% respectively in morbidity survey), married or living as married (67% *v* 60%), working (57% *v* 57% of patients over 16), and female (66% *v* 60%).

### Identifying components of patient centredness

Table 1 shows patients' ratings of their doctor's approach. Factor analysis suggested a four to five component solution. Four components explained 93% of the variance and the fifth 3% of the variance.

**Table 1** Number (percentage) of patients agreeing with statements about their doctor's approach based on the patient centred model

Statements relating to doctor	Very strongly agree	Strongly agree	Agree	Neutral/disagree	Factor loading
<b>Factor 1: communication and partnership</b>					
Was interested in my worries about the problem	130 (21)	122 (20)	242 (39)	118 (20)	0.68
Was interested when I talked about my symptoms	177 (28)	176 (28)	231 (37)	45 (7)	0.80
Was interested in what I wanted to know	128 (20)	144 (23)	274 (43)	85 (13)	0.67
I felt encouraged to ask questions	141 (23)	126 (20)	233 (37)	122 (20)	0.54
Was careful to explain the plan of treatment	135 (22)	121 (20)	231 (38)	126 (21)	0.58
Was sympathetic	143 (23)	134 (22)	253 (41)	91 (15)	0.59
Was interested in what I thought the problem was	144 (23)	134 (22)	213 (35)	125 (20)	0.80
Discussed and agreed together what the problem was	119 (19)	110 (18)	231 (38)	156 (25)	0.62
Was interested in what I wanted done	103 (17)	116 (19)	242 (39)	158 (26)	0.67
Was interested in what treatment I wanted	91 (15)	98 (16)	189 (31)	227 (38)	0.52
Discussed and reached agreement with me on the plan of treatment	132 (21)	107 (17)	226 (37)	149 (24)	0.56
<b>Factor 2: personal relationship</b>					
Knows me and understands me well	109 (18)	67 (11)	125 (20)	313 (51)	0.83
Understands my emotional needs	83 (14)	59 (10)	122 (20)	332 (56)	0.75
I'm confident that the doctor knows me and my history	147 (23)	101 (16)	179 (28)	205 (32)	0.70
<b>Factor 3: health promotion</b>					
Talked about ways to lower the risk of future illness	63 (11)	50 (8)	120 (20)	356 (60)	0.68
Advised me how to prevent future health problems	70 (12)	61 (10)	147 (24)	324 (54)	0.76
<b>Factor 4: positive and clear approach to problem</b>					
Explained clearly what the problem was	125 (20)	129 (21)	220 (36)	138 (23)	0.59
Was definite about what the problem was	123 (20)	115 (19)	197 (32)	173 (28)	0.70
Was positive about when the problem would settle	141 (23)	126 (20)	233 (37)	122 (20)	0.61
<b>Factor 5: interest in effect on life</b>					
Was interested in the effect of the problem on my family or personal life	109 (18)	94 (16)	173 (29)	228 (38)	0.65
Was interested in the effect of the problem on everyday activities	117 (19)	105 (17)	189 (31)	196 (32)	0.58

Cronbach's  $\alpha$  for scales based on factor 1=0.96, factor 2=0.89, factor 3=0.87, factor 4=0.84, factor 5=0.89.

### Predictors of satisfaction, enablement, and resolution of symptoms

The model predicting satisfaction with the consultation explained most of the variance ( $R^2 = 0.78$ , table 2). The main independent predictors of satisfaction were patients' perceptions of communication and partnership and a positive doctor approach. A simple global rating of satisfaction (on a seven point Likert scale) also showed that communication and partnership is the strongest predictor of satisfaction ( $\beta = 0.96$ ; 95% confidence interval 0.87 to 1.05;  $P < 0.001$ ). Independent predictors of enablement were patients' perceptions of the doctor's interest in the effect of the problem on life and health promotion and a positive approach.

A positive approach was associated with less symptom burden and a personal approach with greater symptom burden at one month. Being given a prescription was not associated with either satisfaction or enablement.

### Predictors of use of health services

No domain of patient centredness was associated with reattendance and investigations. In multivariate analysis, referrals were fewer if patients felt they had a personal relationship with their doctor after worry about the problem, age, and reason for consultation were controlled for (odds ratio 0.70; 95% confidence interval 0.54 to 0.90).

