

Patient-centredness in general practice consultations: theory, measurement and relationships with outcomes

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Abstract

Effective quality improvement in the NHS requires valid and reliable measurement of healthcare processes. 'Patient-centredness' has been identified as a key marker of the quality of care provided in general practice.

The aims of the present thesis were (a) to develop a conceptual framework clearly defining the different components of 'patient-centredness'; (b) to examine issues in the measurement of patient-centred care, and (c) to assess the relationship between measures of doctors' patient-centred consulting behaviour and outcomes in general practice.

Literature was reviewed to derive a clear conceptual framework for understanding patient-centred care. The review identified five key dimensions: (i) the biopsychosocial perspective; (ii) patient-as-person; (iii) sharing power and responsibility; (iv) the therapeutic alliance and (v) doctor-as-person.

In a review of the empirical literature, measures of patient-centredness used in previous studies were mapped onto these five dimensions. However, it was clear that some dimensions (particularly 'patient-as-person' and 'doctor-as-person') were less amenable to quantitative study than others. The review found a number of studies reporting relationships between measures of 'patient-centredness' and patient outcomes in primary care settings, although methodological problems meant that the relationships were suggestive rather than definitive, and that further research was required.

The study undertaken in this thesis involved use of a theoretical model to make predictions about relationships between specific patient-centred consulting behaviours and two different patient outcomes (i.e. satisfaction and enablement). Five different measures of general practitioner consulting behaviour (relating to the three dimensions of patient-centred care most amenable to quantification) were derived from a coding scheme applied to

videotapes of GP consultations by independent observers. Patient outcomes were measured using self-report questionnaires. Multiple regression techniques were used to test the hypothesised relationships, controlling for the effects of confounding factors.

Overall, there were no significant relationships between the five patient-centredness variables and two patient outcomes. In terms of the previous literature, the null findings in this study weaken the evidence for a link between patient-centred consulting and improved patient outcomes in primary care.

The thesis concludes with a discussion of the strengths and weaknesses of the present study. Implications for future research in this field, and the use of measures of patient-centredness for monitoring and improving quality of care in general practice are considered.

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Dedication

This thesis is dedicated to my grandfather, Reginald Mead, with love and thanks for his encouragement of me in my learning endeavours and pride in my achievements. As a patient, Reg would present a challenge to even the most patient-centred of general practitioners! I am delighted that, in spite of his steadfast refusal to comply with treatment or heed 'healthy lifestyle' advice, he is here to witness this most significant achievement of my academic career to date.

Acknowledgements

The research detailed in this thesis developed as a result of my involvement in the 'Euro-communication' project, a BIOMED 2-funded comparative study of doctor-patient communication across six European countries co-ordinated by the Netherlands Institute for Primary Healthcare (NIVEL). I would like to thank Dr Linda Gask and Professor Martin Roland for providing me with the initial opportunity to become involved in what proved a stimulating and fruitful collaboration. I am grateful for additional funding from the National Primary Care Research and Development Centre to support my subsequent research on patient-centredness using data from that project.

Among my Euro-communication colleagues, I am particularly indebted to Dr Atie van den Brink-Muinen (NIVEL) for her expert tuition in use of the RIAS coding scheme and her patience in answering my many related queries. Her support throughout the Euro-communication project was invaluable.

Tamasine Robbins, Cath Burns, Jenny Hacker and Clare Dixon variously assisted me with collecting the Euro-communication data. Along with Emma Polyanzsky and Catriona Buckley, Cath was also involved in coding the videotaped consultations - at times, a seemingly endless task requiring painstaking attention to detail. I thank them for their diligence!

I am very grateful to those doctors and patients who allowed the video camera to intrude on the privacy of their consultations and generously gave of their time in completing the study questionnaires. All members of staff in the participating practices were most welcoming and helpful, and put up with the inevitable disturbances caused by the research without complaint.

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drafts of chapters and papers. His constructive criticism and ability to inject enthusiasm and confidence whenever mine were lacking are greatly appreciated.

Pete has been an invaluable source of inspiration, learning and support throughout the study and writing of this thesis. I thank him for his boundless patience, encouragement and the generosity with which he has invested many hours in stimulating and useful discussions, helping to clarify my ideas, guiding me to relevant psychological and psychotherapeutic literature and sharing his considerable knowledge and skills as a quantitative researcher. His expert editing of my sometimes overly expansive prose is something I (and no doubt the examiners of this thesis) am grateful for!

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Executive summary

Quality improvement has high priority in current UK reforms of the National Health Service (NHS). Effective quality improvement requires valid and reliable measures of quality of care. There are many aspects of healthcare to which such measures might be applied. These have been usefully conceptualised within a systems-based framework comprising structures, processes and outcomes. Since processes of care are within the control of healthcare practitioners, these have greatest utility for quality assessment and improvement initiatives.

The process of care (i.e. 'what is done, and how it is done') can be divided into two sub-components: clinical care (the application of instrumental techniques to health problems based on scientific evidence) and interpersonal care (the social-psychological interaction that occurs around the provision of clinical care). 'Patient-centredness' has become a proxy term for good interpersonal care, and has particular resonance within general practice medicine. The measurement of patient-centred care in general practice consultations is the focus of this thesis.

The overall aims of the thesis are:

- to develop a conceptual framework clearly defining the different components of 'patient-centredness';
- to critically appraise measures of patient-centredness used in previous studies, with particular attention to issues of content and construct validity and measurement reliability;
- to assess current evidence for a relationship between patient-centred consultations and patient outcomes in general practice;
- to identify an appropriate theoretical framework generating testable hypotheses linking patient-centred behaviours to appropriate patient outcomes;

- to empirically test these hypotheses paying specific attention to issues of reliability and validity in the operationalisation of patient-centred consulting behaviours, and to the internal and external validity of the study.

Although an extensive literature advocates a 'patient-centred' approach to medical care, there is little consensus as to what such an approach actually involves. Chapter 2 describes a review of the patient-centredness literature undertaken in order to derive a clear conceptual framework. Two questions guide the review:

- (a) How has the concept of patient-centredness been defined?
- (b) How has patient-centredness been measured in empirical studies?

The review suggests that 'patient-centred' medicine differs from the traditional 'biomedical model' in terms of five key dimensions:

1. The biopsychosocial perspective - a perspective on illness that includes consideration of social and psychological (as well as biomedical) factors;
2. The 'patient-as-person' – understanding the personal meaning of the illness for each individual patient; sensitivity to the patient's values, preferences and expectations of care;
3. Sharing power and responsibility – giving patients the 'space' to tell their story of illness; providing information and opportunities for shared decision-making; a willingness to regard the patient as a 'partner' in the care process;
4. The therapeutic alliance - developing common therapeutic goals and enhancing the personal bond between doctor and patient;
5. The 'doctor-as-person' – awareness of the influence of the personal qualities and subjectivity of the doctor on the practise of medicine.

Chapter 3 forms the second part of the literature review and explores issues concerned with measuring the complex relationship processes that constitute patient-centred care. Studies included in the review employ two broad

methodological approaches: (i) self-report measures of doctors' patient-centredness, and (ii) measures involving external observation of the consultation process. Identified measures are critically appraised in terms of their respective reliability and content and construct validity. Although it is possible to map the measures onto the five dimensions of patient-centred care identified in Chapter 2, not all dimensions of the concept have proved accessible to current measurement technology.

Chapter 4 reviews the current evidence for a relationship between patient-centred consultations and patient outcomes in primary care. A number of observational studies are identified, all of which report some relationships between doctor behaviour defined as 'patient-centred' and a variety of patient outcomes. However the pattern of associations is neither clear nor consistent, and some of the studies have shortcomings in terms of their internal and external validity. Moreover, there is a clear lack of theory linking patient-centred care with appropriate outcomes.

Chapter 5 summarises the limitations underlying patient-centredness research to date and sets out the aims of the empirical study.

Chapters 6 through 9 are concerned with the main study. Chapter 6 discusses the application of a previously published theoretical framework to predict the relationships between different type of consulting behaviour and patient outcomes. The model involves subsuming all doctor consulting behaviours into two broad domains: 'instrumental' (behaviours concerned with the medical 'tasks' of the consultation, i.e. problem diagnosis and management) or 'socio-emotional' (behaviours that facilitate interpersonal aspects of the interaction).

According to the model, 'task-relevant' patient outcomes relate to the 'tasks' of being a patient in receipt of medical care, such as adherence to a prescribed treatment. 'Affective' patient outcomes are concerned with how the patient feels emotionally as a result of the consultation.

The theoretical model predicts that doctors' instrumental patient-centred consulting behaviours will be associated with both task-relevant and affective patient outcomes, whereas socio-emotional aspects of patient-centred care will be associated with affective patient outcomes only. The present thesis effectively provides a new empirical test of this theoretical model.

Chapter 7 is concerned with the identification of relevant measures of 'task' and 'affective' patient outcomes. Satisfaction is identified as an appropriate measure of affective outcome, while patient enablement is identified as a useful proxy indicator of task-relevant patient outcomes (such as recall of advice and compliance with treatment). The conceptual and theoretical basis for this selection is examined, and key methodological issues associated with measurement of these constructs are outlined.

Chapter 8 describes how five different patient-centred GP consulting behaviours (relating to three of the dimensions of patient-centred care identified in Chapter 2) were measured using a communication coding scheme applied to consultation videotapes by independent observers. These measures were subsequently categorised as either 'instrumental' or 'socio-emotional' in accordance with the theoretical model presented in Chapter 6. Hypothesised relationships between the different patient-centredness variables and the two patient outcomes of interest are set out in this chapter and the statistical techniques used to test these relationships, controlling for the effects of confounding factors, are also described.

Chapter 9 presents results of the analyses. Firstly, descriptive data relating to the study sample and a statistical examination of the construct validity of each of the five measures of patient-centred consulting are presented. Subsequent univariate analyses of the relationship between the different patient-centred consulting behaviours and outcomes show significant relationships between two of the variables categorised as 'socio-emotional', and patient satisfaction. There are no significant univariate relationships between any patient-centredness variable and patient enablement. However in multivariate analyses (to control for the effects of confounding variables),

none of the five patient-centredness variables is a significant predictor either of being enabled or of patient satisfaction scores.

In conclusion, there is no support for the first hypothesis that GPs' 'task-relevant' (i.e. instrumental) patient-centred behaviours predict both patient enablement and satisfaction, nor for the second hypothesis that GPs' 'socio-emotional' behaviours predict patient satisfaction and *not* enablement.

Chapter 10 discusses the conceptual and methodological strengths and weaknesses of the study. In relation to previous studies of relationships between patient centredness and outcome, the main strengths of the present study lie in attention to theoretical and measurement issues and adequate internal validity (i.e. sample size, controlling for confounding variables). However, the external validity of the study may be lower than that of some previous studies, due to the lack of attempt to recruit a random sample of GPs.

Problems with construct validity are identified at a number of levels. Firstly, the five dimensions of patient-centred care identified in Chapter 2 may have been incorrect or incomplete. Secondly, only three of these five dimensions are operationalised in the present study, and it may be that the two omitted dimensions are important predictors of patient outcomes. A third problem might relate to the specific ways in which the patient-centredness variables were operationalised, an issue which is examined in detail.

In terms of the construct validity of the two outcome measures used in the study, neither can be considered unproblematic and alternative measures may have demonstrated significant results.

In respect of the internal validity of the study, several statistical issues are considered, including the number of confounding variables entered into the analysis, sample size and power, and the implications of clustering effects.

Considering the results of the study in terms of the previous literature, the null findings weaken support for the hypothesis that patients are more satisfied or enabled with patient-centred consultations in primary care.

A number of research issues are considered which may have some bearing on the interpretation of the results of this and other studies.

These include:

- (a) the implicit assumption that patient-centred behaviour and outcomes will be associated in a simple *linear* fashion (the 'drug metaphor');
- (b) the role of qualitative research in studying patient-centredness;
- (c) consideration of the issue of continuity of care and the importance of the doctor-patient relationship over time.

In terms of the implications of the study for quality assurance and improvement initiatives in primary care, the lack of evidence supporting a relationship between such patient-centred consulting behaviours and outcomes may cast doubt on the utility of the 'patient-centredness' concept as a marker of quality of care. However, the concept is a face valid marker of key aspects of the philosophy underpinning general practice medicine. Because of this, measures of patient-centredness may still have a role in quality improvement, even without strong evidence of a relationship with patient outcomes. However, there is likely to be a trade-off between the validity of methods and their feasibility, such that large scale quality improvement efforts may require use of simpler, patient-report instruments, while more complex measures may have utility in more specific contexts.

Finally, a number of key issues are identified as priorities for future research in this field, including:

- (a) further development of the conceptual framework for understanding patient-centredness, especially involving the views of patients;

- (b) potential new quantitative approaches that might be used in patient-centredness research;
- (c) the development and further validation of outcome measures appropriate for use in studies of patient-centredness;
- (d) the importance of improving the external validity of future studies particularly in terms the representativeness of the general practitioner sample.

Chapter 1

Understanding quality of care

Understanding quality of care

1.1 Introduction

Quality assurance and improvement initiatives have high priority on the agenda driving current UK reforms of the National Health Service (NHS), as highlighted in the following quote:

“The new NHS will have quality at its heart. Without it there is unfairness. Every patient who is treated in the NHS wants to know that they can rely on receiving high quality care when they need it. Every part of the NHS, and everyone who works in it, should take responsibility for working to improve quality” (Department of Health, 1997, paragraph 3.2).

The government's focus on ensuring and improving quality of care has been prompted by concerns about variation in standards of medical care attributed, in part, to a lack of openness and public accountability in the NHS (Department of Health, 1998, paragraph 1.7). To counter this, the government are committed to implementing a set of clear national standards by which the quality of medical care may be monitored. These standards will be delivered at the local level via a system of clinical governance.

In primary care, the advent of clinical governance (whereby health professionals are directly accountable for the quality of care delivered by newly established Primary Care Groups and Trusts) highlights the need for valid and reliable measures of quality (Roland, 1999). However, the concept of 'quality of care' is complex and multi-dimensional. Meaningful measurement requires clarity and specificity about what aspects of care and attributes of quality are being assessed (Campbell *et al.*, 2000). These important issues are explored in this chapter.

1.2 Components of care

There are many aspects of care to which measures of quality might be applied. These have been usefully conceptualised within a systems-based framework comprising structures, processes and outcomes (Donabedian, 1980, 1988).

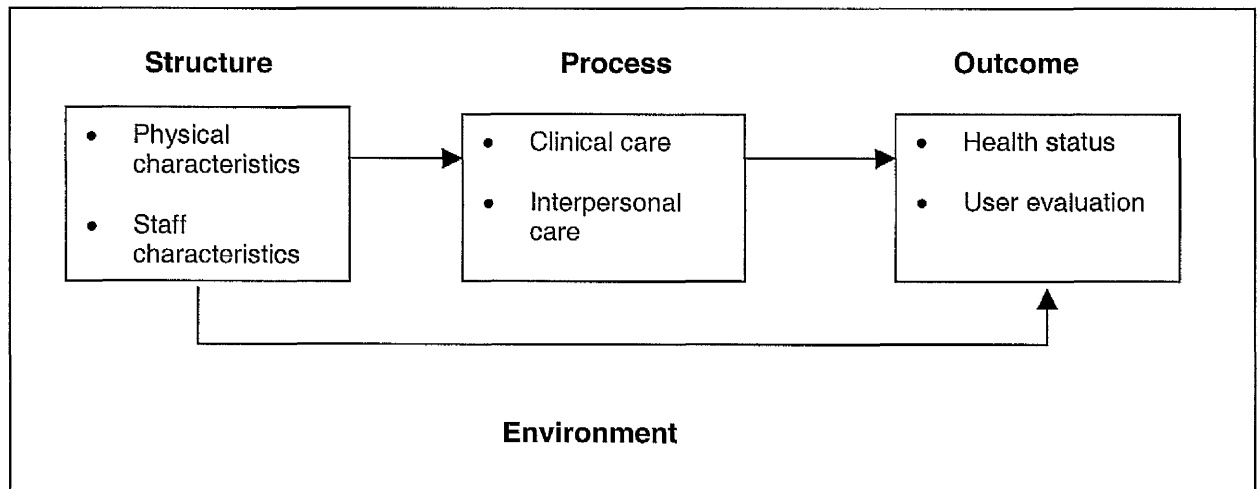
Structural aspects of a healthcare system are those relatively stable characteristics that make up the particular environment for providing care (e.g. the quantity, range, organisation and management of physical resources and personnel).

The 'process' component of a healthcare system relates to the actual care delivered and the techniques and manner by which this is achieved - in other words, what is done and how it is done.

'Outcomes' are the consequences of care. Although many different outcomes potentially result from care, broadly speaking these may be divided into two types: (i) those that relate to individuals' physical, psychological or social functioning (health status outcomes), and (ii) those that relate to individuals' subjective evaluations of their care. However, this distinction is somewhat arbitrary since evaluations of care may (implicitly or explicitly) incorporate consideration of health outcomes, and vice versa.

This systems-based model of care is shown in Figure 1.1. In terms of the broad relationship between the three components, structural factors influence care processes, which in turn influence outcomes, although more complex relationships can exist (e.g. some structural aspects of care may directly affect outcomes). The model also acknowledges that each component of care may additionally be influenced by 'environmental' factors that are external to the system (e.g. socio-demographic characteristics of the population served (Baker & Klein, 1991).

Fig 1.1 **A systems based model for assessing care (adapted from Campbell *et al.*, 2000)**



An assessment of the quality of a particular system of care may therefore be based on information relating to its constituent structures, processes or outcomes. The utility of structural and process criteria for assessing quality is considered by some to depend on the extent to which variations in the attributes being measured can be shown to lead to differences in outcome (Brook *et al.*, 1996). Where possible, it is preferable to use process (as opposed to structural) criteria for assessing quality since structural characteristics, while potentially increasing (or reducing) a system's capacity to provide good quality care, do not guarantee its delivery (Campbell *et al.*, 2000).

Outcomes can be useful indicators of quality of care. However, it is important to note that a key function of quality assessment is to effect improvements in care provision so as to maximise benefits for those receiving care. Thus, measures of outcome should have demonstrable associations with antecedent care processes (changes to which are within the control of healthcare practitioners) if they are to have utility for quality improvement. But what exactly is meant by 'quality' in respect of the process of care?

1.3 Attributes of process quality

Attempts have been made to define the criteria by which processes of care might be assessed in terms of their quality (e.g. Maxwell, 1984). However, it has recently been argued that, for individual patients, only two over-arching domains of quality apply: access and effectiveness (Campbell *et al.*, 2000; for populations, equity and efficiency are also important). Put simply, quality depends on individuals having access to the care they need, and on the care so received being effective. Within this framework, other proposed attributes of process quality are more appropriately regarded as dimensions of either access or effectiveness. For example, 'continuity of care' (O'Leary & O'Leary, 1992; Starfield, 1994) may be regarded as an aspect of access, while both 'relevance to need' (Maxwell, 1992) and 'legitimacy' (Donabedian, 1990) are implicit in any consideration of the effectiveness of care.

This thesis is concerned with the issue of the effectiveness (as opposed to accessibility) of the process component of primary health care. As described in section 1.1, the process of care corresponds to 'what is done and how it is done', and there are two sub-components: clinical care and interpersonal care. Clinical care concerns the application of instrumental techniques and procedures by a health practitioner to cure or alleviate the symptoms of a personal health problem. In order for 'what is done and how it is done' to be deemed effective, clinical care should be 'knowledge-based'. In other words, it should be based on good scientific evidence of links with desired health outcomes (what is termed 'evidence-based medicine', EBM; Sackett *et al.*, 1996) or, in the absence of such evidence, clinical care should be consistent with contemporary professional standards (Campbell *et al.*, 2000).

Interpersonal care refers to the social and psychological interaction that occurs around the provision of clinical care. Given that the majority of NHS care is based on consultations between patients and health practitioners (particularly within primary care settings), interpersonal care sets the context for clinical activity such that effectiveness of the latter depends to an extent on the quality of the former. In order to provide effective clinical care, the

general practitioner (GP) needs to accurately diagnose the patient's problem and manage this according to best scientific evidence. This requires effective interpersonal interaction and attention to the social and psychological context of the patient's presentation. For example, question-asking and listening skills are required in order to understand the nature of the problem and its effects on the patient. Facilitating adequate compliance with any prescribed treatment depends on understanding and incorporating the patient's preferences for treatment into the management plan and ensuring s/he has the necessary personal resources and ability to comply. 'Patient-centredness' is a proxy term for the effectiveness of these *interpersonal* care processes, and is the main focus of this thesis.

1.4 Evidence-based and patient-centred medicine as vehicles for quality improvement

For utility in quality improvement, concepts such as 'evidence-based' and 'patient-centred' medicine require definition and the development of valid and reliable measures that are both feasible for routine application and relate clearly to processes of care that are amenable to change.

Evidence-based medicine is, by definition, care that has demonstrated links with improved health outcomes (e.g. the role of aspirin in secondary prevention of coronary heart disease). Such evidence, which is derived from meta-analyses or reviews of randomised controlled trials, is synthesised in the form of guidelines and protocols describing the best processes of care for managing particular clinical conditions. Not only do these guidelines assist the implementation of knowledge-based practice, they potentially provide a mechanism for external monitoring of the quality of practitioners' care for individual patients. For example, evidence-based guidelines for the management of three common chronic conditions were used to develop valid and reliable quality indicators which were then retrospectively applied to patients' medical records in a recent study measuring quality of care in 60 English general practices (Campbell *et al.*, 2001). Such assessments permit 'benchmarking' of scores for external comparison of practices, and feedback

of results may encourage practice-level quality improvement initiatives such as regular clinical audit.

However, the focus on guideline implementation and their use for monitoring quality has met with some resistance, especially within academic general practice where evidence-based medicine is seen as only part of the quality 'jigsaw' (Frith, 1999). Bensing (2000) identifies two key limitations with EBM. Firstly EBM is specifically *disease-oriented* in that the randomised clinical trials from which evidence is derived are performed on homogenous patient groups who fulfil stringent, disease-specific inclusion criteria. Secondly, EBM utilises knowledge from scientific research conducted on populations with the same clinical condition. It does not take account of patients' own unique knowledge and experience of their illness. General practitioners are particularly cognisant of patient diversity and the context-specific nature of care processes and outcomes. In a recent qualitative study examining reasons why general practitioners had not implemented evidence they knew about, the authors concluded that: "GPs regard clinical evidence as a square peg to fit in the round hole of the patient's life" (Freeman & Sweeney, 2001, p.1100). In other words, patients with the same clinical problem will still have widely varying preferences, needs and circumstances, and it is argued that effective care depends to a large degree on how well these individual characteristics are understood and incorporated by the practitioner into the patient's management (McWhinney, 1989). Thus, from the general practice perspective, a valid assessment of quality of care includes consideration not only of the degree to which care processes are knowledge-based, but also the degree to which they are sensitive to the needs of the patient (i.e. 'patient-centred').

The distinction between evidence-based and patient-centred medicine relates to a wider distinction between two different types of medical practice, sometimes termed respectively 'cure' versus 'care', or 'the science' versus 'the art' of medicine. The primary goal of evidence-based medicine is to solve the technical problem of the patient's illness. Successful problem solving fulfils the needs of the doctor but is unlikely to be sufficient to meet

the needs of the patient. According to Engel (1988) the patient entering the consulting room has two basic needs: the need to know and understand his / her problem, and the need to feel known and understood by the doctor. These are the needs that are prioritised in patient-centred medicine.

This second type of medicine has been important in the development of general practice and its professional differentiation from specialist, hospital-based medicine. Sensitivity to the dynamics of the on-going doctor-patient relationship, respect for the patient as an individual and a belief in the intrinsic therapeutic potential of the GP consultation are all core themes in the academic literature. Lacking the complex diagnostic technologies of hospital medicine, general practice has instead defined for itself a model of care focused on the 'whole person' in his or her wider psychological and social context (May & Mead, 1999; see Appendix 4). In other words, the disciplinary 'territory' of general practice medicine has been staked out with direct reference to the importance of what was earlier described as interpersonal care. This is reflected in the UK Royal College of General Practitioners requirement that GP registrars now undergo assessment of their videotaped consulting skills as part of the membership exam.

It is thus important to develop measures of 'patient-centred medicine' that may be used to assess the quality of interpersonal care alongside those measures being promoted in relation to clinical aspects of care (Howie, 1999). As with evidence-based medicine, this requires clear definition of the concept and valid and reliable translation of that definition into methods of measurement that may then be used to monitor performance and effect improvements in quality. However unlike EBM, 'patient-centred medicine' is not *a priori* defined by its links with improved patient outcomes; rather it is a professionally defined marker of the quality of general practice care. Thus, relationships with outcomes may first need to be proved in order for measures of patient-centredness to be widely accepted as having utility for quality assessment and improvement.

1.5 Objectives of this thesis

To summarise, this thesis is concerned with measuring the quality of interpersonal processes of care in general practitioner consultations. Interpersonal care is a key tenet of general practice medicine and its quality has largely been defined in terms of 'patient-centredness'. The thesis has the following broad objectives:

- to examine previous definitions of patient-centred care in order to develop an integrated conceptual framework;
- to critically review the measurement of patient-centredness;
- to assess the empirical relationship between patient-centred GP consulting and outcomes;
- to discuss utility of the concept and measurement of patient-centredness for assessing and improving the quality of care delivered in general practice.

Chapter 2

Patient-centredness I: conceptual issues

Patient-centredness I: conceptual issues

2.1 Introduction

In the past forty years, an extensive body of literature has emerged advocating a 'patient-centred' approach to medical care. Yet while a range of definitions have been proposed, there remains little consensus as to what patient-centred medicine actually involves:

"Patient centredness is becoming a widely used, but poorly understood, concept in medical practice. It may be most commonly understood for what it is not – technology centred, doctor centred, hospital centred, disease centred" (Stewart, 2001, p.444).

It is likely that the lack of a universally agreed definition of patient-centred care has hampered conceptual and empirical developments in the field. This is exemplified by the following quote from a recent systematic review of provider-oriented interventions to promote patient-centred clinical consultations:

"The lack of a widely accepted definition of patient-centred care, and the heterogeneity of interventions to promote it, created difficulties in synthesising data from the included studies... Attempts to standardise assessments of the patient-centredness intensity of interventions were unsuccessful. It has therefore not been possible to explore the relationship between intervention intensity and study outcomes and we cannot draw any conclusions in this regard." (Lewin *et al.*, 2001, p.20).

These reviewers recommend that, in order to be able to quantify the benefits or effects of training healthcare providers in patient-centred care, attention first needs to be paid to developing a widely acceptable definition of the approach that can be reliably operationalised in effectiveness studies (Lewin *et al.*, 2001).

The present chapter therefore outlines the process and results of a review that was undertaken of the patient-centredness literature in order to derive a clear conceptual framework for use in empirical work (Mead & Bower, 2000a – see Appendix 4).

2.2 Aims of the review

Two questions guided the literature review:

- (a) How has patient-centredness has been defined in the conceptual literature?
- (b) What approaches have been used to measure patient-centredness in empirical studies?

The first question forms the main focus of the present chapter, while Chapter 3 deals with the second question in detail.

A review of both empirical and conceptual literature was considered necessary as gaps can occur between the concepts put forward by theorists and measures of those concepts used in studies (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 overall aim of the review was to synthesise the available literature in order to produce a conceptual framework that took adequate account of the various definitions and measures that have been used. This was done via a process of content analysis (described in section 2.3.2).

2.3 Methods

2.3.1 The search strategy

Relevant 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 the period 1969 - 2000 inclusive. The electronic database search was of greatest relevance to the literature on measurement. The reference lists of empirical studies examined for the review were also searched for other relevant literature. Conceptual literature was derived from the electronic database searches where appropriate, but also through accessing major texts on the subject known to the author and colleagues, and by following up references cited in these works. Therefore the review was not systematic in nature, but is likely to be relatively comprehensive.

2.3.2 Synthesising the literature

The conceptual literature was examined to derive the major dimensions of patient-centred care defined by various authors. In addition, the content of various measures was examined to identify any additional dimensions and to examine overlap between conceptual and empirical work.

The most comprehensive conceptual description to date is provided by Stewart *et al.* (1995a) whose model of the patient-centred clinical method identifies six interconnecting components (see Figure 2.1). This model was used as an initial starting point for the content analysis of relevant literature. However, certain limitations of the model were apparent.

Fig. 2.1 **Stewart *et al.*'s (1995a) model of six interactive components of the patient-centred clinical method**

1. Exploring both the disease and the illness experience:
 - (a) Differential diagnosis
 - (b) Dimensions of illness (ideas, feelings, expectations and effects on function)
2. Understanding the whole person:
 - (a) The "person" (life history and personal development issues)
 - (b) The context (the family and anyone else involved in, or affected by, the patient's illness; the physical environment)
3. Finding common ground regarding management:
 - (a) Problems and priorities
 - (b) Goals of treatment
 - (c) Roles of doctor and patient in management
4. Incorporating prevention and health promotion:
 - (a) Health enhancement
 - (b) Risk reduction
 - (c) Early detection of disease
 - (d) Ameliorating effects of disease
5. Enhancing the patient-doctor relationship:
 - (a) Characteristics of the therapeutic relationship
 - (b) Sharing power
 - (c) Caring and healing relationship
 - (d) Self-awareness
 - (e) Transference and counter-transference
6. Being realistic:
 - (a) Time
 - (b) Resources
 - (c) Team-building

Firstly, 'Incorporating prevention and health promotion' (component 4 of the Stewart *et al.* model) may be seen as part of the public health agenda, in that doctors are encouraged (often via incentives) to undertake such activities (e.g. cervical screening, influenza immunisation, monitoring cholesterol and blood pressure levels, reducing smoking behaviour, etc.). It may be argued that there is a tension between the public health perspective, which prioritises reduction of objective risk factors at the level of *populations*, and the perspective of general practice medicine which, as noted in Chapter 1, is

particularly cogent of the fact that patients are *individuals*, and that care processes and outcomes are highly context specific.

The sixth component of the Stewart model ('Being realistic') is primarily concerned with the organisational context of care delivery. Time, physical resources and team climate are all regarded as factors that may facilitate or impede the doctor's ability to undertake a patient-centred approach in the consultation. In this sense, 'Being realistic' is not a dimension of patient-centredness *per se*, but rather a facilitator (or constraint) on its application in practice.

In light of these limitations, the Stewart model cannot be considered a 'gold standard' description of patient-centred care. Thus, work of other authors was content analysed based broadly on the Stewart model but taking note of the limitations highlighted above, to provide an exhaustive framework that took account of the full range of conceptual and empirical literature identified via the search strategy.

The process of the content analysis cannot be described in detail. Briefly, statements describing the patient-centredness concept, and attitudinal or behavioural aspects of the approach that had been measured in empirical studies were extracted and placed into common themes. This was an iterative process. Originally, four key dimensions of patient-centred care were identified: (i) using a biopsychosocial model for understanding health and illness; (ii) sharing power and responsibility; (iii) 'patient-as-person' (cognitive empathy), and (iv) 'doctor-as-person' (emotional empathy). However, further analysis of the literature suggested that a five-dimension framework was most appropriate. This is shown in Table 2.1 with appropriate examples extracted from the literature.

Table 2.1 Examples of the five dimensions of patient-centred care from the literature

Dimension of patient-centredness	Example descriptions from the conceptual literature	Examples of attitudes / behaviours measured in empirical studies
1. The biopsychosocial perspective	Open to full range of patient-presented problems; Willing to invest time and energy incorporating screening, prevention, health promotion into patient day-to-day care (Stewart <i>et al.</i> , 1995a); Open to 'hidden agenda' (Lipkin <i>et al.</i> , 1984); Takes responsibility for non-medical aspects of problems (Grol <i>et al.</i> , 1990); Interest in psychological and social factors in the patient's environment (Cockburn <i>et al.</i> , 1987)	Discussion of psychosocial / lifestyle issues (Ford <i>et al.</i> , 1996); Counseling / persuading about prevention (Roter <i>et al.</i> , 1987); All narrow and broad psychosocial questions (Badger <i>et al.</i> , 1994)
2. The patient-as-person	Sensitivity to what is going on, unconsciously or consciously, in the patient's mind; Understanding the patient as a unique human being (Balint, 1964); Respecting the patient's values, preferences and expressed needs (Delbanco, 1992); Receptive to the patient's opinions and expectations (Winefield <i>et al.</i> , 1996); Seeing the illness through the patient's eyes (McWhinney, 1985); Respect for the cultural values of ethnic groups (Stewart <i>et al.</i> , 1995a)	Eliciting patient's explanatory model; Eliciting patient's assumptions about diagnosis and treatment (Langewitz <i>et al.</i> , 1998); Responding to and facilitating patient's 'offers' of thoughts, feelings, symptoms, expectations or prompts (Henbest & Stewart, 1989); Discussion of psychosocial / lifestyle issues (Ford <i>et al.</i> , 1996)
3. Sharing power and responsibility	Belief in the ability of patients to make decisions and be involved in their own treatment (Byrne & Long, 1976); Willing to collaborate and share management responsibility with patients (Lipkin <i>et al.</i> , 1984; Stewart <i>et al.</i> , 1995a); Willing to let patients decide on basis of full information; Considers the patient as basically equal (de Monchy <i>et al.</i> , 1988); Regard for the patient as 'expert' in his / her own illness (Tuckett <i>et al.</i> , 1985); Open to patients' differential preferences for decision-making (Cockburn <i>et al.</i> , 1987)	Information-giving (Roter <i>et al.</i> , 1987; Ford <i>et al.</i> , 1996; Wissow <i>et al.</i> , 1998); Patients' participation in decision-making about diagnosis and therapy (Verhaak, 1988); Soliciting and encouraging patient questions, opinions and suggestions (Stewart, 1984; Street, 1992); Amount of patient input (Badger <i>et al.</i> , 1994; Butow <i>et al.</i> , 1995); Responding to and facilitating patient 'offers' of thoughts, feelings, symptoms, expectations or prompts (Henbest & Stewart, 1989); Checking patient understanding (Winefield <i>et al.</i> , 1996)
4. The therapeutic alliance	Unconditional positive regard for patients (Lipkin <i>et al.</i> , 1984); Values professional role in providing emotional support / counselling (Winefield <i>et al.</i> , 1996); Creates a sense of security and comfort; Uses personal qualities effectively – empathy, generating trust and confidence, providing support and encouragement; Willing to act as patient advocate (Stewart <i>et al.</i> , 1995a)	Responding appropriately to patients' feelings with empathy and assurance (Ockene <i>et al.</i> , 1988); Partnership-building statements (Ford <i>et al.</i> , 1996; Wissow <i>et al.</i> , 1998); Statements of reassurance, support, empathy and inter-personal sensitivity (Street, 1992); Showing solidarity; Showing tension release (Stewart, 1984); Statements with affective focus (Badger <i>et al.</i> , 1994); Talk about non-medical matters (Butow <i>et al.</i> , 1995)
5. The doctor-as-person	Self-awareness of limitations and personal response to stress; Accepts risks of exposing own weakness and vulnerability; Understanding of transference / counter-transference (Stewart <i>et al.</i> , 1995a); Attention to cues of the affective relationship as it develops, including self-awareness of emotional responses to patients (Smith & Hoppe, 1991; Winefield <i>et al.</i> , 1996)	None identified

The concepts underpinning each of these five dimensions are discussed in the remainder of this chapter, while the measurement literature is summarised in Chapter 3. However, it should be emphasised that the development of the framework was an iterative process involving both conceptual and empirical sources.

