PERGAMON

Social Science & Medicine 51 (2000) 1087–1110

SOCIAL SCIENCE & MEDICINE

www.elsevier.com/locate/socscimed

Patient-centredness: a conceptual framework and review of the empirical literature

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Abstract

A 'patient-centred' approach is increasingly regarded as crucial for the delivery of high quality care by doctors. However, there is considerable ambiguity concerning the exact meaning of the term and the optimum method of measuring the process and outcomes of patient-centred care. This paper reviews the conceptual and empirical literature in order to develop a model of the various aspects of the doctor–patient relationship encompassed by the concept of 'patient-centredness' and to assess the advantages and disadvantages of alternative methods of measurement. Five conceptual dimensions are identified: biopsychosocial perspective; 'patient-as-person'; sharing power and responsibility; therapeutic alliance; and 'doctor-as-person'. Two main approaches to measurement are evaluated: self-report instruments and external observation methods. A number of recommendations concerning the measurement of patient-centredness are made. © 2000 Elsevier Science Ltd. All rights reserved.

Keywords: Patient-centred care; Process assessment; Literature review; Physician–patient relations; Quality of health care; Communication

Introduction

In the past 30 years, an extensive body of literature has emerged advocating a 'patient-centred' approach to medical care. Yet despite popularity of the concept there is little consensus as to its meaning. Edith Balint (1969) describes patient-centred medicine as "understanding the patient as a unique human being" while for Byrne and Long (1976) it represents a style of consulting where the doctor uses the patient's knowledge and experience to guide the interaction. McWhinney (1989) describes the patient-centred approach as one where "the physician tries to enter the patient's world, to see the illness through the patient's eyes". Giving information to patients and involving them in decision-making have also been highlighted (e.g. Lipkin, Quill & Napodano, 1984; Grol, de Maeseneer, Whitfield & Mokkink, 1990; Winefield, Murrell, Clifford & Farmer, 1996). For Laine and Davidoff (1996), patient-centred care is "closely congruent with, and responsive to patients' wants, needs and preferences". The most comprehensive description is provided by Stewart, Brown, Weston, McWhinney, McWilliam and Freeman (1995a) whose model of the patient-centred clinical method identifies six interconnecting components: (1) exploring both the disease and the illness experience; (2) understanding the whole person; (3) finding common ground regarding management; (4) incorpor-

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PII: S0277-9536(00)00098-8

ating prevention and health promotion; (5) enhancing the doctor–patient relationship; (6) 'being realistic' about personal limitations and issues such as the availability of time and resources.

Lack of a universally agreed definition of patient-centredness has hampered conceptual and empirical developments. This paper elucidates the key dimensions underlying published descriptions of patient-centredness, and critically reviews the empirical literature in order to explore relationships between the concept and its measurement. In 'taking stock' of the existing literature, the paper attempts to provide a clearer framework for future theoretical and empirical developments.

Key dimensions of patient-centredness

Development of the concept of patient-centredness is intimately linked to perceived limitations in the conventional way of doing medicine, often labelled the 'biomedical model'. Although inaccurate to view the 'biomedical model' as a single, monolithic approach (Friedson, 1970), it is generally associated with a number of broad concepts that determine the way in which medicine is practised (e.g. Siegler & Osmond, 1974; Engel, 1977; Cassell, 1982; McWhinney, 1989). These concepts exert particular influence on the content and style of the relationship between doctor and patient, where relationship is defined as "an abstraction embodying the activities of two interacting systems (persons)" (Szasz & Hollender, 1956).

In the 'biomedical model', patients' reports of illness are taken to indicate the existence of disease processes. This dictates a clinical method focused on identifying and treating standard disease entities. To this end, the patient's illness is reduced to a set of signs and symptoms which are investigated and interpreted within a positivist biomedical framework. Accurate diagnosis of the pathology permits selection of appropriate therapy which restores the diseased processes to (or near to) 'normal', thus curing (or improving) the patient's illness (Neighbour, 1987).

This paper proposes that 'patient-centred' medicine differs from the 'biomedical model' in terms of five key dimensions (described below), each representing a particular aspect of the relationship between doctor and patient.

Biopsychosocial perspective

Many illnesses presented in community settings cannot adequately be assigned to conventional disease taxonomies (Morrell, 1972; Bain, Bassett & Haines, 1973). In some cases, the exclusion of pathology and subsequent reassurance that there is nothing medically wrong may compound rather than relieve a patient's suffering. Conversely, people who do not feel ill may nonetheless have some classifiable disorder deemed worthy of medical treatment (e.g. hypertension). Furthermore, feeling ill and seeking help in response to illness appear to bear little relation to the type of condition or its clinical 'severity' (Rogers, Hassell & Nicolaas, 1999). Such findings challenge a key assumption of the 'biomedical model': that illness and disease are coterminous. This limitation has, in part, encouraged adoption of a wider explanatory framework by doctors, particularly in general practice. A combined biological, psychological and social perspective is regarded necessary to account for the full range of problems presented in primary care. For example, the UK Royal College of General Practitioners advocate composing 'triaxial diagnoses' of patients' problems (Royal College of General Practitioners, 1972). The concept is further developed in Engel's 'biopsychosocial model' (Engel, 1977, 1980) where disorders are conceptualised as existing at a number of interacting, hierarchical levels (from biological through to psychological and social levels).

Broadening the explanatory perspective on illness to include social and psychological factors has expanded the remit of medicine into the realm of ostensibly 'healthy' bodies. Again, this has been particularly evident in general practice. For Stott and Davis (1979) the 'exceptional potential' of the primary care consultation is not confined to managing acute and chronic (physical and psychosocial) disorders, but also includes possibilities for health promotion and the modification of help-seeking behaviour.

The biopsychosocial perspective is a key theme of many published accounts of 'patient-centredness'. Stewart et al. (1995a) assert that the patient-centred method requires a "willingness to become involved in the full range of difficulties patients bring to their doctors, and not just their biomedical problems". Furthermore, these authors regard health promotion as an essential component. Lipkin et al. (1984) emphasise the importance of being open to the patient's 'hidden agenda', reflecting the psychoanalytical influence of earlier work by Michael Balint (1964). According to Grol et al. (1990), the patient-centred doctor "feels responsible for non-medical aspects of problems". In short, the concept of patient-centredness can be seen as associated with a broadening of the scope of medicine from organic disease to a far wider range of 'dysfunctional' states (Silverman, 1987).

The 'patient-as-person'

A biopsychosocial perspective alone is not sufficient for a full understanding of the patient's experience of illness, which depends on his or her particular 'biography' (Armstrong, 1979). A compound leg fracture will not be experienced in the same way by two different patients; it may cause far less distress to the office worker than the professional athlete, for whom the injury potentially signifies the end of a career. Similarly, the medical treatment (even cure) of disease does not necessarily alleviate suffering for all patients. Cassell (1982) describes how one young woman's cancer treatment threatened her sense of self and perception of the future. The implication is that in order to understand illness and alleviate suffering, medicine must first understand the personal meaning of illness for the patient.

Clearly, personal meaning can have many dimensions. The social and behavioural sciences have contributed significantly to our understanding of how individuals interpret illness, and what significance it may hold for them. One cannot, for example, discount the impact of the particular rights and responsibilities which society attributes to those who occupy the 'sick role' (Parsons, 1951). Economic insecurity may make an individual reluctant to interpret symptoms as illness for fear of being labelled unfit to work. Similarly, culturally-determined norms and beliefs influence 'explanatory models'; that is, the conceptual and verbal tools used by lay people to describe, explain and predict illness (Helman, 1985; Croyle & Barger, 1993). While these models may sometimes be at odds with conventional medical explanations, they can predict how individuals act in response to illness. From the psychodynamic perspective, Balint stressed sensitivity to the patient's psychological world as crucial for insight into whatever unconscious motivations the patient may have for presenting, and for understanding "the patient's attitude towards his illness [which] is of paramount importance for any therapy" (Balint, 1964, p. 242).

Thus, patient-centred medicine conceives of the patient as an experiencing individual rather than the object of some disease entity. Attending to 'the patient's story of illness' (Smith & Hoppe, 1991) involves exploring both the presenting symptoms and the broader life setting in which they occur (Lipkin et al., 1984; Stewart et al., 1995a). Levenstein, McCracken, McWhinney, Stewart and Brown (1986) stress the importance of eliciting each patient's expectations, feelings and fears about the illness. The goal, according to Balint, is to "understand the complaints offered by the patient, and the symptoms and signs found by the doctor, not only in terms of illnesses, but also as expressions of the patient's unique individuality, his conflicts and problems" (quoted in Henbest & Stewart, 1989).

To summarise, the first dimension of patient-centredness is concerned with understanding patients' illnesses in general within a broader biopsychosocial framework. This second dimension, however, is concerned with understanding the individual's experience of illness. Patients cannot wholly be characterised by a diagnostic label, whether that label is physical, psychological or social in nature (Balint, 1964). To develop full understanding of the patient's presentation and provide effective management the doctor should strive to understand the patient as an idiosyncratic personality within his or her unique context (Bower, 1998).

Sharing power and responsibility

Patient-centred medicine promotes the ideal of an egalitarian doctor–patient relationship, differing fundamentally from the conventional 'paternalistic' relationship envisaged by Parsons (1951). Parsons regards patient deference to medical authority is an important part of the social function of medicine, serving the interests of both parties. The asymmetrical relationship between doctor and patient (whereby authority and control lie with the former) is seen as an inevitable consequence of the 'competence gap' between medical expert and lay patient. However, Parsons' model of social relations has been much criticised for its assumptions of mutuality and reciprocity between the two parties. For example, Friedson (1960, 1970) argues that conflict between medical authority and patient autonomy is fundamental to the doctor–patient relationship.

Issues of power and control in the doctor–patient relationship were central to the socio-political critiques of medicine (particularly feminist critiques of medical patriarchy) that reached their zenith in the 1970s (e.g. Illich, 1976; Doyal, 1979; Ehrenreich & English, 1979). These critiques were translated into calls for greater medical recognition of the legitimacy of lay knowledge and experience, and greater respect for patient autonomy. Increasingly, physician behaviour came under scrutiny as a potential 'problem' in the consultation (May & Mead, 1999). Patient non-compliance and dissatisfaction with care were attributable to some failure on the part of doctors; for example, failure to regard patients as experts in their own illnesses (Tuckett, Boulton, Olson & Williams, 1985), to provide adequate information and explanation (Korsch, Gozzi & Francis, 1968) or to reach consensus through negotiation (Stimson & Webb, 1975). For Mishler (1984), the problem is one of an imbalance in the discourse of the consultation. By interrupting the patient's 'voice of the lifeworld' with response-constraining questions, the doctor's 'voice of medicine' effectively strips away the personal meaning of the illness.

What these and other authors advocate is a shift in doctor–patient relations from the 'co-operation–guidance' model (analogous to a parent–child relationship) to 'mutual participation' (analogous to a relationship between adults — Szasz & Hollender, 1956), where power and responsibility are shared with the patient. Related notions like 'user involvement', 'negotiation', 'concordance' and 'patient empowerment' have been particularly evident within the sphere of health policy in the 1980s and 90s (e.g. Department of Health, 1991; NHS Executive, 1996). Once passive recipients of medical care, patients are increasingly regarded as active 'consumers' (and potential critics) with the right to certain standards of service, including the right to full information, to be treated with respect and to be actively involved in decision-making about treatment. Aside from political and moral arguments, clinical justifications for sharing power and involving patients in care have been advanced. Kaplan, Greenfield and Ware (1989) report positive associations with health outcomes, while Grol et al. (1990) suggest that information enables patients to take greater responsibility for their health.

