

## ORIGINAL ARTICLE

## Shared decision making: developing the OPTION scale for measuring patient involvement

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**Background:** A systematic review has shown that no measures of the extent to which healthcare professionals involve patients in decisions within clinical consultations exist, despite the increasing interest in the benefits or otherwise of patient participation in these decisions.

**Aims:** To describe the development of a new instrument designed to assess the extent to which practitioners involve patients in decision making processes.

**Design:** The OPTION (observing patient involvement) scale was developed and used by two independent raters to assess primary care consultations in order to evaluate its psychometric qualities, validity, and reliability.

**Study sample:** 186 audiotaped consultations collected from the routine clinics of 21 general practitioners in the UK.

**Method:** Item response rates, Cronbach's alpha, and summed and scaled OPTION scores were calculated. Inter-item and item-total correlations were calculated and inter-rater agreements were calculated using Cohen's kappa. Classical inter-rater intraclass correlation coefficients and generalisability theory statistics were used to calculate inter-rater reliability coefficients. Basing the tool development on literature reviews, qualitative studies and consultations with practitioner and patients ensured content validity. Construct validity hypothesis testing was conducted by assessing score variation with respect to patient age, clinical topic "equipoise", sex of practitioner, and success of practitioners at a professional examination.

**Results:** The OPTION scale provided reliable scores for detecting differences between groups of consultations in the extent to which patients are involved in decision making processes in consultations. The results justify the use of the scale in further empirical studies. The inter-rater intraclass correlation coefficient (0.62), kappa scores for inter-rater agreement (0.71), and Cronbach's alpha (0.79) were all above acceptable thresholds. Based on a balanced design of five consultations per clinician, the inter-rater reliability generalisability coefficient was 0.68 (two raters) and the intra-rater reliability generalisability coefficient was 0.66. On average, mean practitioner scores were very similar (and low on the overall scale of possible involvement); some practitioner scores had more variation around the mean, indicating that they varied their communication styles to a greater extent than others.

**Conclusions:** Involvement in decision making is a key facet of patient participation in health care and the OPTION scale provides a validated outcome measure for future empirical studies.

See editorial commentary,  
p 87

See end of article for  
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The involvement of patients in shared decision making has been the subject of debate,<sup>1,2</sup> with some claiming that it should be mandatory while others point out the problems,<sup>3</sup> but it remains an area where few empirical studies have been conducted.<sup>4</sup> A systematic review has shown that there is no existing measure of the extent to which healthcare professionals involve patients in decisions within clinical consultations.<sup>5</sup> Although some instruments include some components of patient involvement,<sup>6–11</sup> they were found to be insufficiently developed to measure accurately this facet of communication in patient-clinician interactions. The underlying ethical principles of patient autonomy and veracity underpin this development and, coupled with the interest of consumers, professionals and policy makers, drive a research need to ascertain whether achieving greater involvement in decision making is associated with improved patient outcomes.

The area is complex and the concept is not easy to measure. It is reported that, typically, less than 50% of patients wish to be involved in the decision making processes<sup>12–13</sup> despite the possibility that "involvement" could have a positive effect on health outcomes.<sup>7–14–15</sup> Recent qualitative research conducted with a wide range of consumer and patient groups revealed only minor reservations about participation in decision making processes, provided the process was sensitive to individual

preferences at any given time points.<sup>16–17</sup> Patients stated that professionals should definitely provide information about treatment options, but should respect the extent to which patients wish to take on decision making responsibilities in clinical settings. The underlying principles of the shared decision making method have been described elsewhere<sup>18–20</sup> and, following a literature review<sup>5–21</sup> and a series of qualitative and quantitative studies,<sup>5–21–24</sup> a skills framework has been proposed.<sup>25</sup> This framework is composed of a set of *competences* that include the following steps:

- problem definition (and agreement);
- explaining that legitimate choices exist in many clinical situations, a concept defined as professional "equipoise"<sup>25</sup>;
- portraying options and communicating risk about a wide range of issues—for example, entry to screening programmes or the acceptance of investigative procedures or treatment choices); and
- conducting the decision process or its deferment.

These are all aspects of consultations that need to be considered by an instrument designed to assess whether clinicians engage patients in decisions.<sup>25</sup> It is the accomplishment of these competences that forms the conceptual basis for the OPTION scale.

OPTION (acronym for “observing patient involvement”) is an item based instrument completed by raters who assess recordings of consultations (audio or video). It has been developed to evaluate shared decision making specifically in the context of general practice, but it is intended to be generic enough for use in all types of consultations in clinical practice. The OPTION scale is designed to assess the overall shared decision making process. In summary, it examines whether problems are well defined, whether options are formulated, information provided, patient understanding and role preference evaluated, and decisions examined from both the professional and patient perspectives.