2.4 Results

2.4.1 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 it is 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 that are investigated and interpreted within a positivist biomedical framework. Accurate diagnosis of the pathology permits selection of appropriate therapy to restore the diseased processes to (or near to) 'normal', thus curing (or improving) the patient's illness (Neighbour, 1987).

'Patient-centred' medicine differs from the 'biomedical model' in terms of the five key dimensions that were shown in Table 2.1, each of which represents a particular aspect of the relationship between doctor and patient. These five dimensions are described in detail in sections 2.4.2 to 2.4.6 below.

2.4.2 The biopsychosocial perspective (dimension 1)

Many illnesses presented in community settings cannot adequately be assigned to conventional disease taxonomies (Morrell, 1972; Bain *et al.*, 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 *et al.*, 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, as noted previously, these authors regard health promotion as an essential component of the approach, although other published descriptions afford less significance to health promotion and do not identify it as a fundamental facet of patient-centredness. 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).

2.4.3 The 'patient-as-person' (dimension 2)

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, including the individual's values and beliefs (Lipkin *et al.*, 1984; Stewart *et al.*, 1995a). Levenstein *et al.* (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).

2.4.4 Sharing power and responsibility (dimension 3)

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 as 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 1970's (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 – see Appendix 4). 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 *et al.*, 1985), to provide adequate information and explanation (Korsch *et al.*, 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', 'empowerment' and 'expert patient' have become increasingly evident in government health policy over the past decade (e.g. Department of Health, 1991; NHS Executive, 1996; Department of Health, 2001). 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 *et al.* (1989) report positive associations with a range of objectively measured and self-reported health outcomes, while Grol *et al.* (1990) suggest that information enables patients to take greater responsibility for their health. The recently established 'Expert Patient' programme in the UK is based on evidence across a number of chronic conditions that training in self-management is associated with improved health outcomes and confidence among patients and reduced costs (Department of Health, 2001).

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; de Monchy *et al.*, 1988; Stewart *et al.*, 1995a; Winefield *et al.*, 1996; Laine & Davidoff, 1996; Kinmonth *et al.*, 1998). From analyses of audiotaped consultations, Byrne and Long describe a continuum of general practitioner consulting styles ranging from 'doctor-' to 'patient-centred'. In doctor-centred consultations the GPs' 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'.

2.4.5 The therapeutic alliance (dimension 4)

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 *et al.*, 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, the attributes of the doctor and characteristics of the relationship are key elements of the healing process. Developing a therapeutic alliance is a fundamental requirement for patient-centred medicine 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 attributes and 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).

2.4.6 The 'doctor-as-person' (dimension 5)

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 fundamentally an 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 *et al.* (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 as 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" (p.811). Thus while dimension 4 (the 'therapeutic alliance') relates to the affective nature of the relationship between doctor and patient, dimension 5 ('doctor-as-person') concerns the doctor's *understanding of* and *sensitivity to* that relationship; an awareness of how it affects them and how the use of self might increase its therapeutic potential. Such self-knowledge is seen as imperative:

"One can only truly recognize a patient if one is willing to recognize oneself in the patient" (Stein, 1985, quoted in Stewart *et al.*, 1995a, p.96).

Winefield and colleagues acknowledge that few efforts have been made to measure this particular aspect of patient-centredness (Winefield *et al.*, 1996). Reasons why the 'doctor-as-person' dimension may not be readily amenable to current measurement technologies are discussed in Chapter 3.

2.5 Discussion

2.5.1 Strengths and weaknesses of the proposed framework

Although the framework outlined above shares significant overlap with the 'patient-centred clinical model' proposed by Stewart *et al.* (1995a), it improves on the latter in modest but important ways. As noted earlier, two components of the Stewart model were identified as problematic. In the present framework, health promotion and disease prevention activities are not seen as an explicit requirement of patient-centred care. Rather, expanding the focus of the 'medical gaze' (i.e. through adopting a biopsychosocial perspective) may identify opportunities for preventive healthcare. Secondly, component six of the Stewart model was removed from the present framework because 'Being realistic' about time and resources is regarded as a mediator of doctor's propensity to be patient-centred in the consultation rather than an intrinsic element of the approach (see section 2.5.4 below). Thirdly, the fifth component of the Stewart model ('Enhancing the doctor-patient relationship') has been split into two distinct dimensions in the present framework (i.e. dimensions 4 and 5). As stated earlier, the 'therapeutic alliance' differs from 'doctor-as-person' in that the former relates to the affective nature of the relationship between doctor and patient, while the latter concerns the doctor's *understanding of and sensitivity to* that relationship and its potential for therapeutic use. This distinction has important implications for measurement which are discussed further in Chapter 3.

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.

Searches of empirical literature were broadly limited to concepts and measures explicitly defined as 'patient-centredness'. This effectively excluded work addressing related themes but using other labels (e.g. 'person / client-centred', 'patient / person / client-oriented', 'patient / person / client-focused' - Lewin *et al.*, 2001; '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. However, Epstein and colleagues compared and contrasted a number of differently labelled approaches to doctor-patient communication (e.g. the 'biopsychosocial model' and the 'family systems approach') and concluded that:

"On a theoretical level, the complementarity of the approaches is more powerful than their difference" (Epstein *et al.*, 1993, p.386).

Therefore widening the search strategy may not have resulted in a fundamental change to the proposed framework although the detail may have been somewhat different.

The present 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 *et al.*, 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.

2.5.2 Nomothetic and idiographic dimensions of patient-centred care

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 doctor-patient dyad.

2.5.3 Inter-relationships between the dimensions

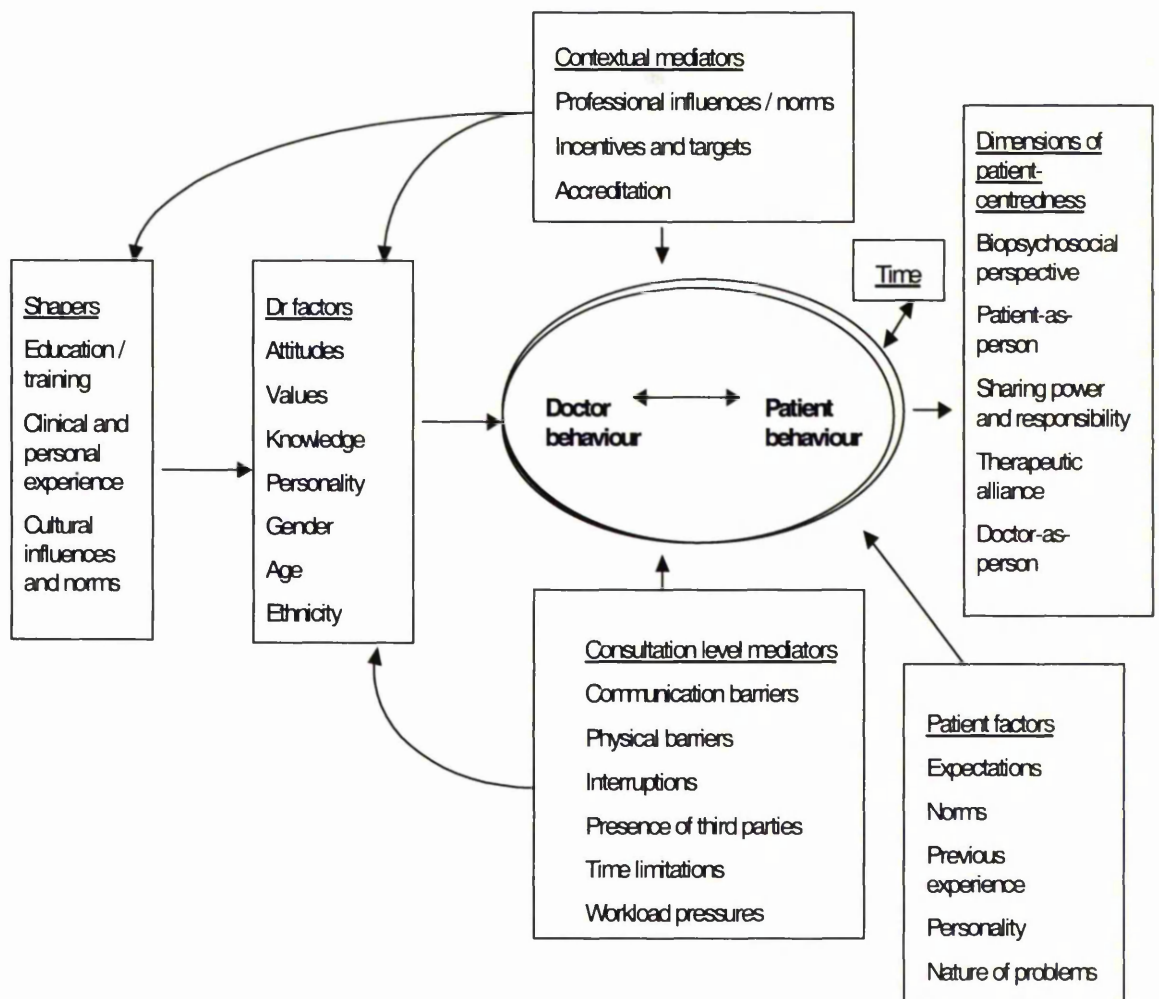
Aside from the nomothetic / idiographic complementarity of dimensions 1 and 2, and dimensions 4 and 5, inter-relationships within individual doctors also requires consideration. If, as some authors suggest, patient- and doctor-centred approaches represent two qualitatively different types of practitioner (McWhinney, 1985), then all five dimensions might be expected to be highly correlated within individual doctors. Equally, relationships might be expected to the degree that particular verbal behaviours may relate to more than one dimension (discussed further in Chapter 3). 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.

2.5.4 On being 'patient-centred'

Although not a main objective of this thesis, it is interesting to consider what factors might influence GPs' propensity to be patient-centred in their interactions with patients.

As befits such a complex construct, a large number of variables potentially influence a doctor's patient-centredness, both within the context of individual consultations and over the course of the professional career. Figure 2.2 indicates some hypothesised influences.

Fig. 2.2 Factors influencing patient-centredness



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 socially more '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 general medical practice may also impact on doctors' patient-centredness (Howie, 1996, 1999). This is highlighted by Stewart *et al.*'s inclusion of the component 'Being realistic' in their original model. Recent policy initiatives to promote greater team working 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 EBM may present problems for ensuring that patients have full information when deciding about treatment. As Toop 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" (Toop, 1998, p.1883).

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 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 Figure 2.2 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 organisational context of care (i.e. consultation length and booking intervals), doctor attitudes and proxies of patient-centred behaviour.

Clearly, identifying what factors influence doctors' propensity to be patient-centred becomes more important if there is evidence that patient-centredness predicts outcomes. This issue will be explored in depth in Chapter 4 and forms the main focus of the empirical part of this thesis. Firstly, Chapter 3 will examine measurement issues relating to the identified five dimensions of patient-centred care.

2.6 Chapter summary

- To date, the term 'patient-centredness' has been used to refer to so many different concepts that its scientific utility may have been compromised.
- A review of the conceptual and empirical literature suggests that there are five distinct dimensions of patient-centred care: (i) the biopsychosocial perspective; (ii) patient-as-person; (iii) sharing power and responsibility; (iv) the therapeutic alliance, and (v) doctor-as-person.
- 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.

Chapter 3

Patient-centredness II: measurement issues

Patient-centredness II: measurement issues

3.1 Introduction

As described in the previous chapter, the review of patient-centredness literature included empirical sources. The purpose of this was twofold:

1. To content analyse measures that have been used by different investigators in order to develop the five-dimension conceptual framework presented in Chapter 2;
2. To explore issues concerned with measuring the complex relationship processes that constitute the different dimensions of patient-centred care. These issues form the main focus of the present chapter.

3.2 The review process

Measures included in the review were derived from the search strategy described in the previous chapter (section 2.3.1). Identified studies employed two broad methodological approaches: (i) self-report measures of doctors' patient-centredness, and (ii) measures involving external observation of the consultation process. In each case, measures were considered in terms of the following issues:

3.2.1 Content of the measures

The item content of self-report scales, and the specific consultation processes measured in studies using external observation methods were examined independently by the author and one of the co-supervisors of this thesis (PB). Attempts were made to map each instrument onto the various dimensions of patient-centred care as these emerged during development of the conceptual framework described in Chapter 2. Since reviewing the literature and developing the conceptual framework was an iterative process, the level of

agreement between the two reviewers when mapping instruments to dimensions of patient-centred care was not formally assessed. Rather, disagreements were discussed and consensus reached.

3.2.2 Reliability of the measures

Reliability concerns the degree to which scores can be replicated. In measurement theory, the score obtained from any measurement is a combination of an underlying true score and some degree of error. Reliability is concerned with random errors. The reliability of a measure is defined as the proportion of observed variation in scores that reflect true variation, while unreliability is the proportion of variation that is random error (McDowell & Newell, 1987).

Two types of reliability can be distinguished. The first relates to measurement applied a second time to the same respondent and concerns *repeatability*. This is relevant to self-report scales, which attempt to measure some characteristic of the respondent assumed to be stable to a degree. The second type of reliability concerns whether different raters using the same method to assess the same variable obtain the same result. This is referred to as *inter-rater agreement* and is of relevance to external observation methods.

3.2.3 Validity of the measures

There are multiple ways of conceptualising validity (Streiner & Norman, 1989). Broadly speaking, a valid measure is one that measures what it is designed to measure. Within this broad definition, two approaches to assessing validity can be identified. The first is primarily a 'labelling' issue (as opposed to a statistical one) relating to whether the measure may be considered an adequate translation of the conceptual definition. For example in a patient satisfaction scale, do all items appear relevant to the concept of 'satisfaction' (often termed 'face validity'), and are all aspects of the concept adequately covered? (often

termed 'content validity'; (McDowell & Newell, 1987). Issues of face and content validity are usually based on the subjective opinion of experts.

The second type of measurement validity examines whether the instrument is related to other relevant measures as specified by theory. Broadly speaking, this is referred to as construct validity and there are many different types (e.g. predictive, concurrent, discriminative, etc.). For example, if theory suggests that patients satisfied with their medical care are more likely to comply with their medical regimen then a test of the construct validity of a satisfaction instrument would involve exploring the statistical relationship between satisfaction scores and a measure of compliance.

Where there is an agreed 'gold standard' against which a measure can be directly compared, this is known as 'criterion validity'. However for most concepts of interest in the health and social sciences (including 'patient-centredness') there is no agreed criterion. Thus, support for the construct validity of a measure tends to be accrued over time through incremental tests of hypothesised relationships with other theoretically relevant measures or variables.

3.2.4 Presentation of review findings

Information on identified measures of 'patient-centredness' (defined as such by the respective investigators) was extracted and put into tables. The tables are grouped according to the broad type of measurement method employed (e.g. self-report scales, rating scales, verbal coding schemes, etc.). The format of each table is similar in that the first few columns relate to the content of the measure and its relationship to the five proposed dimensions of patient-centred care, in the opinion of the reviewers. Data on the reliability of each measure are presented, followed by evidence concerning its validity. Each table is accompanied by a descriptive commentary.

In respect of instrument validity, all reported relationships with consultation 'inputs' (e.g. level of training, type of problem, patient or doctor gender or age, etc.), other consultation 'processes' (e.g. recognition of psychiatric morbidity; prescribing behaviour, consultation length, etc.) or 'outcomes' (e.g. resolution of patients' symptoms or concerns, subsequent use of medical resources, etc.) are briefly summarised. However, the relationship between patient-centred consulting and outcomes in general practice is the main focus of this thesis, so that particular body of evidence will be examined in depth in Chapter 4.

3.3 Results

3.3.1 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 3.1 presents details of the content, reliability and validity of three such scales.

Table 3.1 Scales measuring doctors' patient-centred attitudes / values

Scale	Items	Content	Dimensions*	Reliability	Validity
Patient-centred attitudes (Grol <i>et al.</i> , 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 (<i>r</i> '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 scale (de Monchy <i>et al.</i> , 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 2nd 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 <i>et al.</i> , 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 <i>et al.</i> , 1987)	Three subscales defined as 'patient-centred' by Howie <i>et al.</i> (i.e. psychological orientation, responsibility for decisions and appropriateness of consultations) were associated with consultation length, 'process of care' and doctor stress (<i>r</i> 's from 0.19 to 0.29, n=80 - 19% of Lothian GPs; Howie <i>et al.</i> , 1992)

* Dimensions (column 4) refers to those aspects of patient-centredness addressed by each instrument corresponding to the 5-dimension framework presented in Chapter 2:

1 = Biopsychosocial perspective; 2 = Patient-as-person; 3 = Sharing power and responsibility; 4 = Therapeutic alliance; 5 = Doctor-as-person.

Column 4 of the table shows which of the five proposed dimensions of patient-centredness each scale addresses. While all three scales contain items that map onto dimension 1 ('biopsychosocial perspective') and dimension 3 ('sharing power and responsibility'), the de Monchy *et al.* (1988) and Cockburn *et al.* (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 3.1, 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 de Monchy (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 3.1 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 de Monchy 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 *et al.*, 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 *et al.*, 1987; Bucks *et al.*, 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.

3.3.2 External observation methods

Most of the empirical literature conceptualises patient-centredness as a clinical method, reflected in the predominance of measures involving 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.

3.3.2.1 Rating scales

Table 3.2 presents details of the content, reliability and validity of six different scales.

The six identified rating scales all 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.

Table 3.2 Rating scales measuring patient-centred behaviour in consultations

Rating Scale	Description	Dimensions	Reliability	Validity
Farmer scale (unpublished) – cited in Winefield <i>et al.</i> , 1996	5 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 <i>et al.</i> , 1996)	Low correlations with another measure of patient-centredness based on verbal behaviour coding (<i>r</i> 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	2 behavioural dimensions: patient participation in diagnostic decision-making; patient participation in therapy decision-making. 5-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 <i>et al.</i> , 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 2 pre- and 2 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 <i>et al.</i> , 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 3 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.
'Euro-communication' scale (van den Brink-Muinen <i>et al.</i> , 1999) – cited in Mead & Bower, 2000b	5 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 4 observers rating 20 consultations (Mead & Bower, 2000b)	Poor concurrent validity with a measure of patient-centredness adapted from the Roter Interaction Analysis System (1993) and also with the Henbest and Stewart (1989) measure (<i>r</i> s = 0.37 and 0.35 respectively). 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 (<i>r</i> s between 0.27 and 0.51; n=55 videotaped consultations from 24 volunteer GPs - (Mead & Bower, 2000b).

Table 3.2 (continued)

Rating scale	Description	Dimensions	Reliability	Validity
Utrecht Consultation Assessment Method (UCAM) – cited by Pieters <i>et al.</i> , 1994	4 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)

Scale content was examined to judge which of the five proposed dimensions of patient-centredness each covers (see Table 3.2, column 3). There was ambiguity regarding 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 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 3.2 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 (Winefield *et al.*, 1996) or intraclass correlations (Mead & Bower, 2000b) 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, 2000b) 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).

In terms of validity, the rating scales in Table 3.2 report various associations with consultation inputs and processes such as type and length of consultation (Winefield *et al.*, 1996; Mead & Bower, 2000b), psychosocial content of communication (Verhaak, 1988), eye contact, acquaintance with the patient and GP age (Mead & Bower, 2000b). 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, 2000b).¹

¹ This preliminary study (Mead & Bower 2000b; see Appendix 4) found low levels of concurrent validity between three different measures of patient-centredness, namely: a rating scale used in the Euro-communication study (which had not been previously validated), a measure based on Roter's verbal coding scheme (1977; reviewed in section 3.3.2.2), and a 'combined' instrument developed by Henbest & Stewart (1989; reviewed in section 3.3.2.3). The study was undertaken prior to development of the conceptual framework described in Chapter 2 of this thesis. Moreover, various limitations were apparent in the reliability and validity of these three measures. Thus, none was chosen for use in the empirical study described in Chapters 8 to 10 of this thesis.

3.3.2.2 Verbal behaviour coding

Many schemes for coding verbal behaviour have been developed. The best known include Bales' Interaction Process Analysis (IPA; Bales, 1950), Stiles' Verbal Response Modes (VRM; Stiles, 1978) and Roter's Interaction Analysis System (RIAS; Roter, 1977). A useful comparison of these three techniques is provided by Inui *et al.* (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 (see Table 3.3). 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 & Killeen (1997) differs in that all pre-coded verbal statements were subsequently categorised in terms of patient and physician 'controlling' behaviour.

Table 3.3 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 (2 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 <i>et al.</i> (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 to 0.58 for proportions; n=86 consultations with 43 volunteer male primary care physicians).
Winefield <i>et al.</i> (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). 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 <i>et al.</i> (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) (2 coders, n = 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, 5 volunteer clinicians)
Street (1992)	Doctor behaviour: Statements of reassurance, support, empathy, interpersonal sensitivity; soliciting / encouraging questions, opinions, expression of feelings (adapted from Stiles' VRM)	2, 3, 4	Inter-rater: Cohen's kappa of 0.69 (2 raters over 5 transcripts)	Doctor behaviour positively associated with parents' satisfaction and perceptions of 'partnership-building' and 'interpersonal sensitivity' (r 's from 0.22 to 0.36, n=115 paediatric consultations with 7 self-selected doctors).

Table 3.3 (continued)

Study	Description of method used	Dimensions	Reliability	Validity
Cecil & 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-responder) also coded in terms of control 'symmetry'.	3	Inter-rater: Cohen's kappa of 0.85 (based on 2 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 <i>et al.</i> (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 <i>r</i> for all provider talk = 0.74 and for provider's medical task-related talk = 0.84; mean <i>r</i> 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 and (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 7 US cities).
Mead & Bower (2000b)	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 3 raters coding 20 consultations)	Poor concurrent validity with two other measures of patient-centredness: <i>r</i> = 0.37 (Eurocommunication rating scale) and <i>r</i> = 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 (<i>r</i> 's between 0.31 and 0.53; n=55 videotaped consultations from 24 volunteer GPs).
Badger <i>et al.</i> (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 <i>r</i> 's 0.72 - 0.82 (- number of raters and interviews not noted); Intra-rater: mean <i>r</i> = 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 (n = 47 community physicians interviewing 4 patients standardised with symptoms of major depression)
Butow <i>et al.</i> (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: 86% agreement in number of identified speech units; 78 - 85% agreement on codes for matching speech units (2 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 (n = 142 first in- or out-patient consultations with one medical oncologist)

Again, the content of instruments based on verbal-coding schemes was examined in order to judge which of the five proposed dimensions of patient-centredness were measured by each (see Table 3.3, 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 *et al.*, 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 *et al.* (1987) consider information-giving as a patient-centred skill. For Ford *et al.* (1996) and Mead & Bower (2000b; see footnote on page 71) 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 3.3 are mostly acceptable, although (as with the rating scales discussed previously) assessments vary from percentage agreement to kappa calculations. 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 3.3) 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; Stewart, 1984; Butow *et al.*, 1995), older (Winefield *et al.*, 1996), more anxious or emotionally distressed (Butow *et al.*, 1995; Mead & Bower, 2000b) and better known to the doctor (Winefield *et al.*, 1996; Mead & Bower, 2000b). Associations are also reported with eye contact (Mead and Bower, 2000b), type of consultation (Winefield *et al.*, 1996) and consultation length (Winefield *et al.*, 1996; Mead & Bower, 2000b).

3.3.2.3 Combined assessment methods

Four combined assessment methods have been developed (Table 3.4), 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.

Table 3.4 Combination methods for measuring patient-centred behaviour in consultations

Method	Dimensions	Reliability	Validity
Byrne and Long (1976)	3	<p>Inter-rater (36 consultations rated by 2 independent observers): 'Diagnostic' phase (frequently occurring categories only): $r_s = 0.43 - 0.87$ (for 9 out of 11 categories, $r = 0.70$)</p> <p>'Prescriptive' phase (frequently occurring categories only): $r_s = 0.40 - 0.81$ (for 5 out of 11 categories $r = 0.70$) - reported by Buijs <i>et al.</i> (1984)</p> <p>Inter-rater: 90% agreement for 3 observers based on 20 consultations - reported by Long (1985)</p>	<p>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 6 GPs; Buijs <i>et al.</i>, 1984)</p> <p>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 6 volunteer GPs; Bensing & Sluijs, 1985).</p> <p>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 2 complete surgeries six months apart; Long, 1985).</p> <p>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 9 self-selected GPs; Cape, 1996)</p>
Brown <i>et al.</i> (1986)	2, 3	Inter-rater: $r = 0.69$ to 0.84 for 3 coders (n=6 tapes; Brown <i>et al.</i> , 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 <i>et al.</i> , 1986)
Henbest and Stewart (1989)	2, 3	<p>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 2 raters' scores (Mead & Bower, 2000b)</p> <p>Intra-rater reliability: $r = 0.88$ (after 2 weeks) $r = 0.63$ (after 6 weeks); Correlation between scoring in first two minutes and score for entire interview: $r = 0.81$ (Henbest & Stewart, 1989); $r = 0.57$ (Law & Britten, 1995)</p>	<p>Moderate to high concurrent validity with Brown <i>et al.</i> (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 6 doctors; Henbest & Stewart, 1989).</p> <p>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).</p> <p>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)</p> <p>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, 2000b).</p>
Brown <i>et al.</i> (1995)	2, 3, (4)	<p>Inter-rater: $r = 0.83$ (n = 19 consultations); Intra-rater: $r = 0.73$ (n = 20 consultations) (Stewart <i>et al.</i>, 2000)</p>	Good concurrent validity with "global scores of experienced communication researchers" ($r = 0.85$, n=46 consultations; Stewart <i>et al.</i> 1995b); 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 <i>et al.</i> , 2000).

In Byrne & 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 consultation. Category weightings are used to score the consultation style for patient-centredness. However, Buijs *et al.* (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 *et al.* (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 & Stewart (1989) modified the Brown *et al.* (1986) measure to enable coding direct from video- or audio-tape. 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.* 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 termed 'patient-as-person' in this thesis). 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 & Stewart (1989) and Brown *et al.* (1995) measures have demonstrated acceptable intra-rater reliability. The Byrne & 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 & Bower (2000b), although the latter report levels of actual agreement between observers rather than association.

In terms of validity, both the Byrne & 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 between measures of patient-centredness and female gender and training status of doctors (Henbest & Stewart, 1989; Law & Britten 1995). 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, 2000b), 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 the RIAS (Mead & Bower, 2000b).

3.4 Discussion

3.4.1 Limitations of the review of measures of patient-centredness

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.

3.4.2 Relationships between dimensions and measures

It is evident that conceptual framework proposed in Chapter 2 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. 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's thoughts, feelings and concerns about the illness. Merely asking questions and facilitating discussion of these does not mean they have been understood or that they are taken into account as the interaction progresses. It may be that investigators can only really study 'patient-as-person' by eliciting the doctor's understanding of the individual's illness experience and examining the degree of fit with the patient's own account. More individualised (idiographic) methods of study are considered in section 3.4.5.

A limitation of the all observer-based methods reviewed in this chapter (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.

3.4.3 Inconsistencies in findings

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 9 GPs who all had particular interests in psychological care. It is therefore important that apparent inconsistencies are interpreted with sampling issues in mind.

3.4.4 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. 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 3.3 and 3.4) are less likely to be used for measuring individual doctors' performance than rating scales which evaluate more 'global' consultation skills (Table 3.2). 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 chapter 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.

3.4.5 Idiographic measurement methods

The idiographic / nomothetic distinction was discussed in Chapter 2. 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 *et al.* (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 & 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 and colleagues (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.

3.5 Chapter summary

- This review explored issues concerned with measuring the complex relationship processes that constitute patient-centred care.
- Identified studies employed two broad methodological approaches: (i) self-report measures of doctors' patient-centredness, and (ii) measures involving external observation of the consultation process.
- Measures were considered in terms of their respective content, reliability and validity.

- Although measures could be mapped onto the five dimensions of patient-centred care identified in Chapter 2, not all dimensions of the concept have proved accessible to current measurement technology.
- Overall, a significant number of measures have proved reliable. Various associations with external variables have been reported although evidence of validity is suggestive rather than definitive.

Chapter 4

Patient-centred consultations and outcomes in primary care: a review

Patient-centred consultations and outcomes in primary care: a review

4.1 Introduction

The two previous chapters have discussed the conceptual basis of the patient-centredness construct and methods of measurement. However, a key test of the importance of patient-centred consulting concerns its relationship with outcomes.

In a recent editorial, Stewart (2001) claims 'evidence of tangible benefit' from patient-centred communication in terms of improved satisfaction, adherence and health outcomes. In support, she draws on an earlier comprehensive review of 'effective physician-patient communication and health outcomes' in which 16 out of 21 included studies reported improvement in various patient-level outcomes such as distress, functioning, physiologic measures (e.g. blood pressure) and health service utilisation (Stewart, 1995). However, the reviewed studies covered a wide variety of clinical settings and patient populations and, importantly, none measured aspects of doctor-patient communication explicitly defined as 'patient-centred' by the respective investigators, a limitation highlighted by Graugaard and Finset:

"Evidence of the effectiveness of the patient-centred model...has mostly been derived from studies that have not specifically been designed to evaluate this model but that, nevertheless, have been interpreted as supporting one or a number of its elements" (Graugaard & Finset, 2000, p.33).

If 'patient-centredness' is a specific model of care that can be taught and assessed, and not merely a diffuse concept that subsumes the myriad ways in which doctors communicate effectively with patients, benefits need to be

demonstrated using studies that explicitly relate patient-centred consulting behaviour to outcome. Moreover, it is advantageous to examine evidence from studies conducted within similar clinical contexts since the relationship between patient-centredness and outcome may be dependent on the characteristics of patients, professionals and structures of care particular to a certain clinical setting. Thus, the following review of the relationship between patient-centred care and outcomes is restricted to studies in primary care.

4.2 Aims of the review

The present review sought to examine the following issues:

- (a) How has patient-centred consulting been defined and measured in studies exploring relationships with patient outcomes in primary care?
- (b) What particular outcomes have been studied?
- (c) Are patient-centred consultations associated with improved outcomes in primary care?

4.3 Method

4.3.1 The search strategy

Relevant empirical literature was identified using the same search methods used in Chapters 2 and 3. Studies were included in the review if they (1) utilised a quantitative measure of a construct termed 'patient-centred/ness' (however defined by the investigators); (2) included at least one measure of consultation outcome at the level of the patient, and (3) were conducted in a primary care setting, involving qualified or trainee doctors (as opposed to other health professionals).

4.3.2 Data extraction

Data were extracted from selected studies on three key issues of relevance:

Measurement issues

The various measures of patient-centred consulting used in the studies were examined in terms of their type and scope, relationship to the five-dimension model of patient-centred care described in Chapter 2, and issues of reliability and validity. Data on outcome measures used in each study were also extracted.

Internal validity

This refers to the confidence with which one can assume a 'cause-effect' relationship exists between two variables, in this case between patient-centred consulting behaviour and a particular outcome. Key issues examined were study design, statistical power, and whether studies controlled for sources of potential bias such as confounders. For example, it is known that patient satisfaction is positively related to patient age (Hall & Dornan, 1988; Williams & Calnan, 1991; Rees Lewis, 1994; Kinnersley *et al.*, 1996), and this relationship may account for an observed association between patient-centredness and satisfaction unless the confounding variable (patient age) is controlled for.

External validity

This refers to the confidence with which the findings of a particular study can be generalised to other professionals, patients and settings. Key issues examined were the methods used to recruit doctors and patients, and the characteristics of those who participated in the research.

4.4 Results

Eight published studies met the inclusion criteria for the review (Stewart, 1984; Roter *et al.*, 1987; Henbest & Stewart, 1990; Cape, 1996; Winefield *et al.*, 1996; Cecil & Killeen, 1997; Kinnersley *et al.*, 1999; Stewart *et al.*, 2000). Tables 4.1 and 4.2 present data on process and outcome measures used in the studies. Data on internal and external validity can be found in Tables 4.3 and 4.4 respectively.

Table 4.1 Measurement issues relating to the included studies

Study	Instrument used or adapted to measure patient-centred consulting	Type of measure (checklist, rating scale, etc.)	Includes non-verbal behaviours?	Includes patient behaviours?	Method of application	Inter-rater reliability	Post-consultation patient outcomes measured
Stewart (1984)	Bales' Interaction Process Analysis (IPA; Bales, 1950)	Verbal coding scheme	No	Yes	Audiotapes and transcripts	90.3% of statements assigned same codes	Satisfaction Self-report compliance Pill count compliance
Roter <i>et al.</i> (1987)	Roter's Interaction Analysis System (RIAS; Roter, 1977)	Verbal coding scheme	No	No	Transcripts of audiotapes	Median correlation of 0.81	Satisfaction Impressions of doctor affect Information recall
Henbest & Stewart (1990)	Henbest and Stewart method (Henbest & Stewart, 1989)	Verbal coding combined with rating scales	No	No	Transcripts of audiotapes	Similar patient 'offers' noted in 85% of cases; correlation between response scores of 0.91	Satisfaction Doctor-patient agreement Feeling understood Level of discomfort Level of concern Symptom resolution
Cape (1996)	Byrne and Long method (Byrne & Long, 1976)	Verbal coding scheme	Yes	No	Audiotapes	No formal assessment	Satisfaction Patient experience of the consultation
Winsfield <i>et al.</i> (1996)	(i) Stiles' Verbal Response Modes (VRM; Stiles, 1978) (ii) Farmer patient-centredness scale (unpublished)	(i) Verbal coding scheme (ii) Rating scale	(i) No (ii) No	(i) Yes (ii) No	(i) Transcripts of audiotapes (ii) Transcripts of audiotapes	(i) Cohen's Kappa: 0.84 - 0.90 (ii) Cohen's Kappa 0.84	(i) Satisfaction (ii) Satisfaction
Cecil & Killeen (1997)	Relational Communication Control Coding Scheme (RCCCS; Rogers & Farrace, 1975)	Verbal coding scheme	No	Yes	Videotapes	Cohen's Kappa for allocating codes to 'verbal messages': 0.85	Satisfaction Self-report compliance
Kinnersley <i>et al.</i> (1999)	Brown, Stewart & Tessier method (Brown <i>et al.</i> 1995)	Verbal coding combined with rating scales and checklists.	No	No	Audiotapes	One rater used so assessed intra-rater reliability only	Satisfaction Doctor-patient agreement Symptom resolution Level of concern Change in functional health status

Table 4.1 (continued)

Study	Instrument used or adapted to measure patient-centred consulting	Type of measure (checklist, rating scale, etc.)	Includes non-verbal behaviours?	Includes patient behaviours?	Method of application	Inter-rater reliability	Post-consultation patient outcomes measured
Stewart <i>et al.</i> (2000)	(i) Brown, Stewart & Tessier (1995) method	(i) Verbal coding combined with rating scales and checklists.	No	No	(i) Audiotapes	(i) Correlation of 0.83	Level of discomfort Level of concern Self-report health status Number of visits to the doctor Tests and referrals
	(ii) Patient perceptions of patient-centredness questionnaire	(ii) 14-item patient-report measure			(ii) Post-consultation patient interviews	(ii) Not reported	

4.4.1 Measurement issues

Table 4.1 shows that all the studies used verbal coding schemes as the basis for measuring patient-centredness. In the majority of studies, frequencies or proportions of specific verbal behaviours defined by the investigators as 'patient-centred' are calculated. However, one study also used a rating scale to score the doctor's best performance across five 'global' interviewing skills (Winefield *et al.*, 1996), while three others use a variation of the same combined measure (developed by Stewart and colleagues and described in detail in the previous chapter) whereby doctors' responses to patients' verbal 'offers' are categorised then scored for the degree to which they facilitate further expression of the patient's illness experience (Henbest & Stewart, 1990; Kinnersley *et al.*, 1999; Stewart *et al.*, 2000).