This particular dimension was first introduced to the concept of patient-centredness by Byrne and Long (1976), although the theme of sharing medical power and involving patients is an almost universal element of published descriptions since then (e.g. Lipkin et al., 1984; deMonchy, Richardson, Brown & Harden, 1988; Stewart et al., 1995a; Winefield et al., 1996; Laine & Davidoff, 1996; Kinmonth, Woodcock, Griffin, Spiegal, Campbell & Diabetes Care from Diagnosis Team, 1998). From analyses of audiotaped consultations, Byrne and Long describe a continuum of general practitioner (GP) consulting styles ranging from 'doctor-' to 'patient-centred'. In doctor-centred consultations the doctor's medical skills and knowledge predominate, reflected in behaviours such as direct and closed questioning of the patient and giving directions. These behaviours serve the doctor's control needs. Conversely, patient-centred consultations reflect recognition of patients' needs and preferences, characterised by behaviours such as encouraging the patient to voice ideas, listening, reflecting and offering collaboration (Byrne & Long, 1976). While it is unclear to what degree the doctor–patient relationship can, in practice, become genuinely symmetrical, patient-centred medicine is concerned to encourage significantly greater patient involvement in care than is generally associated with the 'biomedical model'.

The therapeutic alliance

In the 'biomedical model' the perceived value of the relationship between doctor and patient is somewhat ambiguous since diagnosis and treatment are essentially decision-making and procedural issues. Where the quality of the relationship is regarded as having value, this is largely in terms of mediating positive outcomes from management decisions. For example, a friendly and sympathetic manner may increase the likelihood of patient adherence to treatment. Conversely, negative emotional responses by either party (e.g. anger, resentment) may serve to complicate medical judgement (causing diagnostic error) or cause patients to default from treatment. Thus the impact of affect on outcome is indirect, mediated through medical management. Even in the absence of 'active' treatment, positive emotional responses may effect improvement in the patient's condition (the so-called 'placebo effect'; Crow, Gage, Hampson, Hart, Kimber & Thomas, 1999).

Patient-centred medicine affords far greater priority to the personal relationship between doctor and patient, based on psychotherapeutic developments around the concept of the 'therapeutic alliance'. Rogers (1967) proposed that the core therapist attitudes of empathy, congruence and unconditional positive regard are both necessary and sufficient for effecting therapeutic change in clients. More recent developments (Roth & Fonagy, 1996) emphasise the importance of aspects of the professional–patient relationship, including (a) the patient's perception of the relevance and potency of interventions offered, (b) agreement over the goals of treatment, and (c) cognitive and affective components, such as the personal bond between doctor and patient and perception of the doctor as caring, sensitive and sympathetic (Bordin, 1979; Squier, 1990).

Although the practise of conventional biomedicine can involve significant aspects of the therapeutic alliance, this is not regarded necessary. Moreover, effects of medical treatment are theoretically distinguishable from relationship effects: the former are 'real' while the latter a mysterious but potentially beneficial side-effect. In patient-centred care however, developing a therapeutic alliance is a fundamental requirement rather than a useful addition. A common understanding of the goals and requirements of treatment [what Balint (1964) termed the "mutual investment company"] is crucial to any therapy, whether physical or psychological. Furthermore, the alliance has potential therapeutic benefit in and of itself (hence Balint's famous aphorism "the drug, doctor").

Although the therapeutic alliance is a function of the relationship between doctor and patient, the patient-centredness literature focuses mainly on the doctor's role, particularly the skills required in order to achieve and develop the desired emotional 'context' in consultations (Lipkin et al., 1984; Smith & Hoppe, 1991; Stewart et al., 1995a).

The 'doctor-as-person'

The final dimension concerns the influence of the personal qualities of the doctor. In the 'biomedical model', the application of diagnostic and therapeutic techniques is a fundamentally objective issue: although lack of skill or unreliable instrumentation may cause error, there is no theoretical reason why well-trained doctors should not be essentially interchangeable since doctor subjectivity does not impact on diagnosis and treatment (Friedson, 1970). Where subjectivity (including the influence of the doctor's uncertainty) is apparent, it is regarded remediable through education and better instrumentation.

Balint, Courtenay, Elder, Hull & Julian (1993) describe the biomedical model as 'one person medicine' in that a satisfactory clinical description does not require consideration of the doctor. By contrast, patient-centred medicine is 'two-person medicine' whereby the doctor is an integral aspect of any such description: "the doctor and patient are influencing each other all the time and cannot be considered separately" (Balint et al., 1993, p. 13). Doctor subjectivity is therefore regarded inherent in the doctor–patient relationship, though it is not necessarily benign. The influence of the doctor may serve to constrain patient behaviour or provoke negative responses such as aggression. Nevertheless, sensitivity and insight into the reactions of both parties can be used for therapeutic purposes. Balint et al. (1993) describe how emotions engendered in the doctor by particular patient presentations may be used as an aid to further management (what is termed 'counter-transference' in the psychodynamic literature).

Winefield et al. (1996) describe this dimension of patient-centredness as "attention by the doctor to cues of the affective relationship as it develops between the parties, including self-awareness of emotional responses". However, they acknowledge that few efforts have been made to measure this aspect of patient-centredness. Reasons why the 'doctor-as-person' dimension may not be readily amenable to current measurement technologies are discussed later.

Summary

While many of the ideas that have shaped these five dimensions have origins in the social and behavioural sciences, most development of the patient-centredness concept has occurred within general practice. This is as much linked to professional concerns to differentiate general practice from specialist medicine (and subsequently, to establish a framework for GP vocational training) as with perceived limitations of the 'biomedical model' (May & Mead, 1999). However, interest in patient-centred medicine is rapidly emerging in other medical disciplines, notably oncology and paediatrics (e.g. Street, 1992; Ford, Fallowfield & Lewis, 1996; Fallowfield, Lipkin & Hall, 1998; Wissow et al., 1998). This may be a response to evidence suggesting that interpersonal aspects of care are key determinants of patient satisfaction. Patients report valuing highly such attributes as doctors' 'humaneness' (e.g. warmth, respect and empathy), being given sufficient information and time, being treated as individuals and involved in decision-making and aspects of the relationship with the doctor such as mutual trust (Hall & Dornan, 1988; Baker, 1990; Williams & Calnan, 1991; Wensing, Jung, Mainz, Olesen & Grol, 1998). Increasingly, patient-centredness is regarded as a proxy for the quality of such interpersonal aspects of care.

Measuring patient-centredness

Concerns about variation in standards of medical care, coupled with increasing managerialism throughout the public sector have served to encourage quantification of all aspects of quality of care (Roland, 1999). However, gaps can occur between the concepts put forward by theorists and measures of those concepts in empirical work (Meehl, 1978). This is particularly likely in the case of 'patient-centredness' where development of valid and reliable measures is constrained by lack of theoretical clarity and the inevitable difficulties of measuring complex relationship processes. The focus of the paper will now turn to a review of the empirical literature to examine how, and to what degree, the five proposed dimensions of patient-centredness have been measured, and assess the current and potential utility of such measures for quality assurance and medical education.

Methods

The search strategy

Relevant empirical literature was identified from searches of computerised databases (Medline and Psychlit) using both UK and US spellings of the term 'patient-centred(ness)'. Searches were restricted to English language (non-nursing) journals published within a 30-year period (1969–1998 inclusive). Studies were included in the review if they (1) utilised a quantitative measure of patient-centredness (however defined) and (2) provided sufficient detail concerning the measurement method to permit categorisation. Studies that measured hypothesised outcomes of patient-centred care but which did not attempt to measure the construct per se were not included in the review. A list of excluded studies is available from the authors.

Table 1
Scales measuring doctors' patient-centred attitudes/values

Scale	Items	Content	Dimensions[a]	Reliability	Validity
Patient-centred attitudes (Grol et al., 1990)	7	Taking patients seriously; patient involvement in decisions; giving information to patients; responsibility for non-medical aspects of care	1, 3	$\alpha = 0.65$ (n = 112 GPs)	Correlations with interview behaviour such as prescribing, medical and psychosocial performance, openness to patient ideas and information-giving (r's from 0.29 to 0.46, n = 57 Dutch GPs). Sensitive to differences between doctors from different countries: UK (n = 371 GPs — 79% of all Avon GPs), Belgium (n = 90 volunteer GPs), Netherlands (n = 75 GPs — 71% of a regional sample)
Doctor–patient rating (deMonchy et al., 1988)	48	Medical versus humanistic role; scientific interests; status of doctor; equality in doctor–patient relationship; information-giving and sharing decisions; health care delivery	1, 3, 4	$\alpha = 0.62$ (n = 92 second year medical students), $\alpha = 0.65$ (n = 54 final year students), $\alpha = 0.64$ (n = 39 GP trainees), $\alpha = 0.81$ (n = 29 registrars)	GPs scored highest on patient-centredness, registrars scored lowest; final year medical students scored higher than second year students; female doctors scored higher than males. No demonstrated associations with clinical behaviour. No clear sampling information
Attitudes towards medical care (Cockburn et al., 1987)	21	Psychological orientation; responsibility for decisions; appropriateness of consultations; preventive medicine; mutuality; communication; government role	1, 3, 4	$\alpha = 0.48$–0.67; n = 387 GPs (74% of a randomly-selected sample; Cockburn et al., 1987)	Three subscales defined as 'patient-centred' by Howie et al. (i.e. psychological orientation, responsibility for decisions and appropriateness of consultations) were associated with consultation length, 'process of care' and doctor stress (r's from 0.19 to 0.29, n = 80 — 19% of Lothian GPs; Howie et al., 1992)

[a] Dimensions (column 4) refers to those aspects of patient-centredness addressed by each instrument (in the opinion of the reviewers). See main text for full description of the five dimensions of patient-centredness.

Results

Studies employed two main methodological approaches: (a) self-report measures of doctors' patient-centredness and (b) measures involving external observation of the consultation process.

Self-report measures of doctors' patient-centredness

It has been suggested that a patient-centred approach to care is contingent on the doctor possessing certain attitudes and values (Grol et al., 1990), a particular type of personality (Crookshank, 1926; Balint, 1964) or cognitive style (McWhinney, 1985). Self-report inventories are traditionally used to measure such psychological attributes. Table 1 presents details of the content, reliability and validity of three such scales.

Column 4 of the table shows which of the five proposed dimensions of patient-centredness each scale addresses (in the opinion of the reviewers). While all three scales contain items that map onto dimension 1 ('biopsychosocial perspective') and dimension 3 ('sharing power and responsibility'), the deMonchy et al. (1988) and Cockburn, Killer, Campbell and Sanson-Fisher (1987) scales also cover aspects of dimension 4 ('the therapeutic alliance').

With respect to the utility of self-report inventories, there are a number of important reliability issues to consider. Measures should exhibit satisfactory internal consistency (usually measured by Cronbach's alpha). However, to the extent that patient-centred attitudes are conceptualised as multi-dimensional, it is important that high alpha coefficients are not sought through excessive narrowing of item content (Cattell, 1978). A very short scale may have high internal reliability if its constituent items are similar in content, but relatively poor validity due to the restricted range of qualities measured. Although reported reliability is similar for the three scales in Table 1, the alpha quoted for the Grol et al. (1990) scale relates to a single overall construct, whereas those quoted for Cockburn et al. (1987) relate to the reliability of constituent subscales (which may be used as distinct variables). The deMonchy et al. (1988) scale has a similar alpha to the Grol scale despite a much higher number of items. This reflects the broad range of issues that are aggregated when scoring the scale (and which might benefit from some differentiation).

A further reliability issue centres on the implicit assumption that the psychological factors determining doctors' patient-centredness are relatively stable, at least in the absence of interventions. This requires information on the reliability of self-report scales over time. However, few would suggest that such attitudes are completely fixed. Sensitivity to change is therefore another relevant issue if scales are to have utility in evaluating educational interventions designed to enhance doctors' patient-centredness. None of the scales reviewed in Table 1 has published information on reliability over time or sensitivity to change.

Demonstrating the construct validity of self-report measures is crucial since there is no 'gold standard' criterion for patient-centredness. The relationship between self-report scores and a wide variety of external variables may have bearing on construct validity. For example, the deMonchy scale demonstrated associations with physician gender which may be interpretable with reference to theories of gender socialisation. The Grol scale differentiated between doctors from different countries which may reflect the influence of cultural differences in medical education or the social context of health care.