Some suggest that clinical practice should be categorised by a taxonomy of policies—that is, whether the screening, testing, or treatment under consideration is a “standard”, a “guideline”, or an “option”—and that clinicians should vary the degree of patient involvement on this basis. “Standards” theoretically provide strong evidence of effectiveness and strong agreement about best treatment. “Guidelines” are less prescriptive and, where there are “options”, the evidence regarding effectiveness or otherwise is unclear. It is then proposed that patient involvement be reserved for situations where clear “options” exist. This scale was designed, however, from the standpoint that there are opportunities for patients to be involved in decisions across the spectrum of evidence for effectiveness or professional agreement about best practice. Firstly, there are few situations where interventions are free from harm, and so it is almost always appropriate to raise awareness about such outcomes. Secondly, patients have legitimate perspectives on many social and psychological aspects of decisions whereas the evidence base almost certainly restricts itself to providing data about the biomedical aspects of decision making. The instrument developed was therefore a generic tool capable of assessing the extent to which clinicians involve patients in decisions across a range of situations, excluding emergencies or other compromised circumstances.

The aim of the study was to enable accurate assessments of the levels of involvement in shared decision making achieved within consultations in order to provide research data for empirical studies in this area. This paper describes the development of the instrument and assesses its ability to discriminate involvement levels and the decision making methods used in consultations within and between differing practitioners by reporting key aspects of the tool’s validity and reliability using a sample of consultations recorded in a general practice setting.

## METHODS

The psychometric characteristics of the OPTION scale were applied to a sample of audiotaped consultations collected from the routine clinics of 21 GPs and rated by two observers. Validity issues were considered at both theoretical (construct emergence) and item formulation and design stages; construct validity was also investigated. The reliability of the scale was calculated by assessing response rates, inter-item and item-total correlations, inter-rater agreement (kappa), and inter- and intra-rater reliability coefficients using both classical and generalisability theory statistical methods.

Approval to conduct the work was obtained from the Gwent local research ethics committee.

### Overall design features

The content validity of the instrument was developed by appraising existing research and undertaking qualitative studies to define the clinical competences of patient involvement in shared decision making in clinical consultations.<sup>5 18 19 25</sup>

### Content validity and concept mapping

The development process followed established guidelines.<sup>26</sup> The systematic review<sup>5</sup> allowed existing scales—especially

measures of related concepts such as “patient centredness” and “informed decision making”<sup>7 27</sup>—to be considered critically. Qualitative studies using key informants to clarify and expand the *competences* revealed that clinicians have specific perceptions about what constitutes “involvement in decision making” which are matched in part, but not entirely, by patient views<sup>25</sup> and emphasised the importance of checking patient role preference (item 10, table 2). The use of design and piloting iterations involving both patient and clinician groups ensured content validity and formulated items. In addition, a sample of consultations in which clinicians were *intent* and experienced at involving patients in discussions and sharing decisions were purposively chosen and examined.<sup>23</sup> Thus, the theoretical construct was refined by an assessment of clinical practice.<sup>22</sup> The synthesis of this body of work enabled the development of a theoretical framework for patient involvement in decision making and informed the design of the OPTION instrument.

### Instrument and scale development

An 18-item pilot instrument was used by five GP key informants<sup>25</sup> and one non-clinical rater to assess six simulated audiotaped consultations; item refinement and scale development involved three iterative cycles over a 12 month period. These simulated consultations had been modelled to contain differing levels of patient involvement and decision making methods. This process reduced item ambiguity, removed value laden wordings, and resulted in short and (where possible) positively worded items.<sup>26</sup> A 5-point scale, anchored at both ends with the words “strongly agree” and “strongly disagree”, was used to avoid the loss of scoring efficiency in dichotomised measures.<sup>26</sup> Revisions included removing two duplicative items, increasing the focus on observable “clinician behaviour” rather than attempting to assess patient perceptions of the consultation, and modifying item sequence.

This version was subjected to further piloting using a second calibration audiotape containing modelled consultations (two “paternalistic” consultations, three “shared decision making” and two “informed choice” examples). These consultations were rated by two non-clinical raters using the OPTION scale and two other scales—namely, the determination of “common ground” developed by Stewart *et al* in Ontario<sup>7</sup> and Braddock’s measure of “informed decision making”<sup>27</sup>—which were selected as the most comparable scales identified.<sup>5</sup> The raters provided written feedback and regarded the pilot 16-item OPTION instrument as a more acceptable and feasible tool. For the assessment of the simulated tapes the OPTION scale achieved an inter-rater reliability correlation coefficient of 0.96 compared with a score of 0.76 for the Braddock scale and 0.4 for the Stewart “common ground” scale. These initial results were therefore promising and a stable version of the instrument (June 2000) was described in a manual for raters. By participating in item revision and the development of the manual drafting, the raters were integrated into a calibration process before applying the instrument to a series of naturally occurring consultations.

### Data collection: practitioner and patient samples

To test the instrument, recordings of consultations were taken from the recruitment phase of a proposed trial of shared decision making and risk communication.<sup>28</sup> As part of the recruitment process to the study, GPs in Gwent, South Wales were asked to audiotape consecutive consultations during a routine consulting session in general practice. To be eligible for possible recruitment into the trial the GPs had to have been principals in a general practice for at least 1 year and less than 10 years. The potential sample pool of 104 GPs in 49 practices (mean age 41 years, 62% men) was initially approached by letter (followed by telephone contact) and asked to participate in a research trial. As far as we are aware, these volunteer

practitioners were naïve to the concepts that we were measuring and had not been exposed to any training or educational interventions that could have influenced their proficiency in this area. Patients attending on the specified recording dates gave their consent using standard procedures, and their age and sex were recorded. Apart from these consent procedures, no other stipulations were imposed and the data collected contained recordings covering the range of conditions typically seen in routine general practice sessions.