Only the study by Cape (1996) used a measure that examined the doctor's non-verbal behaviour (specifically, 'use of silence'). Three other studies used measures that included aspects of patients' (as well as doctors') verbal behaviour (Stewart, 1984; Winefield *et al.*, 1996; Cecil & Killeen, 1997).

All the included studies measured patient-centredness using data from consultation audio- or videotapes, supplemented by patient interview in one study (Stewart *et al.*, 2000). All but two report inter-rater reliability of the observation-based measure, although the statistical methods used to assess reliability varied widely, including correlations, kappa scores, intraclass correlation coefficients and percentage agreement.

In terms of outcome measures, all but the study by Stewart *et al.* (2000) included a measure of patients' satisfaction with their consultation. However, there was wide variation both in the satisfaction measures used and their mode of administration. Patients completed the 29-item Medical Interview Satisfaction Scale (MISS; Wolf *et al.*, 1978) immediately following the consultation in the study by Henbest & Stewart (1990) and that by Kinnersley and colleagues

(1999). Cape (1996) also used the MISS, supplemented by items from other measures of patients' experience of therapeutic interactions, although these were administered in semi-structured interviews with patients up to 5 days after their visit. One study administered a self-completion satisfaction measure immediately post-consultation, in the form of a six-item rating scale developed by the investigators (Winefield *et al.*, 1996). In the study by Stewart (1984), satisfaction was assessed using 17 questions (derived from a previously validated scale) asked during face-to-face patient interviews 10-days after the visit. Cecil & Killeen (1997) used two 5-point scales administered as part of a telephone survey 2 to 3 weeks after patients' consultations. In the study by Roter *et al.* (1987), three students (acting as role-playing 'patients') listened to audiotapes of consultations then rated their satisfaction across eleven 5-point scales developed from the literature.

Other outcomes examined by the studies include more specific measures of the patient's view of the consultation (e.g. perceived doctor-patient agreement, feeling understood, impressions of doctor affect; Roter *et al.*, 1987; Henbest & Stewart, 1990; Kinnersley *et al.*, 1999), changes in health status (Henbest & Stewart, 1990; Kinnersley *et al.*, 1999; Stewart *et al.*, 2000), treatment compliance (Stewart, 1984; Cecil & Killeen, 1997), information recall (Roter *et al.*, 1987) and utilisation of health services (Stewart *et al.*, 2000).

Table 4.2 (see p.95) lists the specific doctor and patient behaviours included in each measure of 'patient-centredness' and notes which of the five dimensions of patient-centred care (described in Chapter 2) each study appears to address.

Table 4.2 Data on behaviours measured and their relationship to the dimensions of patient-centred care proposed in Chapter 2

Study	Doctor behaviours measured	Patient behaviours measured	Dimensions of patient-centred care
Stewart (1984)	'Supportive' behaviours = shows solidarity, expresses tension release, agrees / understands; 'Encouraging patient expression' = asks for opinion, suggestion, help	'Expression of feelings' = gives opinion; disagrees; shows tension; shows antagonism 'Providing information' = gives suggestion; gives orientation / information	Sharing power and responsibility; Therapeutic alliance
Roter <i>et al.</i> (1987)	Giving information / orientation / opinion relating to medical procedures, condition, therapy or prevention; Counselling about prevention, lifestyle or therapy	None	Biopsychosocial perspective; Sharing power and responsibility
Henbest & Stewart (1990)	Doctor's responses to patient 'offers' (of symptoms, thoughts, feelings, expectations or prompts). Responses categorised as 'ignores', 'closed', 'open' or 'specific facilitation'.	None (number of patient 'offers' used only as denominator to calculate doctor's patient-centredness score)	Patient-as-person; Sharing power and responsibility
Cape (1996)	Wide range of behaviours primarily focused on eliciting and using patient knowledge and experience, e.g. open questions, seeking & using patient ideas, offering and accepting feeling, reassuring, encouraging, using silence, etc.	None	Patient-as-person; Sharing power and responsibility; Therapeutic alliance
Winefield <i>et al.</i> (1996)	(i) 'Doctor receptiveness' = open questions; reflections, acknowledgements (ii) Soliciting patient's views; Responding to patient's views; Relating information to patient's views; Involving patients in management; Checking understanding	(i) 'Patient involvement' = questions; positive and negative attitudes to treatment; accounts of private (unobservable) symptoms; accounts of actions; opinions (ii) None	(i) Patient-as-person; Sharing power and responsibility; Therapeutic alliance; (Biopsychosocial perspective); (ii) Patient-as-person; Sharing power and responsibility; (Therapeutic alliance)
Cecil & Killeen (1997)	Verbal behaviours coded as 'controlling', 'accepting' or 'neutral'.	Verbal behaviours coded as 'controlling', 'accepting' or 'neutral'.	Sharing power and responsibility
Kinnersley <i>et al.</i> (1999)	'Exploring the disease & illness experience' = doctor's responses (preliminary exploration, further exploration, cut-off) to patient 'offers'; 'Understanding whole person' = eliciting & exploring life cycle, personality and social issues; 'Finding common ground' = clear expression of problem and management goals; giving patient opportunity to ask questions; engaging in mutual discussion; clarifying agreements; flexible response to disagreements	None	Patient-as-person; Sharing power and responsibility; Therapeutic alliance.

Table 4.2 (continued)

Study	Doctor behaviours measured	Patient behaviours measured	Dimensions of patient-centred care
Stewart <i>et al.</i> (2000)	(i) As for Kinnersley <i>et al.</i> (1999) (ii) Perceived extent of doctor's discussion & explanation of problem and treatment; giving opinion; giving opportunity for patient to ask questions; asking about treatment goals; discussion of respective roles, etc.	(i) None (ii) None	(i) Patient-as-person; Sharing power and responsibility; (Therapeutic alliance) (ii) Sharing power and responsibility; Therapeutic alliance

Table 4.2 shows that all the measures examine some aspect of the dimension 'sharing power and responsibility'. The majority also appear to address the 'therapeutic alliance', although the focus is on doctor rather than patient behaviours. Five studies use measures that attempt to tap into the dimension of 'patient-as-person' (Henbest & Stewart, 1990; Cape, 1996; Winefield *et al.*, 1996; Kinnersley *et al.*, 1999; Stewart *et al.*, 2000). There were fewer measures of the 'biopsychosocial perspective' and none of the 'doctor-as-person' dimension of patient-centred care.

4.4.2 Internal validity

Table 4.3 (see p.98) shows that all the studies used observational designs rather than experimental methods, and thus cannot provide rigorous evidence that patient-centredness was causally related to outcomes, as relationships found may be explained by confounding factors. However, only the studies by Henbest & Stewart (1990), Kinnersley *et al.* (1999) and Stewart and colleagues (2000) used multivariate statistical techniques to control for potential confounders. The latter two studies are the only ones to also report a power calculation. Multiple hypothesis testing was common, increasing the chance of Type I errors. An additional statistical issue of note is that, when multiple consultations are provided by individual doctors, there is a problem of 'clustering' (that is, more similar outcomes among patients under the care of a particular doctor). This can cause incorrect estimation of significance levels (an issue discussed in more detail in Chapter 8). Only two studies addressed this unit of analysis problem: Stewart *et al.* (2000) dealt with it statistically while Kinnersley and colleagues (1999) dealt with the issue through study design, whereby only one consultation per participating doctor was randomly selected for analysis.

Table 4.3 Data on internal validity of the included studies

Study	Power	Considered unit of analysis problem?	Confounders controlled for:	Results
Stewart (1984)	No	No	N/A	<p>Univariate: High proportion of patient-centred behaviours by doctor (i.e. > sample median) associated with higher patient-reported compliance (57.8% vs. 34.5%, $p < 0.05$), but no associations with pill count or patient satisfaction. High proportion of patient-centred behaviours expressed by patient not associated with satisfaction, reported compliance or pill count.</p> <p>Multivariate: N/A</p>
Roter <i>et al.</i> (1987)	No	Yes	N/A	<p>Univariate (proportionate measures): Doctors' 'information-giving' associated with: global satisfaction (Pearson's $r = 0.38^{**}$), task satisfaction ($r = 0.58^{***}$), ratio recall ($r = 0.47^{***}$) and absolute recall ($r = 0.40^{**}$). Doctors' 'counseling' associated with: global satisfaction ($r = 0.38^{**}$), task satisfaction ($r = 0.49^{***}$), ratio recall ($r = 0.38$), absolute recall ($r = 0.46^{**}$) and impressions of boredom ($r = 0.46^{**}$). No associations with 'humaneness satisfaction'.</p> <p>Multivariate: N/A</p>
Henbest & Stewart (1990)	No	Yes	Patient age, sex, occupation, education, SEC and marital status; doctor; type and severity of problem; consultation length; regular doctor; who originated appointment; past frequency of contact; duration of relationship with doctor	<p>Univariate: Patient centredness score associated with (patient-reported) doctor-patient discussion of reason for coming (Spearman's $r = 0.42^{***}$); doctor's understanding of importance of reason ($r = 0.30^{**}$); knowing what patient's reason was ($r = 0.33^{**}$); patient feeling understood (Mann-Whitney $U = 431.0$, $p < 0.01$). Significant association between patient-centred response to main symptom and post-consultation decrease in patient concern ($\chi^2 = 7.30$, $p = 0.03$). No associations with (i) doctor-patient agreement about problem, (ii) symptom resolution, (iii) patient satisfaction.</p> <p>Multivariate (regression coefficients not reported): associations with doctor-patient discussion of reason for coming and understanding importance of reason. Association between patient-centredness of response to main symptom and decreased patient concern. No associations with (i) knowing patient's reason for consulting, (ii) doctor-patient agreement about problem, (iii) patient feeling understood, (iv) symptom resolution, (v) patient satisfaction.</p>
Cape (1996)	No	No	N/A	<p>Univariate: No association with (i) interview rating of patients' consultation experience, or (ii) patients' overall satisfaction.</p> <p>Multivariate: N/A</p>

Table 4.3 (continued)

Study	Power	Considered unit of analysis problem?	Confounders controlled for:	Results
Winefield <i>et al.</i> (1996)	No	No	N/A	(i) (Verbal coding measure) <u>Univariate</u> : No associations between 'doctor receptiveness' or 'patient involvement' (either in diagnostic or prescriptive stage of consultation, or overall) and patient satisfaction. (ii) (Rating scale measure) <u>Univariate</u> : Significant association between overall rating of doctor's patient-centredness and patient satisfaction (Pearson's $r=0.19^{**}$) <u>Multivariate</u> : N/A
Cecil & Killeen (1997)	No	No	N/A	<u>Univariate</u> : Negative association between doctors' 'controlling' statements and self-report compliance (Pearson's $r=-0.26^{*}$). In paired analyses, significant negative association with self-report compliance where patients initiated 'submissive' statements followed by doctors' 'controlling' statements ($r=-0.39^{**}$). Negative association with patient satisfaction where doctors' initiate 'controlling' statements followed by patients' 'accepting' statements ($r=-0.25^{*}$). No association between patients' 'assertiveness' and subsequent satisfaction. <u>Multivariate</u> : N/A
Kinnersley <i>et al.</i> (1999)	Yes	Yes	Patient marital status & morbidity, age, sex, education, SES, long-standing illness, acquaintance with doctor, consultations in 12m; doctor sex, doctor x patient sex, year of qualification; levels of patient concern & discomfort; prescription; referral; doctor-rated prognosis	<u>Univariate</u> : Association between patient-centred score and patient satisfaction (Pearson's $r=0.26^{**}$). No associations with doctor-patient agreement, resolution of symptoms, resolution of concerns or functional health status. <u>Multivariate</u> : Patient-centred score and patient satisfaction (adjusted): $B=1.57$ ($p=0.003$). No significant relationships (adjusted for confounders) with doctor-patient agreement, resolution of symptoms, resolution of concerns or functional health status.
Stewart <i>et al.</i> (2000)	Yes	Yes	Patient marital status, type of main problem; baseline levels of discomfort and concern	<u>Univariate</u> : None reported (i) (Objective measure) <u>Multivariate</u> : No associations between patient-centredness score and any patient health or medical care outcomes. (ii) (Patient-report measure) <u>Multivariate</u> : total score associated with reduced levels of discomfort and concern, better mental health status, fewer diagnostic tests and referrals.

4.4.3 External validity

Generally, studies provided relatively little information about the doctors who took part (see Table 4.4 on p.101). Only three attempted to recruit doctors using random sampling methods (Winefield *et al.*, 1996; Kinnersley *et al.*, 1999; Stewart *et al.*, 2000), each reporting similar uptake rates (between 41% and 47%). This may be considered a reasonable participation rate considering that the studies all involved audiotaping (which is quite intrusive and potentially threatening to doctors).

The remaining studies are of poorer quality in that all employed convenience sampling. For example, Stewart (1984), Roter *et al.* (1987) and Cape (1996) recruited doctors known to have particular expertise or interest (e.g. in 'the doctor-patient relationship'). Cecil and Killeen (1997) recruited doctors by invitation from one clinic only.

There is some evidence that doctors who took part in these studies were not representative of the wider physician population. Even in the studies that used random sampling, Kinnersley *et al.* (1999) and Stewart *et al.* (2000) both report that participants were significantly more likely than non-participants to be members of their respective country's professional college. Kinnersley *et al.* also found that participating GPs had been qualified fewer years than non-participants: it is possible that younger, more recently qualified doctors may have received specific communication skills training and therefore feel more confident in this area. This may restrict the range in process and outcome measurements recorded in a study (e.g. if no doctors obtain particularly low patient-centredness scores), which may in turn reduce the magnitude of correlations between variables. The study by Winefield and colleagues (1996) also reports an age range suggestive of a relatively young and recently qualified group of doctors (i.e. 23-44 years). Five studies report the sex of participating doctors, who were predominantly male (ranging from 72% - 100%). In this respect, the studies all seem fairly representative.

Table 4.4 Data on external validity of the included studies

Study & country	Doctor recruitment	No. of participating doctors	Participating doctor characteristics	Patient recruitment and response rate	Inclusion criteria	No. consultations studied	Patient characteristics
Stewart (1984) Canada	By invitation	22 (92% of those invited)	None stated	74% of eligible patients	New or continuing illness taking medication	140	Age: 38% 1-22 yrs; 24% 23-44 yrs; 24% 45-64 yrs; 10% 65+ yrs Sex: 58% female
Roter <i>et al.</i> (1987) USA	Not stated	43	Primary care physicians (100% male)	Non-patient volunteers	Simulations	86	Simulated patients so not applicable
Henbest & Stewart (1990) Canada	Not stated	6	Experienced family doctors	77% of patients completed data collection	Adults with new symptom presentation	73	Age: Unclear Sex: 66% female
Cape (1996) UK	By invitation	9 (33% of those invited)	78% male, mean experience 19.6 years	Consultations selected from larger sample (94% response)	Aged 18-75, presenting emotional problem	88	Age: Mean: 43.9 yrs (range: 19-75) Sex: 78% female
Winefield <i>et al.</i> (1996) Australia	Random sampling	19 (41% of those sampled)	Aged 23-44, average 10yrs since graduation	83% of consecutive eligible patients	Adult patients	190	Age: Mean: 46.2 yrs Sex: 67% female
Cecil & Killeen (1987) USA	By invitation	15 (83% of those invited)	73% male, mix of experience	Convenience sampling	Not stated	50	Age: Mean: 37 yrs (range: 18 - 81) Sex: 70% female
Kinnersley <i>et al.</i> (1999) UK	Random sampling	143 (46% of those sampled)	72% male, 52% with 10-19yrs experience, more likely to hold MRCPGP than non-participants	88% of patients	Adult patients consulting with new illness	143	Age: Mean: 44.8 yrs Sex: 66% female
Stewart <i>et al.</i> (2000) Canada	Random sampling	39 (47% of those sampled)	72% male, more likely to be certificants of College of Family Physicians of Canada than non-participants	72% of eligible patients	Adult patients	315	Age: 61% 18-44 yrs; 24% 45-64 yrs; 14% 65+ yrs. Sex: 54% female

In terms of patient recruitment, Table 4.4 shows that the 6 studies in which consecutive (eligible) patients were approached over a set study period report quite high participation rates (72% - 94%). Cecil & Killeen (1997) used convenience sampling to obtain a 'representative sample' of patients, which is a less robust method. The study by Roter *et al.* (1987) used simulated patients and raters; thus the external validity of this study is very limited.

The typical patient participant in these studies was female, mid-40s, and married. Little information was provided about socio-economic status or levels of educational attainment, and cross-national comparisons are often difficult in this respect. Only two studies gave information comparing participating patients with non-participants. One found that refusers were older but had a similar sex distribution to participants (Stewart, 1984), although the second found that participants were representative of all eligible patients in terms of age but not sex, with fewer females agreeing to take part (Stewart *et al.*, 2000).

4.4.4 Summary of findings

Table 4.3 showed that five studies reported only univariate results (Stewart, 1984; Roter *et al.*, 1987; Cape, 1996; Winefield *et al.*, 1996; Cecil & Killeen, 1997). Of these, only Cape (1996) found no relationship between patient-centredness and outcome. However, most of these studies tested multiple hypotheses and all report non-significant correlations between some measures of patient-centred consulting and outcomes. Patient satisfaction was the most commonly studied outcome: no association is reported in two studies (Stewart, 1984; Cape, 1996), two others found some evidence of a relationship (Roter *et al.*, 1987; Cecil & Killeen, 1997) and one reported both a significant and a non-significant association, depending on the measure of patient-centredness used (Winefield *et al.*, 1996).

Of the three studies that used multivariate analyses to control for confounders, one reported an association with patient satisfaction but not with other health

outcomes (Kinnersley *et al.*, 1999). Henbest & Stewart (1990) failed to find an association with satisfaction, although did report associations with patients' perceptions of the consultation process (e.g. adequacy of the discussion of their reasons for consulting) and with reduced levels of patient concern. The third study failed to detect any association between an objective measure of patient-centred communication and patient health outcomes, but reported that patients' own perceptions of the patient-centredness of their consultation did predict health status and health utilisation outcomes (Stewart *et al.*, 2000).

4.5 Discussion

Primary care studies examining the relationship between consultation patient-centredness (as defined and operationalised by the respective investigators) and patient outcomes were identified for this review. An alternative approach would have been to define 'patient-centredness' *a priori*, then search for all studies measuring aspects of doctor-patient communication that met that definition. While the latter approach may have had advantages theoretically, it was not taken for two reasons. At the time of the search for studies, the conceptual framework presented in Chapter 2 was under development. As no universally agreed definition of 'patient-centredness' was available, the approach adopted therefore circumvented this problem by relying on investigators themselves to identify their study as relating to the construct. Secondly, this approach restricted analysis to a limited number of studies, allowing more comprehensive consideration of the methodological detail of each.

Generally, internal validity was not high. Stewart also reported that observational studies included in her review often failed to control for important confounders (Stewart, 1995). However, it should be noted that more recently published studies are using more sophisticated and appropriate design and analytical techniques (e.g. Kinnersley *et al.* 1999; Stewart *et al.* 2000).

The external validity of studies was also not high. However, the very nature of the methodology used by most studies (i.e. relatively intrusive measures of the consultation process) means that improving external validity might be difficult. Certain doctors are unlikely to agree to take part in such studies (e.g. those with poor self-assessed communication skills). Moreover, patients with particularly sensitive physical or psychosocial problems (where patient-centred consulting skills may be of utmost importance) may not be willing to have their consultations studied (Coleman, 2000).

It is possible, however, for studies to improve reporting of differences between participants and non-participants. To facilitate judgements about representativeness and cross-study comparisons, future research should present details of those doctors who participate (and those who refuse), including age, sex and clinical experience. Similar basic information about the patient population should also be supplied.

The different methods used to operationalise patient-centredness in these studies reflect current ambiguity over definition of the term. Is patient-centredness primarily part of the doctor's clinical method or should patients' behaviour in the consultation also be considered? Although few would doubt the importance of non-verbal interpersonal skills for delivering patient-centred care, these are rarely examined (see Tables 4.1 and 4.2) and may be difficult to measure objectively.

As to the question of whether patient-centred consultations lead to better patient outcomes, results of the studies reviewed here are ambiguous. Most of those that use univariate analyses report some positive relationships, but findings in relation to the most frequently measured outcome (i.e. patient satisfaction) are equally split between significant and non-significant results (see Table 4.3). Studies that employ more sophisticated multivariate analyses are also

ambiguous in terms of relationships with satisfaction. Moreover, there are no obvious patterns in relation to other outcomes that have been studied.

As suggested above, a key problem is the lack of a clear theoretical framework linking specific dimensions of patient-centred care with specific outcomes. For example, consulting behaviours aimed at 'sharing power and responsibility' may be more likely to predict adherence-type outcomes than the doctor's attention to the 'therapeutic alliance', which may be a better predictor of patient satisfaction. One way of improving the interpretability of future studies would be for authors to explicitly link their measures of the consultation either to the multi-dimensional model of patient-centred care described by Stewart and colleagues (Stewart *et al.*, 1995), or to the framework proposed in Chapter 2 of this thesis. Another improvement would be for studies to use the same validated measures of outcome, for example using the Medical Interview Satisfaction Scale (MISS - Wolf *et al.*, 1978) or the Consultation Satisfaction Questionnaire (CSQ - Baker, 1990) to measure patient satisfaction.

How does the present review relate to that undertaken by Stewart (1995)? The two reviews have important differences, for example in terms of the context of included studies (i.e. primary care vs. a wider range of clinical settings), study design (i.e. observational studies only vs. a mix of observational and experimental designs) and inclusion criteria for the review (i.e. studies that include a measure of the consultation process vs. a mix of process research and intervention studies that did not incorporate process measurement). More broadly, the Stewart review was concerned with communication skills in general rather than behaviour explicitly defined as 'patient-centred'. The positive conclusions of the Stewart review and the more guarded conclusions presented here may relate to any or all of these differences. However, the findings of the present review do provide some support for the view that specific evidence of the benefits of patient-centredness is somewhat lacking at present (Graugaard & Finset, 2000; Bensing, 2000).

4.6 Chapter summary

- This chapter reviewed evidence for a relationship between patient-centredness and patient outcomes in primary care settings.
- The review identified eight studies all of which reported some positive relationships between doctor consulting behaviours defined as 'patient-centred' by the authors, and a variety of patient outcomes.
- However, the pattern of associations was neither clear nor consistent and some studies had shortcomings in terms of internal and external validity.
- The review also highlighted the absence of any clear theory linking patient-centred care with appropriate outcomes.
- There is therefore a need for further theoretical and empirical work to address the limitations of previous studies in this area. This is the focus of the remainder of the thesis.

Chapter 5

Aims of the main study

Aims of the main study

5.1 Introduction

The preceding chapters highlight a number of important caveats in patient-centredness research. Firstly, the concept of patient-centred care has been poorly defined. This has led investigators to focus on different aspects of the care process, using a variety of disparate measurement methods. To overcome this problem, a framework identifying five distinct dimensions of the concept was presented in Chapter 2. The 'roots' of each dimension were traced in the body of literature on the doctor-patient consultation that has emerged from a number of academic disciplines over the past 50 years. The degree to which that conceptual framework subsumes and develops the 'patient-centred clinical method' described by Stewart *et al.* (1995a) was discussed.

A second important limitation with previous work is the lack of theory relating specific aspects of patient-centred care to appropriate outcomes. Thirdly, there are methodological problems concerning the reliable measurement of patient-centredness. Fourthly, there are problems relating both to the internal and external validity of previous studies. For example, internal validity problems identified in the previous chapter included issues of statistical power, clustering and dealing with confounding factors.

Thus, while individual studies have often yielded findings that could be used to improve the training of doctors and the delivery of healthcare, lack of methodological replication and inconsistency of results weakens the evidence-base for patient-centred consulting, with the result that this body of work has largely failed to have a discernable impact on health policy to date (Bensing, 2000).

5.2 Objectives of the empirical study

The remainder of this thesis aims to overcome this ambiguity by dealing with each of the above mentioned limitations. Specifically:

- Chapter 6 will identify a theoretical framework linking particular aspects of doctors' consulting behaviour to appropriate outcome constructs.
- Chapter 7 will go on to identify appropriate measures of those outcome constructs, taking into account issues concerning the reliability and validity of instruments chosen for the empirical study.
- Chapter 8 will describe in detail the methodology of a study designed to test the theoretical model proposed in Chapter 6. Briefly:
 - reliable and face valid measures of three of the dimensions of patient-centred care identified in Chapter 2 will be operationalised using a coding scheme applied to videotapes of GP consultations.
 - the theoretical model presented in Chapter 6 will then be used to test the predictive validity of these measures patient-centredness in relation to the two chosen measures of patient outcome.
 - the key design and analytical issues raised in Chapter 4 in relation to previous primary care-based studies will be addressed.

The main results of the study analyses will be presented in Chapter 9 along with descriptive data relating to the study sample and a statistical assessment of the construct validity of each of the measures of patient-centredness used. The methodological strengths and weaknesses and implications of the study will be discussed in detail in Chapter 10.

Chapter 6

Patient-centredness and outcomes: a theoretical framework

Patient-centredness and outcomes: a theoretical framework

6.1 Introduction

As highlighted in the reviews of empirical work presented in Chapters 3 and 4, there is an absence of theory linking patient-centred care with appropriate outcomes. This lack of theoretical underpinning is not a criticism specific to research on patient-centredness but has been made of the empirical literature on doctor-patient communication in general:

“Many studies have no guiding theoretical framework and, as a consequence, either have no apparent hypotheses or have as many hypotheses as there are pairs of variables in their correlation matrices”
(Hall *et al.* 1988, p.658).

Therefore, the aim of the present chapter is to move on to link patient-centred consulting to appropriate patient outcomes within a theoretical framework that is amenable to empirical test.

6.2 The nature of scientific theory

The goal of any scientific research is to produce a body of knowledge that has both *explanatory power* (i.e. provides an understanding of why different properties or events are related to one another) and *predictive ability* (i.e. enables future events to be predicted). Such knowledge is explicitly formulated in the form of scientific theories.

There are three basic components to a scientific theory: 1) a conceptual scheme, 2) a set of propositions stating relationships between properties or variables of interest, and 3) a context for verification.

Theoretical concepts have abstract properties and so cannot be verified through direct observation. Operational definitions convert theoretical concepts into observables by defining them in terms of procedures by which they may be uniformly observed.

In addition to the conceptual scheme, a theory must possess a system of interrelated statements of relationships between variables (i.e. propositions). These propositions, which bring the concepts of the theory together, will vary in terms of generality. The more abstract propositions of a theory are developed via a deductive process into an ordered, interrelated set of concrete propositions (hypotheses) that can be tested empirically.

All scientific theories must be testable to be valid. Empirical data determine the truth or falsity of the various propositions comprising the theory. However, not all the propositions that make up a theory need to be verified through direct observation. One of the main reasons for organising propositions into a deductive system is that direct evidence for any of the empirical propositions of a theory also provides indirect support for the more abstract, untestable propositions. Ultimately however, the scientific status of any theory is determined by the strength of objective evidence supporting the empirical propositions derived from it.

6.3 The current state of patient-centredness theory

Stewart and colleagues have provided the most detailed published account of patient-centred care to date (Stewart *et al.*, 1995a). Their six component 'patient-centred clinical method' is a well-developed conceptual scheme, describing the particular knowledge, skills and attitudes required of doctors in relation to each component. Several of the components have been operationalised in a quantifiable way for research purposes (Brown *et al.*, 1986; Henbest & Stewart, 1989; Stewart *et al.*, 1995b) These measures were described in detail in Chapter 3.

However, the model proposed by Stewart and colleagues falls short of being a scientific theory in that relatively little attention has been paid to developing a set of specific, testable propositions for how the different components relate to one another and to external variables (most importantly, patient outcomes).

It is argued that, in taking account of more complete data about the patient, patient-centred care is less 'biased' and therefore more effective than the traditional 'biomedical' model of clinical practice (Lipkin *et al.*, 1984; McWhinney, 1989; Smith & Hoppe, 1991). From this very abstract proposition, investigators working within the model proposed by Stewart and colleagues have sought to demonstrate associations with various indicators of 'effectiveness' such as patients' subsequent use of medical care, satisfaction, and self-reports of doctor-patient agreement, symptom and concern resolution and health status (Henbest & Stewart, 1990; Kinnersley *et al.*, 1999; Stewart *et al.*, 2000). However, these studies all employ multiple hypothesis testing, increasing the chance of Type I errors. Moreover, their hypotheses lack specificity as to the precise mechanism(s) by which patient-centred consulting might affect each outcome. This effectively renders the model proposed by Stewart *et al.* difficult to falsify, although some null findings and inconsistent results across these studies provides only very weak supporting evidence.

Stewart and colleagues claim that the six components of their patient-centred clinical method are not discrete:

"...in reality the components are intricately woven. The skilled clinician moves effortlessly back and forth, following the patients' cues, among the six components" (Stewart *et al.*, 1995a, p.30)

While this may be the objective of training (i.e. to produce doctors who are able to perform each component equally well), it is unlikely to be the case among

untrained doctors working in everyday medical practice. Yet none of the observational studies conducted to date have tested inter-relationships between the different components, nor considered the fact that some components may predict different outcomes from others.

For example, the third component of the Stewart model ('finding common ground') concerns the doctor negotiating and agreeing with the patient about the nature of the problem and their respective goals and responsibilities for management. Requisite skills include use of a 'sharing', non-directive consulting style with specific encouragement to the patient to question and clarify the information they are given, state their preferences and expectations and actively participate in decision-making (Stewart *et al.*, 1995a).

Theoretically, such an approach might be expected to result in greater patient commitment and adherence to the management plan. Unfortunately, the measurement of compliance is problematic for a number of reasons (discussed in detail in Chapter 7), so studies of medical communication often opt instead to measure patients' satisfaction with care, the rationale being that satisfaction mediates compliance with medical treatment and advice (Kincey *et al.*, 1975; DiMatteo *et al.*, 1979; Bartlett *et al.*, 1984; Winefield *et al.*, 1995). However, some studies that have focused specifically on the consulting style associated with 'finding common ground' have reported an *inverse* relationship with patient satisfaction. In one study, patients randomly allocated to a 'directive' GP consulting style were significantly more satisfied with their care than patients who received a more negotiative, 'sharing' approach (Savage & Armstrong, 1990). Similarly, a randomised controlled trial of an intervention to encourage patients to ask more questions in their consultations found that, while intervention group patients did indeed take a more active role, they were subsequently less satisfied with their care than control group patients (Roter, 1977).

It may therefore be the case that patient satisfaction is less strongly related to the 'finding common ground' aspect of Stewart *et al.*'s patient-centred model than to other components (perhaps, for example, 'understanding the whole person'). This illustrates the need for greater specificity in defining what particular aspects of patient-centredness are expected to relate to which particular outcomes.

6.4 A relevant theoretical framework

Recognising the need for a theory to explain how external factors impact on doctors' interactions with patients, and how specific aspects of the interaction in turn affect outcomes, Hall and colleagues conducted a meta-analysis of studies of the correlates of physician consulting behaviours (Hall *et al.*, 1988). Studies were included in the review if they involved the objective recording of doctor-patient interactions (either using neutral observers, or audio- or videotaping) and gave results relating doctor behaviour(s) to doctor or patient variables measured either before or after the visit. Forty-one studies meeting these criteria, published in English-language journals between 1966-1985, were identified. Fifty-four percent of the studies were conducted in internal, family or general medicine settings, with the remainder in other or unknown specialties. Studies of consultations in psychiatry and related specialties were excluded because the authors consider these to represent "wholly different dynamics and expectations from medical encounters" (Hall *et al.*, 1988, p.658).

Before extracting study results, two of the authors independently examined their respective methodologies to identify what particular doctor behaviours had been measured. These were sorted into five broad process categories (listed in Figure 6.1). In addition, a sixth process category was included, namely the total amount of doctor and patient communication. Then from each study's results the authors extracted (where possible) a normalised correlation coefficient and associated Z-statistic (related to the p-value) to account for relationships found between whatever process and external variables had been measured. Mean

correlation coefficients were calculated across studies, and a combined probability was computed (based on the Z-statistics) to summarise each subset of results. Over 600 results were extracted from the 41 identified studies.

Fig.6.1 **Five main categories of process variable measured in studies included in the meta-analysis by Hall *et al.* (1988; p.659)**

- | | |
|------|----------------------------------|
| I. | <i>Information-giving</i> |
| | A. General |
| | B. Drugs and treatment |
| | C. Procedures and examination |
| | D. Illness |
| II. | <i>Questions</i> |
| | A. General |
| | B. Closed questions |
| | C. Open questions |
| | D. Compliance monitoring |
| III. | <i>Competence</i> |
| | A. Technical |
| | B. Interpersonal |
| IV. | <i>Partnership-building</i> |
| V. | <i>Socio-emotional behaviour</i> |
| | A. Body movements |
| | B. Social conversation |
| | C. Positive talk |
| | D. Negative talk |

Focusing on those studies that related physician consulting behaviours to one or more consultation outcomes (as opposed to relationships with antecedent variables like patient age or social class), Hall *et al.* found that three main outcomes had been measured, namely: patient satisfaction, patient compliance (either with treatment regimen or appointment-keeping), and patients' post-visit recall (of information given) or understanding (of the problem).

Of these outcomes, patient satisfaction was measured in the greatest number of studies and was found to have the most consistent relationship with doctor behaviour. This relationship was strongest in respect of doctors' information-giving. Positive relationships with satisfaction were also found for checklist or rating scale measures of doctors' technical and interpersonal competence, the amount of doctors' partnership-building talk (e.g. reflecting the patient's statements, asking for opinions, using 'we' as a sentence stem), the amount of 'immediate and positive' non-verbal behaviour (e.g. touch, patient-directed eye gaze), the amount of positive talk (e.g. expressing reassurance, empathy, friendliness) and more doctor talk overall. An inverse relationship with satisfaction was found in respect of doctors' negative talk (e.g. expressing criticism, disagreement, irritation, etc.). The only category of physician behaviour not related to patient satisfaction was question-asking.

Overall, compliance had a weaker relationship with doctor behaviour than patient satisfaction. Compliance was found to relate to more information-giving, fewer questions (though more questions relating specifically to compliance), more positive and less negative talk.

The third outcome, patient recall / understanding (which was measured in the fewest number of studies) was associated with more information-giving by the doctor and less question-asking. There were also relationships with the amount of partnership-building and positive talk, and less negative talk.

Hall and colleagues proposed a theoretical framework to account for the observed pattern of relationships between different physician behaviours and patient outcomes. They argue that the categories of doctor behaviour listed previously in Figure 6.1 can be subsumed into two main domains: 'instrumental' or 'socio-emotional' behaviours. Broadly speaking, instrumental doctor behaviours are concerned with the medical 'tasks' of the consultation, i.e. problem diagnosis and management. Specific process variables that serve the

accomplishment of these tasks are information-giving, question-asking and technical competence. Socio-emotional (or expressive) behaviours facilitate interpersonal aspects of the interaction, including the on-going doctor-patient relationship. Behaviours included in this domain are partnership-building, social talk, positive and negative talk and interpersonal competence.