### Relating what happened to patients' previous expectations

By subtracting patients' rating of doctor behaviour from corresponding previous preferences, we could also assess the mismatch between patients' expectation and what they felt happened in the consultation. A mismatch therefore represents expectations not met. Satisfaction was reduced if expectations were not met for communication and partnership (adjusted  $\beta = -13.8$ ;

$-11.4$  to  $-16.2$ ), a positive approach ( $-2.0$ ;  $-0.3$  to  $-3.7$ ), and an examination ( $-5.3$ ;  $-0.9$  to  $-9.7$ ) but were not affected by expectations of a prescription. Enablement was also less if expectations were not met for an examination, health promotion ( $-0.38$ ;  $-0.14$  to  $-0.63$ ), and a positive approach ( $-0.64$ ;  $-0.38$  to  $-0.90$ ). If expectations of a personal relationship were not met, referrals were more likely (odds ratio 1.41; 1.04 to 1.91). After potential confounders were controlled for (age, symptom burden at baseline, type of problem, worry about the problem, anxiety, sickness and disability benefit), symptom burden at one month was worse if expectations of a positive approach were not met (adjusted  $\beta$  0.21; 0.07 to 0.36).

## Discussion

We found that patients want a patient centred and positive approach, and if they do not get it they are less satisfied, less enabled, and may suffer greater symptom burden. The measures we used identified five factors describing patients' perceptions of patient centredness and strongly support use of this model in general practice.<sup>4</sup>

### Limitations of the study

The sample and response bias have been previously discussed and are not likely to alter the inferences of this study.<sup>10</sup> Nevertheless, cause and effect in observational studies must be interpreted carefully. We found, for example, that a personal and understanding relationship was associated with greater symptom burden, even though we crudely controlled for type of problem. The most likely explanation for this finding is that symptoms are more likely to be prolonged for conditions in which a personal and understanding approach is relevant (such as anxiety, depression, or chronic disease). When we took account of patients' expectations before the consultation, a personal relationship was no longer significantly associated with symptom burden. The relation between patient centredness and outcome needs to be investigated in randomised trials or cohort studies using a tightly defined and homogeneous case mix to explore the cause and effect further.

Preliminary evidence suggests that patients' feelings are likely to matter more than what doctors say in a consultation.<sup>7</sup> What a doctor says is only one part of the consultation. It does not take into account non-verbal communication and aspects of the doctor-patient relationship such as the extent of the ongoing relationship with the doctor.

### Important aspects of doctor's approach and relationship

Comparison of patients' ratings of their doctor's behaviour with preferences expressed before the consultation shows two differences. Firstly, before the consultation, patients had a strong preference for a partnership approach,<sup>10</sup> but afterwards partnership was more closely related to communication. Secondly, a positive approach was part of a preference for communication before the consultation, but patients' perceptions of a positive approach were distinct from their perceptions about communication in this study.

Different aspects of patient centredness affect different patient outcomes. Thus, communication,

**Table 2** Importance of different components of patient centredness and other significant independent variables in predicting patient related outcomes (satisfaction, enablement, and symptom burden)