However, it is the link between doctors' self-reported attitudes and their actual clinical behaviour that is often of greatest interest. Without such a link, the utility of self-report measures may be unclear. Only the Grol and Cockburn scales report behavioural associations. The former was correlated with independent assessments of GPs' interview behaviour. Although the Cockburn scale was also associated with several process indicators of patient-centredness (Howie, Hopton, Heaney & Porter, 1992), some of these data relied on GPs' own subjective ratings (for example, of whether psychosocial problems were dealt with in the consultation) which may be less reliable than independent assessments.

A key problem with self-report scales concerns social desirability bias. As the characteristics of good interpersonal care are increasingly defined and disseminated by professional and patient groups and in government policy (e.g. patient involvement, negotiation, etc.), social desirability may mask real differences between doctors by encouraging particular responses from all doctors (Linn, DiMatteo, Cope & Robbins, 1987; Bucks, Williams, Whitfield & Routh, 1990). However, a key advantage of self-report scales is their feasibility. Instruments are relatively easy to administer. Thus large, representative samples of GPs can be surveyed, which may be more important than sensitivity in some contexts.

External observation methods

Most of the empirical literature conceptualises patient-centredness as a clinical method, reflected in the predominance of measures which involve observation of consultation behaviours. Two main approaches (or their combination) have been employed. Rating scales are concerned with how much or how well a specific behaviour was performed. Verbal behaviour coding systems involve categorising units of doctor and patient speech. Combined methods use elements of both approaches.

Rating scales

Table 2 presents details of the content, reliability and validity of six different scales. All the scales involve simple global ratings of behaviours defined as 'patient-centred', though they vary somewhat in focus and content. For example, the Verhaak (1988) scale is the only one not to focus explicitly on doctor behaviour. Rather it measures patient participation in the consultation (although this is likely to depend, to some degree, on facilitating behaviours of the doctor). The scales all tend to focus on evaluating 'instrumental' (i.e. task-oriented) behaviours rather than the emotional tone of the consultation.

Scale content was examined to judge which of the five proposed dimensions of patient-centredness each covers (see column 3). There was ambiguity regarding

Table 2
Rating scales measuring patient-centred behaviour in consultations

Rating Scale	Description	Dimensions	Reliability	Validity
Farmer scale (unpublished) — cited in Winefield et al. (1996)	Five behavioural dimensions: soliciting patient views; responding to patient views; relating information to patient views; involving patient; checking understanding. 5-point scale (-best performance rated across each dimension)	2, 3, (4)	Inter-rater: kappa = 0.84; internal: $\alpha = 0.61$ (n = 67; Winefield et al., 1996)	Low correlations with another measure of patient-centredness based on verbal behaviour coding (r's of 0.17 and 0.21). Associations with consultation length and patient satisfaction. Distinguished different consultation types: psychosocial or complex consultations were most patient-centred (n = 210 consultations with 21 volunteer GPs — 41% of invited random sample)
Verhaak (1988)	Two behavioural dimensions: patient participation in diagnostic decision-making; patient participation in therapy decision-making. Five-point scale (ratings made across each dimension for each complaint)	3	Inter-rater: r = 0.45 (sample size not reported)	Patient-centredness in both 'phases' of consultation correlated with psychosocial content of discussion. High correlations with other aspects of communication including: use of clarification, affective behaviour, use of 'purposive probing' (n = 1866–1884 somatic complaints; 406–496 psychosocial complaints presented to a sample of 30 self-selecting GPs)
Langewitz, Phillipp, Kiss and Wossmer (1998)	Doctor's patient-centred communication style operationalised as: eliciting patient's explanatory model; eliciting patient's assumptions about diagnosis/treatment; following patient's ideas; checking patient's understanding. One rating (6-point scale) for entire consultation	2, 3	Mean inter-rater agreement (i.e. where difference between two raters does not exceed 1 scale point) = 88.5% (3 raters; number of consultations not reported)	Significant increase in ratings following training in patient-centred communication skills (n = 19 volunteer residents in internal medicine assessed across two pre- and two post-intervention consultations with simulated patients); significant improvement in patient-centred communication compared with control group (n = 19 vs n = 23). Patient-centred style correlated with patient satisfaction
Ockene et al. (1988)	Rating scale for evaluating a patient-centred 'Stop smoking' counselling intervention. Three skills rated on a 4-point scale (for each of six specific counselling 'content areas'): (1) eliciting information in exploratory sequences; (2) providing information pertinent to patient's concerns/requests/status; (3) eliciting patient's feelings and responding appropriately with empathy and assurance	2, 3, 4	Inter-rater: statistically significant correlations between three raters (Kendall's coefficient (W) — skill 1, $p < 0.01$; skill 2, $p < 0.02$; skill 3, $p < 0.05$). Number of consultations not reported	Significant pre- to post-training improvement in two skill areas: eliciting information and eliciting and responding to patient's feelings (n = 23 family medicine and 54 general medicine residents each assessed on one pre- and one post-training audiotaped consultation with a simulated patient). No differences between physician specialty

Table 2 (*continued*)

Rating Scale	Description	Dimensions	Reliability	Validity
'Euro-communication' scale — cited in Mead and Bower (2000)	Five behavioural dimensions: involving patient in problem definition, involving patient in decision-making, picking up patient 'cues', exploring patient ambivalence, overall 'responsiveness'. Doctor's performance on each dimension rated on 5-point scale. Summated score (as % of maximum achievable) used in analyses	1, 2, 3, (4)	Inter-rater: intraclass correlation coefficient = 0.34 (intraclass = 0.51 when average of two scores is used) — based on four observers rating 20 consultations	Poor concurrent validity with two other measures of patient-centredness (i.e. adaptation of Roter Interaction Analysis System $r = 0.37$; Henbest & Stewart, 1989 $r = 0.35$). Significant positive associations with: GP acquaintance with patient, GP age, consultation length, proportion of eye-contact and the degree to which psychological factors were judged important by the GP (r's between 0.27 and 0.51; $n = 55$ videotaped consultations from 24 volunteer GPs)
Utrecht Consultation Assessment Method (UCAM) — cited by Pieters, Touw-Otten and Melker (1994)	Four dimensions of patient-centred behaviour: clarifying patient's reasons for attendance, making reasons explicit, finding common ground during problem formulation; finding common ground during management planning. Each item rated from 1 (= 'very inadequate') to 3 (= 'very adequate')	2, 3	Reliability not reported sufficiently clearly	Performance ratings for simulated patient encounters were higher than for matched 'real' encounters from GPs' everyday practice ($n = 20$ trainee Dutch GPs each assessed over one simulated patient consultation and three real patient consultations)

classification of some instruments due to lack of clarity about the exact processes being rated and their function (as perceived by the scale developers). For example, 'relating information to patient views' (Winefield et al., 1996) might be viewed as attempting to take account of the 'patient-as-person' (dimension 2) or as a means of enhancing the 'therapeutic alliance' (dimension 4). Pragmatically, it may relate to both dimensions. Thus, the dimensions assigned to each measure are judgements of the reviewers only and should be regarded as preliminary. It is also important to note that coverage of multiple dimensions by a single measure does not imply that all are measured adequately or with proven validity.

Reliable rating by observers is crucial. Although internal reliability is sometimes reported (e.g. Winefield et al., 1996), this reflects how constituent subscales or dimensions of an instrument inter-correlate, rather than the consistency of raters. In terms of inter-rater reliability, Table 2 shows the six measures generally report low to moderate levels, although a range of methods has been used. Measures of association such as Pearson's r (e.g. Verhaak, 1988) are less acceptable than measures of agreement such as kappa or intraclass correlations (e.g. Winefield et al., 1996; Mead & Bower, 2000) since the latter take into account the degree to which observers concur on the absolute 'level' of ratings, as well as their association. This is especially important where cut-offs of the 'adequacy' or 'quality' of behaviours are used: a high statistical correlation between two observers could mask the fact that one consistently rates a greater proportion of consultations as meeting a particular criterion.

The low inter-rater reliabilities reported for the Verhaak scale (1988) and the Euro-communication scale (Mead & Bower, 2000) may reflect the difficulty of rating relatively broadly defined behaviours. Generally, the reliability of a measure is inversely related to the amount of subjective judgement required on the part of observers. While it may be possible for observers to agree criteria for recognising a particular target behaviour (e.g. 'exploring patient ambivalence'), it may be more difficult to agree thresholds for scoring differing amounts or 'appropriateness' of that behaviour. To counter such problems, both the Farmer scale (used by Winefield et al., 1996) and the scale developed by Ockene et al. (1988) give relatively detailed criteria for scoring each behaviour. None of the scales has been assessed in terms of intra-rater reliability (i.e. the consistency of ratings by the same observer over time).

Table 3
Schemes for coding patient-centred verbal behaviour in consultations

Study	Description of method used	Dimensions	Reliability	Validity
Stewart (1983, 1984)	*Doctor behaviour*: shows solidarity; shows tension release; agrees; asks for opinion; asks for suggestion; shows tension. *Patient behaviour*: gives opinion; disagrees; shows tension; shows antagonism; gives suggestion; gives orientation (adapted from Bales' IPA)	3, 4	Inter-rater: agreement for 90.3 of 100 utterances (two raters; number of transcripts not reported)	Doctor behaviour (especially 'agreeing') associated with patient-reported compliance. Doctor behaviour had more impact on patient satisfaction and compliance than patient behaviour. Doctors more likely to express tension release, ask about feelings/opinions with female patients. Female patients expressed more feelings/requests for help. Male patients expressed more facts. (n = 140 consultations, 24 volunteer family physicians)
Roter et al. (1987)	*Doctor behaviour*: gives information/orientation/opinion related to procedures, medical condition, therapy or prevention; counsels/persuades about prevention, lifestyle or therapy (adapted from Roter's RIAS)	1, 3	Inter-rater: r = 0.81 (14 transcripts by second coder — median over 17 individual items)	Positive relationships with role-playing patients' satisfaction, impressions of affect and recall (r's from 0.27 to 0.62 for frequency-based measures; 0.11–0.58 for proportions; n = 86 consultations with 43 volunteer male primary care physicians)
Winefield et al. (1996)	*Doctor behaviour*: 'receptiveness' = reflections; open-questions; acknowledgements. *Patient behaviour*: 'involvement' = questions; positive/negative attitudes to treatment; private (unobservable) symptoms; accounts of action/experience; opinions (adapted from Stiles' VRM)	(1), 2, 3, 4	Inter-rater: Cohen's kappa = 0.84 for 'doctor receptiveness' 0.90 for 'patient involvement' (number of raters and transcripts not reported). Internal consistency: $\alpha = 0.70$ ('doctor receptiveness') and $\alpha = 0.58$ ('patient involvement')	Low correlations with Farmer scale (r's 0.17 and 0.21 — see Table 3). Moderate correlations between 'doctor receptiveness' and 'patient involvement' (r = 0.44). Doctor receptiveness related to patient age (older) and doctor knowledge of patient. Patient involvement related to age of patient (older), type of consultation (psychosocial or complex), longer consultations, and greater doctor dissatisfaction (n = 210 consultations with 21 volunteer GPs)
Ford et al. (1996)	Patient-centredness = *sum of*: doctor's psychosocial/lifestyle discussion + doctor's partnership-building statements + patient's questions + patient's psychosocial/lifestyle discussion *divided by sum of*: doctor's closed questions + doctor's biomedical information-giving + patient's biomedical information-giving (adapted from Roter's RIAS)	1, 2, 3, 4	Inter-rater: mean r for clinician utterance categories = 0.77 (range: 0.60–0.92); mean r for patient categories = 0.80 (range: 0.46–0.92) (two coders, r = 20 consultations)	Low ratios of patient-centred:doctor-centred behaviour reported for 'bad news' oncology outpatient consultations (mean ratio for first consultation = 0.33, rising to 0.41 at consultation 4 weeks later but remaining biomedically focused). No reported associations with consultation outcomes (n = 113 first and 95 second consultations, five volunteer clinicians)

Table 3 (*continued*)