In respect of patient outcomes, Hall *et al.* propose a complementary two-dimensional distinction. 'Task-relevant' patient outcomes relate to the 'tasks' of being a patient in receipt of medical care, such as attending to information and advice given by the doctor, adhering to a prescribed treatment regimen, keeping appointments, appropriate use of medical resources, etc. 'Socio-emotional' (or affective) patient outcomes, on the other hand, are concerned with how the patient feels emotionally as a result of the consultation. Such measures may include subjective evaluations of the degree to which the patient's individual needs have been met, satisfaction, or other indices of affect (e.g. state-anxiety or mood).

In proposing empirically testable links between these two broad domains of doctor behaviour and patient outcome, the authors suggest a mechanism based on the concept of 'reciprocity', that is:

"[doctor] behaviours in the task or socio-emotional domain are reciprocated by similarly valenced [patient] behaviours in the same domain". (Hall *et al.*, 1988, p.668)

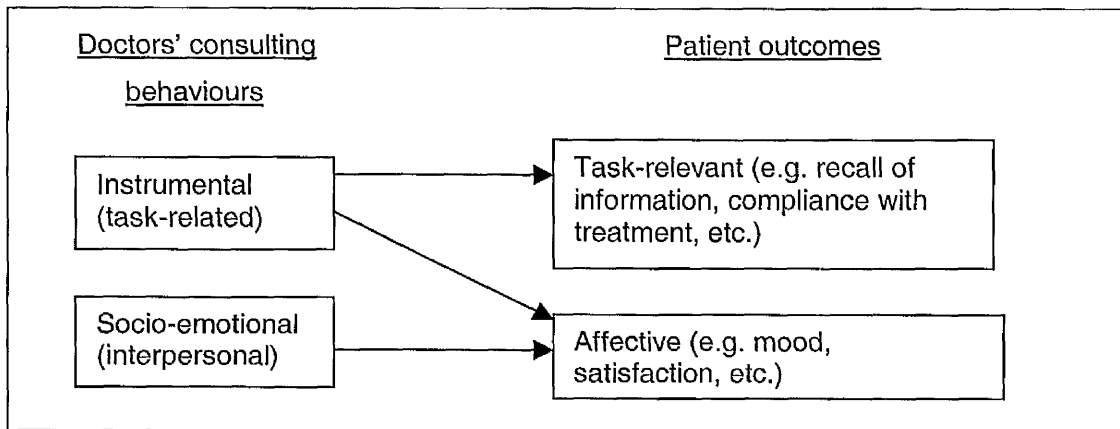
However, the authors hypothesise that this reciprocity does not operate equally between the two domains. Rather they predict that doctors' instrumental consulting behaviours also carry socio-emotional significance in that patients interpret good task performance in an affective way. For example, high levels of information-giving behaviour not only facilitate patient recall and compliance but are also be interpreted by the patient as a reflection of the doctor's caring

manner and positive regard for them. By contrast, socio-emotional doctor behaviours are *not* hypothesised to predict task-relevant patient outcomes:

“...evidence of [physician] task competence is necessary to motivate the patient to perform the task behaviours that go with the patient’s role. A provider’s merely being nice or caring, in the absence of positive or negative indications of task performance, does not supply the evidence on competence that a patient needs in order to decide whether to attend to information, stick to a regimen and generally have confidence in the quality of medical care received” (Hall *et al.*, 1988, p.668).

The theoretical framework proposed by Hall *et al.* is presented diagrammatically in Figure 6.2.

Fig. 6.2 **Theoretical framework linking doctor consulting behaviours to patient outcomes (from Hall *et al.* 1988)**



6.5 Validity of the theoretical framework

In support of the framework, Hall *et al.* cite an analogue study in which doctors' task-related behaviour (termed 'technical competence' by the investigators) and their socio-emotional behaviour (termed 'courtesy') were manipulated in videotaped vignettes (Willson & McNamara, 1982 - this study was not included in the meta-analysis undertaken by Hall and colleagues because it used simulated rather than 'real' doctor-patient interactions). In that study, the amount of socio-emotional behaviour exhibited by the doctor positively influenced viewers' perceptions of the doctor's courtesy and their levels of general satisfaction (i.e. affective outcomes), but did not influence perceptions of technical competence or compliance intentions (i.e. task-relevant outcomes). On the other hand, higher levels of technical competence by the doctor influenced both viewers' task-relevant and affective outcomes. In other words, the relationships predicted in Figure 6.2 are directly supported by the findings of this particular study.

In a recent study by Jung and colleagues (1998), patients' evaluations of 14 different aspects of their general practice consultations were followed up with interviewer requests for concrete examples of the doctor's behaviour that had been decisive for each evaluation. These were in turn related to independent coding of the doctor's 'task' and 'socio-emotional' consultation behaviours. The findings of the study supported Hall *et al.*'s model in that patients' task-relevant evaluations of the consultation drew on specific instances of doctor instrumental behaviour (particularly information-giving and technical procedures such as examinations) and not on behaviours categorised as 'socio-emotional' by the independent observers. On the other hand, patients' affective evaluations (e.g. of the GP being kind and attentive, paying attention to feelings, etc.) drew both on incidences of socio-emotional *and* instrumental doctor behaviour.

Hall and colleagues themselves provide support for their theoretical framework by applying the 'task' or 'socio-emotional' distinction *post-hoc* to the summarised results of all process-outcome studies included in their meta-analysis (Hall *et al.*, 1988). Table 6.1 shows the relative magnitudes of correlations that were found (corresponding to the predictions in Figure 6.2).

Table 6.1 Median correlations (based on absolute values) between 'task' and 'socio-emotional' categories of provider behaviour and patient outcomes for studies included in the meta-analysis by Hall *et al.* (1988; p.669)

Provider domain	Patient domain	Median correlation
<u>Task</u> Information-giving Questions	<u>Task</u> Compliance Recall	0.21
<u>Task</u> Information-giving Questions Technical competence	<u>Socio-emotional</u> Satisfaction	0.22
<u>Socio-emotional</u> Partnership-building Positive talk Negative talk	<u>Task</u> Compliance Recall	0.06
<u>Socio-emotional</u> Partnership-building Positive talk Negative talk Interpersonal competence Social conversation	<u>Socio-emotional</u> Satisfaction	0.26

It can be seen that the weakest relationship was between doctors' socio-emotional behaviour and patients' task-relevant outcomes (median $r = 0.06$). Where 'reciprocity' was predicted, (i.e. doctor task behaviours → patient task outcomes; doctor task behaviours → patient affective outcome; doctor socio-

emotional behaviours → patient affective outcome), median correlations were all in excess of $r = 0.20$.

This empirical test is somewhat compromised by the fact that the theoretical model was developed inductively (i.e. from studying patterns of observed relationships among the reviewed studies). A more valid approach would have been to develop and test the framework *a priori* (that is, before undertaking the meta-analysis) or apply it to a new set of studies of non-simulated doctor-patient encounters. However, the strength of this theory comes from the fact that it is derived from the most systematic review of empirical literature on doctor-patient communication undertaken to date, and does seem to account well for the aggregate findings of the relatively large sample of independent studies included in the review.

The present thesis effectively provides a new empirical test of the theoretical model proposed by Hall and colleagues. In Chapters 8 and 9, their general framework is adapted to test predicted relationships between selected dimensions of patient-centredness and two different patient outcomes: one an affective measure and the other a measure of task-relevant outcome. The dimensions of patient-centredness are derived from the conceptual framework presented in Chapter 2. Chapter 8 details how these were operationalised in terms of specific doctor consulting behaviours which, in turn, were categorised according to Hall *et al.*'s 'task' and 'socio-emotional' distinction in order to test the 'unequal reciprocity' mechanism by which they are hypothesised to predict the two different types of patient outcome.

Firstly however, Chapter 7 outlines the range of patient outcomes that might potentially be included in such a study and discusses the conceptual and methodological rationale for selecting two particular outcome constructs for use in the present study.

6.6 Chapter summary

- It is important to have a theoretical framework to guide empirical work on patient-centredness.
- The theoretical work undertaken to date is not sufficiently sophisticated to enable specific, testable propositions concerning relationships between different components of patient-centred care and outcomes to be made.
- This chapter identified a previously published theoretical framework that allows the development of such testable propositions.
- The theoretical model involves subsuming doctors' consulting behaviours into two broad domains: 'instrumental' and 'socio-emotional'.
- The model proposes that these two domains of consulting behaviour relate to patient task-relevant and affective outcomes via a mechanism of 'unequal reciprocity'.
- The remainder of this thesis effectively provides a new empirical test of this theoretical model.

Chapter 7

Outcomes of patient-centred care: theory and measurement

Outcomes of patient-centred care: theory and measurement

7.1 Introduction

The previous chapter described a theoretical model that will be used to guide the present study. The model proposes that two distinct types of patient outcome are appropriate to study in relation to doctors' consulting behaviour, namely affective (i.e. 'socio-emotional') and task-relevant outcomes. This chapter will describe how the particular outcome constructs selected for use in the present study relate to these two broad domains.

7.2 Affective outcomes of patient-centred care

Affective outcomes are concerned with how patients' feel emotionally in relation to care received. As mentioned previously, such outcomes may include measures of mood, anxiety, subjective evaluations of (un)met needs or affective impressions of the doctor or the consultation. Some studies have sought to relate doctor-patient communication to post-consultation patient anxiety levels (Evans *et al.*, 1987), or to pre- and post-consultation changes in emotional state (Graugaard & Finset, 2000; Takayama *et al.*, 2001).

In the meta-analysis of communication studies undertaken by Hall *et al.* (1988) - detailed in Chapter 6 - patient satisfaction was the most frequently measured affective outcome. Moreover, all but one of the studies of patient-centred consulting in primary care (reviewed in Chapter 4) examined effects on patient satisfaction. However, as was noted, studies have used a variety of measures of satisfaction administered to patients at differing points in the care process. Sections 7.3 to 7.6 below examine the conceptual and theoretical basis for using patient satisfaction as a measure of affective outcome, and outline the key methodological issues associated with its measurement.

7.3 Patient satisfaction: conceptual and theoretical issues

More than twenty years ago, Locker and Dunt expressed concern that research was largely preoccupied with identifying correlates of patient satisfaction rather than defining the concept or developing a theory to explain the mechanisms by which patients express satisfaction (or dissatisfaction) with medical care (Locker & Dunt, 1978). This criticism continues to be voiced (Wilkin *et al.*, 1992; Fitzpatrick, 1993; Williams, 1994; Williams *et al.*, 1998).

In conceptual terms, three key questions underlie measurement of patient satisfaction, although these have rarely been addressed in the literature. First, what is 'satisfaction'? Second, what social-psychological factors are important, and how do they interact to determine expressions of satisfaction? Third, what aspects of health care should be assessed in terms of satisfaction? (Wilkin *et al.*, 1992). These issues are addressed below.

7.3.1 The affective nature of patient satisfaction

Expressions of satisfaction are implicitly assumed to represent the end product of a deliberative evaluation process on the part of the respondent. By virtue of this evaluative nature, Linder-Pelz (1982b) argues that expressions of satisfaction (or dissatisfaction) constitute expressions of *attitude*. While psychology offers a number of different definitions of attitude, that given by Fishbein and Ajzen (1975) is widely accepted:

"[Attitude is a]....general evaluation or feeling of favorableness or unfavorableness toward the object in question..." (Fishbein & Ajzen, 1975, p.11).

Attitudes are hypothetical constructs that cannot be observed but must be inferred from measurable responses. Three main types of evaluative response

are identified: cognitive, affective and conative responses (Ajzen, 1988). Cognitive responses reflect the individual's subjective perceptions of, and information about, the object in question. They are expressions of belief that link the attitude object with certain characteristics or attributes. For example, one might infer that a survey respondent has a positive attitude (i.e. is 'satisfied') with a clinic visit if they express beliefs that the clinic was convenient, the waiting room comfortable, the waiting time for their appointment short and the doctor courteous, competent and informative. Affective responses are the second type of response by which an individual's attitude may be inferred. Affective responses express a direct evaluation or emotional reaction toward the attitude object. Thus, an individual who reports that the food served to them in hospital was disgusting, the nursing staff very unpleasant and that the consultant's manner abrupt may be assumed to be expressing a negative attitude (i.e. dissatisfaction) toward their inpatient stay. Conative responses constitute the third class of attitude-relevant response. Conative responses are expressions of behavioural inclinations, intentions or actions with respect to the attitude object. For example, an individual with a positive attitude towards a particular doctor might indicate that they intend to comply with the doctor's advice, may cash in the prescription that was issued to them, may continue to consult the same doctor on other occasions and may indicate that they would recommend that doctor to a friend.

Some theorists suggest that the distinction between cognition, affect and conation reflects not only a system for classifying attitude-relevant responses, but three theoretically distinct components of attitude. Although each component varies along an evaluative continuum (and all three components reflect the same underlying attitude), this tripartite model assumes that evaluations expressed within each component can differ (Breckler, 1984). However, empirical work suggests there is actually considerable commonality between cognition, affect and conation when measured in relation to a particular attitude object (Ajzen, 1988). Variation may merely reflect the differential impact

of certain types of response bias. This has implications for the types of response options that may be used in surveys to infer patients' satisfaction with medical care (discussed in more detail in section 7.6).

In summary, expressions of patient satisfaction may be seen as positive evaluations or favourable responses to medical care. Satisfaction surveys are not concerned merely to record patients' perceived experiences (i.e. what they think did or did not occur during a medical encounter), but also to measure how patients' *feel* about their experience on some kind of positive-negative evaluative continuum. In this way, satisfaction fulfils the definition of an affective outcome.

7.3.2 Models of patient satisfaction

Characterising satisfaction as an evaluative construct implies that patients base decisions about the degree to which they are 'satisfied' on careful consideration of available information. But what types of information constitute the frame of reference for such evaluations and how do patients process that information?

In psychology, 'value-expectancy' theories posit that the key determinants of any attitude (such as 'satisfaction') are the individual's prior expectancies and values. Expectancies are a subset of beliefs that the attitude object (e.g. a medical consultation) is associated with a particular attribute or outcome (e.g. getting a prescription). In fact, individuals will have many different expectancies in relation to an attitude object. A patient may associate a consultation not just with getting a prescription, but also with expectancies like being examined, being listened to and treated with respect, being told what the cause of the problem is, etc. The individual's beliefs that these attributes are associated with consulting a doctor will vary in terms of their subjective probability. Furthermore, associated with each attribute is a subjective evaluation (i.e. 'value'). For example, the patient may feel a little nervous and embarrassed at the thought of

being examined, but may also feel very positive about the doctor's ability to assist his recovery.

Linder-Pelz (1982a) proposed a value-expectancy model of patient satisfaction based on the attitude work of Fishbein and Ajzen (1975). In the Linder-Pelz model, satisfaction is a function of the summed product of the respondent's belief strengths (expectancies) that the care in question will possess certain attributes, and the subjective value attached to each of those attributes. Here 'attributes' refers to discriminably different dimensions of care which, at the level of the consultation, may include such things as informativeness, clinical competence and interpersonal sensitivity.

This value-expectancy model was tested using data gathered from 125 first-time patients at a primary care clinic (Linder-Pelz, 1982b). In addition, a number of alternative hypotheses for how particular perception-value interactions may determine satisfaction were tested. 'Fulfilment theory' proposes that satisfaction is determined by the amount received from a situation, regardless of how much the patient feels s/he is entitled or wants to receive. 'Discrepancy theory' (derived from research into job satisfaction) posits that satisfaction is the difference between rewards expected and rewards experienced as a proportion of initial expectations (Lawler, 1971). In other words, discrepancy theories define satisfaction as the difference between actual outcome and some other ideal outcome (Pascoe, 1983).

Linder-Pelz found no support for the theory that variation in patient satisfaction levels could be explained by her proposed interaction of expectancies and values in relation to specific attributes of care. Similarly, fulfilment of expectations did not predict satisfaction, although satisfaction scores were inversely correlated with the discrepancy between expectations and occurrences. In other words, the better the perceived occurrence in relation to prior expectation, the greater the expressed satisfaction. However, while

expectations, values and perceived occurrences were found to have independent predictive effects, together these variables explained less than 10% of the observed variance in satisfaction scores (Linder-Pelz, 1982b). A more recent test of a 'consumer model' of satisfaction found that the gap between patients' pre-consultation expectations and their perceived fulfilment also showed poor explanatory power in relation to satisfaction scores (Baron-Epel *et al.*, 2001).

There have been few other attempts to model the social-psychological determinants of patient satisfaction, so the mechanisms by which patients make their evaluations remain little understood. While it is clear that subjective expectations and values in relation to salient aspects of the structure, process and outcome of care are important, these do not seem related to patients' evaluations in any simplistic fashion (Williams, 1994).

7.3.3 Dimensions of patient satisfaction

The third conceptual issue relates to whether patient satisfaction is a uni- or multi-dimensional construct. Substantial research efforts have been directed at identifying the specific characteristics of healthcare providers and services that influence patients' judgements (Wilkin *et al.*, 1992).

In respect of what has been termed the 'macro' domain of satisfaction (i.e. when opinions are sought on doctors and medical services in general), evidence suggests as many as six discriminably different dimensions of satisfaction exist, which can be reduced with second-order factor analysis to as few as two, namely: (a) provider conduct, and (b) accessibility / availability. However there is less support for the existence of multiple orthogonal dimensions in relation to the 'micro' domain of satisfaction, i.e. when individuals currently (or recently) in receipt of medical care respond to items that directly reference that care (Pascoe, 1983).

Attributes of care that patients report valuing most include the doctor's 'humaneness' (e.g. showing warmth, respect, a willingness to listen, empathy, appropriate non-verbal behaviours); provision of sufficient information, advice and time; attention to psychosocial concerns; technical competence / medical skills, and aspects of the relationship such as continuity, mutuality of trust, support and being treated as an individual (Hall & Dornan, 1988; Haigh-Smith & Armstrong, 1989; Baker, 1990; Williams & Calnan, 1991; Wensing *et al.*, 1998). It is likely that patients' evaluations of medical consultations are indeed multi-faceted (i.e. based on consideration of some or all of these attributes). However, empirical attempts to identify the factor structure underlying responses to multi-item surveys have failed to provide clear and consistent evidence of the existence of different 'dimensions' (Pascoe, 1983; Rees Lewis, 1994).

For example, a recent study compared two scaled measures of patients' satisfaction with primary care consultations (Kinnersley *et al.*, 1996). Both instruments comprised four (somewhat different) sub-scales each of which, according to the original developers, measures a reliably different dimension of the consultation. However Kinnersley *et al.* found that the sub-scale scores were relatively highly inter-correlated within both instruments, leading them to suggest that use of a total overall satisfaction score was preferable.

An area of particular debate in the literature concerns whether patients are able to distinguish between the quality of technical and interpersonal aspects of care (e.g. Hulka *et al.*, 1971; Ware *et al.*, 1978; Like & Zyzanski, 1987; Rees Lewis, 1994; Chapple *et al.*, 2002). Some have argued that patients lack the specialist knowledge to judge the technical competence of the doctor and so base evaluations of the doctor's instrumental skills on his / her affective behaviour instead (Ben-Sira, 1980; Segall & Burnett, 1980). By contrast, the model proposed by Hall *et al.* (1988) - described in the previous chapter and tested in the present study – suggests patients *can* discriminate between doctors'

technical skills and interpersonal competence, but that the former are interpreted in an affective way, so influencing expressions of satisfaction.

Both these arguments allude to a criticism often made of satisfaction surveys, namely that they are prone to 'halo effects'. These are:

"..single striking impressions of another person [that] colour and shape all judgements made about them" (Fitzpatrick, 1991, p.888).

However, while patients' evaluations of different aspects of their care show significant overlap, it is generally agreed that satisfaction should be inferred from items addressing multiple attributes of relevance rather than using a single measure of satisfaction. Not only do multi-dimensional surveys increase the likelihood of a more complete and possibly more reliable assessment of satisfaction, they may also provide useful indicators of where and how improvements to care delivery may be made (Rees Lewis, 1994).

7.4 Why is patient satisfaction important?

Despite the lack of conceptual and theoretical clarity, patient satisfaction is seen as a legitimate goal for medical care. As increasing emphasis is placed on improving the quality of healthcare, there is growing recognition of the need to incorporate considerations of social acceptability if a comprehensive assessment of quality is to be made (Maxwell, 1984).

The 1980s witnessed the birth of the 'audit culture' in respect of UK public services in which the 'consumer' was ascribed a central role. In 1983, the NHS Management Inquiry advocated that health service performance should be monitored with reference to the experiences and perceptions of patients and local communities (DHSS, 1983). Political concerns to counteract medical hegemony and gauge efficiency in light of increasing demand for NHS resources were reflected in subsequent government initiatives such as 'The

Patient's Charter' (Department of Health, 1991) and 'Local Voices' (NHS Management Executive, 1992). Thus, as noted previously in Chapter 2, the political view of the patient is increasingly one of an empowered 'consumer' and legitimate critic of care whose expectations, values and preferences are central to the efficient planning and delivery of services. In this respect, patient satisfaction is regarded as a valid outcome of the care process (Carr-Hill, 1992).

The satisfaction survey has become an important evaluative instrument in the 'audit toolbox'. In the USA, for example, consumer satisfaction surveys are a mandatory part of accreditation of all health plans. Baker (1991) argues that satisfaction surveys should be routinely conducted as part of audit in UK general practice. Undoubtedly, the popularity of the satisfaction survey among managers and policy makers is due, in part, to the fact that 'satisfaction' is a generalisable evaluative concept. In other words, almost all patients (regardless of health problem, type of treatment, etc.) can express satisfaction / dissatisfaction, whether in relation to a particular healthcare provider, facility or episode of care. Moreover, patients can be surveyed relatively inexpensively, and the kinds of quantitative data that surveys generate are useful for target setting and performance monitoring. Finally, despite the theoretical limitations outlined in previous sections, measures of patient satisfaction undoubtedly have face validity as indicators of the quality of healthcare provision. The issue of construct validity is considered in the next section.

7.5 Patient satisfaction: construct validity

The purpose of measuring patient satisfaction is to obtain a user perspective on the quality of healthcare and health services. On that basis, there is no accepted 'gold standard' criterion by which to judge the validity of satisfaction assessments. While empirical studies have shown that independent ratings of the quality of doctors' technical care and /or interpersonal skills correlate well with patients' evaluations (Shortell *et al.*, 1977; Roter *et al.*, 1987; Bensing, 1991; Bensing & Dronkers, 1992), it is important to remember that patient

satisfaction represents a distinct and different perspective on quality of care from that of other 'stakeholders'. Thus, external judgements about quality (for example, made by healthcare professionals, academic researchers, service managers or even analogue 'patients') cannot be considered an appropriate demonstration of *criterion validity*, but do provide support for the *construct validity* of measures of patient satisfaction (Fitzpatrick, 1993).

The validity of the patient satisfaction construct is further supported by evidence that healthcare that is viewed by patients as less satisfactory may also be less effective clinically. For example, positive patient evaluations of care have been found to be associated with subsequent recall and acceptance of professional advice, appointment keeping and adherence to treatment regimens (Korsch *et al.*, 1968; Kinney *et al.*, 1975; Ley *et al.*, 1976; DiMatteo *et al.*, 1979; Bartlett *et al.*, 1984; Winefield *et al.*, 1995).

Relationships have also been found between patient satisfaction and the maintenance of a continuing relationship with a healthcare provider (Larsen & Rootman, 1976; DiMatteo *et al.*, 1979; Baker & Whitfield, 1992; Baron-Epel *et al.*, 2001). With the shift from acute to chronic forms of illness and changing age profile of Western societies, provider continuity is seen as a particularly salient issue for ensuring quality in long-term medical and social care (Williams & Calnan, 1991). However, the causal relationship between satisfaction and provider continuity is unclear. Doctors may provide more effective care to patients with whom they are better acquainted. Alternatively, patients who have a longer-standing relationship with their doctor may simply be less willing to be critical (an issue discussed in more detail in section 7.6.1).

Convergent validity between patient satisfaction and theoretically-related concepts such as general life satisfaction and confidence in one's local health services have been demonstrated (e.g. Roberts *et al.*, 1983; Weiss, 1988). Overall however, Pascoe (1983) suggests that patients' evaluations of care,

particularly within the 'micro' domain, are relatively independent of general life outlook.

In terms of patient socio-demographic characteristics, one consistent finding in the satisfaction literature is that older patients are invariably more satisfied with care than younger patients (Locker & Dunt, 1978; Hall & Dornan, 1988; Rees Lewis, 1994). However, it remains unclear whether this age effect is due to real differences in healthcare experiences, or to differences in expectations or ways of responding to questionnaires. For example in the UK, older people are more aware of improvements in access to healthcare since the introduction of the NHS (Hopton *et al.*, 1993). They may lack the 'consumerist' attitude of younger generations and be more willing to accept a traditionally passive role in the medical encounter (Williams, 1994). Older respondents are more likely to be in current need of long-term medical care and their evaluations of that care may therefore be more prone to social desirability response bias (described in more detail in the following section).

In addition to age, there is (somewhat weaker) evidence of an inverse relationship between level of educational attainment and satisfaction (Rees Lewis, 1994). However, other socio-demographic variables, such as gender, marital status and ethnicity have shown inconsistent relationships. In a meta-analysis of the satisfaction literature, Hall and Dornan (1988) found four studies showing female patients to be more satisfied than males, eight reporting no difference and five that found a positive relationship with male gender. These conflicting results reflect the difficulty of cross-cultural (and cross-healthcare system) comparisons, as analysis by ethnicity showed that males were more satisfied than females among (American) ethnic minority patients, but not among whites.

In terms of patient health-related factors, there is some evidence of a positive relationship between self-reports of both functional and emotional health status

and patients' subsequent satisfaction with care (Fitzpatrick, 1993; Hopton *et al.*, 1993; Wilson *et al.*, 1995). Again, however, the direction of this relationship remains unclear. Doctors may react negatively to sicker or more emotionally distressed patients, inadvertently communicating their reaction to those patients who, in turn, feel more dissatisfied with their care. Alternatively, patients in poorer health may be inclined to feel dissatisfied with many aspects of life, including their healthcare (Hall *et al.*, 1996).

Patients' perceptions of subsequent symptom improvement (or deterioration) impact on their evaluations of a prior index consultation (Jackson *et al.*, 2001). The self-limiting nature of many of the symptoms presented in primary care makes it important, in studies relating consultation behaviour to patient satisfaction, to therefore measure satisfaction as soon as possible after the consultation.

7.6 Patient satisfaction - measurement issues

7.6.1 Response bias

A major problem with satisfaction surveys is lack of variation in responses, with the majority of patients expressing high levels of satisfaction with care (Locker & Dunt, 1978; Fitzpatrick, 1993; Hopton *et al.*, 1993; Rees Lewis, 1994). This can distort statistical analyses through a 'ceiling effect', i.e. the closer the mean satisfaction score in relation to the maximum score, the more likely it is that relationships with other variables will be disguised (Rees Lewis, 1994). To some degree, high satisfaction scores may be due to respondents' reluctance to criticise health professionals and the NHS in general (so-called 'normative effects'). Social desirability response bias can also contribute to ceiling effects. Individuals may be concerned about the confidentiality of their responses and not want to be perceived as complaining. Such problems are compounded by the fact that respondents who are ill and dependent on the doctor for care may

feel particularly grateful or, conversely, wary of the consequences of being exposed as not grateful enough.

The way in which questions are asked can influence these response effects. Oral administration of questionnaires as opposed to patient self-completion is associated with more favourable scores (Pascoe, 1983; Rees Lewis, 1994). In terms of item format, use of Likert scaling (where all items are given the same graded response, e.g. 'strongly agree – strongly disagree', often scored on a 5-point scale) is more sensitive than using binary (e.g. 'yes/no') response options. Similarly, summed Likert scales are more reliable than individual items, and the wording of some items should be reversed so that acquiescent response tendency will not distort results (Ware, 1978; Rees Lewis, 1994).

Aside from these basic psychometric techniques, there is also some evidence that using less direct evaluative responses produces somewhat greater variation in satisfaction scores (Hall & Dornan, 1988; Rees Lewis, 1994). This relates to the distinction between cognitive, affective and conative components of attitude described in section 7.3.1. Eliciting affective responses (e.g. using a 'very satisfied – very dissatisfied' or 'excellent – very poor' type continuum) is the most direct means by which to infer satisfaction, since affective responses concern the respondent's positive or negative feelings toward a particular aspect of their care and are therefore explicitly evaluative. On the other hand, cognitive responses (where patients express the degree to which they believe their care was linked with certain characteristics, e.g. using a 'strongly agree – strongly disagree' continuum), or conative responses (where respondents express the strength of particular behavioural intentions, e.g. on a 'very likely – not very likely' continuum) are more implicitly evaluative and, as such, may feel more impersonal and therefore be less prone to response bias.

Moreover, there may be interpretation problems associated with derivatives of the term 'satisfaction' as an evaluative response in surveys. As Wilkin *et al.*

(1993) point out, the term 'satisfactory' commonly means 'adequate' or 'acceptable', suggesting achievement only of a basic minimum standard rather than indicating a clearly favourable evaluation. Ware and Hays found that surveys employing 'very satisfied – very dissatisfied' response scales produced less variation in scores than surveys utilising alternative response options (Ware & Hays, 1988).

Including some 'maximalist' items in a patient satisfaction questionnaire (e.g. asking patients to rate their strength of agreement with statements such as: 'I trust my doctor completely', or 'My consultation could not have been better') also helps avoid a ceiling effect (Rees Lewis, 1994). In addition, it has been noted that when satisfaction items follow (rather than precede) questions of a more factual nature in surveys, patients give more varied responses (Ware & Hays, 1988). The factual items may lead patients to a more considered evaluation of their care experience (Fitzpatrick, 1993).

7.6.2 Establishing reliability

Any satisfaction questionnaire should be subjected to tests of reliability to determine whether it produces stable and consistent measurements. *Test-retest* reliability is assessed by applying the measure to the same population at different points in time under the same conditions (Wilkin *et al.*, 1992).

However, this approach requires that the construct being measured remains unchanged between the two test administrations, whereas (as noted in section 7.5) it is likely that patients' evaluations of a medical encounter will change over time as factors external to the index consultation impact on the assessment process. For example, a recent study found that 52% of patients expressed full satisfaction with their care immediately following a visit to a walk-in general medical clinic, rising to 59% at 2-weeks and 63% at 3 months post-visit (using the same instrument). The investigators found that at both 2-weeks and 3-months, experiencing symptomatic improvement increased satisfaction, while

additional visits (actual or anticipated) for the same symptom decreased satisfaction (Jackson *et al.*, 2001).

Another problem with assessing the reliability of satisfaction surveys using test-retest methods is that respondents may remember the responses they gave at the first administration. Thus, statistical tests of *internal consistency* are the preferred method by which the reliability of satisfaction measures is estimated, since these can be carried out on data from a single administration. Internal consistency concerns the degree to which individual questionnaire items correlate with one another and with overall scale scores. High correlations are expected if all items are tapping into the same construct. The split-half method involves dividing all items in the questionnaire randomly into two halves and correlating the results achieved. A more sophisticated measure, such as Cronbach's alpha, is based on the mean correlation between all items comprising the instrument (Wilkin *et al.*, 1992).

7.7 Patient satisfaction: summary

Although the construct of patient satisfaction has conceptual and theoretical limitations, it has face validity as an outcome of care. Moreover, evidence reviewed in this chapter suggests satisfaction may also be a mediator of other valued health outcomes. In respect of patient-centred consulting, satisfaction would appear a theoretically appropriate outcome to measure. According to Fitzpatrick (1991), patient satisfaction surveys are particularly useful for assessing medical consultations and patterns of communication. Many of the attributes of care that patients report valuing most (e.g. the doctor's 'humaneness', respect for the patient as an individual and the provision of sufficient information) are included in consultation-specific surveys and are also reflected in the conceptualisation of patient-centredness presented in Chapter 2 of this thesis.

7.8 Task-relevant outcomes of patient-centred care

Task-relevant outcomes are seen as resulting from achievement of "the instrumental goals of the medical visit" (Hall *et al.*, 1988, p.667). For the doctor, these goals are effective diagnosis and management of the patient's problem. For the patient, achievement of these two goals should result in an understanding and ability to recall what the doctor has said about the problem and how best it should be managed, and subsequent adherence to the treatment and advice given. In Hall *et al.*'s meta-analysis of doctor-patient communication studies, patient recall of information / advice and treatment compliance were the main task-relevant outcomes measured.

However, measurement of behavioural outcomes like recall and compliance is problematic. Some of the key methodological issues are reviewed briefly below.

7.8.1 Patient recall of medical information and advice: methodological issues

Standardised measurement of patient recall of information is complicated by the fact that the researcher needs to know exactly what each patient has been told about their problem and its management, and such information may vary widely (both in quantity and complexity) from one patient to another. Studies often use percentage measures of 'information statements' recalled (e.g. Ley *et al.*, 1973; Ley *et al.*, 1976; Bertakis, 1977) but this ignores the fact that certain types of information may be 'clinically' more important than others. For example, a patient may be able to recall the diagnosis of upper respiratory tract infection and being told that the problem should resolve within a week, but not the doctor's advice that the prescribed antibiotic course should be taken in full.

There is no one standard method for measuring patient recall. Most studies employ interviewing techniques although the degree to which patients are provided with cues, or their answers probed for further information varies widely.

Ley (1988) cites a number of studies comparing 'free recall' with 'cued' or 'probed' recall methods, the results of which suggest a significant researcher effect associated with the latter approaches. Other studies have used (written) self-complete methods to ascertain patient recall. However, open-questions may present problems for subsequent coding of responses. More structured written formats (e.g. use of multiple-choice response options), strictly speaking, constitute measures of patient recognition rather than recall.

A number of socio-demographic factors may confound observed relationships between consultation processes and patients' subsequent recall of information or advice. Evidence suggests an inverse relationship with age among older patients, though not for young or middle-aged patients (Ley *et al.*, 1976). Consistent positive relationships have been found in respect of levels of general education and 'health literacy' in particular (Ley, 1988).

In respect of patient health-related characteristics, familiarity (whether of a symptom or doctor) can increase the likelihood of 'chance recall'. For example, the patient with the chest infection may anticipate (prior to the consultation) that the doctor will prescribe an antibiotic, tell him to take a few days of work and advise him to give up smoking. As there is a high probability that such statements will actually be made by the doctor, it is likely that any recall score will be inflated by these high base-rate probabilities (Ley, 1988). A related issue, of particular relevance to primary care, is that of casemix. Patients with an on-going problem (for which they have consulted the doctor before) may have higher rates of recall than patients presenting a new problem because the information they recall has been reinforced over a number of encounters and is not completely 'new' to them in the index consultation. For this reason, some studies have sampled only patients attending for the first time with a new illness (Ley *et al.*, 1973).

7.8.2 Patient compliance¹: methodological issues

In respect of compliance, the logistics of using an objective measure such as a pill-count are complex. The researcher needs to be able to visit each patient in order to conduct the pill-count and loss to follow-up may be significant. The validity of subjective measures of compliance may be compromised by a number of issues such as respondent inaccuracy or social desirability response bias (Ley, 1988).

Moreover, there may be difficulties operationalising 'compliance' in relation to the myriad treatment regimens that patients may be prescribed in primary care. For example, how does one create a standard definition of compliance (or non-compliance) of relevance to both a long-term repeat prescription of antidepressants and a three-day course of antibiotics? Assessing adherence to non-medication related management strategies presents further problems. In the absence of baseline measurements, it is impossible to objectively gauge compliance among patients who have been advised, for example, to reduce their salt intake or take more exercise.