Each consultation recording (Spring 2000) was rated in the autumn using the OPTION instrument by two calibrated raters who were non-clinical academics in social sciences and who remained independent of the main research team. Tapes are available for re-assessment. A random sample of 21 consultations (one per clinician) was selected for test-retest analysis and repeated ratings conducted by the two raters.

### Data analysis

The data were analysed by taking the response to each item and calculating a summed OPTION score which was then scaled to lie between 0 (least involved) and 100 (most involved). Inter-item and item-total correlations were calculated and inter-rater agreements were calculated using Cohen's kappa. As well as assessing a classical inter-rater intraclass correlation coefficient, the inter-rater and intra-rater reliability coefficients of the instrument were calculated using the statistical techniques described in generalisability theory.<sup>29, 30</sup> This theory uses modified analysis of variance techniques to generate "generalisability coefficients".<sup>26</sup> The methods enable multiple sources of error variance to be calculated and subsequent generalisations to be made about the degree to which these sources are contributing to the overall variability. This allows decisions to be made about the effect of changing the characteristics of the measurement process—for example, number of raters or number of consultations per practitioner<sup>26</sup>—in order to assess the instrument's reliability. We also estimated whether consultation scores clustered within practitioners by calculating an intraclass correlation coefficient<sup>31</sup> and the homogeneity of the scale by calculating Cronbach's alpha.<sup>32</sup> Using the mean scores of the two raters, the Kaiser-Meyer-Olkin measure of sampling adequacy was assessed, inter-item correlations and item-total correlation were calculated, and confirmatory factor analysis performed to determine whether the scale could be legitimately considered as a measure of a single construct.

Assessment of the construct validity of the OPTION instrument was conducted by examining four hypothetical constructs—namely, that the OPTION score level would be influenced by patient age (negative), sex of clinician (positive in favour of female), qualification of clinician (positive), and whether the clinical topic was one where clinical equipoise existed (positive). The existence of equipoise was determined by a clinical assessment of the audiotape sample content (GE). Studies have also examined the effect of sex of the physician on communication within consultations. Although an area of debate,<sup>33</sup> Hall *et al*<sup>34</sup> found that female physicians made more partnership statements than male physicians and Coates' review<sup>35</sup> reported a broad consensus that female language is generally more cooperative. Although there is no consistent evidence, we examined this by comparing the mean OPTION scores for the eight female clinicians with those of their 13 male colleagues (*t* test). In 1995 the examination for membership of the Royal College of General Practitioners, UK (MRCGP) introduced a video assessment and listed shared decision making as a merit criterion. Although there exists evidence that GPs in training do not involve patients in decision making,<sup>36</sup> it was conjectured that success in the examination (at any time, before 1995, or after 1995) might be associated with higher scores (*t* test), although we did not expect strong correlations. It has been established in cross sectional

**Table 1** Demographic and clinical characteristics of the recorded consultations (n=186)

Male/female	60 (32%)/126 (68%)
Age (years)	Mean 43.3, SD 20.6, range 4 months–83 years
Duration of consultation (min)	Mean 8.2, SD 4.0, median 7.3, range 22.5
Clinical problems	
Respiratory	28
Musculoskeletal	27
Dermatological	21
Psychological	13
Cardiovascular	12
Hypertension	11
HRT	11
Other	63

studies that increasing patient age leads to less patient preference for involvement,<sup>12, 13</sup> and we assessed the correlation (Pearson) between OPTION scores and patient age. It was also hypothesised from previous qualitative work that decisions were more likely to be shared in consultations that contained clinical problems characterised by professional equipoise such as hormone replacement therapy.<sup>25</sup> The consultations were differentiated (by GE) according to this characteristic and any significant differences between the mean OPTION scores were determined (weighted *t* test). No attempt was made to establish criterion (specifically concurrent) validity.

## RESULTS

### Sample characteristics

Of the potential sample pool of 104 practitioners, 21 GPs in separate practices who showed interest in being recruited into the trial provided a tape of a routine clinic before receiving any detailed information about the proposed research. These GPs represented a slightly younger group than the sampling frame (mean age 38 years), identical M:F ratio (38% female), and 16 (76%) had been successful in the membership examination of the Royal College of General Practitioners compared with an overall membership level of 54% in the sampling frame. Of the 242 consecutive patients approached in all practices, 12 (5%) declined to have the consultation recorded (the maximum refusal in any one practice was three patients in a series of 15). The remaining 230 consultations were assessed and, after removing consultations where there were technical recording problems, 186 consultations were available for analysis (average of 8.8 consultations per practitioner). There was no age and sex difference between the consultations excluded because of poor recordings and those included for analysis. One practitioner recorded five consultations but most recorded eight or more. There were twice as many consultations with women in the sample and 66% of the patients seen were aged between 30 and 70 years. The demographic and clinical characteristics of the recorded consultations are summarised in table 1.