Study	Description of method used	Dimensions	Reliability	Validity
Street (1992)	*Doctor behaviour*: statements of reassurance, support, empathy, inter-personal sensitivity; soliciting/ encouraging questions, opinions, expression of feelings (adapted from Stiles' VRM)	2, 3, 4	Inter-rater: Cohen's kappa of 0.69 (two raters over five transcripts)	Doctor behaviour positively associated with parents' satisfaction and perceptions of 'partnership-building' and 'inter-personal sensitivity' (*r*'s from 0.22 to 0.36, $n = 115$ paediatric consultations with seven self-selected doctors)
Cecil and Killeen (1997)	Relational Communication Control Coding System — grammatical form and pragmatic function of each speaker's statements coded in terms of controlling/accepting/ neutral behaviour. Paired statements (i.e. speaker-respondent) also coded in terms of control 'symmetry'	3	Inter-rater: Cohen's kappa of 0.85 (based on two raters coding 1024 doctor and patient statements)	Greater physician control associated with less patient self-reported compliance and satisfaction ($n = 50$ patients and 15 volunteer family practice residents)
Wissow et al. (1998)	*Healthcare provider behaviour*: partnership; interpersonal sensitivity; information-giving. Scores above 50th percentile on these three combined categories of talk defined as 'patient-centred' (-adapted from Roter's RIAS)	3, 4	Inter-rater: mean *r* for all provider talk = 0.74 and for provider's medical task-related talk = 0.84; mean *r* for parent socio-emotional talk = 0.81 and for parent's medical task-related talk = 0.78 (n = 15 audiotaped visits; number of raters not recorded)	Healthcare providers exhibited 'patient-centred' style with parent(s) in 33% of sampled visits and with the child patient in 36%. 'Patient-centred' style with parent(s) associated with: (i) more parent talk; (ii) higher parent ratings of provider informativeness and partnership. 'Patient-centred' style with child associated with: (i) more child talk with the provider; (ii) higher parent satisfaction with how good a job was done. (Total $n = 104$ emergency room visits for childhood asthma with volunteer healthcare providers sampled across seven US cities).
Mead and Bower (2000)	Patient-centredness = *sum of*: doctor's psychosocial/lifestyle discussion + doctor's verbal attentiveness + doctor's clarifying + patient's biomedical questions + patient's psychosocial/lifestyle discussion *divided by sum of*: doctor's biomedical questions and information-giving + doctor's directive/ orienting statements + patient's biomedical information-giving (adapted from Roter's RIAS)	1, 2, 3, 4	Inter-rater: intraclass correlation coefficient = 0.71 (based on three raters coding 20 consultations)	Poor concurrent validity with two other measures of patient-centredness: $r = 0.37$ (Euro-communication rating scale; Mead & Bower, 2000) and $r = 0.21$ (Henbest & Stewart, 1989). Significant positive associations with: GP acquaintance with patient, patient emotional distress; consultation length, proportion of eye-contact and the degree to which psychological factors were judged important by the GP (*r*'s between 0.31 and 0.53; $n = 55$ videotaped consultations from 24 volunteer GPs)

(*continued on next page*)

Table 3 (*continued*)

Study	Description of method used	Dimensions	Reliability	Validity
Badger et al. (1994)	Interaction Analysis System for Interview Evaluation (ISIE-81). *Doctor behaviour*: narrow and broad psychosocial questions; all statements with affective focus. *Patient behaviour*: patient talk as proportion of total interview talk	1, 3, 4	Reported inter-rater: mean *r*'s 0.72–0.82 (-number of raters and interviews not noted); intra-rater: mean $r = 0.84$ (all figures from original ISIE-81 development work)	No relationship with attitudes to psychosocial issues (measured using Physician Belief Scale). Affective interview behaviours, greater proportion of physician talk and broad psychosocial questioning were best predictors of depression diagnosis ($r = 47$ community physicians interviewing four patients standardised with symptoms of major depression)
Butow et al. (1995)	CN-LOGIT computer-based interaction analysis system for cancer consultations. Patient-centred behaviour: ratio of total patient to total doctor input (time); ratio of patient questions to doctor responses; all doctor talk about non-medical matters. Also rated global patient-centred style using visual analogue scale (0–100)	1, 3, (4)	Inter-rater: 66% agreement in number of identified speech units; 78–85% agreement on codes for matching speech units (two raters and 14 consultations). Intra-rater: 79% no. of speech units; 90–94% for matched units (14 consultations coded one year apart). Reliability of global scale not reported	Better psychological adjustment among patients whose questions were answered. No relationships between other verbal behaviour measures and patient satisfaction, recall or psychological adjustment. Global rating of consultation style associated with greater patient anxiety and female patient gender. No associations with patient age or preference for involvement in decision-making ($r = 142$ first in- or out-patient consultations with one medical oncologist)

In terms of validity, the rating scales in Table 2 report various associations with consultation inputs and process such as type and length of consultation (Winefield et al., 1996; Mead & Bower, 2000), psychosocial content of communication (Verhaak, 1988), eye contact, acquaintance with the patient and GP age (Mead & Bower, 2000). One scale did not differentiate between doctors from different medical specialities (Ockene et al., 1988). Two scales were found to be sensitive to changes associated with training (Ockene et al., 1988; Langewitz et al., 1998) and one distinguished between consultations with real and simulated patients (Pieters et al., 1994). However, two of the scales have demonstrated low concurrent validity with other observation-based measures of patient-centredness (Winefield et al., 1996; Mead & Bower, 2000).

Of most interest is the degree to which patient-centredness is associated with consultation outcomes like participant satisfaction, patient compliance or health status. The Winefield et al. (1996) and Langewitz et al. (1998) scales both report positive associations with patient satisfaction.

Verbal behaviour coding

Many schemes for coding verbal behaviour have been developed. The best known include Bales' (1950) Interaction Process Analysis (IPA), Stiles' (1978) Verbal Response Modes (VRM) and Roter's (1977) Interaction Analysis System (RIAS). A useful comparison of these three techniques is provided by Inui, Carter, Kukull and Haigh (1982).

All coding schemes share the same broad function of sorting speech acts into mutually exclusive categories. While some categories deal implicitly with the content of talk (e.g. RIAS: shows disagreement/criticism) the main focus is on the instrumental intent and effect of speech rather than what is actually said. Generally used to code from literal transcripts, some schemes (e.g. RIAS) use audio- or videotapes, thus improving feasibility. Measurement is in terms of frequencies and proportions of speech units assigned to the different categories; that is, categories are not weighted in such a way that one type of verbal behaviour is valued as more or less important than another.

Various modifications of verbal coding schemes have been used to study patient-centredness in consultations (Table 3). In these studies, the verbal content of the consultation is first coded, then various combinations of categories defined by the authors as 'patient-centred' are used in analyses. The method employed by Cecil and Killeen (1997) differs in that all pre-coded verbal statements were subsequently categorised in terms of patient and physician 'controlling' behaviour.

Again, the content of instruments was examined in order to judge which of the five proposed dimensions of patient-centredness were measured by each (see column 3). The difficulties with such judgements, highlighted in the previous section, are compounded in relation to verbal coding methods because micro-processes such as 'open questions' (Winefield et al., 1996) are relatively unspecific and may relate to a number of dimensions, depending on the interpretative framework used. For example, doctors' 'talk about non-medical matters' (Butow, Dunn, Tattersall & Jones, 1995) may relate to the 'biopsychosocial perspective' (dimension 1) or function as a means of enhancing the 'therapeutic alliance' (dimension 4).

Although there is some consensus as to what types of behaviours reflect patient-centredness, there is also significant disagreement on the inclusion of particular behaviours and the role of the patient. Common to most systems are doctor behaviours that encourage patient talk (including question-asking), general empathic statements, non-medical discussion and affective statements. However, there is notable disagreement about doctors' information-giving. Street (1992) distinguishes patient-centredness from doctors' information-giving behaviour while Roter, Hall and Katz (1987) consider information-giving as a patient-centred skill. For Ford et al. (1996) and Mead and Bower (2000) the exchange of psychosocial information (by either party) is treated as patient-centred whereas biomedical information-exchange is not. Also, while some measures take account only of the doctor's verbal behaviour (e.g. Roter et al., 1987; Street, 1992; Wissow et al., 1998), others also take patient behaviour into consideration when calculating patient-centredness.

Inter-rater reliabilities reported for measures in Table 3 are generally acceptable, although (as with the rating scales discussed previously) assessments vary from percentage agreement to kappa calculations. It should be noted that many reported figures relate to the reliability of the initial verbal coding procedure rather than the method for subsequently scoring patient-centredness (which cannot be assumed to have equivalent reliability). However, generally speaking, verbal coding schemes are more reliable than rating scales since they reduce consultation behaviour to frequencies of specifically defined units, the categorisation of which usually requires less subjective judgement on the part of the observer.

Although the best known verbal coding schemes have been used many times in different studies of medical consultations, the precise methods by which each was modified specifically to study 'patient-centredness' (detailed in Table 3) have not been reproduced in other research. On a practical note, these methods can be rather time-consuming, especially since the whole consultation has to be coded first before 'patient-centredness' can be measured.

In terms of the validity of measures, greater levels of patient-centredness have been reported for consultations with patients who are female (Stewart, 1983, 1984; Butow et al., 1995), older (Winefield et al., 1996), more anxious or emotionally distressed (Butow et al., 1995; Mead & Bower, 2000) and better known to the doctor (Winefield et al., 1996; Mead & Bower, 2000). Associations are also reported with eye contact (Mead & Bower, 2000), type of consultation (Winefield et al., 1996) and consultation length (Winefield et al., 1996; Mead & Bower, 2000). In terms of outcomes, associations have been found with patient compliance (Stewart, 1983, 1984; Cecil & Killeen, 1997), satisfaction (Stewart, 1983, 1984; Roter et al., 1987; Street, 1992; Cecil & Killeen, 1997; Wissow et al., 1998) and recall (Roter et al., 1987). Patient-centredness has also been associated with a greater likelihood of diagnosing depression (Badger et al., 1994) and with doctor dissatisfaction (Winefield et al., 1996).

Combined assessment methods

Four combined assessment methods have been developed (Table 4), possibly as a response to criticisms that, used in isolation, no singular approach adequately captures the complexity of doctor–patient consultations (e.g. Wasserman & Inui, 1983; Waitzkin, 1990; Roter & Frankel, 1992). Because these methods have been specifically designed to measure patient-centredness, identifying the dimensions addressed by each is generally easier than for measures based on verbal coding schemes.

In Byrne and Long's (1976) method, individual doctor behaviours are categorised as either 'doctor-centred', 'patient-centred' or 'neutral'. An examination of the conceptual basis and content of the measure confirms that it examines dimension 3 ('sharing power and responsibility'). The frequency of different categories of behaviour are noted using separate checklists for the 'diagnostic' and 'prescriptive' phases of the

Table 4
Combination methods for measuring patient-centred behaviour in consultations