Patient understanding of, and ability to recall medical information mediates subsequent compliance behaviour (Bartlett *et al.*, 1984; Ley, 1988). Thus, many of the socio-demographic and health-related factors which impact on patient recall (described above) are also likely to confound relationships between consultation behaviour and patient compliance. Elderly patients, aside from experiencing problems with information retention, may also have more

¹ The terms compliance, adherence and concordance are often used interchangeably to refer to the degree to which patients follow medical advice or treatment regimens. The terms compliance and adherence are increasingly seen as less acceptable because of underlying paternalistic associations relating to the relationship between health professional and patient. However from a measurement perspective, concordance may be more appropriately viewed as a process issue (i.e. corresponding to the degree of negotiation and agreement between patient and health professional regarding the management plan). Compliance / adherence thus remains an appropriate *outcome* construct (i.e. whether the patient does what was agreed). The terms compliance / adherence are therefore used in this thesis in relation to task-relevant outcome measurement, irrespective of the process by which a management plan is discussed and agreed.

trouble complying with treatment because of poorer sensory acuity and manual dexterity, or lack of social support / supervision. The complexity of a treatment regimen, including taking multiple medications, has also been shown to have a negative relationship with compliance and may be a particular issue among chronically ill and elderly patients.

7.8.3 Summary

There are numerous methodological problems associated with the measurement of behavioural outcomes like patient recall and compliance in relation to primary care consultations. Theoretically, the personal psychological resources that might be considered pre-requisites for recall and compliance include a perceived understanding and ability to cope and feel in control of the problem / illness in particular, and one's health more generally. A self-report measure of these psychological pre-requisites would overcome some of the problems associated with objective measurement of task-relevant patient outcomes, assuming that the self-report measure had sufficient predictive validity. Sections 7.9 and 7.10 describe one such instrument, which will be used as the task-relevant outcome in the present study (i.e. as a proxy measure of patient recall and compliance).

7.9 Patient enablement: a self-report measure of task-relevant outcome

The Patient Enablement Instrument (PEI; Howie *et al.*, 1991; 1995a; 1995b, 1997; 1998; 1999; 2000) is a relatively new patient-focused measure for evaluating general practice consultations (see Appendix 2). The measure comprises six items that address the following issues: patients' ability to understand and cope with their illness / problem(s) after seeing the doctor and the degree to which they feel able to cope with life, keep healthy, feel confident about their health and help themselves.

The enablement items were originally constructed on the basis of non-systematic reviews of conceptual literature on patient health and well-being and the patient satisfaction literature, supplemented by discussions with agencies representing patient interests and interviews with patients who had long-term chronic illnesses or physical disabilities. The items were designed 'to elicit patients' feelings of confidence, ability and coping' following a GP consultation (Porter, 1997), and the instrument's developers explicitly link the PEI with 'the themes of patient-centredness and empowerment' (Howie *et al.*, 1998, p.166).

'Empowerment' has become dominant theme in health and social care in recent decades. In a detailed analysis of the concept, Gibson (1991) defines empowerment as:

"A social process of recognizing, promoting and enhancing people's abilities to meet their own needs, solve their own problems and mobilize the necessary resources in order to feel in control of their lives" (Gibson, 1991, p.359).

The empowerment process therefore implies development or enhancement of competencies and autonomy. Whilst 'empowerment' and 'enablement' may be linked concepts, the former tends to be associated in the literature with wider socio-political concerns for more equitable distribution of resources and power relations in society (Anderson, 1996). With this in mind, the concept of 'empowerment' has limitations for the particular context of the medical consultation since there clearly exists a 'competence-gap' between patients and the health professionals they consult. It is not feasible to 'empower' the lay populace through access to the full range of specialist knowledge and resources available to health professionals, and doing so would be unlikely to obviate need for the latter altogether. This is because the illnesses and problems that turn individuals into 'patients' are themselves disempowering, impinging on the

individual's capacity to mobilise the necessary resources to meet their own needs, solve their problems and feel in control. Thus the onus is on the health professional to support and facilitate the patient to do this, which is why the concept of 'enablement' rather than 'empowerment' has more intuitive rationale within the context of the medical consultation.

The Patient Enablement Instrument (PEI) has been developed for use within the specific context of the primary care consultation. It is designed to measure, from the patient's perspective, the degree to which the doctor has helped increase the patient's understanding of their problem(s), their ability to cope better on their own and feel generally more in control of their health, so relating to the key 'tasks' of the consultation process described earlier. As an outcome of care, enablement would appear to have more in common with the cognitive concept of 'self-efficacy' than with the attitudinal (i.e. affective) concept of patient satisfaction.

7.9.1 Relationship between enablement and self-efficacy

Self-efficacy is an important concept in social cognitive theory (Bandura, 1977). Social cognitive theory proposes that human behaviour is shaped by cognitive factors (beliefs, attitudes, knowledge, thoughts) that are acquired through socialisation processes. Within this framework, self-efficacy represents a 'can do' cognition (Schwarzer & Fuchs, 1996), the judgement of one's capability to accomplish a certain level of performance. In particular, efficacy expectations refer to an individual's beliefs that they can plan and execute actions required to meet challenging situational demands.

Self-efficacy expectations are assumed to have a direct impact on behaviour, attributable to the fact that optimistic self-beliefs predict actual behaviour performance. Moreover, efficacy expectations indirectly affect behaviour via their influence on intentions, reflecting the fact that individuals typically intend to

perform behaviours they perceive to be within their control (Schwarzer & Fuchs, 1996).

The strength of peoples' convictions in their own effectiveness affects whether they will attempt to cope with a given situation and the degree to which they will persist in their coping efforts in the face of obstacles and aversive experiences (Bandura, 1977). Self-efficacy beliefs have been highlighted as important determinants of health-maintenance behaviours like stopping smoking (Schwarzer & Fuchs, 1996), and have also been found to predict the success of self-management programmes among patients with chronic illness (Lorig *et al.*, 1996).

Efficacy expectations can be acquired and reinforced through personal mastery experiences, vicarious experiences, verbal persuasion or physiological feedback (Bandura, 1977). However Bandura makes the point that, however acquired, perceived self-efficacy will not produce desired performance if component capabilities and incentives are lacking.

In the context of the medical consultation, the doctor is ideally placed to alter feelings of self-efficacy in the patient. An episode of ill health can be a particularly stressful event characterised by a great deal of uncertainty on the part of the patient in terms of understanding what has caused the problem, whether it is serious, how it should be managed, and so on. The patient's ability to cope with the situation and execute the 'tasks' of being a patient (e.g. following medical advice, adhering correctly to a prescribed treatment regime) will depend to an extent on the doctor's ability to increase the patient's understanding of the problem (i.e. its aetiology, symptoms, prognosis, etc.). Patient confidence in the doctor's diagnostic skills is therefore likely to be important for enhancing efficacy expectations. Moreover, providing opportunities to share in decision-making concerning management of the

problem may heighten the patient's sense of autonomy and feelings of being in control.

Both the concept of self-efficacy and that of patient enablement are therefore concerned with issues of confidence, ability and coping. However it should be stressed that, at present, the hypothesised link between enablement and self-efficacy is based on similarity of item content and has no specific empirical grounding. One difficulty in linking the two concepts is that self-efficacy is a generalised cognitive construct applicable to a wide range of behaviours (e.g. smoking, self-care, sexual risk behaviour etc.). It is usually measured with very specific item content (e.g. 'I feel confident that I can avoid smoking with friends'). Patient enablement, on the other hand, is explicitly concerned with outcomes of primary care consultations and is measured with much broader item content (e.g. 'I feel more able to keep myself healthy'). Furthermore, although there is a wealth of research supporting the predictive validity of self-efficacy, relatively few studies using the PEI have been published to date, and its wider construct validity is unclear.

However, there are two main advantages of linking the concepts. Firstly, theoretical developments in self-efficacy theory may be of relevance to enablement (e.g. understanding the processes by which self-efficacy may be increased). Secondly, a key advantage of self-efficacy is that it is predictive of future health-related behaviour (Schwarzer & Fuchs, 1996). Although the predictive validity of enablement remains as yet unproven, it is theoretically likely that patients who feel more enabled after a consultation will be better able to recall and adhere to the doctor's advice and feel better able to look after themselves in future.

7.9.2 Relationship between enablement and patient satisfaction

The items comprising the PEI were originally part of a 33-item 'satisfaction' measure used in a study of consultation length in general practice (Howie *et al.*,

1991). These six particular items were all found to discriminate well between doctors providing more time in consultations. In subsequent work, the items were again used in a study of general practice fundholding, alongside more conventional questions about patients' satisfaction with aspects of the consultation process (Howie *et al.*, 1995b). Although the six items were highly inter-correlated and appeared to tap into a dimension of the patient experience not covered by the conventional satisfaction-type items, further work was required to ascertain the degree to which 'enablement' and 'satisfaction' were conceptually and empirically distinct consultation outcomes. Thus, a study comparing the PEI with two well-validated consultation satisfaction measures was undertaken by the instrument's developers (Howie *et al.*, 1998).

In the 1998 study, 613 patients from three different practices completed variously ordered combinations of the PEI, the 18-item Consultation Satisfaction Questionnaire (CSQ; Baker, 1990) and the 29-item Medical Interview Satisfaction Scale (MISS; Wolf *et al.*, 1978). For comparison purposes, each instrument was scored as a percentage of the maximum achievable score. The overall mean score for the PEI was 44.1%; much lower than mean scores on the CSQ and MISS (76.9% and 77.6% respectively). This may be explained to a degree by the different response scales used in the two types of measures. Both the CSQ and MISS employ Likert scales with a central 'neutral' midpoint and equal numbers of positive and negative responses either side, whereas PEI items have a positive central response option (i.e. they are scored: 'Same or less' (=0), 'Better' (=1) or 'Much better' (=2); see Appendix 2). This is a recommended technique for minimising positive skew in measurement scales (Streiner & Norman, 1989, p.79). However, Howie and colleagues also found that there was also much greater variation in the distribution of PEI scores than satisfaction scores, both within and between practices, suggesting the PEI has greater discriminatory power than either satisfaction measure. Correlations between the PEI and the two satisfaction measures were very similar: $r = 0.48$ for the CSQ and $r = 0.47$ for MISS (both statistically significant at $p < 0.01$).

However, the correlation between CSQ and MISS was much higher ($r = 0.82$), identical to that reported by Kinnersley *et al.* (1996) in their study comparing the same two satisfaction measures. On the basis of this finding, Howie *et al.* argue that patient enablement and satisfaction, while related to a degree, are distinctly different concepts. In support, the internal consistency of PEI responses in this study (measured by Cronbach's alpha) was high: $\alpha = 0.93$. Systematic addition of satisfaction items from either the CSQ or MISS consistently resulted in alpha values less than 0.93 (Howie *et al.*, 1998).

Patient satisfaction surveys have been criticised for failing to address concerns patients have about appropriateness and effectiveness of their care in relation to their individual needs. Fitzpatrick and White (1997) note that most satisfaction surveys restrict their focus to aspects of care delivery (i.e. what is done and manner in which it is done) and rarely consider outcomes. From their study comparing enablement and satisfaction, Howie *et al.* (1998) conclude that satisfaction reflects the patient's perception of whether or not specific expectations of the process of care have been met. The PEI, on the other hand, requires the patient to judge whether (and, if so, to what degree) any 'benefit' has been achieved from the consultation in terms of improved understanding and ability to cope, thus addressing the deficiencies noted by Fitzpatrick and White in relation to satisfaction surveys.

In conclusion, patient satisfaction and enablement are conceived as related but different constructs. Satisfaction reflects the patient's affective response to their care, and may be regarded as an outcome in and of itself. Enablement reflects the patient's cognitive evaluation of resultant benefit, and is hypothesised to be an intermediate outcome (similar to self-efficacy), predictive of subsequent task-relevant behaviours such as the recall of information and compliance with medical advice and treatment. The overlap between the two concepts of satisfaction and enablement may explain the association found in some studies between satisfaction with care and patients' subsequent recall / compliance

(see section 7.5). In other words, that association may actually be confounded by enablement: patients who are more satisfied are also more likely to feel enabled, and it is the feeling of being 'enabled' (rather than 'satisfied') that leads to better rates of recall and compliance.

7.10 Patient enablement: construct validity

Work undertaken by the developers of the PEI has concentrated mainly on identifying the correlates of enablement in terms of consultation 'input' factors (i.e. patient socio-demographic and health-related characteristics) and 'process' factors (notably, consultation length).

As noted above, enablement was found to discriminate between short GP consultations (lasting five minutes or less) and long consultations (lasting 10 minutes or more - Howie *et al.*, 1991). In addition, longer consultations (which more patients found enabling) were also associated with GPs' reports of having dealt with psychosocial and more long-term problems of relevance to the patient's care, and with carrying out more health promotion in the consultation. In a subsequent study, longer consultations were associated with greater enablement for patients with a particular level of health need, although this association was weaker for patients with psychological problems than for those with physical or social problems (Howie *et al.*, 1997).

However, reported relationships with patient health need have been somewhat inconsistent. In the 1997 study by Howie and colleagues, patients consulting with physical problems reported highest levels of enablement while those with social and psychological problems reported lowest levels. Yet in a recent larger study, enablement scores were similar across different categories of patient casemix (Howie *et al.*, 1999). This may reflect confounding with consultation length since this study also found that patients who had social problems and a high GHQ score, and those who wanted to discuss two or more problems with the doctor were significantly more enabled (and had significantly longer

consultations). The authors conclude that although casemix does not itself appear to be a determinant of enablement scores, patients with more complex problems may require longer consultations to achieve equal enablement (Howie *et al.*, 1999).

Aside from consultation length, two other 'process' factors have been found to be negatively associated with enablement, but only in respect of *biomedical* consultations (i.e. for acute or chronic *physical* health problems), namely: (i) wanting but not receiving a prescription, and (ii) interruptions to the consultation (Howie *et al.*, 1999).

In respect of relationships with patient socio-demographic factors, there is some evidence that elderly patients (i.e. aged 65 years or over) report significantly greater levels of enablement, although again the relationship may be confounded by the fact that this group received significantly longer consultations than other patients (Howie *et al.*, 1999). The possibility that the PEI is prone to a positive age-related response bias (in the same way that patient satisfaction surveys appear to be) cannot be ruled out. In the same study, male patients reported significantly higher enablement than female patients, despite the fact that females had longer consultations. However, it is not known whether male and female consulters differed in terms of complexity of presenting problems or other factors.

At consultation level, enablement has also been found to correlate with patients' reports of how well they know the doctor (Howie *et al.*, 1999) although it is difficult to know the degree to which this relationship is independent of other factors such as casemix, consultation length and patient age, since most of the findings reported by Howie and colleagues are based on univariate analytical techniques and sub-group analyses. The same study provides little detail relating to an attempt to model PEI scores using multiple regression, except to note that:

"Several covariates were identified as significant predictors of enablement, including knowing the doctor well and duration of consultation. The overall predictive power of the model was, however, low (adjusted $r^2 = 0.037$)" (Howie *et al.*, 1999, p.742).

One somewhat contradictory finding in the 1999 study (which the authors note warrants further research) relates to patients whose first language is not English. Here, significantly higher levels of enablement were achieved despite significantly shorter overall consultation lengths (a pattern that was particularly marked for biomedical consultations). One explanation might be that patients whose first language was not English tended to report knowing their doctor better than English speaking patients in the study. Alternatively, there may be a positive response bias associated with ethnic minority status.

At doctor level, Howie *et al.* suggest that stable mean enablement scores can be achieved from 50 PEI responses. Analyses indicate a strong positive relationship between doctors' mean enablement scores and their mean consultation length. Moreover, doctors in the lowest quartile for enablement, compared with doctors in the highest quartile, had significantly shorter consultations, fewer patients who reported knowing them well and worked with larger practice lists (Howie *et al.*, 1999). The authors argue that these variables (i.e. consultation length, continuity of care and patient enablement) together reflect the core values of general practice, namely 'holism' and 'patient-centredness'. They have recently proposed that a composite 'consultation quality index' (CQI), based on rankings across these three component variables, may be a useful indicator of the quality of care provided by individual doctors in general practice (Howie *et al.*, 2000).

The PEI is increasingly being used by other investigators as an outcome measure in empirical studies of primary care consultations. Venning *et al.*

(2000) used the PEI in conjunction with a satisfaction measure (the MISS) in a randomised controlled trial comparing the cost-effectiveness of GPs and nurse practitioners for same day appointments in primary care. Analyses controlled for clustering of patient outcomes within health professional and also for potential confounding effects of patient age and sex. The investigators found that patients were no more enabled but were significantly more satisfied with nurse practitioner consultations (an effect that remained after adjusting for consultation length, which was shorter for GP consultations). These findings support the argument that patient satisfaction and enablement are not continuous concepts. That patients seen by nurse practitioners were not more enabled (despite being more satisfied and being given more time) may be explained by the fact that nurse practitioners ordered significantly more tests and investigations, issued fewer prescriptions and were more likely to ask patients to return. According to the theoretical rationale presented by Hall *et al.* (1988), such activities may indicate a degree of uncertainty among the nurse practitioners and fail to provide sufficient evidence of technical competence that patients need in order to feel confident in the quality of their medical care (see section 6.4 of the previous chapter).

In the absence of measures of the content of consultations in the Venning *et al.* study, it is not known whether nurse practitioners and GPs differed in terms of 'instrumental' communication behaviours such as asking patients questions, and giving information about the problem and its management. It may merely be that the nurse practitioners were more empathic than the GPs, invoking in patients a more positive affective response (i.e. higher mean satisfaction scores). Although Mercer and colleagues (2001) found enablement was associated with patients' perceptions of their doctor's empathy, their study did not employ a measure of patient satisfaction, so it is not known the degree to which this association is confounded by the relationship between empathy and satisfaction. The theoretical model by Hall *et al.* (1988) suggests that socio-

emotional behaviours like empathy, in the absence of evidence of 'instrumental competence', are insufficient for promoting task-relevant outcomes in patients.

Dowell *et al.* (2001) recently used the PEI in a randomised controlled trial of the effects of a delayed antibiotic prescribing strategy for managing uncomplicated lower respiratory tract infection in primary care. Patients in the 'immediate' arm were prescribed antibiotics while those randomised to the 'delayed' arm were asked to wait a week before picking up their prescription. Although 55% of patients in the 'delayed' arm did not subsequently take up their prescription, significantly more 'immediate' patients reported satisfaction with their GP consultation and were also more enabled. This is consistent with the finding by Howie *et al.* (1999) that patients presenting biomedical problems, who expect but do not receive a prescription, feel less enabled.

One finding by Dowell *et al.* (2001) casts some doubt on the predictive validity of the PEI. Although they were more enabled, patients in the 'immediate' arm were also more likely than 'delayed' patients to report that they intended to consult for similar complaints in the future (suggesting that they may not have felt any more able to help themselves as a result of their consultation). The authors conclude that the delayed prescribing strategy may deter patients from consulting rather than enabling them. However, no between-group differences in actual consulting behaviour were detected over an average 15-month follow-up period. A key limitation of this study is the lack of any 'process' measures (including measures of consultation length). It is therefore impossible to ascertain whether the 'delayed prescribing' strategy was explained to patients in a sufficiently enabling way. Merely suggesting to a patient that s/he may (or may not) require antibiotics and asking them to 'wait and see' may not invoke much confidence in the doctor's diagnostic and management skills.

In a recent study, Little *et al.* (2001a) explored the association between a self-report measure of patients' perceptions of the 'patient-centredness' of their GP

consultation and their subsequent enablement and satisfaction (measured using the MISS). Three 'domains' of patient-centredness, as measured by the patient questionnaire, were found to independently predict enablement scores (adjusted for problem type). These were: interest in the effect of the problem on the patient's life; health promotion (e.g. giving advice on lowering the risk of future illness), and a positive approach to the consultation (e.g. giving a clear explanation of the problem and prognosis). No association was found with being given a prescription, although patients were less enabled if their pre-consultation expectations were not met in respect of receiving an examination, health promotion advice or a clear explanation of the problem and the prognosis. Again, however, this study is limited by the lack of process measures (including consultation length) such that it is not possible to relate patients' enablement scores to what actually happened in the consultation. There is a distinct danger of 'circularity' when relating patients' post-consultation reports both of the process of care and its outcomes (an issue discussed in more detail in Chapter 10).

7.11 Patient enablement: summary

Chapter 6 identified the need for a task-relevant outcome of medical consultations. Patient recall of information / advice, and treatment compliance were identified as key task-relevant outcomes resulting from achievement of "the instrumental goals of the medical visit" (Hall *et al.*, 1988, p.667). To re-iterate, for the doctor, these goals are effective diagnosis and management of the patient's problem. For the patient, achievement of these two goals should result in an understanding and ability to recall what the doctor has said about the problem and how best it should be managed, and subsequent compliance with the treatment and advice given.

This chapter has detailed the problems associated with the measurement of consultation outcomes such as recall and compliance. In the present study patient enablement will be used as a proxy self-report measure of these

outcomes as it reflects patients' perceived ability to understand their health problem and manage it successfully.

The Patient Enablement Instrument (PEI) has received some validation as an outcome measure for GP consultations to date, and appears to be distinct conceptually and empirically from patient satisfaction. However, it is a preliminary measure. The psychometric properties of the PEI have not been examined other than by the instrument's developers and, despite similarity with the psychological construct of 'self-efficacy', its predictive validity in terms of patient health behaviours like coping and self-management remains to be established.

7.12 Chapter summary

- This chapter was concerned with identifying 'task-relevant' and 'affective' outcome constructs for study in relation to patient-centred consulting.
- Patient satisfaction was identified as an appropriate *affective* patient outcome based on its evaluative nature, corresponding to expression of an attitude.
- In spite of theoretical and measurement limitations, patient satisfaction is regarded as a face valid indicator of quality of care with some evidence of construct validity.
- Problems were identified in the measurement of task-relevant patient outcomes such as recall of information and compliance with treatment and advice.
- Patient enablement was therefore identified as a possible proxy for such task-relevant outcomes, based on its conceptual similarity with the cognitive

construct of self-efficacy and preliminary evidence of its validity and reliability.

Chapter 8

The main study: methods and hypotheses

The main study: methods and hypotheses

8.1 Study design

The study uses a cross-sectional, observational design. This chapter describes how five different GP consulting behaviours (relating to three of the dimensions of patient-centred care proposed in Chapter 2) were measured using a communication coding scheme applied to videotapes of GP consultations by independent observers. Statistical regression techniques are used to test hypothesised relationships between these five patient-centred consulting behaviours and two patient outcomes (namely, patient satisfaction and enablement), controlling for the effects of confounding factors.

Confounding factors are 'extraneous' variables (i.e. variables other than the patient-centred behaviours under investigation) which may predict variance in the measured outcome. The degree to which these variables also share variance with the measures of patient-centredness may mask the 'true' relationship between patient-centred consulting and outcome. Confounding factors may be 'inputs' to the consultation (in that they are not within the immediate control of the participants), such as patient socio-demographic or health-related characteristics. Confounders may also be 'process' factors (i.e. variables specific to the consultation that are potentially within the control of one or both participants), e.g. the overall length of the interaction, degree of eye contact between participants or particular diagnostic or management procedures like a physical examination or the issuing of a prescription.

The study utilises a sub-sample of data that were collected as part of a wider six-country study of doctor-patient communication in primary care (the 'Euro-communication study'; van den Brink-Muinen *et al.*, 1999). Although a large amount of data were collected for the Euro-communication study, some was not relevant for inclusion in the present study. Figure 8.1 presents details of data that were utilised, labelled as consultation input, process or outcome factors as appropriate. The source of the data is indicated, while the figures

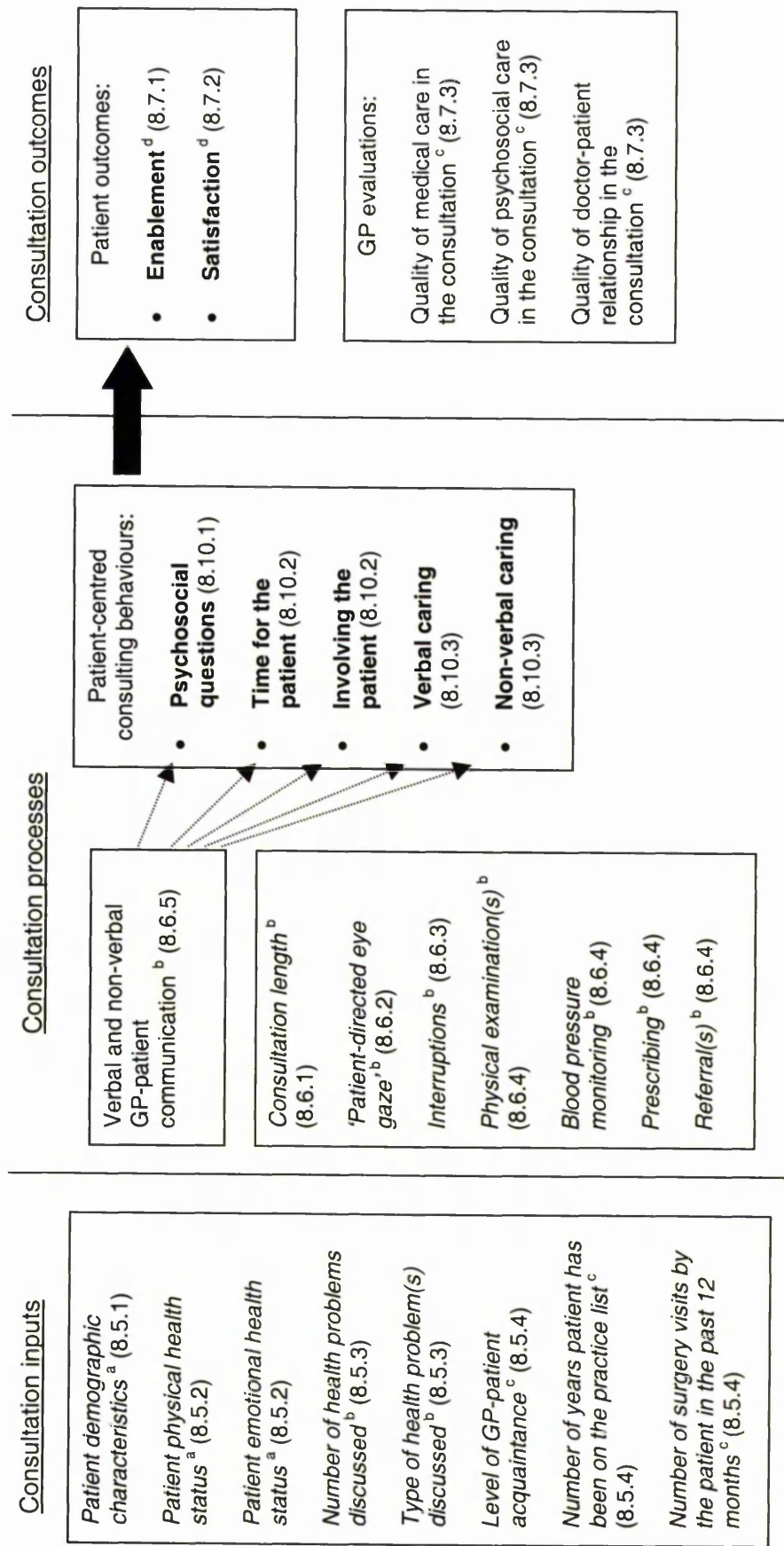
in brackets correspond to sub-sections of this chapter describing how the specific variables were measured.

As stated, the main focus of this study is the relationship between five different measures of patient-centred consulting behaviour and two patient-reported outcomes (satisfaction and enablement). This is indicated in Figure 8.1 by the large block arrow. Data in bold therefore represent the key variables of interest. The five measures of patient-centredness were all derived from a scheme for coding the verbal and non-verbal communication content of medical consultations from videotapes. The coding process is described in detail in section 8.6.5 while the method by which the five patient-centredness variables were operationalised is described in section 8.10. The hypothesised relationships under test in this study between the different consulting behaviours and patient outcomes are set out in section 8.11.

In Figure 8.1, the 'input' and 'process' variables labelled in italics are those that may potentially confound the hypothesised relationships under test. The method by which particular confounders of each outcome were identified and controlled for in analyses is discussed later in this chapter (see section 8.12.3.3). GPs' evaluations of their own consultations (described in section 8.7.3) were used only as a means of validating the five measures of patient-centred consulting and do not therefore form a major focus of this study.

Before describing in turn how these various consultation input, process and outcome variables were measured, section 8.2 details how GPs and patients were recruited to the Euro-communication study. The criteria for selecting a sub-sample of Euro-communication consultations for use in the present study are described in section 8.3, while the logistics of data collection are outlined in section 8.4.

Fig. 8.1 Study data (bracketed figures give relevant chapter sub-sections; main variables are in bold; italicised variables represent potential confounders of the relationships under test)



Data source: ^a patient completed pre-consultation questionnaire; ^b consultation videotape; ^c GP completed post-consultation log-sheet; ^d patient completed post-consultation questionnaire

8.2 GP and patient recruitment

Due to time constraints and problems anticipated with use of random sampling techniques, GPs were recruited to the UK-arm of the Euro-communication study by invitation. A brief letter about the project was sent to a number of GPs from practices around the northwest of England who had previously participated in primary care research projects co-ordinated by Manchester University's Department of Psychiatry or the National Primary Care Research and Development Centre (NPCRDC). Additionally, a number of GP members of the Birmingham Royal College of General Practitioners (RCGP) research network, and GPs involved in Exeter University's Postgraduate Medical School (PGMS) research network were sent information about the Euro-communication study. Initial expressions of interest were followed up by telephone. GPs who agreed to participate were sent an outline protocol detailing the data collection procedure (Appendix 1).

A total of 27 GPs were recruited to the study using these methods: 11 from 9 different practices in Manchester and the northwest, 8 GPs from 3 Birmingham practices and a further 8 GPs from 5 practices in Exeter and north Devon. Ethical approval for the Euro-communication study was granted by the relevant local committees.

Recruitment of patients and collection of videotape and survey data for the Euro-communication study was undertaken in each practice by two study researchers. Data were collected for one GP at a time on a practice-by-practice basis between October 1996 and June 1998. For each participating GP, the study protocol required collection of 15 videotaped consultations with patients aged 16 years or over and corresponding survey data. Data collection took place during any routine morning, afternoon or evening surgery that was convenient for both the GP and the study researchers (i.e. excluding special clinics such as antenatal, diabetes and asthma clinics). In most cases, it was necessary to visit the practice over two or more surgery sessions in order to recruit 15 eligible patients.

Practices were asked not to inform patients in advance that the study would be taking place during a particular surgery session. Instead, practice receptionists handed out information sheets about the Euro-communication study to consecutive patients as they booked in for their appointment on the day (Appendix 1) unless the patient met any of the following exclusion criteria:

- aged under 16;
- considered to have a poor comprehension of English such that the patient might not be able to give full informed consent or complete the surveys with minimal researcher assistance;
- severe learning disability;
- obvious physical distress.

Patients with information sheets were subsequently approached in the practice waiting room by one of the study researchers and invited to participate. Written consent was obtained both before and after consultations (Appendix 1) to allow patients the opportunity to opt out once they knew the exact content of their videotaped consultation although, in the event, no patients withdrew consent.

No systematic record of refusals was kept, although it is estimated that around 10 -15% of patients who were approached declined to participate, a rate comparable with other video-based studies of general practice consultations (Campbell *et al.*, 1995; Howe, 1997; Coleman & Manku-Scott, 1998; Coleman, 2000).

8.3 Selecting a sample for the present study

For the Euro-communication project, a variety of survey data were collected from participating patients and GPs to supplement the videotaped consultations. However, the two patient outcome measures that are of primary interest to the present study (i.e. instruments measuring patients' post-consultation satisfaction and enablement) were only added to data

collection in the last nine UK practices that were recruited (involving 14 different GPs). Due to time constraints and technical difficulties with recording equipment, it was only possible to recruit 11 patients for one of these GPs, and 10 patients for another two. Thus, video-recorded consultations were made with a total of 196 patients at these nine practices. In 23 cases (11.7%) there were insufficient data across one or both of the patient-completed outcome measures to compute reliable scores. Rather than impute large amounts of missing outcome data, a decision was made to restrict statistical analyses to the same set of cases for each outcome. The study sample therefore comprises 173 cases for which complete data were available across both measured outcomes (see Table 8.1).

Table 8.1 Details of practices, GPs and patients in the study sample

Practice	Practice location	Number of participating GPs	Number of recruited patients per practice	Number (%) of patients included in the study sample
1	Manchester (inner-city)	1	15	12 (80.0)
2	Manchester (inner-city)	1	10	9 (90.0)
3	Manchester (inner-city)	1	11	11 (100)
4	Northwest (mixed urban / rural)	1	10	10 (100)
5	Birmingham (city suburb)	2	30	28 (93.3)
6	Birmingham (inner-city)	4	60	49 (81.7)
7	Exeter (city suburb)	1	15	15 (100)
8	North Devon (small town)	2	30	27 (90.0)
9	North Devon (mixed urban / rural)	1	15	12 (80.0)
Totals		14	196	173 (88.3)

8.4 Logistics of data collection

All patients who consented to participate in the Euro-communication study were asked to complete a two-part survey. The first section collected information on patient demographic and health status characteristics

(described in more detail in sections 8.5.1 and 8.5.2 respectively). Where time allowed, patients completed this section prior to their consultation although some patients were called into the consulting room before they had time to complete the pre-consultation part of the survey, in which case they were asked to finish it after they had seen the doctor. The second section of the survey (which in the last 9 recruited practices contained the two outcome measures that are the main focus of the present study – see section 8.7.1 and 8.7.2 for details) was completed immediately after the consultation.

Both sections of the survey were designed for patient self-completion (see Appendix 2). However, a small number of patients requested help with the survey (usually because of eyesight or literacy problems), in which case one of the study researchers read out the questions and response options to the patient.

Consultations were videotaped using a standard video camera affixed to a tripod. Where possible, the camera was positioned so that the doctor's face was in full view to enable accurate measurement of 'patient-directed eye gaze' (see section 8.6.2). GPs were responsible for manually switching the video camera on and off after establishing whether each patient was participating in the study and, if so, checking that they had signed the 'pre-consultation' part of the consent form. Where physical examinations were conducted in the same room (as opposed to a separate examination room) a lens cap was placed over the camera's viewing lens and removed once the examination was finished.

When the consultation was over, both the GP and the patient signed the 'post-consultation' part of the consent form. When the patient left the consulting room, GPs filled in a short log sheet (Appendix 2) providing additional information about the patient and ratings of their own consultation performance (see sections 8.5.4 and 8.7.3 respectively).

As one of the main aims of the Euro-communication study was to determine whether between-country differences in patterns of doctor-patient

communication could be attributed to differences in the structure and organisation of primary care in the participating countries, GPs also completed a lengthy survey. However, the majority of data collected from GPs are not used in the present study aside from information concerning socio-demographic characteristics and professional training, which are used for descriptive purposes only. This is because the unit of analysis in the present study is the consultation. However, consultations are clustered within GPs (Rice & Leyland, 1996) and statistical issues relating to this matter are discussed in section 8.12.5.

8.5 Measures of consultation inputs

8.5.1 Patient demographics

The pre-consultation patient survey collected details of patients' age, sex and marital status. An item asking patients to record their highest level of educational attainment was also included. However, the wording of the response categories for this item (translated from Dutch) were somewhat ambiguous (i.e. 'none', 'primary school', 'secondary school', 'higher vocational training / university') and the distribution of responses appeared biased in favour of 'higher vocational training / university' (van den Brink-Muinen *et al.*, 1999). Therefore, these data were not used in the present study because the item was not considered a sufficiently sensitive measure of educational attainment. No data were collected on the ethnic background of patients.