### Scale refinement

The performance of the 16-item scale was analysed in detail. Four of the items had been formulated to try and discriminate between styles of clinician decision methods to distinguish between paternalism, on the one hand, and the transfer of decisional responsibility to the patient on the other. The other 12 items had been constructed to determine performance within a construct of a defined set of steps and skills. The reliability of items that attempted to differentiate between decision making styles was poor, and a decision was made to

**Table 2** Option item response, missing value rates (%), and Cohen's kappa

OPTION scale item	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Missing values (%)	Kappa score*
(1) The clinician identifies a problem(s) needing a decision making process	49.5	33.1	11.0	4.3	1.3	0.8	0.61 (0.31)
(2) The clinician states that there is more than one way to deal with an identified problem ("equipose")	6.2	3.2	5.4	13.4	71.0	0.8	0.82 (0.50)
(3) The clinician lists "options" including the choice of "no action" if feasible	6.7	4.0	7.0	9.7	71.8	0.8	0.75 (0.51)
(4) The clinician explains the pros and cons of options to the patient (taking "no action" is an option)	3.5	3.2	9.4	11.6	71.5	0.8	0.68 (0.43)
(5) The clinician checks the patient's preferred information format (words/numbers/visual display)	0	0	0.3	0.5	98.4	0.8	0.98 (0.98)
(6) The clinician explores the patient's expectations (or ideas) about how the problem(s) are to be managed	0.5	1.1	8.6	18.8	69.9	1.1	0.75 (0.34)
(7) The clinician explores the patient's concerns (fears) about how problem(s) are to be managed	1.3	4.6	12.1	22.0	59.1	0.8	0.53 (0.42)
(8) The clinician checks that the patient has understood the information	0.8	1.1	35.2	26.9	34.9	1.1	0.38 (0.10)
(9) The clinician provides opportunities for the patient to ask questions	1.9	3.2	40.1	17.2	36.0	1.6	0.20 (-0.08)
(10) The clinician asks for the patient's preferred level of involvement in decision making	0.8	1.3	4.0	8.1	84.9	0.8	0.86 (0.66)
(11) An opportunity for deferring a decision is provided	1.1	2.4	4.8	7.5	83.3	0.8	0.83 (0.66)
(12) Arrangements are made to review the decision (or the deferment)	19.4	7.8	35.2	5.4	30.9	0.8	0.58 (0.44)

\*Kappa scores are for agreement across sum of "agree, neutral and disagree" scale points; scores in parentheses are kappa scores for 5-point scale agreement.

focus on a scale that was composed of the items that specifically evaluated the agreed competence framework. It is the reliability and construct validity of this 12-item scale that is reported.

#### Response rates to OPTION items

Items 1, 2, 3, 4, and 6 had a range of responses across the 5-point scale but with a predominance of low scores (see table 2 for summary of responses to items). Oversights in item completion led to an average of 0.9% missing values that were distributed evenly across all items (see table 2). The results indicate that the clinicians generally did not portray equipose (71% strongly disagree); they did not usually list options (71.8% strongly disagree); they did not often explain the pros and cons of options (71.5% strongly disagree); and they did not explore patients' expectations about how the problems were to be managed (69.9% strongly disagree). Responses to items 7, 8, and 9 revealed most variation across scale points. Item 7 asked whether the clinician explored the patients' concerns (fears) about how the problem(s) were to be managed: the response was 81.1% disagreement and 12.1% neutral. A similar pattern of disagreement with the assertion that the clinician "checks patient understanding" and provides "opportunities for questions" (items 8 and 9) was obtained but with higher scores for the neutral scale point (35.2% and 40.1%, respectively). Clinicians were infrequently observed to "ask patients about their preferred level of involvement in decision making" (84.9% strongly disagree).

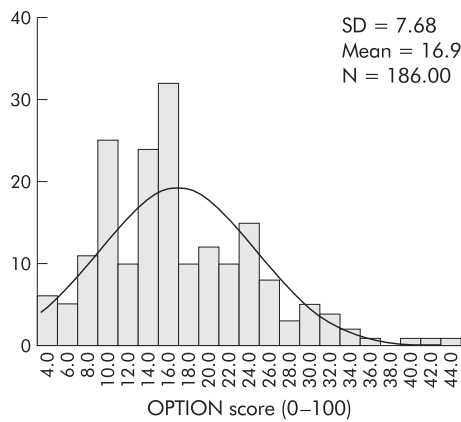
Opportunities for deferring decisions were rarely observed (item 11, 3.5% agreement) but an arrangement to review problems in the consultation was made in over a quarter of the consultations (item 12, 27.2% agreement). To summarise, the responses obtained indicate that the consultations recorded during these routine surgeries are characterised by low levels of patient involvement in decision making and a largely paternalistic approach by the GPs. This is confirmed by the fact that the items that assess equipose, option listing, and information provision (items 2, 3 and 4) achieved a mean agreement response rate of 8.6%.