Independent variables	Crude $\beta$ (95% CI)	Adjusted $\beta^*$ (95% CI)	t value (P value)
<b>Satisfaction (medical interview satisfaction score)</b>			
Communication and partnership	22.2 (21.1 to 23.3)	19.1 (17.7 to 20.7)	10.8 (<0.001)
Interest in life	15.3 (14.0 to 16.6)	1.25 (-0.22 to 2.72)	1.67 (0.095)
Personal relationship with doctor	10.3 (9.1 to 11.5)	-0.16 (-1.16 to 0.85)	0.31 (0.76)
Health promotion	11.4 (10.0 to 12.8)	-0.14 (-1.26 to 0.99)	0.24 (0.81)
Positive approach	15.7 (14.5 to 17.0)	4.28 (2.96 to 5.60)	6.4 (<0.001)
State anxiety score	-1.55 (-2.01 to -1.09)	-0.56 (-0.81 to -0.31)	4.5 (<0.001)
<b>Enablement</b>			
Communication and partnership	1.76 (1.50 to 2.02)	0.19 (-0.31 to 0.69)	0.74 (0.46)
Interest in life	1.35 (1.11 to 1.59)	0.55 (0.25 to 0.86)	3.40 (0.001)
Personal relationship with doctor	0.88 (0.68 to 1.08)	-0.02 (-0.26 to 0.22)	0.15 (0.89)
Health promotion	1.33 (1.11 to 1.54)	0.57 (0.30 to 0.85)	4.09 (<0.001)
Positive approach	1.51 (1.29 to 1.74)	0.82 (0.52 to 1.11)	5.47 (<0.001)
State anxiety score	-0.19 (-0.25 to -0.12)	-0.10 (-0.16 to -0.04)	3.1 (0.002)
<b>Symptom burden (measure yourself medical outcomes profile at 1 month, n=435)</b>			
Communication and partnership	-0.01 (-0.19 to 0.16)	0.01 (-0.28 to 0.29)	0.1 (0.96)
Interest in life	0.05 (-0.09 to 0.19)	0.05 (-0.15 to 0.25)	0.5 (0.64)
Personal relationship with doctor	0.11 (0.00 to 0.23)	0.27 (0.11 to 0.43)	3.34 (0.001)
Health promotion	-0.08 (-0.21 to 0.05)	-0.16 (-0.33 to 0.01)	1.90 (0.058)
Positive approach	-0.12 (-0.25 to 0.02)	-0.27 (-0.46 to -0.09)	2.88 (0.004)
State anxiety score	0.11 (0.08 to 0.15)	0.09 (0.05 to 0.13)	4.18 (<0.001)
No of medical problems	0.36 (0.22 to 0.51)	0.21 (0.03 to 0.38)	2.48 (0.014)
Sickness benefit	1.17 (0.66 to 1.69)	0.92 (0.17 to 1.67)	2.41 (0.017)
Disability benefit	1.81 (1.17 to 2.45)	1.98 (0.60 to 3.35)	2.84 (0.005)

\*Adjusted for other listed independent predictors of outcome and type of problem.

partnership, and a positive approach are most strongly related to satisfaction; a positive approach is related to improved symptom burden; and interest in the effect on life, health promotion, and a positive approach are most strongly related to enablement.

Enablement and satisfaction are important. Enablement has been proposed as a quality marker.<sup>12</sup> Satisfaction is important in its own right but also strongly predicts compliance with treatment on both theoretical<sup>13</sup> and empirical grounds.<sup>15</sup> For well defined acute illness it also predicts medical outcomes such as resolution of symptoms.<sup>16</sup>

Use of the medical interview satisfaction scale to relate satisfaction to patient centredness risks slight circularity because the scale includes subscales on communication.<sup>13</sup> Even if the similarity of measurement scales explained some of the results, the message that satisfaction is strongly related to patient centredness is still important. However, use of a patient centred approach also strongly predicted satisfaction when measured with a simple Likert scale. Satisfaction was also strongly related to whether patients' expectations before the consultation were met, which supports the general evidence about patient preference<sup>17-27</sup> and evidence specifically related to patient centredness.<sup>10</sup>

Patient centredness, particularly a personal relationship with the doctor, was also important in determining use of health service resources. This finding supports previous observations.<sup>7, 8</sup>

### Importance of positive approach

A previous study found that being positive and definite about the diagnosis and prognosis was positively related to resolution of symptoms.<sup>6</sup> We found that it had a positive effect on satisfaction, enablement, and burden of symptoms. It may be difficult to be positive if the doctor is genuinely uncertain about the diagnosis, which is often the case in primary care when patients present with early disease. Nevertheless, doctors should be aware that airing their uncertainties about diagnosis and prognosis might reduce satisfaction and empowerment.

### Conclusion

The components of patients' perceptions of patient centredness and a positive approach can be measured reliably. Each is associated with different outcomes of a consultation. Measurement of patients' perceptions of patient centredness provides a marker of the quality of care. If doctors don't provide a positive, patient centred approach patients will be less satisfied, less enabled, and may have greater symptom burden and use more health service resources.

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1 Barry C, Bradley C, Britten N, Stevenson F, Barber N. Patients' unvoiced agendas in general practice consultations: qualitative study. *BMJ* 2000;320:1246-50.

## What is already known on this topic

Preliminary evidence suggests that patients' perceptions of patient centredness predict outcomes better than analysing what the doctor says in a consultation

## What this study adds

There are five distinct components of patients' perceptions that can be measured reliably: communication and partnership, personal relationship, health promotion, positive approach to diagnosis and prognosis, and interest in the effect on life

Each component predicts different consultation outcomes

If doctors don't provide a positive, patient centred approach patients will be less satisfied, less enabled, and may have greater symptom burden and use more health service resources

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