8.5.2 Patient health status

Seven COOP-WONCA health charts were included in the pre-consultation patient questionnaire as generic measures of patient health status. Initially developed by a network of clinicians in the USA (Nelson *et al.*, 1987), the Dartmouth COOP charts use simple pictorial representations of functioning levels to evaluate patient health on a number of different dimensions. The charts have been well validated internationally and, in 1988, were selected by the World Organisation of General Practitioners / Family Physicians

(WONCA) as the basis for the development of an international system for the measurement of functional status (WONCA Classification Committee, 1990). The COOP-WONCA charts have been found acceptable to UK primary care patients, producing reasonable distributions of scores and evidence of test-retest reliability and construct validity (differentiating consulting patients from non-consulters, and exhibiting differential sensitivity to change among patients presenting acute and chronic health problems; Kinnnersley *et al.*, 1994).

Each chart represents a stand-alone, single-item measure of a specific dimension of functional health status (i.e. no summary score is calculated). The seven COOP-WONCA charts included in the Euro-communication patient questionnaire were: physical fitness, feelings (i.e. emotional well-being), daily activities, social activities, change in health, bodily pain and overall health (see Appendix 2). Each item asks the patient to rate their functioning 'during the past 2 weeks' and is scored on a 5-point scale (1 = good functional status; 5 = poor functional status).

In addition to the COOP-WONCA charts, the pre-consultation section of the patient questionnaire included the 12-item version of the General Health Questionnaire (GHQ-12; Goldberg, 1978 – see Appendix 2). Developed for the detection of non-psychotic affective disorder in community settings, the GHQ is widely used and recommended as a screening instrument in clinical practice and health services research (Wilkin *et al.*, 1992). A scaled 28-item version of the GHQ has demonstrated good test-retest reliability (Goldberg & Hillier, 1979). The shorter 12-item version does not comprise sub-scales; instead, an overall summary score is calculated from responses to all twelve items. Good response rates and high levels of internal consistency are reported for the GHQ-12 (Goldberg & Williams, 1988). In a recent study comparing the criterion validity of the GHQ-28 and the GHQ-12 in relation to standard psychiatric interviews in primary care settings, the latter was found to work equally well as a screening instrument (Goldberg *et al.*, 1997). The GHQ has been validated in a variety of different cultural settings, including among primary care patients of South Asian origin living in the UK (Jacob *et*

al., 1997; Bhui *et al.*, 2000) and a community sample of younger people (Banks, 1983).

In the GHQ-12, patients are asked to indicate how they have been feeling 'over the past few weeks'. Four response categories are provided for each of the twelve symptom items, although for scoring purposes these are reduced to a simple binary distinction between 'present' and 'absent'. The responses 'Better than usual' and 'Same as usual' both score 0, while 'Less than usual' or 'Much less than usual' responses score 1. Scores can be interpreted as indicating the severity of psychological disturbance on a continuum (Wilkin *et al.*, 1992).

A recent study exploring the factor composition of the GHQ-12 indicates the presence of two domains, namely depression and social dysfunction (Werneke *et al.*, 2000). This suggested that GHQ-12 scores might correlate highly with the COOP-WONCA single-item measures of 'feelings' and 'social activities'. To avoid item redundancy and reduce the number of health status variables in subsequent analyses, correlation coefficients were examined between GHQ-12 scores and scores on each of the COOP-WONCA functional health charts using available data from the study sample ($n=169$ due to missing GHQ data for 4 patients). As expected, GHQ-12 scores were highly correlated with COOP-WONCA scores on 'feelings' (Pearson's $r=0.76$) and 'social activities' ($r=0.69$). Relatively high correlations were also found for the COOP-WONCA 'daily activities' chart ($r=0.67$) and the chart measuring 'general health' perception ($r=0.51$). Moreover, these four particular items showed moderate to high correlations with one another (r 's = 0.53 – 0.78). On the other hand, correlations between GHQ-12 scores and the three COOP-WONCA charts assessing 'change in health', 'physical functioning' and 'pain' were much lower ($r=0.20$, 0.26 and 0.30 respectively) and item inter-correlations were also relatively low (r 's = 0.14 – 0.42). Since the GHQ-12 is likely to provide a more reliable assessment of emotional wellbeing than any of the single-item COOP-WONCA charts, it was decided to omit the four COOP-WONCA items most highly correlated with the

GHQ-12. The three items assessing dimensions of patients' *physical* health status were retained for use in analyses.

8.5.3 Patient health problems

GPs were asked to supply details of the patient's presenting problem(s) and their own diagnoses (where applicable) on a log-sheet following each consultation (Appendix 2). However, there was considerable variation between GPs in the amount of detail given and, on viewing corresponding videotapes, it was evident that often health problems had been discussed which the GP had failed to record on the log sheet. It was therefore decided that the videotapes would be the most reliable source of information on health problems actually discussed in the consultation.

All videotaped consultations collected as part of the Euro-communication study were divided between four trained observers who recorded, in detail, each consecutive health problem that was discussed. In some cases, a health problem was merely a request for repeat medication, preventive care (e.g. a cervical smear test) or an administrative issue (such as getting the doctor to sign a form). Up to four separate health problems were recorded for each consultation (each one on a separate data sheet), with the observers using their judgement as to what constituted a 'new' problem. Note was made of whether the problem appeared to be an on-going one or a new episode.

For the Euro-communication study, all health problems were subsequently coded into one of the 17 chapters comprising the International Classification of Primary Care framework (WONCA International Classification Committee, 1998). However, for the purposes of the present study, this was too large a number of casemix variables to include in statistical analyses, so all health problems were re-coded into the following seven categories:

- (i) Preventive care – including new patient checks, cervical smears, 'flu injections, repeat prescriptions for oral contraception, HRT reviews, etc. Blood pressure and

cholesterol checks were also coded in this category in the absence of other evidence suggesting the patient had hypertension or hypercholestaemia.

- (ii) Routine administration – including signing forms or requesting advice regarding disability benefits, etc., medical examinations for employment or insurance purposes.
- (iii) New physical problem – any newly occurring physical health problem (excluding medication side-effects). Note: 'tiredness', 'lethargy', 'sleep problems', 'loss of appetite' etc. were coded as physical problems in the absence of any discussion of potential psychosocial origin (e.g. recent bereavement, work stress, etc.).
- (iv) Existing physical problem – as above, but where the observer indicated this was an on-going problem. Includes exacerbation of chronic conditions such as asthma or eczema, repeat prescription requests / reviews (for non-psychotropic medication).
- (v) New psychosocial problem – including episodes of anxiety, depression, 'stress' / 'nerves' / 'low mood', substance abuse or social problems (i.e. related to relationship, housing, employment or financial worries) where there was no evidence that these had been discussed with the GP before. Included discussion of sexual problems where there was no clear physical origin.
- (vi) Existing psychosocial problem – as above, but where the observer indicated this was an on-going problem.
- (vii) Other – any problem / issue that did not appear to fall into any of the above categories.

The re-coding of health problems was undertaken independently by the author and one of the co-supervisors of this thesis (MR). No formal assessment of inter-rater reliability was undertaken. However, coding differences occurred for only 11 / 322 health problems (3.4%), which were subsequently discussed and their categorisation mutually agreed.

In the present study, the number and type of health problems discussed in a consultation are conceived of as *input* variables, although it is acknowledged some health problems may effectively be part of the *process* of the interaction, in that one or both participants has some control over whether a particular issue is raised or not. For example, a doctor may opportunistically discuss a preventive healthcare issue (such as influenza immunisation) with an 'at risk' patient presenting with an unrelated problem. Similarly, a patient may decide to disclose an emotional problem part way through a consultation, only once s/he feels sure of receiving sufficient support, legitimisation and understanding from the doctor.

8.5.4 Other patient health-related characteristics

In addition to patient-supplied information on demographic characteristics and health status, GPs were asked to record the following information on the log sheet after each videotaped consultation: (1) the number of years the patient had been on the practice list; (2) the number of surgery visits made by the patient in the past 12 months, and (3) a rating of how well acquainted the GP was with the patient. The first two were determined from the patient's medical or computer record. GP-patient acquaintance was subjectively rated on a scale ranging from 0 ('do not know the patient at all') to 5 ('know the patient very well').

8.6 Measures of the consultation process

As noted above, the videotaped consultations collected for the Euro-communication study were divided between four trained observers who independently applied the same set of process measures (described below).

8.6.1 Consultation length

Stopwatches were used to time the length of the consultation, excluding any interruptions (see 8.6.3 below). For standardisation, physical examinations (including diagnostic procedures such as blood pressure checks and peak flow measurements) were also excluded. This was because some doctors

switched off the camera during examinations rather than replacing the lens cap, as requested. Furthermore, two doctors conducted all examinations in a separate room out of range of the camera microphone. It was not therefore possible to obtain an accurate timing of those consultations when the camera had been temporarily switched off, nor was it possible to code doctor-patient communication during physical examinations for all consultations in the sample. However, a note was made of whether any physical examination or diagnostic procedure had taken place.

8.6.2 Patient-directed eye gaze

The amount of time the GP spent looking towards the patient's face ('patient-directed eye gaze') was also measured using a stopwatch. Again, interruptions and physical examinations were excluded from this measurement. In addition, any time that the GP was not in full view of the camera (so making it impossible to ascertain where s/he was looking) was also deducted. The variable 'patient-directed eye gaze' used in this study was computed as a proportion of total GP on-screen time. In the event, it was only possible to measure 'patient-directed eye gaze' in 159 consultations. In 10 cases, the camera was positioned in such a way that it was difficult to gauge when the GP was looking at the patient. In 4 other cases, the GP moved out of view of the camera too often during the consultation for 'eye gaze' to be measured reliably.

8.6.3 Interruptions

Any interruptions to the consultation were timed and deducted from measures of consultation length and patient-directed eye gaze. Interruptions included the GP leaving the room to attend to business not directly concerned with the patient, telephone calls made or taken by the doctor, or any communication with a member of the practice staff unrelated to the on-going consultation. Interaction between the doctor and a third party (either in person or by telephone) which directly concerned the consulting patient (e.g. a request for medical records or test results to be brought in, or a second opinion sought from a GP partner) was not classed as an interruption. In a small number of cases where the patient was accompanied by a friend or

family member, discussion between the GP and the accompanying person was *not* classed as an interruption. However, the content of that communication was only coded (using the communication analysis scheme described in section 8.6.5 below) if it related directly to the consulting patient, for example if the doctor enquired of the patient's wife whether the patient had been keeping to a low-salt diet. For the purpose of this study, interruptions were coded as a binary variable (i.e. 1 = interruption(s); 0=no interruption).

8.6.4 Clinical procedures

As reported in section 8.5.3, up to four consecutive 'health problems' discussed during the consultation were recorded in detail by the observer on separate sheets. In addition, note was made of whether a new or repeat prescription was issued in relation to each problem discussed, whether a physical examination or other diagnostic procedure was conducted, and whether a new referral was made. These are all treated as binary variables in the present study.

8.6.5 Communication content

For the Euro-communication study, a modified version of the Roter Interaction Analysis System (RIAS; Roter, 1993) was used to analyse the communication content of all videotaped consultations. As discussed in Chapter 3, a number of different quantitative schemes are available for analysing doctor-patient interactions for research and training purposes. Although the exact content and the unit of analysis vary between different interaction analysis schemes, all involve the identification and coding of pre-specified communication behaviours. These behaviours may subsequently be quantified (e.g. in terms of frequencies or proportions) but are not pre-weighted such that one behaviour is valued as more or less important than another.

The RIAS was the chosen method for analysing videotaped consultations collected for the Euro-communication study based on a number of criteria.

As described in section 8.6.5.1 below, the RIAS was developed (unlike some other interaction analysis schemes) specifically for the purpose of studying doctor-patient communication. Moreover, it is applied directly to audio- or videotapes, and is thus a more practicable method for analysing large numbers of consultations than systems requiring prior transcription of the interaction. The RIAS is now the most frequently used system for analysing medical consultations with evidence for its reliability and validity coming from studies conducted in a variety of different countries and medical settings (see section 8.6.5.3 below). In addition, the investigators with primary responsibility for co-ordinating the Euro-communication study (based at the Netherlands Institute of Primary Healthcare in Utrecht) already had considerable expertise in using, and training others to use the RIAS (e.g. Bensing, 1991; Bensing & Dronkers, 1992; van Dulmen *et al.*, 1997; van den Brink-Muinen *et al.*, 1998; Ong *et al.*, 1998).

8.6.5.1 Background to the RIAS

Debra Roter initially developed the RIAS to study the effects of a training programme to increase patients' question-asking in routine primary care visits (Roter, 1977). The RIAS broadly derives from Bales' classic Process Interaction Analysis system (IPA; Bales, 1950) in which units of speech are coded from literal transcripts into 12 mutually exclusive categories. The categories comprising the Bales system are described briefly in Figure 8.2.

Fig. 8.2 Bales' 12 categories for Interaction Process Analysis

Category	Brief description
1. Shows solidarity	Raises other's status; gives help or reward.
2. Shows tension release	Jokes; laughs; shows satisfaction.
3. Agrees	Shows passive acceptance, interest, understanding.
4. Gives suggestion	Gives direction (includes proposing a solution); implies autonomy for other.
5. Gives opinion	Gives evaluation, analysis; expresses feeling or wish.
6. Gives orientation	Gives information, explanation; repeats, clarifies, confirms.
7. Asks for orientation	Asks for information, repetition, confirmation.
8. Asks for opinion	Asks for evaluation, analysis, expression of feeling.
9. Asks for suggestion	Asks for direction (includes requests for proposed solution); seeks possible ways of action.
10. Disagrees	Shows passive rejection, formality; withholds resources.
11. Shows tension	Shows anxiety; asks for help.
12. Shows antagonism	Deflates other's status; defends or asserts self.

Although versions of Bales' IPA have been used to study medical consultations (e.g. Davis, 1968; Freemon *et al.*, 1971; Bain, 1977; Inui *et al.*, 1982; Stewart, 1984) the system was originally developed for analysing small group interactions and suffers a number of limitations when applied to the particular context of doctor-patient consultations.

The theoretical assumption underlying Bales' system is that all human interactions are principally oriented towards problem-solving. Instrumental behaviours by which information and opinion are exchanged between participants (addressed by categories 4-9 of the coding scheme) are thus seen as key tasks of the interaction. However, Bales acknowledges that human interactions are a social process in which considerations of role, status and the availability of resources all influence the exchange of information and progress towards the goal of problem-solving. Thus behaviours occur that are mainly socio-emotional (i.e. affective) in nature;

these are addressed by categories 1-3 (positive) and 10-12 (negative) of the IPA. Importantly however, Bales does not regard these affective behaviours as having a function in their own right; they are seen merely as a means of maintaining or restoring interpersonal relationships between interaction participants in order to facilitate the problem-solving process (Bales, 1950).

Within the context of the medical consultation, Bales' coding scheme (and the underlying theory on which it is based) does not take adequate account of the 'care' (as opposed to 'cure') function of the interaction. As discussed earlier in this thesis, the 'problem' to be solved in the medical consultation is more complex and multi-dimensional than that of merely diagnosing and treating disease. For an effective consultation, it is important that the doctor meets the two basic needs of the patient: that is, the need to know and understand the problem, and the need to feel known and understood by the doctor. The first relates to a cognitive need that may be met via instrumental behaviours such as giving information, direction and clarifying patient understanding. The second is an emotional need:

"The patient wants to be accepted as a patient, to feel he is not a malingerer. He wants positive affect and, most of all, reassurance."
(Bensing, 1991, p.38).

Thus, within the context of the medical consultation, affective verbal and non-verbal behaviours have an important function *in their own right*.

Recognising the limited applicability of Bales' system for studying doctor-patient interactions, Roter developed the RIAS, which differs from the original Bales' system in four key ways:

1. The scheme comprises 34 mutually exclusive categories designed to directly reflect the content and context of routine medical dialogue. These categories are outlined briefly in Figure 8.3. Categories 1-14 are concerned with affective verbal behaviours, 15-33 deal with instrumental behaviours.

2. The coding approach is tailored to dyadic exchange between patient and doctor. All but three coding categories may be applied to either speaker, although some may be more common to a particular speaker. Three categories apply only to the doctor (i.e. categories 19, 32 and 33 in Figure 8.3).
3. The RIAS was designed for coding directly from audio- or videotapes rather than from transcripts. Coders are encouraged to attend to qualities such as voice tone and intonation when interpreting the meaning and function of each speech unit.
4. In addition to the scheme for coding individual units of speech, the RIAS also incorporates an overall assessment of the emotional context of the dialogue. As shown in Figure 8.4, four different affective dimensions are measured, each on a 6-point rating scale. Ratings are assigned individually to both the GP and the patient. The observer indicates 'how much' of a particular emotion is demonstrated, with a score of 1 equivalent to the minimal amount, and 6 the maximum.

Fig. 8.3 Roter Interaction Analysis System (RIAS): coding categories and abbreviations

Category abbreviation	Brief description
1. Pers	Personal remarks including greetings and social conversation
2. Joke	Jokes; laughter in response to jokes
3. Approve	Shows approval – direct
4. Comp	Gives compliment – general
5. Agree	Shows agreement or understanding
6. Check	Paraphrases; checks own understanding
7. Empathy	Expresses empathy
8. Concern	Shows concern or worry
9. R/O	Reassures; encourages; shows optimism
10. Leg	Legitimises
11. Partner	Shows partnership and support
12. Disapprove	Shows disapproval – direct
13. Criticism	Shows criticism – general
14. ?Reassure	Asks for reassurance
15. Trans	Transition word(s)
16. Orient	Gives orientation, directions, instructions
17. ?Rep	Bid for repetition, clarification
18. ?Understand	Checks other's understanding; asks for permission, agreement
19. ?Opinion	Asks for opinion
20. (?)Med	Asks closed-ended question – medical condition
21. (?)Thera	Asks closed-ended question – therapeutic regimen
22. (?)L/S	Asks closed-ended question – lifestyle / social
23. (?)P/F	Asks closed-ended question – psychosocial / feelings
24. ?Med	Asks open-ended question – medical condition
25. ?Thera	Asks open-ended question – therapeutic regimen
26. ?L/S	Asks open-ended question – lifestyle / social
27. ?P/F	Asks open-ended question – psychosocial / feelings
28. Gives med	Gives information – medical condition
29. Gives thera	Gives information – therapeutic regimen
30. Gives L/S	Gives information – lifestyle / social
31. Gives P/F	Gives information – psychosocial / feelings
32. Counsel Med/Thera	Counsels or directs behaviour- medical condition / therapeutic regimen
33. Counsel L/S-P/F	Counsels or directs behaviour – lifestyle / social context or psychosocial / feelings
34. Other	Utterances not falling into the above categories (including unfinished sentences without content or unintelligible utterances)

Fig. 8.4 **RIAS rating scales for assessing GP and patient affect in the medical consultation**

<u>GP</u>						
anger / irritation	1	2	3	4	5	6
anxiety / nervousness	1	2	3	4	5	6
interest / concern	1	2	3	4	5	6
warmth / friendliness	1	2	3	4	5	6
<u>Patient</u>						
anger / irritation	1	2	3	4	5	6
anxiety / nervousness	1	2	3	4	5	6
interest / concern	1	2	3	4	5	6
warmth / friendliness	1	2	3	4	5	6

8.6.5.2 RIAS coding criteria

The unit of analysis for RIAS coding is the 'utterance'. An utterance is "the smallest discriminable speech segment to which a classification may be assigned" on the basis that "it conveys only one thought or relates to one item of interest" (Roter, 1993, p.4). An utterance may therefore vary in length from a single word to a lengthy sentence. The coder effectively 'unitises' dialogue while listening to the audio- or videotaped consultation.

The RIAS manual gives detailed criteria and examples covering the full range of coding categories. A summary version with examples is presented in Appendix 3. The following four 'rules of thumb' are applied to ambiguous coding situations:

- Code according to voice tone and emphasis;
- Code using an affective category when there is doubt as to whether an utterance is instrumental or affective;
- Code according to the listener's response;
- Code according to context.

To exemplify the coding process, part of a transcript of a videotaped consultation that was used for training purposes in the Euro-communication study is presented in Figure 8.5. Appropriate RIAS category abbreviations (shown previously in Figure 8.3) are given in square brackets after each coded utterance.

Fig. 8.5 Part of an example consultation coded using category abbreviations from the Roter Interaction Analysis System (see Fig. 8.3).

Dr	Hello. [Pers] Come and have a seat. [Orient]
Pt	Thanks. [Pers]
Dr	How are you? [? Med]
Pt	Erm...I think I've got that kidney infection back again [Gives med] that I had in the hospital a fortnight ago. [?Understand]
Dr	Oh yes, [Agree] they do sometimes come back. [Leg] What symptoms have you had? [?Med]
Pt	Well, apart from the pain in my back, [Gives med] when I wee, on this side it feels like dragging sensation on the inside. [Gives med] It's really sore. [Concern]
Dr	Its sore when you wee, is it? [Check]
Pt	Yeah. [Agree]
Dr	Are you going more often than usual too? [(?)Med]
Pt	Yeah, [Gives med] and I'm drinking less. [Gives med] I've gone off coffee and everything. [Gives med] I mean I'm still drinking it, but not..... [Gives med] I used to drink gallons of it... [Gives L/S]
Dr	Sounds like it, doesn't it? [Agree]
Ptbut I mean I'm drinking less, yet weeing more. [?Understand] The pains are killing me. [Concern]
Dr	Must be a nuisance. [Empathy] Okay, [Trans] I'll have a look at you. [Orient] What about the actual operation itself, [Trans] how does that seem to you? [?Opinion]
Pt	I'm all right I suppose. [Gives P/F] But I was bleeding up until Saturday [Gives med] and then I'm losing this greeny-brown stuff [Gives med] – and it really smells. [Concern] I feel dead tired all the time as well. [Gives P/F]
Dr	Not surprised [Leg] . With your operation and this it would be amazing if you felt full of beans, wouldn't it? [Leg]
Pt	I mean, I do really feel shattered. [Concern / worry] My sister's got my bed in the living room [Gives L/S] 'cos we all had to move out, [Gives P/F] and I just disappear in there and sleep for hours on end. [Gives P/F]

- Dr Okay, **[Trans]** can I have a look at you? **[?Understand]**
- Pt Yeah. **[Agree]**
- Dr I need to just lay a hand on your tummy. **[Orient]** Can you hop up on that couch? **[Orient]** – don't need to take anything off. **[Orient]**
- Pt I've said to people 'God I can smell it'....**[Concern]** I can smell it but nobody else can. **[Gives P/F]** But it does – to me it does smell. **[Agree]**
- Dr Well, we'll see what we can do. **[Partner]**
- [Examination takes place – not audible]
- Pt Those tablets they gave in the hospital – Augmentin, **[Check]** I've been trying to memorise them..... **[Other]**
- Dr Yeah, **[Agree]** did they seem to be okay when you had them? **[(?)Thera]**
- Pt Well they worked. **[Gives theria]** But they gave me the first six on drips and then they gave me a week's supply, but.... **[Gives theria; Gives theria]**
- Dr When did you finish those? **[(?)Thera]**
- Pt Last Saturday **[Gives theria]**
- Dr Right. **[Agree]**...Okay, **[Trans]** what I think we should do is two things **[Orient]**. I think you're right, **[Agree]** you've got the infection back. **[Check]** I'm sure that's why you're feeling lousy. **[Leg]** And it's possible there's a bit of infection around the womb giving you your discharge **[Gives med]** but, to be honest, the antibiotics I'll give you for the urine and kidney will deal with any infection you've got there anyway. **[Gives theria; R/O]** So, basically I'm going to give you a course of antibiotics. **[Gives theria]** Now the only thing I want to do before that is to get you to do a urine specimen **[Orient]** and the reason is because sometimes, when you've been in hospital, the germs get resistant to the antibiotics **[Gives med]** so that the antibiotic doesn't work properly anymore. **[Gives med]** So I just want to check on that **[Counsel-Med/Thera]**, but that's really just in case you come back saying you haven't got better **[R/O]**.
- Pt Right, yeah. **[Agree]**
- Dr All right? **[?Understand]** Do you think you can manage one before you go? **[Orient]**
- Pt Yeah, definitely (laughs) **[Agree; Joke]**
- Dr (laughs) It's like that is it? **[Joke; Check]**

8.6.5.3 Reliability and validity of the RIAS

Since its initial development in the USA over twenty years ago, the RIAS has been used in research in a number of other countries including Canada (Bertakis *et al.*, 1991; Roter *et al.*, 1997), the Netherlands (Bensing & Dronkers, 1992; van den Brink-Muinen *et al.*, 1998; Ong *et al.*, 1998; Detmar *et al.*, 2001; van Dulmen *et al.*, 1997), the UK (Ford *et al.*, 1996; Ford *et al.*, 2000), Sweden (Sondell *et al.*, 2000) and Trinidad and Tobago (Roter *et al.*, 1998). Although mainly applied to consultations in primary care settings, the RIAS is increasingly being used to study doctor-patient communication in other specialties, e.g. orthopaedics (Levinson *et al.*, 1997), emergency care (Wissow *et al.*, 1998), oncology and palliative care (Ford *et al.*, 1996; Ong *et al.*, 1998; Ford *et al.*, 2000; Detmar *et al.*, 2001), internal medicine (van Dulmen *et al.*, 1997), obstetrics (Roter *et al.*, 1999) and prosthodontics (Sondell *et al.*, 2000). In a recent study, the RIAS was used to study nurses' communication with cancer patients (Kruijver *et al.*, 2001).

Observational studies have used the RIAS to identify and explore patterns of communication in relation to doctor characteristics like gender (Roter *et al.*, 1991; van den Brink-Muinen *et al.*, 1998; Roter *et al.*, 1999), beliefs concerning psychosocial aspects of patient care (Levinson & Roter, 1995), history of malpractice claims (Levinson *et al.*, 1997) and doctors' satisfaction with consultations (Roter *et al.*, 1997). Relationships have also been explored between RIAS-coded communication and patient factors, e.g. gender (Roter *et al.*, 1991; Hall *et al.*, 1994), health status (Hall *et al.*, 1996; Meredith & Mazel, 2000; Detmar *et al.*, 2001) and consultation outcomes like patient satisfaction, information recall and treatment compliance (Roter, 1977; Roter *et al.*, 1987; Rost *et al.*, 1990; Bertakis *et al.*, 1991; Roter *et al.*, 1997; Wissow *et al.*, 1998; Roter *et al.*, 1999).

Sleath *et al.* (1999) used the RIAS to examine primary care doctors' and chronic disease patients' question-asking about medications, while White, Levinson & Roter (1994) focused on patterns of communication associated with patients' introduction of a new problem during the 'closing moments' of consultations. Bensing & Dronkers (1992) explored GPs' use of 'affective'

and 'task-related' communication behaviours, relating these to objective expert ratings of quality of care.

Of interest to this thesis, three studies have used the RIAS as a basis for quantifying consultation behaviour defined by the respective investigators as 'patient-centred'. Roter *et al.* (1987) related measures of patient-centred behaviour to patient outcomes in a simulated patient study conducted in a primary care setting; this study was reviewed in some detail in Chapter 4. Ford *et al.* (1996) and Wissow *et al.* (1998) studied 'patient-centred' communication behaviours in oncological and emergency (paediatric) care settings respectively. Details of the measures employed and the main findings of each of these studies were presented in Chapter 3.

The RIAS has also been used in intervention studies to evaluate the impact of training to improve patient participation in the consultation (Roter, 1977), doctors' interviewing skills in general (Levinson & Roter, 1993; Roter *et al.*, 1998) and doctors' psychosocial interviewing skills in particular (Roter *et al.*, 1990; Roter *et al.*, 1995).

Ong and colleagues found that the RIAS demonstrated acceptable levels of content validity, enabling all doctor and patient utterances to be classified in a study of oncological consultations (Ong *et al.*, 1998). Furthermore, good levels of convergent validity have been reported for the RIAS compared with relevant categories of a new oncology-specific coding scheme (Ford *et al.*, 2000). Inui and colleagues compared the RIAS with two other interaction analysis systems, namely the Bales IPA (described above), and Stiles' Verbal Response Modes (Stiles, 1978) and found that the RIAS performed better in terms of predicted relationships with outcomes. However in work undertaken by the author prior to this thesis (Mead & Bower 2000b; see Appendix 4), a measure of patient-centredness derived from the RIAS was found to have relatively poor concurrent validity with the measure developed by Henbest and Stewart (1989) when both were applied to the same set of consultations ($r = 0.21$). However, this may be explained by the fact that the RIAS-based measure used in that study (based on a method previously used

by Ford *et al.* 1996) was preliminary and probably tried to incorporate a number of different dimensions of patient-centred care within one measure.

As discussed in Chapter 3, the reliability of an instrument depends on the degree to which it yields stable and consistent measurements over varying conditions or between different users. In observational studies, the most commonly assessed form of reliability is inter-rater reliability (in this case, the degree of agreement between different observers of the same consultation). Because coding is done directly from audio- or videotapes, the RIAS does not lend itself to utterance-by-utterance assessment of inter-rater agreement either for the unitising or categorising process (e.g. by calculating Kappa coefficients). Rather, reliability is assessed on the basis of frequency totals for each of the coding categories. Previous investigators have tended to estimate inter-rater reliability of the RIAS using Pearson correlation coefficients (r 's) and moderate to good levels have been reported (see Table 8.2 below).

Table 8.2 **Inter-rater reliability of RIAS coding reported in some previous studies (Pearson r 's)**

Study	Reliability of doctor categories	Reliability of patient categories	Reliability sample
Bensing (1991)	Range: $r = 0.76 - 0.99$	Range: $r = 0.67 - 0.99$	25 consultations; 2 coders
Ford <i>et al.</i> (1996)	Range: $r = 0.60 - 0.92$	Range: $r = 0.46 - 0.92$	20 consultations; 2 coders
Bertakis <i>et al.</i> 1991	Range: $r = 0.58 - 0.90$	Range: $r = 0.71 - 0.99$	30 consultations; 7 coders

However, it should be noted that Pearson's r measures the strength of association between sets of scores obtained by two coders; it does not measure actual agreement between coders (which would require consideration of variation in coders' mean scores). Effectively, studies that use correlation coefficients as a measure of the reliability of the RIAS assume

that between-coder mean scores are similar, and may therefore overestimate reliability if there is, in fact, variation in mean scores between coders (as is likely). A preferred method for assessing inter-rater reliability of continuous variables, used in the present study, is the intraclass correlation coefficient (ICC). A detailed description of this method is given in Section 8.9.

8.6.5.4 Modifications to the RIAS

Some RIAS coding categories occur relatively infrequently in consultations, making it difficult to calculate their inter-coder reliabilities with confidence (Roter *et al.*, 1991). Thus, investigators increasingly tend to use summary groupings (or 'clusters') of categories that share common meaning or function (Roter & Larson, 2001). Such an adaptation of the RIAS was used in the Euro-communication study, whereby the 34 categories were condensed into 7 'affective' and 9 'instrumental' clusters reflecting category groupings that have been used in previous studies (e.g. Hall *et al.*, 1987; Bensing & Dronkers, 1992; Hall *et al.*, 1994; Roter *et al.*, 1997; Ong *et al.*, 1998). For example, personal remarks, greetings, social conversation, jokes, showing approval and giving compliments were all grouped into the same affective cluster entitled 'Social behaviour'. Condensing categories into clusters of verbal behaviour in this way also has the practical advantage of reducing the time taken to code each consultation.

In addition, another coding category was added to RIAS for the Euro-communication study. 'Back-channel responses' were included in with the category 'agree' (i.e. shows agreement / understanding) as an affective behaviour cluster. 'Back-channel responses' are utterances made by the listener in a dyadic exchange to indicate attention to the speaker and encourage the speaker's continued communication, e.g. 'Mmm', 'Ah-ha', 'I see', 'Go on', etc. A number of other studies using RIAS have included a similar category which the investigators termed 'verbal facilitators' (e.g. Hall *et al.*, 1994; Hall *et al.*, 1996).

To show the verbal clusters that were used in the Euro-communication study and exemplify the coding process, an example RIAS coding sheet is

presented in Figure 8.6. Utterances are coded manually in the sequence they occur on the videotape, column by column. One column is used to code one utterance; a cross indicates that the speaker is the doctor, while ticks are used for patient utterances. In the sequence shown (corresponding to the first 20 utterances occurring in the consultation transcript shown previously in Figure 8.5), the doctor begins the consultation with a greeting ("Hello"), which is coded as 'Social behaviour'. He then tells the patient: "Come and have a seat", which is coded in the next column under the instrumental cluster heading 'Giving directions'. The patient responds: "Thanks", coded in the third column as 'Social behaviour', and so on. The whole conversation is coded in this manner. Finally, the frequency of utterances assigned to each cluster is totalled (for both the doctor and the patient) across however many coding sheets have been used.

Fig. 8.6 Example RIAS coding sheet. Coding and cluster sub-totals given for the first 20 utterances from the example consultation given in Fig.8.5.

				Sub-total	
				GP	Pt
<u>Affective behaviour (7 clusters)</u>					
Doctor = <input checked="" type="checkbox"/> Patient = <input checked="" type="checkbox"/>					
Social behaviour:					
- Pers; Joke; Approve; Comp	<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1	1
Agreement:					
- Agree; Back-channel	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1	1
Paraphrase:					
- Check	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1	0
Verbal attention:					
- Empathy; Leg; Partner	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1	0
Showing concern:					
- Concern	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	1
Reassurance:					
- R/O; ?Reassure	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	0
Disagreement:					
- Disapprove; Criticism	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	0
<u>Instrumental behaviour (9 clusters)</u>					
Giving directions:					
- Trans; Orient	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1	0
Clarification:					
- ?Rep; ?Understand; ?Opinion	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	1
Questions (med):					
- ?Med; (?)Med; ?Thera; (?)Thera	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	3	0
Questions (LS/PF):					
- ?L/S; (?)L/S; ?P/F; (?)P/F	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	0
Information (med):					
- Gives med; Gives thera	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	7
Information (LS/PF):					
- Gives L/S; Gives P/F	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	0	1
Counsels (med):					
- Counsel Med/Thera	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	0
Counsels (LS/PF):					
- Counsel L/S-P/F	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	0
Other:					
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	0

8.6.5.5 RIAS training and practical issues

The author was trained to use the RIAS (along with researchers from the other five countries participating in the Euro-communication study) by the project co-ordinators based in the Netherlands. Training took place over one week, followed by two weeks supervised coding of videotapes that had been collected from participating UK GPs. Training involved first going through the RIAS manual in order to understand the coding criteria for each category, then applying all 35 coding categories to practice consultation transcripts supplied by Debra Roter who developed the RIAS, and finally proceeding to direct coding of videotapes using the cluster method exemplified in Figure 8.6.

Three research assistants (all with undergraduate psychology degrees) were subsequently recruited in Manchester and trained by the author to assist with coding of the UK videotapes collected for the Euro-communication study. Coding was done independently, each coder being assigned a video cassette recorder for playing back tapes using a standard television set, and a stopwatch to time consultation length and 'patient-directed eye gaze'.

The videotapes were divided up between the four coders such that each was involved in coding at least two of every participating doctor's 'batch' of consultations. This was to ensure that any observer bias was spread across the full sample. In addition, 20 randomly selected consultations were coded independently by all four observers in order to calculate inter-rater reliabilities for the different process measures used in the study (see section 8.9).