Method	Dimensions	Reliability	Validity
Byrne and Long (1976)	3	Inter-rater (36 consultations rated by two independent observers): 'diagnostic' phase (frequently occurring categories only): r's = 0.43–0.87 (for 9 out of 11 categories, $r > = 0.70$); 'prescriptive' phase (frequently occurring categories only): r's = 0.40–0.81 (for 5 out of 11 categories $r > = 0.70$) — reported by Buijs et al. (1984)Inter-rater: 90% agreement for three observers based on 20 consultations — reported by Long (1985)	Scoring procedure for categorising consulting styles on a 'doctor-' to 'patient-centred' continuum failed to discriminate between different doctors and consultation types (n = 36 consultations by six GPs; Buijs et al., 1984) Detected improvements in GP interview style (significant for 'empathic behaviour') following Rogerian training aimed at encouraging patient expression of psychosocial problems (n = 106 pre- and 81 post-training consultations with six volunteer GPs; Bensing & Sluijs, 1985) Association between GP patient-centredness and (i) length of consultation, (ii) 'flexibility' of GP consulting style (defined by the author, n = 53 volunteer GPs supplying recordings of two complete surgeries six months apart; Long, 1985) No associations found between patient-centredness of consultations and (i) patients' own ratings of 'ease of communication' or 'doctor's degree of understanding', or (ii) length of consultation (n = 88 consultations with nine self-selected GPs; Cape, 1996)
Brown et al. (1986)	2, 3	Inter-rater: r = 0.69–0.84 for 3 coders (n = 6 tapes; Brown et al., 1986)	Physician patient-centredness moderately increased over 2-month period of training and practice in family medicine; significant increase in 'physician facilitating behaviours'; non-significant increase in overall patient-centredness (n = 26 pre- and 23 post-training interviews with 13 physicians; Stewart, Brown, Levenstein, McCracken & McWhinney, 1986)
Henbest and Stewart (1989)	2, 3	Inter-rater reliability: patient offers — 85% agreement; physician response scores: r = 0.91 (Henbest & Stewart, 1989); r = 0.90 (Law & Britten, 1995); intraclass correlation coefficient = 0.58 rising to 0.73 using average of two raters' scores (Mead & Bower, 2000) Intra-rater reliability: r = 0.88 (after 2 weeks); r = 0.63 (after 6 weeks); correlation between scoring in first two min and score for entire interview: r = 0.81 (Henbest & Stewart, 1989); r = 0.57 (Law & Britten, 1995)	Moderate to high concurrent validity with Brown et al. (1986) measure (r's = 0.51 and 0.89) and empathy scale (r = 0.89); differentiated between doctors with respect to overall patient-centredness scores and in responses to different categories of patient offers (n = 73 taped consultations with six doctors; Henbest & Stewart, 1989) Patient-centredness correlated with doctors' ascertainment of patients' reasons for attending (r's from 0.3 to 0.42, n = 73); significant association between degree of patient-centredness in response to main symptom and resolution of patients' concerns; no associations with (i) doctor–patient agreement about the problem or (ii) patient satisfaction (Henbest & Stewart, 1990)

Table 4 (*continued*)

Method	Dimensions	Reliability	Validity
			Female GPs (especially trainers) scored higher on patient-centredness; female GPs ignored fewer patient offers and made more open-ended responses than males; highest median patient-centredness score for female GP/female patient dyad; lowest score for male GP/female patient dyad (Law & Britten, 1995) Poor concurrent validity with two other measures of patient-centredness (i.e. Euro-communication rating scale $r = 0.35$; RIAS-based measure $r = 0.21$); significant positive association with proportion of GP eye-contact ($r = 0.28$); no other associations with measured consultation input or process variables ($n = 55$ videotaped consultations from 24 volunteer GPs; Mead & Bower, 2000)
Brown, Stewart and Tessier (1995)	2, 3, (4)	Inter-rater: $r = 0.83$ ($r = 19$ consultations); intra-rater: $r = 0.73$ ($r = 20$ consultations; Stewart, Brown, Donner, McWhinney, Oates & Weston, 1995b)	Good concurrent validity with global scores of experienced communication researchers ($r = 0.85$, $n = 46$ consultations); some association with patients' subjective perceptions of 'finding common ground' but not with perceptions that the doctor 'explored the illness experience'; no association with any health outcomes ($n = 315$ consultations sampled from 39 doctors, i.e. 47% of a randomly selected sample; Stewart et al., 1995b)

consultation. Category weightings are used to score the consultation style for patient-centredness. However, Buijs, Sluijs and Verhaak (1984) are critical of this scoring procedure, rejecting the possibility that doctors' styles may be classified on a patient-centred continuum. Only two published studies have used this instrument, neither using the original scoring system: instead, ratios of doctor- to patient-centred behaviour were determined (Long, 1985; Cape, 1996).

The next three methods represent successive developments of one instrument. Brown, Stewart, McCracken, McWhinney and Levenstein (1986) focused on eliciting and understanding the patient's experience of illness, thus tapping into dimension 2 ('patient-as-person'). The method involves categorising patients' verbal 'offers' into four mutually exclusive types: expectations, feelings, fears and prompts. The doctor's response to each offer is then scored as either an acknowledgement or a cut-off (i.e. block to further expression). A fifth dimension, physician facilitating behaviours, records any doctor comment encouraging further patient expression. To the degree that focusing on doctors' responses to patient 'offers' may be interpreted as measuring the amount of 'space' given to patients in the consultation, the instrument could also be said to tap into aspects of dimension 3 ('sharing power and responsibility'). Aside from the initial validation work, this measure has not been used in other published research.

Henbest and Stewart (1989) modified the Brown et al. (1986) measure to enable coding direct from video- or audiotape. They also added two more categories of patient 'offers' (symptoms and thoughts) and distinguished closed- from open-ended doctor responses. However, neither this nor the original Brown et al. (1986) instrument assesses the success (or otherwise) by which participants' respective 'agendas' are negotiated and integrated in the consultation.

The most recent version (Brown et al., 1995) now also includes patient 'offers' relating to impact on functioning/roles. A modified scoring method allows for the possibility that patients may not offer any symptoms or prompts during a consultation. This makes the measure applicable to a wider range of consultation types (e.g. doctor-initiated encounters). As well as measuring the degree to which the doctor elicits the patient's illness experience, the method now also contains two new sections. The first scores the doctor's attempts to 'understand the whole person' (still corresponding to the dimension we term 'patient-as-person'). The method requires verbatim transcription of patients' statements relating to family, personality, social support and life-cycle issues. The second additional section assesses the degree to which doctor and patient 'find common ground'. The method for scoring this involves consideration of the interaction between doctor and patient (e.g. mutual discussion of treatment goals). As such, the measure now also maps onto dimension 3 ('sharing power and responsibility') and possibly also dimension 4 ('therapeutic alliance').

All the reviewed combined methods have published reliability data, although samples are small and a number of reliability assessments have involved the developers of the scales rather than independent researchers. The Henbest and Stewart (1989) and Brown et al. (1995) measures have demonstrated acceptable intra-rater reliability. The Byrne and Long (1976) and Brown et al. (1986) methods have acceptable inter-rater reliability, although reliability of some categories in the Byrne and Long system is low. The high levels of inter-rater reliability reported for the Henbest and Stewart (1989) measure (both by its developers and by Law & Britten, 1995) could not be replicated by Mead and Bower (2000), although the latter report levels of actual agreement between observers rather than association. Brown et al. (1995) also report high inter-rater reliability.

In terms of validity, both the Byrne and Long (1976) and Brown et al. (1986) measures were sensitive to changes associated with training (Bensing & Sluijs, 1985; Stewart et al., 1986). Associations have also been reported with female gender and training status of doctors (Henbest & Stewart, 1989). Associations with consultation length are inconsistent (Byrne & Long, 1976; Cape, 1996). Concurrent validity with other measures of consultation processes include associations with flexibility of consulting style (Long, 1985), eye contact (Mead & Bower, 2000), measured empathy (Henbest & Stewart, 1989), ascertainment of patients' reasons for attendance (Henbest & Stewart, 1990) and 'global' communication skills (Stewart et al., 1995b). As would be expected, the Brown et al. (1986) and Henbest and Stewart (1989) measures are highly correlated, but the latter did not correlate highly with either a rating scale of patient-centredness nor a verbal coding measure based on RIAS (Mead & Bower, 2000). Finally, in terms of outcomes, Byrne and Long's (1976) system was not related to patients' ratings of the consultation; Henbest and Stewart (1989) was not related to doctor-patient agreement or patient satisfaction (Henbest & Stewart, 1990), and there was no association between the most recent Brown et al. (1995) measure and patient health outcomes (Stewart et al., 1995b).

Discussion

Focus of the review

The aim of this review was to explore relationships between the concept of patient-centredness and its measurement. Searches of empirical literature were therefore limited to explicitly defined measures of 'patient-centredness'. This effectively excluded work addressing related themes but using other labels (e.g. 'patient communication control' — Kaplan et al., 1989; 'relationship-centred care' — Tresolini, 1996). Only further theoretical and empirical work will determine whether such concepts require substantive modification to the proposed five-dimension framework or can be subsumed within it. In the opinion of the reviewers, limiting the search term to 'patient-centred(-ness)' did not result in omission of any important measures of the concept. Moreover, the strategy reduced a potentially huge body of empirical literature to proportions more suitable for journal publication.

Only quantitative systems were reviewed since the focus was on measuring patient-centredness using methods that might be part of professional evaluation or quality monitoring initiatives. However, this should not be interpreted as downplaying the role of qualitative work in furthering understanding of patient-centredness. Qualitative research may generate valuable explanatory insight into mechanisms underlying observed relationships, including hypotheses concerning null findings or discrepant results (e.g. where independent measures of patient-centredness are not associated with patients' ratings of their consultations). Additionally, qualitative methods may be the only way of fully examining some dimensions of patient-centredness (e.g. dimensions 2 and 5): this issue is discussed in greater detail below.

The review focused on patient-centredness in medicine (particularly general practice, where the bulk of the literature originates). However, the concept is described in the literature of other health care disciplines, notably nursing. Although there may be significant overlap between the two, this cannot be assumed. For example, doctors and nurses differ in their conceptualisation of related terms such as 'holism' (Williams, Robins & Sibbald, 1997). The specific context in which different health professionals work may influence the relevance of particular dimensions of patient-centredness. The applicability of the current model to other disciplines therefore requires further exploration.

The five dimensions of patient-centredness

To date, the term 'patient-centredness' has been used to refer to so many different concepts that its scientific utility may have been compromised. The proposed five-dimension framework provides conceptual clarity concerning the exact issues addressed by particular interventions or research tools. This should facilitate communication between different research groups, and between researchers and clinicians.

The framework has a number of strengths. Dimensions 3 and 4 ('sharing power and responsibility' and 'therapeutic alliance') have parallels in psychological theories of interpersonal relationships and in psychotherapy (Leary, 1957; Birtchnell, 1993; Roth & Fonagy, 1996), suggesting that aspects of patient-centredness reflect ways of relating not limited to the medical context. A wider literature may therefore be of relevance to further developments in this area.

In psychological theories of personality a distinction is often made between 'nomothetic' systems of understanding (i.e. those that apply to groups of people) and 'idiographic' systems (i.e. those concerned with understanding an individual). Dimension 1 of the proposed framework may be considered nomothetic in that it concerns the degree to which doctors use a biopsychosocial perspective to understand patients in general. Dimension 2 differs in that it is idiographic, relating to the doctor's understanding of the individual patient. Similarly, dimension 4 (nomothetic) concerns the caring, affiliative quality of the doctor–patient relationship in terms that can be applied to all patients, whereas dimension 5 (idiographic) is concerned with aspects of the relationship particular to the individual doctor–patient dyad.

Inter-relationships between the dimensions

Aside from the nomothetic/idiographic complementarity of dimensions 1 and 2, and dimensions 4 and 5, inter-relationships within individual doctors also requires consideration. If, as some authors suggest, patient- and doctor-centred approaches represent two qualitatively different types of practitioner (e.g. McWhinney, 1985), then all five dimensions might be expected to be highly correlated within individual doctors. Equally, inter-correlations might be expected to the degree that particular verbal behaviours may relate to more than one dimension (discussed below). Although in part this is an empirical issue, there is no theoretical reason why practitioners should not demonstrate behaviours indicative of one dimension but not another. Using a biopsychosocial perspective to account for problems presented by all patients (dimension 1) may be less complex a task than fully understanding each patient's subjective experience of illness (dimension 2). Thus with relatively simple training, doctors' skills may improve in some areas without significant progress in others. Although medical education may aim to create fully patient-centred practitioners, it is implicit in the current model that the five dimensions each represent distinct aspects of clinical work having their own determinants, correlates and outcomes.

On being 'patient-centred'

As befits such a complex construct, a large number of variables potentially influence a doctor's propensity to be patient-centred, both within the context of individual consultations and over the course of the professional career. Fig. 1 indicates some hypothesised influences.

At the centre of the model is the doctor–patient relationship expressed in the form of a behavioural interaction between the two parties. As proposed, these behaviours may be interpreted as more or less 'patient-centred' across five dimensions. Potential influences on these dimensions are hypothesised at a number of different levels. At the most remote level, 'shapers' (such as cultural norms or clinical experience) may impact on more specific determinants (like gender or attitudes). In Western culture, for example, norms relating to gender mean that it is more socially 'acceptable' for females to discuss feelings and emotions than males. Similarly, a doctor's attitude towards developing and maintaining a therapeutic alliance with drug misusers may become coloured by past negative experiences.