#### Reliability of the OPTION score (summed and scaled scores)

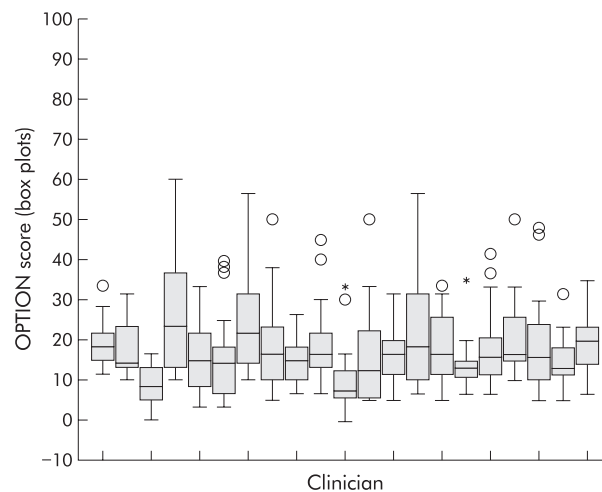
For all 12 items the mean Cohen kappa score was 0.66, indicating acceptable inter-rater agreement for this type of instrument after correcting for chance.<sup>37</sup> Exclusion of item 9

(which requires further attention because of its low kappa score) increased the mean kappa score to 0.71. For the kappa scores the scale was aggregated to three points (agree, neutral, disagree; see table 2). Five point kappa scores are shown in parentheses. Coefficient  $\alpha$  (Cronbach's  $\alpha$ ) was 0.79, indicating little redundancy in the scale (using the mean of the two rater scores). The inter-rater intraclass correlation coefficient for the OPTION score was 0.62. Based on a balanced design of the first five consultations on each practitioner's audiotape, the inter-rater reliability generalisability coefficient was 0.68 (two raters) and, using the test-retest data, the intra-rater reliability generalisability coefficient was 0.66. The corrected item-total correlations lay between 0.35 and 0.66 except for items 1 and 5 which had correlations of 0.05 and 0.07, respectively. Kaiser-Meyer-Olkin measure of sampling adequacy was 0.82, indicating a very compact pattern of item correlation and justifying the use of factor analysis. Confirmatory factor analysis using principal components revealed that variable loading scores in a forced single factor solution resulted in scores that were above 0.36 (the recommended thresholds for sample sizes of approximately 200) for all except items 1 and 5 (-0.10 and 0.09). Item 1 asked whether a "problem" is identified by the clinician and perhaps should be regarded as a gateway item to the scale—that is, if a problem is not identified then it is difficult to see how the other items can be scored effectively. Item 5 had a low endorsement rate which was anticipated given current practice. Items 2–4 and 6–12 had a mean factor loading of 0.64. A total of 35.2% of the variance was explained by one latent component. Of a total of 66 possible inter-item correlations, 49 were above 0.25 (mean  $r = 0.40$ ).

Given these reliability indicators, the overall mean (SD) OPTION score for all clinicians on a scale of 0–100, averaged across both rater scores, was 16.9 (7.7), 95% confidence interval 15.8 to 18.0, with a minimum score of 3.3 and a maximum of 44.2 across the sample. The scores are skewed towards low values (see fig 1). At the individual clinician level the mean OPTION scores lay between 8.8 and 23.8 with an intraclass correlation coefficient of 0.22 (across individual means), indicating significant clustering of consultation scores within clinicians. These scores and the quartiles for each practitioner are shown in fig 2. Note that some clinicians have a much wider range of involvement score, indicating a more variable consulting style. The results show that the general level of patient involvement achieved in these consultations was low.



**Figure 1** Distribution of OPTION scores.



**Figure 2** Mean OPTION scores for clinicians (box plots).

### Construct validity

Two constructs were found to be correlated with levels of involvement in decision making—namely, patient age and the existence of a clinical topic where professional equipoise could be expected. The correlation coefficient between the mean OPTION score and patient age (adult age range) was  $-0.144$  ( $p < 0.01$ ) and confirmed the hypothesis that involvement levels reduced as patient age increased. Although this was a small sample, it was found that consultations that contained clinical problems characterised by having a greater likelihood of professionals exhibiting equipoise about treatment choice ( $n = 15$  consultations, 8.1%), such as discussion of HRT or depression, had a mean OPTION score of 21.6 which was significantly higher than the mean scores achieved in consultations where equipoise topics did not occur (16.4,  $p < 0.01$ , weighted  $t$  test), confirming the hypothesis that involvement increases where this characteristic exists. Sex of the clinician and success or otherwise in the MRCGP examination were not associated with differences in OPTION scores.

## DISCUSSION

### Principal findings

The results of this study show that the OPTION scale provides a method of scoring the extent to which clinicians involve patients in the decision making process at the consultation level. Based on the psychometric characteristics reported, we were satisfied that the scale could be used to provide a score for the competence framework we had defined as “shared decision making”. Although there is little overall variance

between practitioners, there is considerable variability *within* practitioners, as shown by the differing quartile ranges around their mean scores (fig 2). Some clinicians have a narrower range of scores than others. This may indicate that these clinicians are able to modify their involvement levels across different consultations and to adapt it to the preferred roles of patients in these interactions. This is, however, a conjecture that needs further investigation.