The coding process for the Euro-communication study required a number of run-throughs of each videotaped consultation from start to finish, following the same standard six-step procedure:

- I. stopwatch measurement of consultation length (including separate measurement of any interruptions);
- II. stopwatch measurement of total GP on-screen time;

- III. stopwatch measurement of GPs' patient-directed eye gaze;
- IV. RIAS coding of communication content;
- V. rating of doctor and patient affect across four 6-point scales (see p. 180, Figure 8.4);
- VI. recording of health problems discussed and clinical procedures carried out (e.g. examinations, prescribing, etc. – see sections 8.5.3 and 8.6.4 respectively).

As noted previously, physical examinations were sometimes not easily audible as they were conducted off-camera (or the camera was switched off altogether). Thus for standardisation, doctor-patient communication during physical examinations was not included in the RIAS coding for the present study's analyses.

8.7 Measures of consultation outcome

Two outcome measures are the focus of the present study. The 18-item Consultation Satisfaction Questionnaire (CSQ; Baker, 1990) was chosen as the measure of *affective* patient outcome while the 6-item Patient Enablement Instrument (PEI; Howie *et al.* 1995; 1997) was the means by which *task-relevant* outcome was assessed. The conceptual and empirical basis for regarding patient satisfaction and enablement as two distinctly different outcome constructs was discussed in detail in the previous chapter (section 7.8.2).

The two outcome measures were completed in the waiting room by participating patients immediately after their consultation with the doctor. The PEI was completed first, followed by the CSQ. This order was chosen because the PEI focuses on specific benefits to the patient of having seen the doctor (e.g. whether they feel more able to understand and cope with their problem) rather than asking them to evaluate the consultation *process* (e.g. whether the doctor was friendly, the examination thorough, etc.). An evaluation of benefits gained (or not gained) from the consultation may lead the respondent to a more considered judgement of the doctor's manner and

performance in response to the CSQ, thus minimising global response biases like 'halo' effects. (This issue was discussed in relation to satisfaction surveys in section 7.5.1 of the previous chapter).

As noted previously, the present study sample comprises those patients for whom sufficient data were available to enable calculation of an overall score for both the PEI and the CSQ (n=173).

8.7.1 The Patient Enablement Instrument (PEI)

The task-relevant outcome chosen for this study was 'patient enablement'. To date there is only one validated measure of enablement available for use in primary care (the PEI; Howie *et al.* 1995, 1997). Details of the development of the PEI and information on its reliability and validity were presented in Chapter 7 and thus will not be repeated here. Instead, this section will deal with specific details concerning its use in the present study.

As discussed briefly in Chapter 7, each of the response options to the six PEI items is scored in the same way, i.e. 'same or less' = 0, 'better / more' = 1, 'much better / much more' = 2. Item scores are then summed so that the maximum achievable enablement score is 12, and the minimum is 0. A percentage overall score may therefore be calculated (Howie *et al.*, 1998).

Since patients may view certain items in the PEI as not relevant to their particular consultation, the instrument's developers experimented with the addition and scoring of a 'not applicable' (N/A) response option for each item (Howie *et al.*, 1998). Respondents appeared to appreciate addition of a 'not applicable' option, with a third giving N/A responses to one or more questions. Moreover, comparative analyses suggested that inclusion of an N/A response option did not affect numbers of missing responses, nor positive responses to the component questions (i.e. 'better' or 'much better' responses); rather patients who would previously have answered 'same or less' were more likely to use the N/A response option when available. Since Howie and colleagues score both the 'same or less' and N/A responses as zero, overall scoring of the PEI is essentially unaffected, although its

acceptability to patients may be increased by including the N/A response option.

An alternative scoring system for the PEI involves removing any items indicated 'not applicable' by the respondent and calculating a percentage overall score based only on remaining items (including 'same or less' responses, which score zero). This has the effect of not lowering the total PEI score on the basis of items that are regarded by the patient as not relevant to their particular consultation. In other words, this method does not effectively 'mark down' the doctor for failing to enable the patient on items s/he feels do not apply.

A preliminary comparison of the two scoring methods was undertaken using data from the study sample. The correlation between scores calculated using the method recommended by Howie *et al.* (i.e. scoring N/A responses as zero) and the alternative method described above was very high ($r = 0.94$; $n=173$). As expected, the mean PEI score using the alternative scoring method was higher than for the Howie method, since N/A items are removed before calculating a percentage score across remaining items, rather than being scored as zero (mean scores (sd): 25.8% (29.43) vs. 22.9% (26.95) respectively). The difference between these two mean scores was not statistically significant. Thus, it was decided to adopt the alternative scoring strategy for the PEI in the present study, despite it not having been used previously.

Clearly, using the alternative scoring method, an overall PEI score cannot be calculated if the patient answers 'not applicable' to all six items. Although there may be doubts about the reliability of enablement scores computed across three or fewer remaining items, in the present study only 16 cases (9.3% of the sample) gave N/A responses to 3 or more PEI items. In order to maximise numbers in the study sample, it was decided to retain these cases and calculate a total PEI score across their remaining (i.e. non-N/A) items.

Although percentage PEI scores were initially calculated for all 173 patients in the sample (using the alternative scoring method described above), this presented problems for subsequent multivariate analyses due to the skewed distribution of responses. The problem, and how it was dealt with, is discussed in more detail in section 8.12.

8.7.2 The Consultation Satisfaction Questionnaire (CSQ)

The CSQ (Baker, 1990) was the chosen measure of affective outcome in the present study. The majority of well-known measures of satisfaction with medical consultations have been developed in the States, e.g. the Medical Interview Satisfaction Scale (MISS; Wolf *et al.*, 1978) and the Patient Satisfaction Scale (PSS; DiMatteo & Hays, 1980). However, some items comprising these instruments may not be transferable to the NHS primary care setting. It is also unclear how established levels of reliability and validity are influenced by the transfer to a different cultural context (Rees Lewis, 1994). Evidence of reliability and validity is limited to the context and purpose for which a measure was developed (Wilkin *et al.*, 1992) and the CSQ has the advantage of having been developed and validated within UK general practice.

One criticism often made of satisfaction questionnaires is that selection of aspects of care to be included in surveys has often not involved patients (Wensing *et al.*, 1994). However, development of items to be included in the CSQ was based on both patient- and GP-reported experiences as well as on the content of other satisfaction questionnaires. Initial validation work (Baker, 1990) suggested good internal reliability (Cronbach's $\alpha = 0.91$) and sufficient variability in responses which, as noted in the previous chapter, is often a problem with patient satisfaction measures.

During development of the CSQ, a principal components analysis revealed three underlying factors of patient satisfaction with consultations. These were: 'professional care' (seven items covering aspects of the examination, clarity of explanation, agreement with advice and interest in the 'whole

person'), 'depth of relationship' (five items concerned with the doctor's intimate knowledge of the patient and the transmission of very personal information) and 'perceived time' (three items concerning the patient's perception of the length of the consultation in relation to their own requirements). Three items relating to overall satisfaction with the visit failed to form a separate factor in analyses and were treated as a separate scale – 'general satisfaction' (Baker, 1990). However as noted in Chapter 7, there is little evidence to support the validity of multi-dimensional measures of satisfaction at the level of single consultations. In respect of the CSQ, Kinnersley *et al.* (1996) advise using a total overall satisfaction score after finding no evidence that the four sub-scales measure reliably different dimensions of the consultation.

Two studies have independently assessed the concurrent validity of the CSQ and the Medical Interview Satisfaction Scale (MISS), both reporting an overall correlation of 0.82 (Kinnersley *et al.*, 1996; Howie *et al.*, 1998).

Construct validity of the CSQ has been examined using patients selected for their predicted satisfaction levels. Hypothesising that patient satisfaction would be associated with greater continuity of care, the investigators found that the CSQ differentiated between patients who had recently moved practice without changing their home address (group 1) and a randomly selected group of patients who were registered with two practices in the area (group 2). Furthermore, the CSQ discriminated in favour of group 2 patients who reported having seen the same doctor in their practice in at least half their consultations over the previous year, compared with group 2 patients who had seen the same doctor on less than half all occasions (Baker & Whitfield, 1992).

In another study, Baker (1996) administered surveys to 75 patients attending each of 126 GPs in 39 different practices. Multivariate analyses were undertaken to identify characteristics of patients, practices or GPs that influenced CSQ scores. Findings indicated that the 'personal service' aspect of general practice care was an important determinant of patients'

satisfaction with consultations. Practice characteristics associated with falls in patient satisfaction were an increasing total list size, the absence of a personal list system and greater numbers of patients booked in per hour. Patients in training practices were also less satisfied with consultations – perhaps relating to the relative inexperience of GP trainees, or the impact on continuity of care caused by the regular presence of a new trainee. There were no clear associations between GP or patient factors and levels of satisfaction in this study.

In a recent observational study, Richards *et al.* (1998) found no difference between patients' CSQ scores following consultations in which the GP had used a computer compared with those where a computer had not been used. The CSQ has also been used as an outcome measure in a number of randomised controlled trials. One compared care provided by GPs in an urban accident and emergency department with 'usual medical care' for non-emergency patients and found no differences in patient satisfaction with their consultations (Murphy *et al.*, 1996). In a recent trial comparing practice nurse and GP management of patients with minor illness attending same-day appointments, the CSQ differentiated in favour of practice nurses. The investigators found no between-groups difference in the proportion of consultations where a prescription was issued, although consultations with GPs were two minutes shorter on average than with practice nurses (Shum *et al.*, 2000). To date however, neither the CSQ nor the PEI has been related to any in-depth measurement of interpersonal aspects of the consultation process.

The CSQ comprises 18 statement-type items each using the same cognitive response format (i.e. a 5-point Likert scale from 'Strongly agree' to 'Strongly disagree' with a 'Neutral' midpoint option). As discussed previously in section 7.6.1, such response formats are more implicitly evaluative than asking patients to give affective judgements (e.g. rating aspects of the consultation from 'Excellent' to 'Very poor'), and may therefore be less prone to social desirability response bias.

As with most satisfaction instruments, the CSQ implicitly uses a 'discrepancy' approach (see section 7.3.2). In other words, respondents' perceptions of the care they have experienced are related to some 'ideal' or 'expected' standard. For example, patients are asked to rate their agreement with the following statements:

Q2 This doctor was very careful to check everything when examining me.

Q13 This doctor was interested in me as a person, not just my illness.

Here, the 'ideal' standard of care involves the doctor being sufficiently systematic and thorough during the examination, and showing interest in the 'whole person' rather than just the medical problem. Thus, the 'ideal' outcome would therefore be a maximum score of 5 points in respect of each item and the 'actual' outcome is the discrepancy between that maximum score and the score attributed to the patient's responses. In scoring the CSQ, the one to five scale is reversed for negatively worded items. Scores are then summed so that the maximum achievable satisfaction score is 90. For ease of interpretation and analysis, overall CSQ scores are usually calculated as percentages of this maximum.

In practice however, three items on the CSQ (i.e. questions 2 and 9 concerning the doctor's examination of the patient, and question 6 concerning the doctor's explanation of treatment) may not be applicable to all medial consultations. In the present study, 28 patients (16.2% of the study sample) had missing data across one or more of these particular items. Scoring of the CSQ was therefore modified so that missing responses to any of these three items were treated as 'not applicable' responses, assuming all other items in the questionnaire were complete. Scoring was adapted in the same way as the alternative scoring method described above for the PEI in order to take account of this modification. In other words, if the respondent indicated 'N/A' to any of these three particular items, the item(s) were

removed before calculating a total percentage CSQ score across remaining items.

8.7.3 GP evaluations of their consultation performance

As previously detailed in section 8.5.4, GPs completed a log sheet immediately after each videotaped consultation. The last three columns of the log sheet comprised three 10-point rating scales which GPs used to evaluate (respectively) their medical performance, psychosocial performance and the quality of their relationship with the patient in the consultation. Scores of 1 indicated 'very poor' and 10 indicated 'excellent'.

GPs evaluations of their consultation performance are not a primary outcome measure in the present study. They will be used only for descriptive purposes as a means of examining the validity of the key explanatory variables in the study (i.e. the measures of patient-centred consulting behaviour).

8.8 Summary of measures used in the present study

The present study utilised data relating to a variety of different consultation inputs, processes and outcomes. The information source and means by which each variable was measured are summarised in Figure 8.7.

Fig. 8.7 **Variables measured in the present study**

Variables	Type	Measure	Information source
• Patient age, sex, marital status	Input	Survey	Patient
• Patient physical health (physical activity level, change in health, pain)	Input	COOP / Wonca charts	Patient
• Patient emotional health status	Input	General Health Questionnaire (GHQ-12)	Patient
• GP acquaintance with patient	Input	5-point rating scale	GP
• No. years on practice list	Input	From patient medical record	GP
• No. of surgery visits in past 12 months	Input	From patient medical record	GP
• Problem type(s): new physical; existing physical; new psychosocial; existing psychosocial; routine administration; preventive care; new physical problem only (Binary variables: 1=yes; 0=no)	Input	Consultation data sheet(s) (one per health problem)	Videotape
• Total no. of problems discussed (range: 1 – 4)	Input	Consultation data sheets	Videotape
• Consultation length	Process	Stopwatch	Videotape
• 'Patient-directed eye gaze'	Process	Stopwatch	Videotape
• Whether consultation was interrupted (Binary variable: 1=yes; 0=no)	Process	Consultation data sheets	Videotape
• Clinical behaviours: blood pressure check, physical exam, new prescription, repeat prescription; referral. (Binary variables: 1=yes; 0=no)	Process	Checklists on each 'health problem' data sheet	Videotape
• Patient-centredness measures (5)	Process	Roter system (RIAS)	Videotape
• Enablement	Outcome	Patient Enablement Instrument (PEI)	Patient
• Satisfaction	Outcome	Consultation Satisfaction Questionnaire (CSQ)	Patient
• Evaluations of medical performance, psychosocial performance and quality of doctor-patient relationship in the consultation	Outcome	10-point rating scales	GP

8.9 Reliability of quantitative measures of the consultation process

Assessments of reliability of the RIAS coding and other quantitative measures of the consultation process were based on a sample of 20 consultations (separate from the main sample of 173 consultations used for this study) which were independently coded by all four observers.

8.9.1 The intraclass correlation coefficient

The intraclass correlation coefficient (ICC) was used as a measure of inter-rater reliability rather than calculating pairwise (or mean) Pearson correlation coefficients (r 's) as have generally been used in other studies using the RIAS (see section 8.6.5.3). Pearson r measures the degree of association between observers' scores but takes no account of the mean level of those scores. In the fictitious example shown in Figure 8.8 below, scores independently assigned by Observers 1 and 2 when measuring a particular criterion across three different consultations are perfectly correlated (i.e. $r = 1.0$), but there is a marked difference in the mean of each set of scores.

Fig. 8.8 **Example of perfect correlation between two sets of scores**

	Consultation 1	Consultation 2	Consultation 3	Mean score
Observer 1	3	4	5	4
Observer 2	12	13	14	13

The intraclass correlation coefficient is an analysis of variance (ANOVA)-based test of reliability. It is preferred to Pearson's r because it takes into account both association and actual levels of agreement between observers' measurements; moreover, data can be assessed from more than two observers at the same time (Everitt, 1996). When a number of observers quantify a particular criterion on each of a number of consultations, the intraclass correlation coefficient is a ratio measure of the variation in 'true' scores to variation in 'true' scores *plus* variation associated with observers *plus* variation attributable to measurement error, as follows:

$$ICC = \frac{\sigma^2_t}{\sigma^2_t + \sigma^2_o + \sigma^2_\epsilon}$$

where σ^2_t = the variance in 'true' scores

σ^2_o = the variance attributable to observers

σ^2_ϵ = the variance due to error

These variance terms can be estimated by computing a two-way ANOVA of the observers' scores for each consultation, which generates an analysis of variance table as shown in Figure 8.9.

Fig. 8.9 Two-way ANOVA for estimating variance terms

Source	Degrees of freedom (df)	Mean square (MS)
Consultations (C)	$n - 1$	CMS
Observers (O)	$o - 1$	OMS
Error (E)	$(n - 1)(o - 1)$	EMS

n = number of consultations in sample; o = number of observers

The three variance terms are then estimated as follows:

$$\sigma^2_t = \frac{CMS - EMS}{o}$$

$$\sigma^2_o = \frac{OMS - EMS}{n}$$

$$\sigma^2_\epsilon = EMS$$

The following worked example demonstrates the difference in assessments of inter-rater reliability achieved using the two different methods (i.e. Pearson's r and ICC). Table 8.3 presents frequency counts of RIAS-coded 'GP verbal behaviour' obtained across the 20-consultation reliability sample by the four observers. Pairwise associations between the observers are

good, ranging from $r = 0.74$ to 0.88 (with a mean overall correlation of $r = 0.83$; see Table 8.4). This pattern of relatively strong relationships between each pair of observers' scores is displayed graphically in Figure 8.10. However the means and standard deviations of the observers' scores differ (as shown in Table 8.3); boxplots show that observer 4's measurements vary considerably more than those of the other three observers (Figure 8.11). The ANOVA table corresponding to this data is given in Table 8.5, enabling the ICC to be computed as follows:

$$\sigma^2_t = \frac{113.18 - 8.19}{4} = 26.248$$

$$\sigma^2_o = \frac{106.95 - 8.19}{20} = 4.938$$

$$\sigma^2_e = 8.19$$

$$ICC = 26.248 / 26.248 + 4.938 + 8.19$$

$$ICC = \mathbf{0.67}$$

In this case, the ICC provides a more moderate but more accurate assessment of inter-rater reliability of coding of the 'GP verbal behaviour' cluster than does the Pearson coefficient (i.e. $ICC = 0.67$ vs mean $r = 0.83$).

Table 8.3 Frequency counts for the RIAS cluster 'GP social behaviour' independently measured across 20 consultations by the four coders

Consultation	Observer 1	Observer 2	Observer 3	Observer 4
1	3	4	6	3
2	4	5	5	11
3	2	4	6	5
4	3	5	6	4
5	11	10	13	17
6	3	0	1	2
7	3	4	4	6
8	7	4	6	12
9	5	7	9	16
10	8	5	6	7
11	8	4	11	9
12	3	7	14	14
13	0	1	1	1
14	4	8	9	17
15	12	11	14	22
16	10	16	15	31
17	4	9	10	11
18	20	21	16	23
19	2	3	4	6
20	1	1	2	1
Mean (sd)	5.65 (4.76)	6.45 (5.10)	7.9 (4.7)	10.9 (8.2)

Table 8.4 Pearson correlation coefficients (r) for frequency counts of 'GP social behaviour' between pairs of coders ($n= 20$ consultations)

	Observer 1	Observer 2	Observer 3
Observer 2	0.85		
Observer 3	0.76	0.87	
Observer 4	0.74	0.88	0.87

Fig 8.10 Matrix of scatter plots for 'GP social behaviour' frequency totals assigned by each pair of observers coding 20 consultations

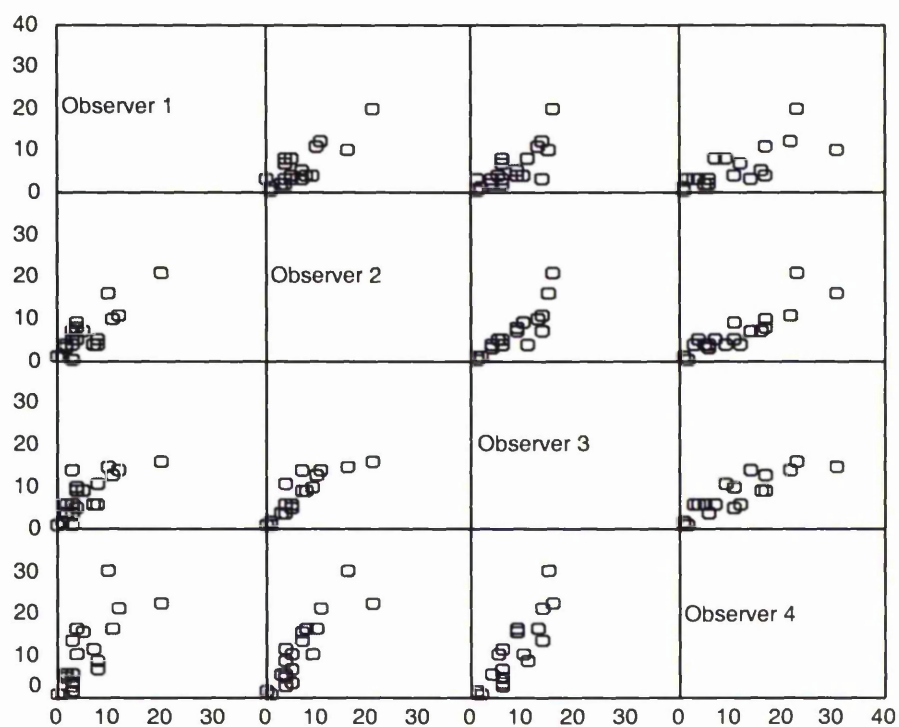


Fig. 8.11 **Boxplot of frequency totals for 'GP social behaviour' utterances**

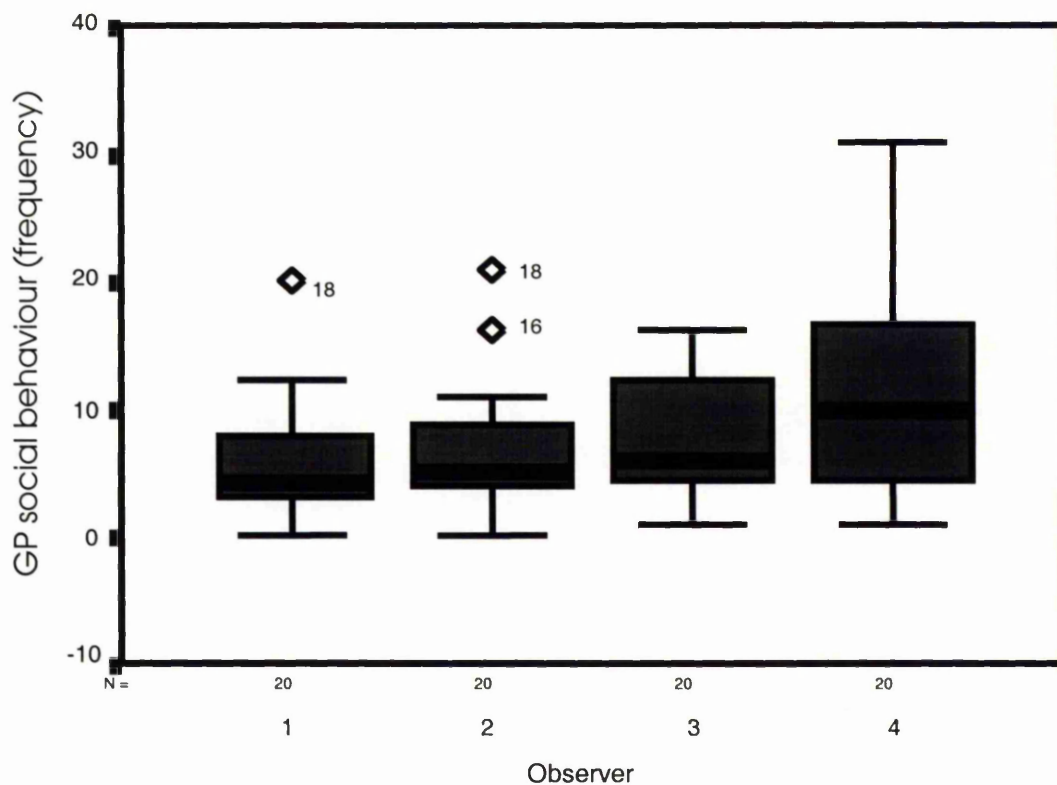


Table 8.5 **Two-way analysis of variance table for the four coders' counts of 'GP social behaviour' obtained over 20 consultations**

Source	Sum of squares (SS)	Degrees of freedom (df)	Mean square (MS)
Consultations	2150.45	19	113.18
Observers	320.85	3	106.95
Error	466.65	57	8.19

8.9.2 Results of inter-rater reliability assessments

Reliability of the RIAS coding was variable with ICC's ranging from 0.02 to 0.84 for clusters of patient verbal behaviour and 0.11 to 0.92 for doctor clusters (see Table 8.6).

Five patient clusters with the lowest inter-rater reliabilities (i.e. $ICC < 0.53$) were excluded from the study, resulting in a mean intraclass coefficient for remaining patient clusters of $ICC = 0.61$. Six GP clusters had reliabilities of $ICC < 0.61$ and were also excluded, resulting in a mean reliability for remaining clusters of $ICC = 0.71$ (see footnote to Figure 8.13 for details). Although this effectively means that a slightly lower reliability threshold was applied to patient clusters than to doctor clusters, this reflects the tension between achieving adequate reliability and ensuring that as many relevant variables as possible were available for operationalising the different measures of patient-centredness (see section 8.10).

Inter-observer agreement for ratings of GP and patient affect are given in Table 8.7. Ratings of anger / irritation were very reliable both for the doctor and patient. However, ratings across the other three affect dimensions were much poorer. Reliability of the stopwatch timings of consultation length and 'patient-directed eye-gaze' were good (see Table 8.8).

Table 8.6 Inter-rater reliability of RIAS clusters of patient and doctor behaviour coded by four independent observers (n = 20 videotaped consultations)

Coding cluster	Intraclass correlation coefficient (ICC)	
	Patient	Doctor
<u>Affective clusters</u>		
Social behaviour	0.77	0.67
Agreement	0.84	0.77
Paraphrase	0.55 ^a	0.61
Verbal attention	0.02 ^a	0.38 ^a
Showing concern	0.53 ^a	0.11 ^a
Reassurance	0.15 ^a	0.88 ^a
Disagreement	0.20 ^a	0.32 ^a
<u>Instrumental clusters</u>		
Giving directions	0.59 ^a	0.80
Clarification	0.72 ^a	0.68 ^a
Questions (med)	0.75 ^a	0.79
Questions (LS/PF)	0.17 ^a	0.92
Information (med)	0.78	0.88
Information (LS/PF)	0.56	0.21 ^a
Counsels (med)	n/a	0.69
Counsels (LS/PF)	n/a	0.41 ^a
Other	0.32	0.20

^a Coding cluster accounts for <2% of total utterances coded

Table 8.7 Inter-rater reliability of RIAS ratings of patient and doctor affect (each dimension measured on a 6-point scale) based on 20 videotaped consultations independently coded by four observers

Affect dimension	Intraclass correlation coefficient (ICC)	
	Patient	Doctor
Anger / irritation	0.83	0.97
Anxiety / nervousness	0.42	0.34
Interest / concern	0.22	0.29
Friendliness / warmth	0.27	0.37

Table 8.8 Inter-rater reliability of stopwatch measures based on 20 videotaped consultations independently coded by four observers

Stopwatch measure	Intraclass correlation coefficient (ICC)
Overall consultation length	0.99
Length of 'patient-directed eye-gaze'	0.95
Length of 'patient-directed eye-gaze' as a proportion of total GP on-screen time	0.76

8.10 Operationalising patient-centredness

Three of the five dimensions of patient-centred care identified and described in Chapter 2 are the focus of this study, namely: 'the biopsychosocial perspective', 'sharing power and responsibility' and 'the therapeutic alliance'. The two remaining dimensions ('patient-as-person' and 'doctor-as-person') were not included because, as discussed in Chapters 2 and 3, these two

dimensions may be characterised as 'idiographic' (as opposed to 'nomothetic') aspects of patient-centredness. The former is concerned with the doctor's understanding of the *individual* patient and his or her *personal meaning* of the illness (i.e. 'patient-as-person') while the latter ('doctor-as-person') is concerned with the doctor's *own subjectivity* and the influence this brings to bear on the unique dynamic of each patient encounter. In other words, these are two very context-specific dimensions of patient-centred care that do not lend themselves readily to quantitative study where the aim is to make statements about relationships which can be generalised across the full range of patient consultations in general practice.

The three dimensions of patient-centredness included in this study were measured in terms of five different behavioural variables (see Figure 8.12). Each variable was operationalised on the basis of RIAS coding of verbal and non-verbal communication behaviours in the consultation. The focus is very much on doctor behaviours since patient-centred care is conceived of as part of the doctor's clinical method. In other words, the degree to which the patient engages in discussion of psychosocial factors relating to their presenting problem, voices their health beliefs and explanatory models of illness, expresses treatment preferences, agrees therapeutic goals (etc.) are seen as dependent on doctor behaviours that facilitate such patient-centred care processes.

Decisions about how to operationalise each variable were made by the author on the basis of her understanding of the different dimensions of patient-centredness, experience with the RIAS coding system, estimates of the reliability of each coding cluster (see Table 8.6), and on the content of measures used by investigators in previous studies.

A brief theoretical rationale for the formulation of the five variables is presented below under headings indicating to which dimension of patient-centred care each variable relates.

8.10.1 The biopsychosocial perspective (dimension 1)

This dimension, which concerns exploring patients' problems within a broad physical, psychological and social framework, is represented by one variable, labelled '*Psychosocial questions*'. This variable measures all GPs' questions relating to psychosocial and lifestyle issues as a proportion of their total talk in the consultation. Questioning of this nature should facilitate discussion of any psychological or social factors that may be important for reaching an holistic (or 'triaxial') diagnosis of the patient's problem. While GPs are likely to score high on this variable where there is clear psychological morbidity, it is important to explore the possible existence of psychosocial issues in all patient consultations, regardless of the presenting problem. For this reason, patients' psychological health status should be controlled for in analyses.

8.10.2 Sharing power and responsibility (dimension 3)

Rather than impose their own agenda, the patient-centred GP is comfortable with allowing the patient to establish the consultation agenda and is prepared to share responsibility for decision-making. Two variables were calculated to represent this dimension of patient-centredness.

The first variable, labelled '*Time for the patient*', is a ratio of the total number of patient utterances to total GP utterances, indicating the degree to which the GP adopts a listening role and gives the patient space to tell their 'story of the illness'. It is envisaged that GPs who are uncomfortable with encouraging the patient to voice their own ideas, expectations and concerns, will attempt to control the consultation agenda by doing more of the talking. In operationalising '*Time for the patient*', only reliably coded clusters of patient and GP talk were included. However, one reliably coded RIAS cluster (namely 'agreements') was excluded from both patient and GP talk when computing this variable because that particular cluster is largely comprised of 'back-channel' responses (e.g. 'Uh huh') which indicate attention to the speaker rather than 'active talk' *per se*.

The second variable relating to this dimension of patient-centredness is labelled '*Involving the patient*'. This variable focuses on GP behaviours that

theoretically provide opportunities for patient involvement in decision-making, such as giving information about the patient's problem and any associated treatment options, and using 'clarifying' statements to solicit patient opinions and check understanding. These behaviours were again measured as a proportion of GPs' total talk. It should be noted that the GP cluster 'Information (LS/PF)', concerned with giving the patient information about psychosocial / lifestyle issues (and which represented less than 2% of total GP utterances) was excluded from the formula for computing this variable for reasons of poor reliability (ICC = 0.21; see Table 8.6).

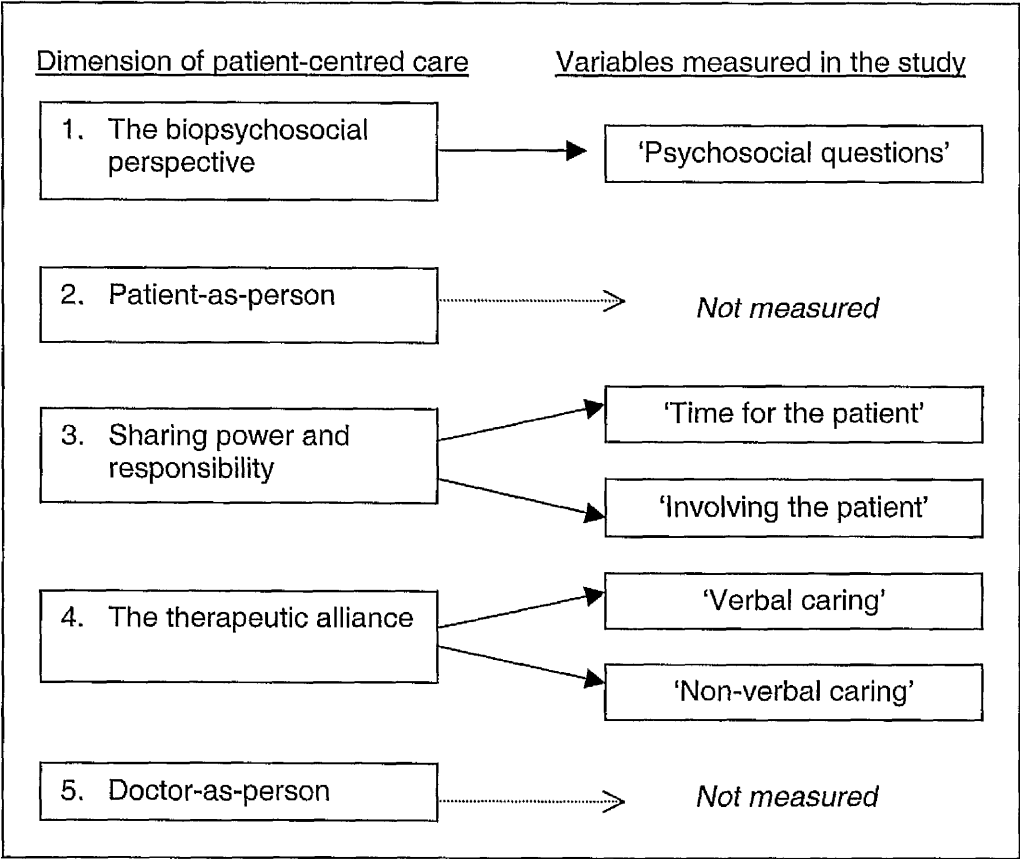
8.10.3 The therapeutic alliance (dimension 4)

Socio-emotional aspects of the doctor-patient relationship (such as communication of support and empathy) are integral to the 'patient-centred' therapeutic process. The first variable representing this dimension, labelled '*Verbal caring*', measures the proportion of GP talk taken up with social (i.e. non-medical) utterances and expressions of reassurance and encouragement. It is envisaged that such utterances will help to foster a friendly, positive atmosphere and promote a sense of comfort and security in the doctor-patient relationship. Ideally, this variable would have included two other GP clusters, namely 'verbal attention' (which includes statements of legitimization, empathy and partnership), and also the 'showing concern' cluster - but neither of these was included because inter-rater reliability estimates were relatively poor (ICC's = 0.41 and 0.53 respectively; see Table 8.6). However since both clusters made up, on average, less than 2% of total GP talk in the sample of consultations used to assess reliability, it is likely that their exclusion from the formula for computing '*Verbal caring*' in the present study had negligible impact on scores for this particular patient-centred behaviour.

The second variable representing the therapeutic alliance is labelled '*Non-verbal caring*'. This variable is an indicator of the GP's affective manner and was based on the observer ratings of GP 'warmth / friendliness' and 'interest / concern'. As mentioned in section 8.9.2, reliability of these ratings was inadequate although dividing summed ratings by the maximum achievable

score will, to some extent, increase reliability of this variable. In taking account of such things as GP voice tone and facial expression, *'Non-verbal caring'* is an important adjunct to the first therapeutic alliance variable (described above) since it may be possible for doctors to *verbalise* 'caring' in an emotionally detached manner. In light of its conceptual importance but poor reliability, the main analyses were run first including, then excluding this particular variable.