The specific context of medical practice may also impact on doctors' patient-centredness (Howie, 1996). For example, the introduction of videotaped consultation assessments into the membership examination for the UK Royal College of General Practitioners may encourage more systematic attention to interpersonal aspects of care by GPs. Recent policy initiatives to promote greater teamworking and role substitution among primary care professionals (e.g. Sibbald, 1996) may reduce possibilities for sustained personal contact with individual patients, in turn impacting on doctors' ability to attend to the more 'idiographic' aspects of patient-centred care. Increasing emphasis on 'evidence-based' clinical care may present problems for ensuring that patients have full information when deciding about treatment. As Toop (1998) points out, "concepts such as relative and absolute risk, number needed to treat, cost-effectiveness and resource allocation may not always be explainable to patients".

Finally, consultation-level influences have the most immediate impact on the propensity of doctors to be patient-centred. The mechanism for this may be direct or mediated via demographic and psychological characteristics of the patient or doctor. For example, ethnic differences may create barriers to effective communication. Time or workload pressures may limit possibilities for full negotiation and resolution of conflict between doctor and patient 'agendas'. Alternatively, such pressures may increase the value placed

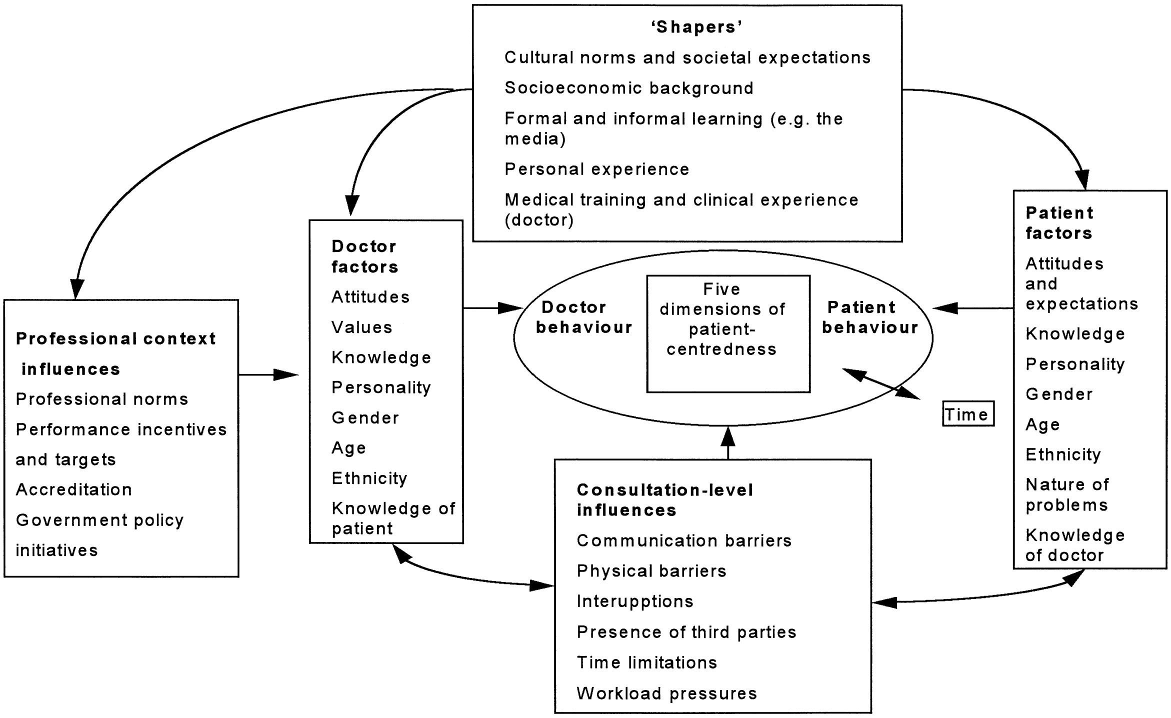

Fig. 1. Factors influencing patient-centredness.

by a doctor on such aspects of clinical work, encouraging adoption of specific mechanisms (e.g. offering longer appointment slots) to facilitate patient-centred care.

The time dimension detailed in Fig. 1 explicitly recognises that the propensity of a doctor to be patient-centred will vary over time, and that some dimensions (especially 2 and 5) require significant time to develop between the doctor and individual patient.

As currently presented, the model is not fully specified in a number of respects. First, it only indicates hypothesised sources of influence on the broad construct of patient-centredness, without considering more in-depth relationships between specific elements of the model and each dimension. For example, dimension 3 ('sharing power and responsibility') may be relatively amenable to external influences such as policies that set standards for patient involvement in care. However, dimension 5 ('doctor-as-person') is far less amenable to such external influences since it requires a reflective approach on the part of the doctor which cannot be enforced from outside. Balint (1964) suggested that some aspects of patient-centredness require a "limited though considerable change in personality" (p. 121), whereas others suggest that patient-centred skills can be learned without such profound psychological change (Gask & McGrath, 1989). These conflicting points of view may relate to the relationship between training and the different dimensions: teaching techniques for improving the 'therapeutic alliance' may be simpler than teaching doctors to be insightful and reflective with individual patients.

Secondly, as in most models in the social sciences, many of the causal 'arrows' may function in both directions. Although full specification of relationships requires further theoretical and empirical work, a number of relationships have begun to be examined. For example, Howie et al. (1992) explored relationships between the context of care (i.e. consultation length and booking intervals), doctor attitudes and proxies of patient-centred behaviour.

Finally, the model concerns doctors' propensity to be patient-centred and does not consider outcomes. Nevertheless, proving the utility of patient-centred care requires consideration of its impact on a variety of outcomes. Howie (1996) suggests that patient outcomes such as health status, satisfaction and enablement and doctor outcomes such as stress and morale are both important.

Relationships between dimensions and measures

It is evident that the proposed conceptual framework does not map neatly onto some of the measures reviewed. This reflects the fact that non-specific verbal behaviours have no inherent relation to higher-order concepts such as 'sharing power and responsibility'. Such behaviours may be interpreted as relating to more than one dimension. Information-giving, for example, could imply 'sharing power and responsibility', in that information may provide patients with the resources to challenge or make decisions about their care. Alternatively it may relate to the 'therapeutic alliance', by enhancing the sense of partnership and increasing patient perception of the relevance or potency of an intervention. Greater specificity requires information about the context and motivations behind particular verbal processes, but it is unlikely that quantitative systems applied by external observers can ever adequately capture such complexity. This underscores the importance of validation with reference to appropriate variables that are 'external' to the consultation (e.g. measures of patient recall or adherence to treatment) as well as the triangulation of observer ratings of patient-centredness with doctor and patient reports.

None of the measures reviewed covers dimension 5 ('doctor-as-person'), reflecting the difficulty of operationalising such a complex and context-specific variable. On the other hand, dimension 1 ('biopsychosocial perspective') may be relatively straightforward to measure, despite the fact that some authors argue that extending the 'clinical gaze' to patients' social and psychological worlds is tantamount to increasing the social power and authority of doctors (e.g. Mishler, 1984). It is a common fact that complex theoretical concepts cannot be adequately translated into practical measures, but it is important to be clear about what is lost in translation and how this affects the interpretation of findings. The Henbest and Stewart (1989) measure, for example, focuses on eliciting the patient's illness experience, corresponding to dimension 2 ('patient-as-person'). However, dimension 2 concerns the doctor's understanding of the individual patient, an aspect which is lost to the degree that the Henbest and Stewart measure scores doctors' response modes to patients' 'offers' in general. More individualised (idiographic) methods are considered later.

As highlighted in the results section, even where observation-based measures appear to tap into the same dimension, they may differ in their focus on doctor or patient behaviour, and often include quite different combinations of variables. Such discrepancies in content and focus may go some way towards explaining inconsistent patterns of results in the literature. Identifying the particular conceptual dimensions addressed by each measure may assist in elucidating consistent relationships.

Another cause of inconsistency concerns differences in samples of clinicians and consultations studied. An association between patient-centredness and longer consultations (e.g. Long, 1985; Howie et al., 1992; Winefield et al., 1996) was not confirmed by Cape (1996), despite the fact that the latter used the same measure as Long (1985). However, it should be noted that Long's study of 53 GPs included all types of patient consultation, whereas Cape focused specifically on consultations for psychological problems submitted by a sample of nine GPs who all had particular interests in psychological care. It is therefore important that apparent inconsistencies are interpreted with sampling issues in mind.

A limitation of the all observer-based methods reviewed in this paper (at least as far as research in general practice is concerned) is the focus on single consultations. Balint (1964) and others in the field of general practice emphasise the importance of the long-term relationship between doctor and patient which develops over successive consultations. As mentioned above, some proposed dimensions of patient-centredness (e.g. 2 and 5) relate specifically to processes that cannot be expected to develop fully in a single encounter. Thus, observation measures applied to individual consultations are unlikely to be sensitive to aspects of the relationship not explicitly verbalised or which develop over time (e.g. mutual trust). Although practical problems have restricted exploration of this issue, it deserves serious attention if research in this area is not to ignore a key feature of general practice medicine in favour of logistical simplicity.

Utility of measures of patient-centredness

The utility of any measure depends on its validity, reliability, sensitivity and feasibility, and a trade-off between these criteria is often necessary (Mead & Bower, 2000). It is important to be clear about the context in which a measure is being used. For example, if patient-centredness scores were to influence decisions about individual doctors (e.g. for professional accreditation), then observer-based ratings need to be highly reliable so that individuals are not unfairly disadvantaged. Reliability can be lower in research contexts where individuals are not directly affected by scores. Nevertheless, while generally more reliable, methods based on verbal behaviour coding (including combined methods — see Tables 3 and 4) are less likely to be used for measuring individual doctors' performance than rating scales which evaluate more 'global' consultation skills (Table 2). Not only are rating scales less time-consuming and more feasible for quality assurance and professional accreditation, they lend themselves more readily to benchmarking and the prescription of quality standards.

While all the measures reviewed in this paper are relatively insensitive to the complexities of medical interactions, the importance attached to the issue of sensitivity depends, in part, on the intended function of a measure. Even a relatively insensitive instrument may have utility for professional monitoring if the focus is on very poorly performing doctors at the extreme of the distribution (providing that the measure is reliable). However, insensitive measures have much less utility when attempting to differentiate doctors closer to the mean.

Idiographic measurement methods

The idiographic/nomothetic distinction was discussed above. Conventional measurement in psychology and health services research prioritises the nomothetic perspective, but this cannot provide a full empirical account of patient-centredness as it is described in the conceptual literature. However, idiographic measurement methods do exist. Helman (1985) used a methodology which directly addressed the ability of the doctor to "see the illness through the patient's eyes" (McWhinney, 1985, p. 34). He explored the overlap between 'explanatory models' held by primary care physicians and patients suffering with gastrointestinal and respiratory problems. Qualitative interviews were used to elicit the clinician's model, the patient's model and the clinician's view of the patient's model. Helman then coded the degree of agreement between the two. Cohen, Tripp-Reimer, Smith, Sorofman and Lively (1994) undertook a similar study with diabetic patients. Such methods are time-consuming and require accurate coding of qualitative information about illness, but they do provide a direct estimate of the degree to which the doctor understands the patient's construction of the illness and are therefore face-valid measures of dimension 2.

The repertory grid (Fransella & Bannister, 1977; Bower & Tylee, 1997) is a quantitative method for examining idiographic characteristics such as doctors' psychological constructions of individual patients. Brooke and Sheldon (1985) report a grid study which seems to measure a 'doctor-' and 'patient-centred' distinction (although few details were provided), and a particular form of the grid (the dyad grid — Ryle & Lunghi, 1970) explicitly measures relationships. Schuffel, Egle, Schairer and Schneider (1977) used this form of grid to measure changes in medical students' perceptions of their relationships with patients, and such measures could provide a way of tackling the complexities of dimension 5.