The content validity of the instrument was based on formulating the items from the existing literature, using the results of a series of studies designed to understand how patient involvement can best be achieved in professional practice, followed by subsequent development using an iterative design and assessment cycle. The results with the instrument in this sample of consultations indicate that low levels of involvement in shared decision making are achieved by GPs and that paternalism is the typical “modus operandi” in routine consultations. These practitioners volunteered to take part in a research study on communication skills, and represent those with a high level of confidence in their skills who were aware that we were recording their consultations. Results from other practitioners are likely to be at least on a par or, most likely, lower.

The results indicate that the OPTION instrument achieves acceptable levels of measurement reliability for use in research settings. By focusing on a specific dimension this scale seems to have acceptable levels of reliability compared with similar measures.<sup>38,39</sup> Construct validity was supported by a correlation between involvement scores and patient age and the existence of clinical equipoise in the consultation (although the sample was limited); both hypotheses are supported by previous findings. The lack of correlation between involvement scores and sex of the practitioner or success at the MRCGP was not unexpected, given the weak evidence for these hypotheses.

### Strengths and weaknesses of the study

The strength of this study lies in the method of instrument development and a rigorous application of scale development procedures.<sup>40</sup> Some weaknesses were however noted during the study. Most consultations in general practice contain more than one problem solving issue and it is impractical to apply the OPTION instrument to every single presenting problem. Raters are therefore required to agree an *index* problem. Guidance is given for this issue in a revised manual. In summary, the problem is chosen for which the prime attention is given during the consultation or for which the clinician achieves the greatest involvement score, as the aim is to score demonstrated *ability* not to calculate involvement across all possible decisions. Secondly, parent and child consultations required additional guidelines (advising that the interaction between the clinician and the adult was assessed), and the raters had to judge which was the main patient participant where teenagers were being consulted. It was not possible to estimate concurrent validity (correlation of the measure with some other scale of the concept or trait to be assessed) as there was neither a “gold standard” nor a comparable instrument available. Correlation with patient opinions about their preferred and achieved involvement levels will be reported in further studies from trials conducted in parallel with this validation study.<sup>41</sup>

Psychometric assessment also revealed areas where further instrument refinement is necessary. Item 1 may need to be conceptualised as a “gateway” item in which the assessment of involvement in decision making cannot continue if no agreed problem can be identified. Although item 5 has a relatively high kappa score, the response rate was skewed and the factor loading is low. The item is retained, however, as it asks about a feature (use of risk communications tools) that is known not to occur in current service settings. As interventions to change this situation are being introduced, however,

the results are likely to change with time as decision aids are introduced into clinical settings.<sup>42</sup> Item 9 questions whether clinicians “provide opportunities for the patient to ask questions” but it has low kappa scores and a factor loading score below 0.2. This item needs modification and further testing to overcome the variation in scoring judgement. There is also a need to consider changing the scale from one that measures magnitude rather than attitude.

### Implications for research and formative skill development

OPTION scores for these routine consultations taken from general practice in a UK setting are low. For some items almost no responses were registered—for example, there was 99.7% disagreement with item 5 which asked if the clinician “checks the patient’s preferred information format”. Further research work in this area will involve presenting information in different formats and it is known that, when practitioners develop the skills of involving patients, there is a tendency for a pendulum effect. Retaining these items and others that reveal skewed or “floor” scores should enhance the ability of the instrument to register change.

The OPTION scale can therefore be used to determine the extent to which clinicians involve patients in clinical decisions. It should be noted that the results show that some practitioners have a wider scatter of scores than others. This result is congruent with the theoretical stance that practitioners should be flexible in their consulting style and adapt to the nature of the problem and the patient preference for participation in clinical decisions, although we cannot be certain that this has occurred. It is noteworthy, however, that these OPTION scores are low and it is anticipated that higher scores will be evident after periods of skill development. The instrument should be used to determine scores at a group level (mean scores) or at consultation levels and not to provide a definitive OPTION score that is taken to be characteristic of that practitioner’s ability, unless attention is given to case mix, sample size, and confidence interval estimation. The responsiveness of the instrument to change (increased levels of patient involvement in decision making after skill development) will be validated in further evaluations. It should be emphasised that this tool is designed as an evaluation of a consultation process. It does not measure patient’s preferred role, their contribution to the consultation interaction (also important), or their perceived levels of involvement or satisfaction. Without this measure of communication *process* we believe that a vital piece of the presumed linkage between patient involvement and improved outcomes in health care is missing.

### Implications for practice

In the face of the widespread acceptance that patient centredness is a fundamental goal in clinical practice,<sup>43</sup> and that sharing decisions is one of the key components of this approach, the result of this study confirms that the practice of GPs, as represented by this sample (who are an “above average” sample in terms of MRCGP membership and willingness to participate in this type of research), lies far away from espoused models in books and communication skills courses<sup>44</sup> and, indeed, the wishes of certain patients.<sup>46</sup> Do data from service contexts challenge these espoused models? Are the ideals of patient centredness and involvement in decision making completely unrealistic for day to day service contexts? Given that clinicians are consistently positive about the principles of patient centredness and patient participation in decision making processes, perhaps the issue of skill development is only a small obstacle and the structural constraints, particularly the lack of time and readily accessible and relevant information about the harms and benefits of health-care interventions, are the true limiting factors. These practitioners volunteered to have their consultations studied but,

### Key messages

- The OPTION scale provides a method of scoring the extent to which clinicians involve patients in the decision making process at the consultation level.
- Content validity was based on formulating the items from existing literature, using the results of a series of studies designed to understand how patient involvement can be best achieved in professional practice, followed by an iterative design and assessment cycle.
- Construct validity was supported by the finding of a correlation between involvement scores and patient age.
- Psychometric assessment also revealed areas where further instrument refinement is necessary.
- OPTION scores for a sample of routine consultations taken from general practice in a UK setting are low.

even so, the results reveal a very limited degree of patient participation. This study, among many others,<sup>36, 47–49</sup> provides additional evidence for the assertion that successful patient participation demands more time than is currently allocated. Perhaps these results also lend support to others for the need to harness technologies such as decision aids<sup>42</sup> so that consultations have firmer foundations for partnerships.

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### REFERENCES

- 1 **Schneider CE**. *The practice of autonomy: patients, doctors, and medical decisions*. New York: Oxford University Press, 1998.
- 2 **Gwyn R**, Elwyn G. When is a shared decision not (quite) a shared decision? Negotiating preferences in a general practice encounter. *Soc Sci Med* 1999;**49**:437–47.
- 3 **Edwards A**, Elwyn G, eds. *Evidence based patient choice: inevitable or impossible*. Oxford: Oxford University Press, 2001.
- 4 **Bekker H**, Thornton JG, Airey CM, et al. Informed decision making: an annotated bibliography and systematic review. *Health Technology Assess* 1999;**3**(1).
- 5 **Elwyn G**, Edwards A, Mowle S, et al. Measuring the involvement of patients in shared decision making: a systematic review of instruments. *Patient Educ Couns* 2001;**43**:5–22.
- 6 **Makoul G**. *Perpetuating passivity: a study of physician-patient communication and decision-making*. Evanston, IL: Northwestern University, 1992.
- 7 **Stewart M**, Brown JJ, Donner A, et al. *The impact of patient-centred care on patient outcomes in family practice*. Final report. London, Ontario: Centre for Studies in Family Medicine, 1995.
- 8 **van Thiel J**, Kraan HF, van der Vleuten CPM. Reliability and feasibility of measuring medical interviewing skills: the revised Maastricht history-taking and advice checklist. *Med Educ* 1991;**25**:224–9.
- 9 **Marvel MK**, Schilling R. Levels of physician involvement with patients and their families: a model for teaching and research. *J Fam Pract* 1994;**39**:535–44.
- 10 **Kurtz SM**, Silverman JD. The Calgary-Cambridge Referenced Observation Guides: an aid to defining the curriculum and organising the teaching in communication training programmes. *Med Educ* 1996;**30**:83–9.