Observer and patient report: the problem of the 'drug metaphor'

Observer measures of patient-centredness have yielded some inconsistent results in relation to patient satisfaction. While positive associations were found by Winefield et al. (1996), Street (1992) and Roter et al. (1987), Henbest and Stewart (1990) found none using their measure. To the degree that patients may be considered the final arbiters in evaluations of doctors' personal qualities, such disagreements throw doubt on the validity of these systems. However, patients' assessments cannot be used uncritically as a 'gold-standard'. Patient-centredness is, after all, generally perceived as a clinical method, and performance assessment is as much the responsibility of the medical profession as the healthcare 'consumer'. It may be that patient satisfaction is not an appropriate outcome for all dimensions of patient-centredness. Roter (1977) found that patients who were coached to ask more questions in their consultations reported lower satisfaction than a comparison group. Kaplan et al. (1989) also question the suitability of satisfaction as an outcome of patient involvement in care, suggesting that other measures (e.g. of health status and patient understanding) may be more appropriate. Furthermore, the measurement of patients' perceptions of care (including satisfaction) is not without its conceptual and methodological problems (e.g. Locker & Dunt, 1978; Fitzpatrick & Hopkins, 1983; Williams, 1994).

Discrepancies between measures of patient-centredness and patients' own perceptions may, however, reflect a deeper methodological issue. There is an implicit assumption in the literature that patient-centred behaviour and outcomes such as satisfaction and adherence to therapy will be associated in a simple linear fashion. This reflects the so-called 'drug metaphor' (Stiles & Shapiro, 1989), originally described in psychotherapy research (Stiles, Shapiro, Harper & Morrison, 1995), which conceives of consultation processes as analysable on the basis of their strength, integrity and effectiveness. Associations between process variables and outcomes are expected to elucidate the 'active' therapeutic ingredients in doctor–patient interactions. However, the drug metaphor is insensitive to the appropriateness of interventions, the particular requirements of individual patients and to the responsiveness of the two parties to one another in the consultation.

It is known, for example, that patient preferences for clinical style vary widely. Studies show that only a proportion of patients consider the GP a suitable person to talk to about personal problems, and that such attitudes are related to patient age, gender and social class (Cartwright, 1967; Fitton & Acheson, 1979; Cartwright & Anderson, 1981; Spence, 1992). Moreover, the same patient's preferences may vary depending on their reasons for consulting the doctor. Savage and Armstrong (1990) found that patients with simple physical complaints were significantly more satisfied with a 'directing' as opposed to 'sharing' consulting style from their GP, but this difference disappeared where patients' main complaints were of a chronic physical or psychosocial nature. Winefield et al. (1996), Winefield, Murrell, Clifford and Farmer (1997) found similar associations between patient-centredness and consultation 'type'. Although it has been suggested that clinician flexibility and responsiveness to patients' preferences for different consulting styles may be key to a patient-centred approach (Long, 1985), it is exceedingly difficult to develop measures that are sensitive to such contextual complexity while also remaining reliable and practical.

Inconsistent reports of relationships between consultation behaviour and outcomes may therefore represent insensitivity of the paradigm to the complexity of consultation processes. Analysis of the actual sequence of speech may represent one method of avoiding these problems (Wasserman & Inui, 1983). Other methods suggested by psychotherapy researchers include an 'events paradigm' (Elliott, 1984), involving both qualitative and quantitative description of microprocesses in the consultation (such as verbal exchange sequences explicitly identified as effecting patient change). However, such analyses are probably too complex and time-consuming for use in routine professional monitoring or accreditation.

In the absence of such methodological paradigm shifts, it may be more useful to consider in detail why disagreements occur in the present systems (for example, between patient evaluations and objective measures), rather than casting doubt on the validity of instruments. Winefield et al. (1996) call for further examination of factors external to the consultation which influence the behaviour and shape the goals and perceptions of each participant. Use of post-consultation interviews with doctors and patients, and techniques like inter-personal process recall (Elliott, 1984), may elucidate those aspects of the consultation that contribute to poor associations, such as patient preference for a more 'doctor-centred' style or perceived excessive intrusion into emotional issues too early in the doctor–patient relationship. Patients' perceptions are a useful external reality check on observer-based measures of consultation processes, but what is needed most is triangulation of the three perspectives (i.e. doctor, patient and independent observer) rather than affording particular priority to one.

Conclusion

This paper identifies a multiplicity of conceptual definitions and empirical measures of patient-centredness. It is proposed that these various approaches can be understood in terms of five distinct dimensions relating to the doctor–patient relationship. The measures reviewed can be seen to relate to these dimensions to varying degrees, though not all dimensions have proved accessible to current measurement technology. Overall, a significant number of measures have proved reliable, and a number of associations with external variables (such as participant characteristics and certain consultation processes) have been reported. Nevertheless, the pattern of findings is somewhat inconsistent, particularly in relation to patient outcomes like health status or satisfaction. Although further research will ameliorate some of these problems, it is likely that the more complex and contextual dimensions of patient-centredness require development of new measures and analytic methods if further advances are to be made.

Acknowledgements

The authors would like to thank Martin Roland, Anne Rogers and two anonymous referees for helpful comments on earlier drafts of this paper. This work was conducted as part of the programme of the National Primary Care Research and Development Centre, supported by the Department of Health. The views expressed are those of the authors and are not intended to represent the views of NPCRDC or its funders.

References

Armstrong, D. (1979). The emancipation of biographical medicine. *Social Science and Medicine*, *13A*, 1–8.

Badger, L., deGruy, F., Hartman, J., Plant, M. A., Leeper, J., Ficken, R., Maxwell, A., Rand, E., Anderson, R., & Templeton, B. (1994). Psychosocial interest, medical interviews and the recognition of depression. *Archives of Family Medicine*, *3*, 899–907.

Bain, D. J., Bassett, W., & Haines, A. (1973). Difficulties encountered in classifying illness in general practice. *Journal of the Royal College of General Practitioners*, *23*, 474–479.

Baker, R. (1990). Development of a questionnaire to assess patients' satisfaction with consultations in general practice. *British Journal of General Practice*, *40*, 487–490.

Bales, R. (1950). *Interaction process analysis: a method for the study of small groups*. Reading, MA: Addison-Wesley.

Balint, E. (1969). The possibilities of patient-centred medicine.

Journal of the Royal College of General Practitioners, *17*, 269–276.

Balint, E., Courtenay, M., Elder, A., Hull, S., & Julian, P. (1993). *The doctor, the patient and the group: Balint revisited*. London: Routledge.

Balint, M. (1964). *The doctor, his patient and the illness*. London: Pitman Medical.

Bensing, J., & Sluijs, E. (1985). Evaluation of an interview training course for general practitioners. *Social Science and Medicine*, *20*, 737–744.

Birtchnell, J. (1993). *How humans relate: a new interpersonal theory*. Hove: Psychology Press.

Bordin, E. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy*, *16*, 252–260.

Bower, P. (1998). Understanding patients: implicit personality theory and the general practitioner. *British Journal of Medical Psychology*, *71*, 153–163.

Bower, P., & Tylee, A. (1997). Measuring general practitioner psychology: the personal construct perspective. *Family Practice*, *14*, 142–147.

Brooke, J., & Sheldon, M. (1985). Clinical decision = patient with problem + doctor with problem. In M. Sheldon, J. B. Brooke, & A. Rector, *Decision making in general practice*. London: Stockton.

Brown, J., Stewart, M., McCracken, E., McWhinney, I., & Levenstein, J. (1986). The patient-centred clinical method 2: definition and application. *Family Practice*, *3*, 75–79.

Brown, J., Stewart, M., & Tessier, S. (1995). *Assessing communication between patients and doctors: a manual for scoring patient-centred communication*. Canada: Centre for Studies in Family Medicine, University of Western Ontario.

Bucks, R., Williams, A., Whitfield, M., & Routh, D. (1990). Towards a typology of general practitioners attitudes to general practice. *Social Science and Medicine*, *30*(5), 537–547.

Buijs, R., Sluijs, E., & Verhaak, P. (1984). Byrne and Long: a classification for rating the interview style of doctors. *Social Science and Medicine*, *19*, 683–690.

Butow, P., Dunn, S., Tattersall, M., & Jones, R. (1995). Computer-based interaction analysis of the cancer consultation. *British Journal of Cancer*, *71*, 1115–1121.

Byrne, P., & Long, B. (1976). *Doctors Talking to Patients*. London: HMSO.

Cape, J. (1996). Psychological treatment of emotional problems by general practitioners. *British Journal of Medical Psychology*, *69*, 85–99.

Cartwright, A. (1967). *Patients and their doctors*. London: Routledge.

Cartwright, A., & Anderson, R. (1981). *General practice revisited*. London: Tavistock.

Cassell, E. (1982). The nature of suffering and the goals of medicine. *The New England Journal of Medicine*, *306*, 639–645.

Cattell, R. (1978). *The scientific use of factor analysis*. New York: Plenum.

Cecil, D., & Killeen, I. (1997). Control, compliance and satisfaction in the family practice encounter. *Family Medicine*, *29*, 653–657.

Cockburn, J., Killer, D., Campbell, E., & Sanson-Fisher, R. W. (1987). Measuring general practitioners' attitudes towards medical care. *Family Practice*, *4*(3), 192–199.

Cohen, M. Z., Tripp-Reimer, T., Smith, C., Sorofman, B., & Lively, S. (1994). Explanatory models of diabetes: patient–practitioner variation. *Social Science and Medicine*, *38*, 59–66.

Crookshank, F. (1926). The theory of diagnosis. *Lancet*, *2*, 939–942.

Crow, R., Gage, H., Hampson, S., Hart, J., Kimber, A., & Thomas, H. (1999). The role of expectancies in the placebo effect and their use in the delivery of health care: a systematic review. *Health Technology Assessment*, *3*(3).

Croyle, R., & Barger, S. (1993). Illness Cognition. In S. Maes, H. Leventhal, & M. Johnston, *International review of health psychology*. New York: Wiley.

deMonchy, C., Richardson, R., Brown, R., & Harden, R. (1988). Measuring attitudes of doctors: the doctor–patient (DP) rating. *Medical Education*, *22*, 231–239.

Department of Health (1991). *The patients' charter*. London: HMSO.

Doyal, L. (1979). *The political economy of health*. London: Pluto Press.

Ehrenreich, B., & English, D. (1979). *For her own good*. London: Pluto Press.

Elliott, R. (1984). A discovery-oriented approach to significant change events in psychological therapies: interpersonal process recall and comprehensive process analysis. In L. Rice, & L. Greenberg, *Patterns of change: intensive analysis of psychological therapies process*. Lonson: The Guildford Press.

Engel, G. (1977). The need for a new medical model: a challenge for biomedicine. *Science*, *196*, 129–135.

Engel, G. (1980). The clinical application of the biopsychosocial model. *American Journal of Psychiatry*, *137*(5), 535–543.

Fallowfield, L., Lipkin, M., & Hall, A. (1998). Teaching senior oncologists communication skills: results from phase I of a comprehensive longitudinal program in the United Kingdom. *Journal of Clinical Oncology*, *16*, 1961–1968.

Fitton, F., & Acheson, H. (1979). *The doctor–patient relationship: a study in general practice*. London: HMSO.

Fitzpatrick, R., & Hopkins, A. (1983). Problems in the conceptual framework of patient satisfaction research: an empirical investigation. *Sociology of Health and Illness*, *5*, 297–311.

Ford, S., Fallowfield, L., & Lewis, S. (1996). Doctor–patient interactions in oncology. *Social Science and Medicine*, *42*, 1511–1519.

Fransella, F., & Bannister, D. (1977). *A manual for repertory grid technique*. London: Academic Press.

Friedson, E. (1960). Client control and medical practice. *American Journal of Sociology*, *65*, 374–382.

Friedson, E. (1970). *Profession of medicine: a study of the sociology of applied knowledge*. New York: Harper & Row.

Gask, L., & McGrath, G. (1989). Psychotherapy and General Practice. *British Journal of Psychiatry*, *154*, 445–453.

Grol, R., de Maeseneer, J., Whitfield, M., & Mokkink, H. (1990). Disease-centred versus patient-centred attitudes: comparison of general practitioners in Belgium, Britain and the Netherlands. *Family Practice*, *7*(2), 100–104.