- 11 **Roter DL.** *The Roter method of interaction process analysis.* Baltimore: The John Hopkins University, Department of Health Policy and Management, 1991.
- 12 **Benbassat J, Pilpel D, Tidhar M.** Patients' preferences for participation in clinical decision-making: a review of published surveys. *Behav Med* 1998;**24**:81–8.
- 13 **Guadagnoli E, Ward P.** Patient participation in decision-making. *Soc Sci Med* 1998;**47**:329–39.
- 14 **Coulter A.** Partnerships with patients: the pros and cons of shared clinical decision-making. *J Health Serv Res Policy* 1997;**2**:112–21.
- 15 **Stewart M.** Studies of health outcomes and patient-centered communication. In: Stewart M, Brown JB, Weston WW, *et al*, eds. *Patient-centered medicine.* Sage, CA: Thousand Oaks, 1995.
- 16 **Jenkins L, Britten N, Barber N, et al.** *Improving doctor-patient communication about drugs.* Final Report to the Department of Health. London: GKT Concordance Unit, 2001.
- 17 **Edwards A, Elwyn G, Smith C.** Consumers' views of quality: identifying the consultation outcomes of importance to consumers, and their relevance to 'shared decision-making' approaches. *Health Expect* 2001;**4**:151–61.
- 18 **Charles C, Gafni A, Whelan T.** Decision making in the physician-patient encounter: revisiting the shared treatment decision-making model. *Soc Sci Med* 1999;**49**:651–61.
- 19 **Charles C, Gafni A, Whelan T.** Shared decision-making in the medical encounter: what does it mean? (Or it takes at least two to tango). *Soc Sci Med* 1997;**44**:681–92.
- 20 **Charles C, Redko C, Whelan T, et al.** Doing nothing is no choice: lay constructions of treatment decision-making among women with early-stage breast cancer. *Sociology of Health and Illness* 1998;**20**:71–95.
- 21 **Elwyn G, Edwards A, Kinnersley P.** Shared decision making: the neglected second half of the consultation. *Br J Gen Pract* 1999;**49**:477–82.
- 22 **Elwyn G, Edwards A, Gwyn R, et al.** Towards a feasible model for shared decision-making: a focus group study with general practice registrars. *BMJ* 1999;**319**:753–7.
- 23 **Elwyn G, Edwards A, Wensing M, et al.** Shared decision-making observed: visual displays of communication sequence and patterns. *J Eval Clin Pract* 2001;**7**:211–21.
- 24 **Elwyn G, Gwyn R, Edwards AGK, et al.** Is a 'shared decision' feasible in a consultation for a viral upper respiratory tract infection: assessing the influence of patient expectations for antibiotics using discourse analysis. *Health Expect* 1999;**2**:105–17.
- 25 **Elwyn G, Edwards A, Kinnersley P, et al.** Shared decision making and the concept of equipoise: defining the competences of involving patients in healthcare choices. *Br J Gen Pract* 2000;**50**:892–9.
- 26 **Streiner N, Norman GR.** *Health measurement scales: a practical guide to their development and use.* 2nd ed. Oxford: Oxford University Press, 1995.
- 27 **Braddock CH, Fihn SD, Levinson W, et al.** How doctors and patients discuss routine clinical decisions: informed decision making in the outpatient setting. *J Gen Intern Med* 1997;**12**:339–45.
- 28 **Edwards A, Elwyn G.** *The use of shared decision making skills and risk communication tools: a primary care trial.* London: Department of Health (Health in Partnership Programme), 1999.
- 29 **Shavelson RJ, Webb NM.** *Generalisability theory: a primer.* London: Sage, 1991.
- 30 **Cronbach LJ, Gleser GC, Nanda H, et al.** *The dependability of behavioural measurements: theory of generalizability for scores and profiles.* New York: Wiley, 1972.
- 31 **Kerry SM, Bland JM.** Statistics notes: the intraclass correlation coefficient in cluster randomisation. *BMJ* 1998;**316**:1455–60.
- 32 **Cronbach LJ.** Coefficient alpha and the internal structure of tests. *Psychometrika* 1951;**16**:297–334.
- 33 **Skelton JR, Hobbs FDR.** Descriptive study of cooperative language in primary care consultations by male and female doctors. *BMJ* 1999;**318**:576–9.
- 34 **Hall JA, Irish JT, Roter DL, et al.** Gender in medical encounters: an analysis of physician and patient communication in a primary care setting. *Health Psychol* 1994;**13**:384–91.
- 35 **Coates J.** *Women, men and language.* London: Longman, 1993.
- 36 **Campion P, Tate P, Foulkes J, et al.** Patient-centredness is rare among candidates in the MRCP video examination: an analysis of 2096 doctors and 14,852 consultations. *BMJ* (submitted).
- 37 **Altman DG.** *Practical statistics for medical research.* London: Chapman and Hall, 1991.
- 38 **Mead N, Bower P.** Measuring patient-centredness: a comparison of three observation-based instruments. *Patient Educ Couns* 2000;**39**:71–80.
- 39 **Mead N, Bower P.** Patient-centredness: a conceptual framework and review of the empirical literature. *Soc Sci Med* 2000;**51**:1087–110.
- 40 **Boon H, Stewart M.** Patient-physician communication assessment instruments: 1986 to 1996 in review. *Patient Educ Couns* 1998;**35**:161–76.
- 41 **Edwards A, Elwyn G, Hood K, et al.** The development of COMRADE: a patient-based outcome measure to evaluate the effectiveness of risk communication and treatment decision making in consultations. *Patient Educ Couns* 2002 (in press).
- 42 **O'Connor AM, Rostom A, Fiset V, et al.** Decision aids for patients facing health treatment or screening decisions: systematic review. *BMJ* 1999;**319**:731–4.
- 43 **Stewart M.** Towards a global definition of patient centred care. *BMJ* 2001;**322**:444–5.
- 44 **Stewart M, Brown JB, Weston WW, et al.** *Patient centred medicine: transforming the clinical method.* Thousand Oaks, CA: Sage Publications, 1995.
- 45 **Kurtz S, Silverman J, Draper J.** *Teaching and learning communication skills in medicine.* Abingdon: Radcliffe Medical Press, 1998.
- 46 **Little P, Everitt H, Williamson I, et al.** Preferences of patients for patient centred approach to consultation in primary care: observational study. *BMJ* 2001;**322**:468–72.
- 47 **Howie JGR, Heaney DJ, Maxwell M.** *Measuring quality in general practice: a pilot study of a needs, process and outcome measure.* London: Royal College of General Practitioners, 1997.
- 48 **Barry CA, Bradley CP, Britten N, et al.** Patients' unvoiced agendas in general practice consultations: qualitative study. *BMJ* 2000;**320**:1246–50.
- 49 **Stevenson FA, Barry CA, Britten N, et al.** Doctor-patient communication about drugs: the evidence for shared decision making. *Soc Sci Med* 2000;**50**:829–40.