Hall, J., & Dornan, M. (1988). What patients like about their medical care and how often they are asked: a meta analysis of the satisfaction literature. *Social Science and Medicine*, *27*, 935–939.

Helman, C. (1985). Communication in primary care: the role of patient and practitioner explanatory models. *Social Science and Medicine*, *20*(9), 923–931.

Henbest, R., & Stewart, M. (1989). Patient-centredness in the consultation 1: a method for measurement. *Family Practice*, *6*, 249–254.

Henbest, R., & Stewart, M. (1990). Patient-centredness in the consultation 2: does it really make a difference? *Family Practice*, *7*, 28–33.

Howie, J. (1996). Addressing the credibility gap in general practice research: better theory; more feeling; less strategy. *British Journal of General Practice*, *46*, 479–481.

Howie, J., Hopton, L., Heaney, D., & Porter, A. (1992). Attitudes to medical care, organisation of work, and stress among general practitioners. *British Journal of General Practice*, *42*, 181–185.

Illich, I. (1976). *Limits to medicine*. London: Penguin.

Inui, T., Carter, W., Kukull, W., & Haigh, V. (1982). Outcome-based doctor–patient interaction analysis I: comparison of techniques. *Medical Care*, *20*, 535–549.

Kaplan, S., Greenfield, S., & Ware, J. (1989). Assessing the effects of physician–patient interactions on the outcomes of chronic disease. *Medical Care*, *27*, S110–S127.

Kinmonth, A., Woodcock, A., Griffin, S., Spiegal, N., Campbell, M., & Diabetes Care from Diagnosis Team (1998). Randomised controlled trial of patient centred care of diabetes in general practice: impact on current wellbeing and future disease risk. *British Medical Journal*, *317*, 1202–1208.

Korsch, B., Gozzi, E., & Francis, V. (1968). Gaps in doctor–patient communication I: doctor–patient interaction and patient satisfaction. *Pediatrics*, *42*, 855–871.

Laine, C., & Davidoff, F. (1996). Patient-centered medicine: a professional evolution. *Journal of the American Medical Association*, *275*, 152–156.

Langewitz, W., Phillipp, E., Kiss, A., & Wossmer, B. (1998). Improving communication skills: a randomized controlled behaviorally-oriented intervention study for residents in internal medicine. *Psychosomatic Medicine*, *60*, 268–276.

Law, S., & Britten, N. (1995). Factors that influence the patient-centredness of a consultation. *British Journal of General Practice*, *45*, 520–524.

Leary, T. (1957). *Interpersonal diagnosis of personality*. New York: Ronald Press.

Levenstein, J., McCracken, E., McWhinney, I., Stewart, M., & Brown, J. (1986). The patient-centred clinical method 1: a model for the doctor–patient interaction in family medicine. *Family Practice*, *3*, 24–30.

Linn, L., DiMatteo, R., Cope, D., & Robbins, A. (1987). Measuring physicians' humanistic attitudes, values and behaviours. *Medical Care*, *25*, 504–515.

Lipkin, M., Quill, T., & Napodano, R. (1984). The medical interview: a core curriculum for residencies in internal medicine. *Annals of Internal Medicine*, *100*, 277–284.

Locker, D., & Dunt, D. (1978). Theoretical and methodological issues in sociological studies of consumer satisfaction with medical care. *Social Science and Medicine*, *12*, 283–292.

Long, B. (1985). A study of the verbal behaviour of family doctors. *International Journal of the Sociology of Language*, *51*, 5–25.

May, C., & Mead, N. (1999). Patient-centredness: a history. In C. Dowrick, & L. Frith, *General practice and ethics: uncertainty and responsibility*. London: Routledge.

McWhinney, I. (1985). Patient-centred and doctor-centred models of clinical decision making. In M. Sheldon, J. Brook, & A. Rector, *Decision making in general practice*. London: Stockton.

McWhinney, I. (1989). The need for a transformed clinical method. In M. Stewart, & D. Roter, *Communicating with medical patients*. London: Sage.

Mead, N., Bower, P. (2000). Measuring patient-centredness: a comparison of three observation-based instruments, *Patient Education and Counseling, 39*, 71–80.

Meehl, P. (1978). Theoretical risks and tabular asterisks: Sir Karl, Sir Ronald and the slow progress of soft psychology. *Journal of Consulting and Clinical Psychology*, *46*, 806–834.

Mishler, E. (1984). *The discourse of medicine: dialectics of medical interviews*. New Jersey: Ablex.

Morrell, D. (1972). Symptom interpretation in general practice. *Journal of the Royal College of General Practitioners*, *22*, 297–309.

Neighbour, R. (1987). *The inner consultation*. Lancaster: MTP Press.

NHS Executive (1996). *Patient partnership: building a collaborative strategy*. Leeds: NHS Executive.

Ockene, J., Quirk, M., Goldberg, R., Kristeller, J., Donnelly, G., Kalan, K., Gould, B., Greene, H., Harrison-Atlas, R., Pease, J., Pickens, S., & Williams, J. (1988). A residents' training program for the development of smoking intervention skills. *Archives of Internal Medicine*, *148*, 1039–1045.

Parsons, T. (1951). *The social system*. Glencoe, IL: Free press.

Pieters, H., Touw-Otten, F., & Melker, R. (1994). Simulated patients in assessing consultation skills of trainees in general practice vocational training: a validity study. *Medical Education*, *28*, 226–233.

Rogers, A., Hassell, K., & Nicolaas, G. (1999). *Demanding patients?: analysing the use of primary care*. Milton Keynes: Open University Press.

Rogers, C. (1967). *On becoming a person: a therapist's view of psychotherapy*. London: Constable.

Roland, M. (1999). Quality and efficiency: enemies or partners? *British Journal of General Practice*, *49*, 140–143.

Roter, D. (1977). Patient participation in patient–provider interactions: the effects of patient question asking on the quality of interaction, satisfaction, and compliance. *Health Education Monographs*, *5*, 281–315.

Roter, D., & Frankel, R. (1992). Quantitative and qualitative approaches to the evaluation of medical dialogue. *Social Science and Medicine*, *34*, 1097–1103.

Roter, D., Hall, J., & Katz, N. (1987). Relations between physicians' behaviours and analogue patients' satisfaction, recall and impressions. *Medical Care*, *25*, 437–451.

Roth, A., & Fonagy, P. (1996). *What works for whom? A critical review of psychotherapy research*. London: Guildford.

Royal College of General Practitioners (1972). *The future gen-*

eral practitioner: learning and teaching. London: British Medical Association.

Ryle, A., & Lunghi, M. (1970). The dyad grid: a modification of repertory grid technique. *British Journal of Psychiatry*, *117*, 323–327.

Savage, R., & Armstrong, D. (1990). Effect of a general practitioners' consulting style on patients' satisfaction: a controlled study. *British Medical Journal*, *301*, 968–970.

Schuffel, W., Egle, U., Schairer, U., & Schneider, A. (1977). Does history- taking affect learning of attitudes. *Psychotherapy and Psychosomatics*, *31*, 81–92.

Sibbald, B. (1996). Skill mix and professional roles in primary care. In *What is the future for a primary care-led NHS?*. Oxford: Radcliffe Medical Press.

Siegler, M., & Osmond, H. (1974). *Models of madness, models of medicine*. New York: MacMillan.

Silverman, D. (1987). *Communication and medical practice: social relations in the clinic*. London: Sage.

Smith, R., & Hoppe, R. (1991). The patient's story: integrating the patient- and physician-centered approaches to interviewing. *Annals of Internal Medicine*, *115*, 470–477.

Spence, S. (1992). Problems that patients feel are appropriate to discuss with their Gps. *Journal of the Royal Society of Medicine*, *85*, 669–673.

Squier, R. (1990). A model of empathic understanding and adherence to treatment regimens in practitioner–patient relationships. *Social Science and Medicine*, *30*, 325–339.

Stewart, M. (1983). Patient characteristics which are related to the doctor–patient interaction. *Family Practice*, *1*, 30–36.

Stewart, M. (1984). What is a successful doctor–patient interview? A study of interactions and outcomes. *Social Science and Medicine*, *19*, 167–175.

Stewart, M., Brown, J., Levenstein, J., McCracken, E., & McWhinney, I. (1986). The patient-centred clinical method 3: changes in residents' performance over two months of training. *Family Practice*, *3*, 164–167.

Stewart, M., Brown, J., Weston, W., McWhinney, I., McWilliam, C., & Freeman, T. (1995a). *Patient-centred medicine: transforming the clinical method.* London: Sage.

Stewart, M., Brown, J., Donner, A., McWhinney, I., Oates, J., & Weston, W. (1995b). *The impact of patient-centred care on patient outcomes in family practice (Final report)*. Canada: Center for Studies in Family Medicine, University of Western Ontario.

Stiles, W. (1978). Verbal response modes and dimensions of interpersonal roles: a method of discourse analysis. *Journal of Personality and Social Psychology*, *36*, 693–703.

Stiles, W., & Shapiro, D. (1989). Abuse of the drug metaphor in psychotherapy process-outcome research. *Clinical Psychology Review*, *9*, 521–543.

Stiles, W., Shapiro, D., Harper, H., & Morrison, L. (1995). Therapist contributions to psychotherapeutic assimilation: an alternative to the drug metaphor. *British Journal of Medical Psychology*, *68*, 1–13.

Stimson, G., & Webb, B. (1975). *Going to see the doctor: the consultation process in general practice*. London: Routledge and Kegan Paul.

Stott, N., & Davis, R. (1979). The exceptional potential in every primary care consultation. *Journal of the Royal College of General Practitioners*, *29*, 201–205.

Street, R. (1992). Analyzing communication in medical consultations: do behavioral measures correspond to patients' perceptions? *Medical Care*, *30*, 976–988.

Szasz, T., & Hollender, M. (1956). A contribution to the philosophy of medicine: the basic models of the doctor–patient relationship. *Archives of Internal Medicine*, *97*, 585–592.

Toop, L. (1998). Patient-centred primary care. *British Medical Journal*, *316*, 1882–1883.

Tresolini, C. (1996). Health care relationships: instruments for effective patient-focused care in the academic health center. *Journal of Dental Education*, *60*, 945–950.

Tuckett, D., Boulton, M., Olson, C., & Williams, A. (1985). *Meetings between experts: an approach to sharing ideas in medical consultations*. London: Tavistock.

Verhaak, P. (1988). Detection of psychologic complaints by general practitioners. *Medical Care*, *26*(10), 1009–1020.

Waitzkin, H. (1990). On studying the discourse of medical encounters: a critique of quantitative and qualitative methods and a proposal for reasonable compromise. *Medical Care*, *28*, 473–488.

Wasserman, R., & Inui, T. (1983). Systematic analysis of clinician–patient interactions: a critique of recent approaches with suggestions for future research. *Medical Care*, *21*, 279–293.

Wensing, M., Jung, H., Mainz, J., Olesen, F., & Grol, R. (1998). A systematic review of the literature on patient priorities for general practice care. Part 1: Description of the research domain. *Social Science and Medicine*, *47*, 1573–1588.

Williams, A., Robins, T., Sibbald, B. (1997). Cultural differences between medicine and nursing: implications for primary care (summary report). NPCRDC, University of Manchester.

Williams, B. (1994). Patient satisfaction: a valid concept? *Social Science and Medicine*, *38*, 509–516.

Williams, S., & Calnan, M. (1991). Key determinants of consumer satisfaction with general practice. *Family Practice*, *8*, 237–242.

Winefield, H., Murrell, T., Clifford, J., & Farmer, E. (1996). The search for reliable and valid measures of patient-centredness. *Psychology and Health*, *11*, 811–824.

Winefield, H., Murrell, T., Clifford, J., & Farmer, E. (1997). The usefulness of distinguishing different types of general practice consultation, or are the needed skills always the same? *Family Practice*, *12*, 402–407.

Wissow, L., Roter, D., Bauman, L., Crain, E., Kercsmar, C., Weiss, K., Mitchell, H., & Mohr, B. (1998). Patient–provider communication during the emergency department care of children with asthma. *Medical Care*, *36*, 1439–1450.