Fig. 8.12 **Summary of patient-centredness variables in the present study and their relationship to the dimensions of patient-centred care described in Chapter 2**



The RIAS-based formula for computing each of these five patient-centredness variables is shown in Figure 8.13.

Fig. 8.13 Operationalising the patient-centredness variables

Patient-centredness variable	Operationalisation
(Dimension)	
'Psychosocial questions'	Summed total for the GP cluster: 'Questions (lifestyle / psychosocial)'
(Biopsychosocial perspective)	Summed total for all GP clusters ¹
'Time for the patient'	Summed total for all patient clusters ² (excluding 'agreements')
(Sharing power and responsibility)	Summed total for all GP clusters ¹ (excluding 'agreements')
'Involving the patient'	Summed total for the GP cluster: 'Information (medical)' + summed total for the GP cluster 'Clarification'
(Sharing power and responsibility)	Summed total for all GP clusters ¹
'Verbal caring'	Summed total for GP cluster: 'Social Behaviour' + summed total for GP cluster: 'Reassurance'
(Therapeutic alliance)	Summed total for all GP clusters ¹
'Non-verbal caring'	Summed 6-point ratings of GP 'Warmth / friendliness' + 'Interest / concern'
(Therapeutic alliance)	Maximum score across the two scales (i.e. 12)

¹ Includes only those GP utterance clusters that were reasonably reliably coded, i.e.: social behaviour, agreement, paraphrase, reassurance, giving directions, clarification, questions (medical), questions (lifestyle / psychosocial), information (medical), counselling (medical). Excluded (unreliable) coding clusters were: verbal attention, showing concern, disagreement, information (lifestyle / psychosocial), counselling (psychosocial / lifestyle), 'other' utterances.

² Includes only those patient utterance clusters that were reasonably reliably coded, i.e.: social behaviour, agreement, paraphrase, showing concern, giving directions, clarification, questions (medical), information (medical), information (lifestyle / psychosocial). Excluded (unreliable) coding clusters were: verbal attention, reassurance, disagreement, questions (lifestyle / psychosocial), 'other' utterances.

8.11 The study hypotheses

As discussed in Chapter 6, the theoretical framework proposed by Hall *et al.* (1988), which will be used to generate hypotheses in the present study, subsumes doctor consulting behaviours into two broad behavioural domains. 'Instrumental' behaviours are concerned with the key medical tasks of the consultation (i.e. problem diagnosis and management). 'Socio-emotional' consulting behaviours facilitate the interpersonal interaction between doctor and patient, and promote and maintain the therapeutic relationship over successive encounters.

Two of the five patient-centredness variables operationalised in this study may be considered 'instrumental' behaviours. '*Psychosocial questions*' is primarily concerned with diagnosis of the patient's problem within a broad biopsychosocial framework. '*Involving the patient*' is concerned with providing information, ensuring understanding and facilitating opportunities for patient involvement in decision-making about problem management.

According to the theoretical model described in Chapter 6, these behaviours will influence task-relevant patient outcomes. For example, the doctor's use of a 'biopsychosocial' perspective may enhance the patient's confidence that their problem has been fully explored and understood. Seeking the patient's opinions and providing opportunities for participation in decision-making may increase perceived responsibility for problem resolution on the part of the patient, promoting a sense of shared 'ownership' of the management plan and confidence that the plan can be carried out (i.e. increasing the patient's efficacy expectations). In other words, such behaviours provide necessary evidence of the doctor's competence required for the patient to have confidence in their care and in their ability to perform the 'tasks' of being a patient (such as taking medication correctly). Moreover, the theoretical model suggests that the patient will interpret good task performance in an affective way, i.e. these behaviours will also positively impact on the patient's satisfaction with the consultation.

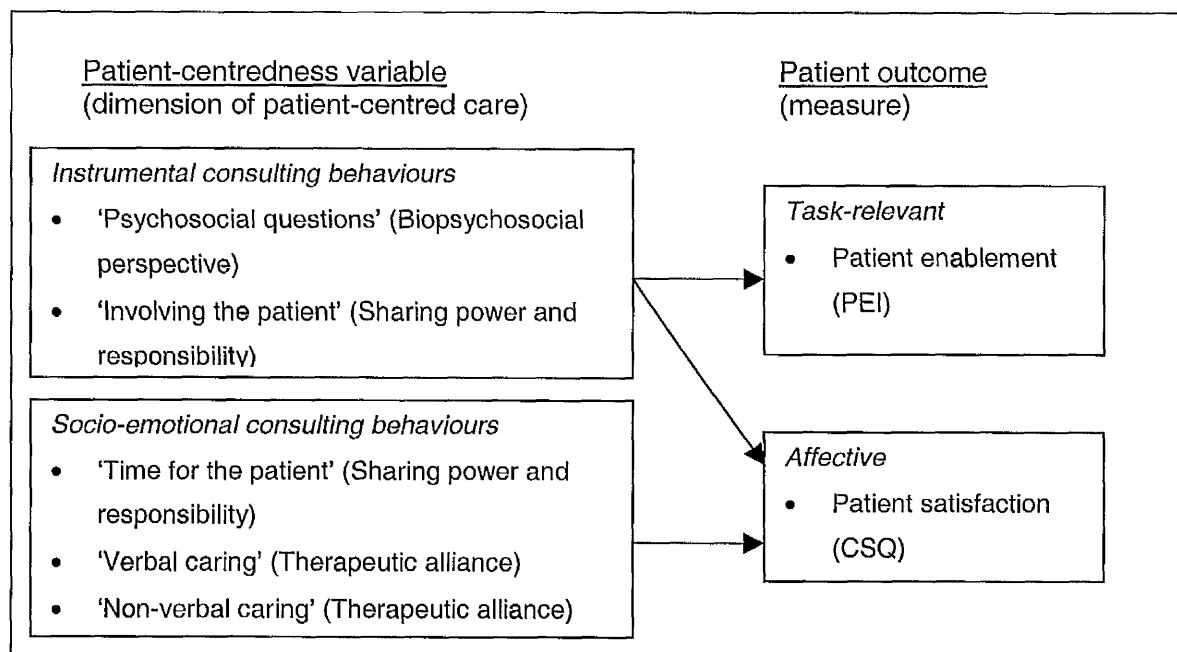
The three remaining patient-centredness variables in this study are conceptualised as 'socio-emotional' consulting behaviours. In providing '*Time for the patient*' the GP is seen as willing to listen, treat the patient as an 'expert' in their illness and not hurry the consultation along. Such behaviour will convey respect and a positive regard for the patient as an individual. '*Verbal caring*' and '*Non-verbal caring*' behaviours will help to facilitate a warm, supportive, caring interaction. According to the theoretical model, these socio-emotional behaviours will influence affective patient outcomes, and there is good supporting evidence from the satisfaction literature that such attributes of care are highly valued by patients (see section 7.3.3). The model also proposes that socio-emotional consulting behaviours will *not* be associated with task-relevant patient outcomes since they do not alone provide sufficient evidence of the doctor's technical competence.

Thus the following two hypotheses are tested in this study:

1. '*Psychosocial questions*' and '*Involving the patient*' are task-relevant (i.e. instrumental) GP consulting behaviours. These are hypothesised to predict *both* patient satisfaction (the affective outcome) and patient enablement (the task-relevant outcome).
2. '*Time for the patient*', '*Verbal-caring*' and '*Non-verbal caring*' are socio-emotional (as opposed to task-relevant) GP consulting behaviours. They are hypothesised to predict patient satisfaction but *not* enablement.

These two hypotheses are presented diagrammatically in Figure 8.14.

Fig. 8.14 Hypothesised relationships between the five patient-centredness variables and two patient outcomes



8.12 Statistical analyses

The study aimed to explore relationships between two patient outcome measures as the dependent variables (DVs) and multiple consultation input and process factors as the independent variables (IVs). The appropriate statistical techniques in this situation are multiple linear regression where the dependent variable is continuous, or logistic regression when the dependent variable takes only two values.

In multiple regression, several IVs are combined to predict a value on a continuous DV for each subject. The result of regression is an equation that represents the best prediction of the DV from several continuous (or dichotomous) IVs. The regression equation takes the following form:

$$Y' = B_0 + B_1X_1 + B_2X_2 + \dots B_KX_K$$

where Y' is the predicted value on the DV, B_0 is the Y intercept (i.e. the value of Y when all the X values are zero), the Xs represent the various IVs (of which there are k), and the Bs are the slope coefficients assigned to each of the IVs during the regression (Tabachnick & Fidell, 2001).

Logistic regression is a multivariate technique for estimating the *probability* that an event occurs; in other words, that the dependent variable takes one of its two possible values. The logistic regression model takes the following form:

$$Prob(event) = 1/(1 + e^{-Z})$$

where e is the base of the natural logarithms (approximately 2.718) and Z is the following linear combination:

$$Z = B_0 + B_1X_1 + B_2X_2 + \dots B_KX_K$$

As in multiple linear regression, B_0 is the Y intercept, the Xs represent the various IVs, and the Bs are the slope coefficients assigned to each of the IVs in the regression model (Norusis, 1990).

Initial examination of the distribution of patient satisfaction scores revealed that these were fairly normally distributed over the observed range (mean CSQ score: 77.76%, SD 10.45%; range: 50.0% - 100% - see p.219, Figure 8.15). In other words, it was reasonable to treat CSQ score as a continuous dependent variable and analyse the data using multiple linear regression. However, Figure 8.16 (p.219) shows that enablement scores were skewed, with a high proportion of patients (36%) reporting 'zero' enablement (mean percentage PEI score: 25.78%, SD 29.43%; range: 0% - 100%; median score: 16.67%). Log transformations of the enablement data did not significantly improve skewness. Thus, it was decided to adopt a conservative approach and treat enablement as a binary variable in statistical analyses - i.e. 'not enabled' (scoring 0% on the PEI) vs. 'enabled (to some degree)' (scoring > 0% on the PEI). Although this effectively loses information in the

data, logistic modelling does not make the distributional assumptions that underlie multiple regression (described in more detail in section 8.12.1 below).

8.12.1 Practical issues in multiple linear regression

Required sample size in linear regression depends on a number of issues including desired power, alpha level, number of predictors in the equation (i.e. IVs) and expected effect sizes. In the present study, no *a priori* sample size calculation was conducted; rather, as much data were collected as possible within the time constraints imposed by the Euro-communication project. However, 'rule of thumb' sample size requirements for testing individual predictors in multiple regression suggest between 5 and 10 data points for each included IV (Motulsky, 1995), or a minimum of 104 cases + [the number of included IVs] (Tabachnick & Fidell, 2001). These were used to guide the number of IVs entered into the linear regression equation as predictors of CSQ score. A *post-hoc* power calculation was conducted and is presented in section 10.2.3 of this thesis.

Extreme cases can have a major impact on a regression solution. For example, if the relationship between patient-centred consulting and patient satisfaction is high for all cases except a small minority of 'outliers' where the opposite was found, including those outliers in the regression would give a very different solution to that produced if the outliers were excluded. Where outliers are found, they can be removed from analyses and the regression re-run. However, the *post-hoc* removal of extreme cases without theoretical basis may be seen as illegitimate, and was therefore not undertaken in the present study.

Fig. 8.15 Histogram showing distribution of patient satisfaction (CSQ) scores for the study sample

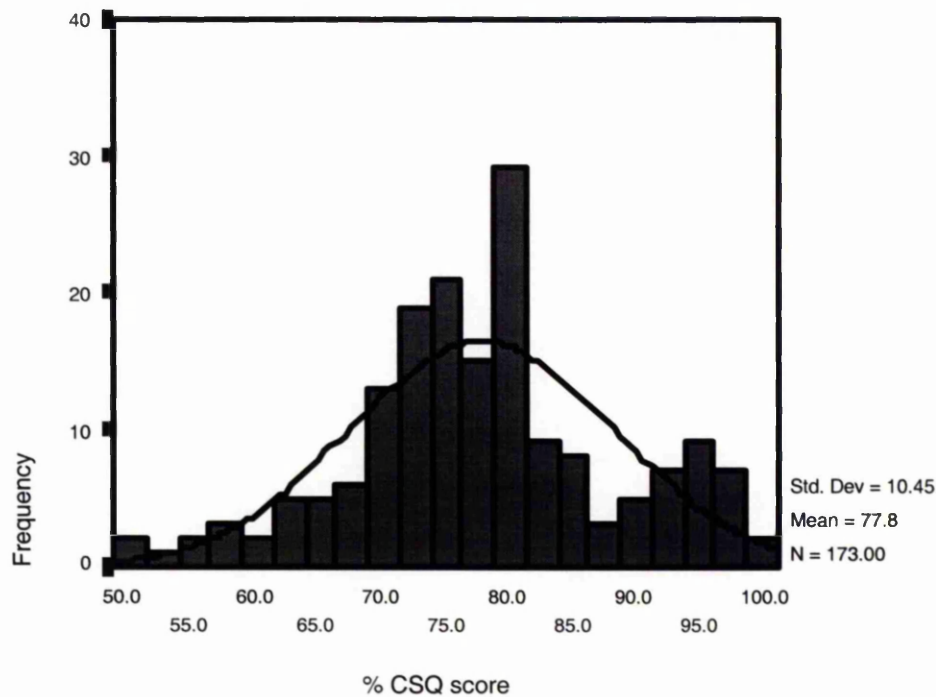
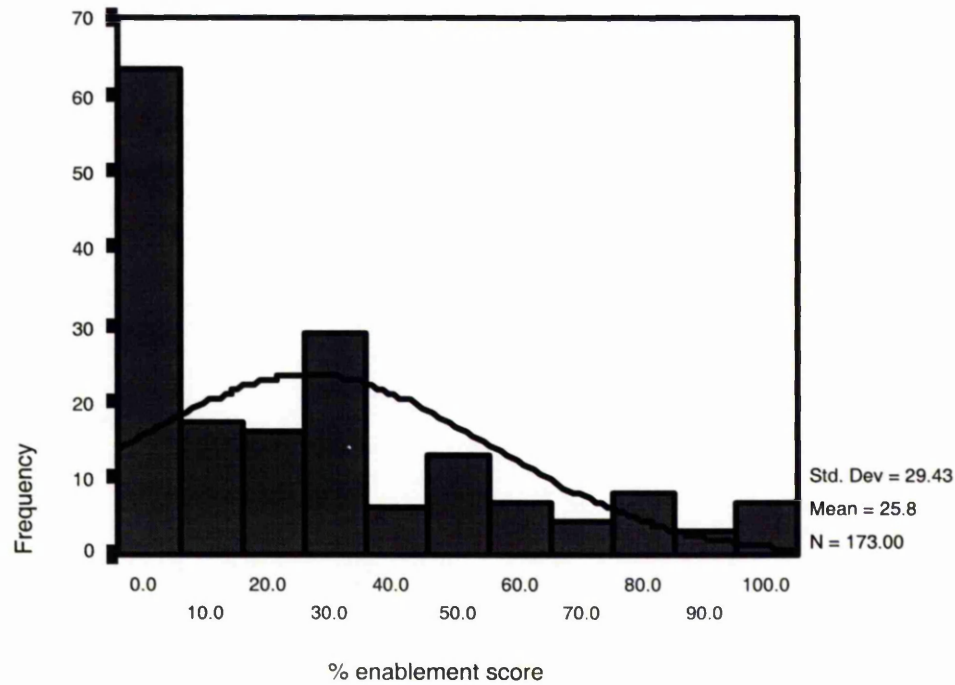


Fig. 8.16 Histogram showing distribution of patient enablement (PEI) scores for the study sample



Another issue to consider in multiple linear regression analysis is that of multicollinearity. This occurs when there is high correlation between IVs in the regression equation, resulting in the problem that the separate effects of these variables cannot be disentangled. While potential multicollinearity may be identified through examination of the correlation matrix of IVs to see if any are particularly highly correlated (e.g. $r > 0.8$), it is possible to have multicollinearity without evidence of high correlations because it is a multivariate (as opposed to bivariate) problem.

The statistical package used to perform the CSQ regression analysis in this study (Statistical Package for Social Sciences – SPSS Version 9) provides a variance inflation factor (VIF) statistic for each predictor variable included in the equation, which can be used to identify potential multicollinearity. Examination of VIFs indicated no problems with any of the variables included in the CSQ regression.

Other key assumptions of linear regression analysis are normality, linearity and heteroscedasticity. This means, respectively, that the residuals (i.e. differences between obtained and predicted DV scores) should be normally distributed about the predicted DV scores, should have a straight line relationship with predicted DV scores, and that their variance about predicted DV scores should be same for all predicted scores (Tabachnick & Fidell, 2001). In respect of the independent variables entered into a regression equation, no assumptions are made concerning their distributions (other than their relationship with the dependent variable). Visual inspection of the distributions of residuals from the CSQ analysis was used to test these various assumptions and no gross deviations were found.

A final key assumption of multiple regression is that all observations are independent of one another. In other words, knowing the outcome score for one particular subject provides no information about outcome scores for other subjects. However in the present study, the fact that consultations are

'clustered' within GPs may invalidate this assumption – an issue discussed in more detail in section 8.12.5.

8.12.2 Practical issues in logistic regression

Some of the issues raised above in relation to linear regression are the same in logistic regression analysis (e.g. sample size, treatment of outliers).

However the distributional assumptions underlying linear regression (e.g. the assumption of multivariate normality) are not required for logistic modelling.

For this reason, treating enablement as a binary dependent variable in logistic regression will produce results that are likely to be more statistically valid than if enablement were treated as a continuous variable in multiple regression.

8.12.3 The independent variables

8.12.3.1 Patient-centredness scores

All five patient-centredness variables were transformed into standardised scores by subtracting the mean from each observation then dividing by the standard deviation. This eases interpretation of the regression results. In linear regression, regression coefficients (Bs) represent change in the dependent variable for a one unit change in each IV. Since patient-centredness variables are standardised, the B values represent change in CSQ score for a *one standard deviation* change in each patient-centredness variable. In the logistic regression, the B values relate to the change in the *probability* of being enabled (or not enabled).

8.12.3.2 Treatment of missing data

Missing data across the following 'input' variables were treated by imputing mean scores from the rest of the sample: number of years on the practice list (4 cases), GHQ score (4 cases), number of patient visits in the past year (3 cases), GP-rated acquaintance with the patient (3 cases). As reported previously, 'patient-directed eye-gaze' could not be measured in 14 cases. A decision not to impute missing data for this variable was made after it was

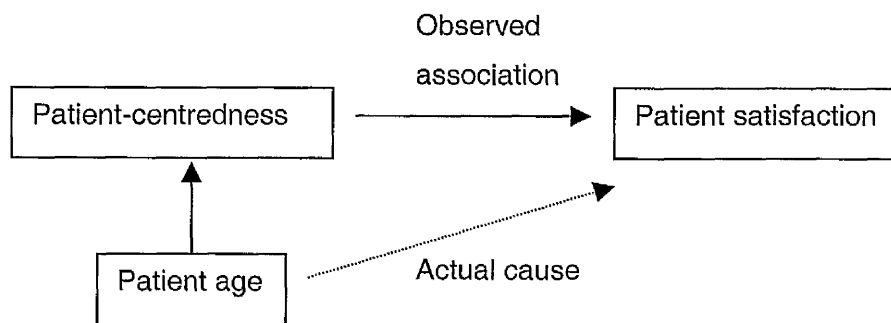
found not to be a potential confounder of either patient outcome (see below), and so would not need to be included in the main regression analyses.

8.12.3.3 Confounding variables

Two types of independent variable are included in the regression analyses for this study. The five patient-centredness variables (described earlier in sections 8.10.1 through 8.10.3) are the main focus of interest. However, the aim is to examine the predictive effect of these variables on each patient outcome independent of the effect of other IVs, or *confounders*.

An example of confounding is presented in Figure 8.17, where patient age is the confounding factor. As noted in Chapter 7, a consistent association has been found between patient age and satisfaction with medical care. If a relationship were observed in this study between patient-centredness and patient satisfaction, and age is also related to patient-centredness, then the 'true' relationship between patient-centred consulting and satisfaction may not be causal; rather it may be mediated through the relationship with patient age (i.e. doctors happen to be more patient-centred with older patients who happen to be more satisfied with their care).

Fig. 8.17 Example of confounding



Standard regression (in which all IVs into the equation simultaneously) enables the effect of each patient-centredness variable on each outcome to be assessed after the effects of all other IVs are removed (including the

effects of the four other patient-centredness variables). With this method, each variable is assessed as if it had entered the regression after all the other IVs had entered, and is evaluated in terms of what it adds to the prediction of the DV that is different from the predictability afforded by the other IVs (Tabachnick & Fidell, 2001). Although there are a number of alternative methods for entering IVs into a regression equation, none fulfil the aim of the present analysis. For example, stepwise entry of IVs would be an appropriate strategy only if the aim was to determine which of the five patient-centredness variables is the *best* predictor of the outcome variable.

8.12.3.4 Identifying confounders

Two methods were used to identify potential confounders of outcome. First, previous empirical findings were reviewed to identify reliable predictors of patient satisfaction or enablement (i.e. consultation 'input' or 'process' factors that have been found to be consistently correlated with the respective outcome across a number of studies and based on large, relatively representative samples). Evidence concerning the correlates of patient satisfaction was reviewed in section 7.5. Correlates of patient enablement were identified in section 7.10.

Secondly, the present data were analysed to identify any consultation 'input' and 'process' factors significantly associated with each outcome variable. All variables presented in *italics* in Figure 8.1 at the beginning of this chapter were tested. For percentage patient satisfaction (a continuous variable), Pearson correlation coefficients (*r*) were used to explore associations with other continuous variables, Spearman coefficients (*rs*) for ordinal variables, and t-tests (applying Levene's test for homogeneity of variance) for binary variables. For the binary enablement outcome, t-tests, Mann-Whitney tests and Chi-square were used as appropriate. Although other process-outcome studies tend to use a significance level of $p \leq 0.10$ for identifying potential confounding variables, the more stringent level of $p \leq 0.05$ was adopted in this study to limit numbers of variables in subsequent multivariate analyses.

Table 8.9 shows which 'input' and 'process' variables were significantly associated with patient satisfaction in this data, while Table 8.10 presents information on those variables significantly associated with enablement. The full set of confounding factors that were controlled for in each of the two main multivariate analyses are detailed in the following chapter (see sections 9.10.1 and 9.10.2).

Table 8.9 Potential confounders of patient satisfaction (CSQ) score

	Test statistic	p-value
<i>Input variables</i>		
• Patient age (years)	$r = 0.35$	$p < 0.001$
• No. visits to practice in past 12 months	$r = 0.17$	$p = 0.023$
• GP-patient acquaintance (higher score = better acquainted)	$rs = 0.31$	$p < 0.001$
• Physical activity level (1 = high; 5 = low)	$rs = 0.21$	$p = 0.005$
• Change in health over past 2 weeks (1 = much better; 5 = much worse)	$rs = -0.17$	$p = 0.025$
<i>Consultation process variables</i>		
• Consultation length (minus physical exam)	$r = 0.22$	$p = 0.004$
• Blood pressure checked (1=Y; 0=N)	$t = 2.00$	$p = 0.047$
• Given a repeat prescription (1=Y; 0=N)	$t = 2.43$	$p = 0.016$

Table 8.10 Potential confounders of patient enablement (binary variable)

	Test statistic	p-value
<i>Input variables</i>		
• Consultation for new physical problem(s) only (1=Y; 0=N)	$\chi^2 = 5.50$	$p = 0.019$
<i>Consultation process variables</i>		
• Blood pressure checked (1=Y; 0=N)	$\chi^2 = 4.25$	$p = 0.039$
• Given a new prescription (1=Y; 0=N)	$\chi^2 = 4.31$	$p = 0.038$

8.12.4 Characteristics of consultations scoring high on different measures of patient-centredness

For descriptive purposes, and as a means of assessing construct validity of the five different measures of patient-centredness, univariate associations were explored with various consultation 'input' and 'process' factors and GPs' ratings of their consultation performance using Pearson or Spearman correlation coefficients or t-tests as appropriate.

8.12.5 Examining relationships between patient-centredness and outcome

To permit comparison with the findings of previous patient-centredness studies that have not used multivariate analytical techniques (see Chapter 4), univariate associations between the five patient-centred consulting variables and each outcome were first explored using Pearson correlations (for patient satisfaction score) and t-tests (for the binary measure of patient enablement). Then standard ordinary least-squares multiple regression (for CSQ) and logistic regression (for enablement) were used to determine the predictive value of the patient-centred behaviours in respect of each outcome, adjusting for potential confounding variables.

The unit of analysis in the present study is the consultation. However as noted previously, when multiple consultations are provided by individual doctors there is a problem of 'clustering'. Thus in the present study, the 173 consultations in the sample are clustered within 14 GPs. This means that the outcome scores of patients seeing the same GP may be more similar (i.e. correlated) because of their shared experiences. Such correlation between consultations would invalidate the key assumption of independence of observations in multiple regression, leading to under-estimation of standard errors and inflated levels of significance (Rice & Leyland, 1996).

There are a number of ways of dealing with the clustering issue, including performing an aggregate level regression analysis (by computing mean values for each of the 14 GPs across the variables of interest) or,

alternatively, performing a consultation-level analysis allowing for GP effects by including $n-1$ dummy variables (i.e. in this case, 13 dichotomous GP variables, taking the value 1 if a patient consults a particular GP and 0 otherwise). The aggregate approach is limited by the small number of GPs in the study and the fact that the number of consultations within each GP is also relatively small, so likely to produce unreliable estimates on measured variables of interest. The dummy variable approach is also problematic since including in the regression equation such a relatively large number of dummies along with the set of explanatory variables may result in there being too few data points per IV, producing spurious findings.

Multilevel modelling is the statistical method of preference for analysing clustered data (Rice & Leyland, 1996). Multilevel models enable variation in the DV to be partitioned into that attributable to individual (i.e. consultation level) factors and that which is attributable to higher level contextual factors (in this case, GP effects). Under the guidance of a statistician, multilevel modelling was therefore employed (using the MLwiN statistical package) to examine whether there was any significant between-GP variation in the data. No significant variation at GP level was found in respect of either outcome although between-GP variation cannot wholly be ruled out since 14 GPs is a relatively small number of 'higher level' units for multilevel modelling, with the effect that resulting parameter estimates are likely to be imprecise.

With the proviso that the possibility of clustering remains, the results of the two main multivariate analyses presented in the following chapter (see section 9.10) pertain to *consultation-level* data only. The implications of clustering for those results are discussed in Chapter 10.

8.13 Chapter summary

- The study uses a cross-sectional, observational design to examine relationships between patient-centred GP consulting behaviours and patient outcomes.

- A volunteer sample of GPs was recruited for the study.
- GP consultations were analysed using an in-depth coding scheme applied to videotapes by independent observers.
- Intraclass correlation coefficients were used to examine reliability of the coding and exclude unreliable variables.
- Reliably coded variables were used to operationalise five patient-centred consulting behaviours corresponding to three different dimensions of patient-centred care.
- The five measures of patient-centred consulting were subsequently categorised into two broad behavioural domains (i.e. 'instrumental' or 'socio-emotional' behaviour) in accordance with the theoretical model described in Chapter 6.
- Two hypotheses were derived from the theoretical model: (1) that the two measures of instrumental patient-centred consulting behaviour would predict both patient enablement (a task-relevant outcome) and patient satisfaction (a measure of affective outcome), and (2) that the three measures of socio-emotional behaviour would predict patient satisfaction but *not* enablement.
- Statistical regression techniques were used to test these hypothesised relationships controlling for the effects of confounding factors (i.e. variables, other than the patient-centred behaviours under investigation, that may predict variance in the measured outcome).

Chapter 9

Results of the main study

Results of the main study

9.1 Introduction

Descriptive data relating to the study sample are presented in sections 9.2 to 9.8 of this chapter. Section 9.9 reports univariate relationships between the five different measures of patient-centred consulting and the two patient outcomes (satisfaction and enablement). Results of the two main multivariate analyses undertaken to test the hypotheses set out previously in section 8.11 are presented in section 9.10 of this chapter.

9.2 Characteristics of the study sample: GPs (n=14)

Table 9.1 shows that the majority of doctors in the study were male. Their mean age was 44.7 years (sd:7.43) and levels of professional training and experience were high: nearly three-quarters had been qualified in general practice for more than 10 years, all but one were members (or fellows) of the Royal College of General Practitioners (RCGP) and 86% were involved in teaching or training activities. All doctors who participated in the study were white (not shown).

Table 9.1 Characteristics of the study sample GPs (n=14)

	Number (%)
<u>Gender</u>	
Female	2 (14.3)
Male	12 (85.7)
<u>Age</u>	
25 – 39 yrs	5 (35.7)
40 – 49 yrs	6 (42.9)
50 – 59 yrs	3 (21.4)
Mean age (sd)	44.7 (7.43)
Age range	33 – 56 yrs
<u>Years since qualifying as a GP</u>	
1 – 5 yrs	2 (14.3)
6 – 10 yrs	2 (14.3)
11 – 15 yrs	5 (35.7)
16 – 20 yrs	1 (7.1)
21 – 25 yrs	4 (28.6)
Mean experience in years (sd)	14.4 (7.59)
Range of experience	3 – 25 yrs
<u>Royal College of GPs (RCGP) membership</u>	
Not a member	1 (7.1)
Member	10 (71.4)
Fellow	3 (21.4)
<u>Teacher / trainer? (i.e. of university medical students or GP registrars)</u>	
Yes	12 (85.7)
No	2 (14.3)

9.3 Characteristics of the study sample: patients (n=173)

Slightly over half the patient sample was female (54.3%). Approximately half were married (52.6%). Mean age of participating patients was 47.9 years (sd: 17.13) and approximately two-thirds had been registered with the practice for 5 years or more (see Table 9.2).

Table 9.2 **Socio-demographic characteristics of patients in the study sample (n=173)**

	Number (%)
<u>Gender</u>	
Female	94 (54.3)
Male	79 (45.7)
<u>Age</u>	
16-29 years	28 (16.2)
30-44 years	52 (30.1)
45-54 years	25 (14.5)
55-64 years	36 (20.8)
65+	32 (18.5)
Mean age (sd)	47.9 (17.13)
Age range	17 – 90 years
<u>Marital status</u>	
Married	91 (52.6)
Other	82 (47.4)
<u>No. years on practice list</u>	
New patient	2 (1.2)
< 1 year	13 (7.5)
1 – 4 years	45 (26.0)
5 – 10 years	48 (27.7)
11 – 15 years	36 (20.8)
16 – 20 years	14 (8.1)
21 – 30 years	12 (6.9)
Over 30 years	3 (1.7)
Mean years on practice list (sd)	9.2 (7.84)
Range	0 – 41

In terms of patient health-related characteristics, Table 9.3 shows there was considerable variation in the number of surgery visits patients had made in the preceding 12 months (mean: 9.6 visits; sd:9.06). Almost a third of patients in the sample were 'very well known' to the GP. In respect of the three COOP-Wonca items measuring aspects of patients' physical functioning, there was greatest variation in reported levels of pain and least in respect of 'change in health over the past 2 weeks'. Levels of emotional distress were quite high in the study sample, with over a third of patients scoring 5 or more on the GHQ-12. Details of the type and number of health problems discussed by patients in their consultations are presented in the next section.

Table 9.3 Patient health-related characteristics (n=173)

	Number (%)
<u>Visits to practice in the past 12 months</u>	
None	8 (4.6)
1 – 5	60 (34.7)
6 – 10	45 (26.0)
11 – 15	29 (16.8)
16 – 20	15 (8.7)
21 or more	16 (9.2)
Mean no. visits (sd)	9.6 (9.06)
Range	0 – 58
<u>Level of GP acquaintance with patient</u> (GP-rated; 1 – 5)	
Don't know the patient at all (=1)	30 (17.3)
Hardly know the patient (=2)	15 (8.7)
Know the patient a little (=3)	29 (16.8)
Know the patient quite well (=4)	46 (26.6)
Know the patient very well (=5)	53 (30.6)
Mean rating (sd)	3.5 (1.44)
<u>Physical activity level</u> (1=good; 5=poor)	
Mean (sd)	3.11 (1.24)
Range	1 – 5
<u>Change in health in past 2 weeks</u> (1=much better; 5=much worse)	
Mean (sd)	3.15 (0.88)
Range	1 – 5
<u>Pain</u> (1=none; 5=severe)	
Mean (sd)	3.03 (1.43)
Range	1 – 5
<u>Emotional health status</u> (GHQ-12; higher score = greater emotional distress)	
Score 0 – 4	113 (65.3)
Score 5+	60 (34.7)
Mean (sd)	3.64 (3.71)
Range	0 – 12

9.4 Characteristics of the study sample: consultations (n=173)

Various characteristics of the study sample consultations are presented in Table 9.4. Excluding examinations, consultations averaged 9 minutes 28 seconds (sd: 4min 44secs; range: 1min 24secs – 28min 46secs). In approximately two-thirds of cases, more than one health problem was

discussed. Existing physical complaints were discussed in 57% of consultations, while new physical problems were presented in about half of all cases. Twenty-three percent of consultations included discussion of one or more new physical problems *only*. An existing psychosocial issue was discussed in a fifth of all cases, while new psychosocial problems were presented by 10% of the study sample. A physical examination was conducted in over half the consultations. In 55 consultations (32%) no medication was prescribed, while 51 patients (29%) received repeat prescriptions only.

Table 9.4 Characteristics of the study sample consultations (n=173)

	Number (%)
<u>Consultation length</u> (exc. physical examinations)	
≤ 5 minutes	28 (16.2)
≥ 10 minutes	68 (39.3)
mean length in seconds (sd)	568 (283.5)
range (seconds)	84 – 1726
<u>Consultation interrupted?</u>	
Yes	22 (12.7)
No	151 (87.3)
<u>Physical examination conducted?</u> (exc. blood pressure)	
Yes	101 (58.4)
No	72 (41.6)
<u>Blood pressure checked?</u>	
Yes	28 (16.2)
No	145 (83.8)
<u>New referral to secondary care?</u>	
Yes	19 (11.0)
No	154 (89.0)
<u>Patient-directed eye-gaze</u> (as % of total GP on-screen time) ^a	
Mean % (sd)	57.0 (20.9)
Range	8% - 97%
<u>No. of different health problems discussed</u>	
1	63 (36.4)
2	75 (43.4)
3	31 (17.9)
4	4 (2.3)
Mean no. per consultation (sd)	1.86 (0.79)
<u>Type of problem(s) discussed</u> ^b	
Preventive care	19 (11.0)
Routine administration	5 (2.9)
New physical symptom / condition	86 (49.7)
Existing physical symptom / condition	98 (56.6)
New psychosocial problem	17 (9.8)
Existing psychosocial problem	36 (20.8)
New physical problem only	39 (22.5)
<u>Prescribing</u>	
No prescription issued	55 (31.8)
Repeat prescription only	51 (29.4)
New prescription only	52 (30.1)
Repeat and new prescriptions issued	15 (8.7)

^a n = 159 since patient-directed eye gaze could not be measured accurately in 14 consultations.

^b Numbers and %'s total more than 173 (100%) as consultations may have included discussion of more than one type of problem.

For comparison with the present study sample, Table 9.5 presents details of patient demographic and health-related characteristics and measures of consultation length reported by external studies. Patients in the present study appear broadly similar to national profiles in terms of age and sex, although somewhat fewer female patients took part than might be expected and the sample may be slightly over-representative of patients in the middle age group (45-64) at the expense of younger patients (16-44). Levels of self-reported physical health status were somewhat poorer than those reported in the study by Kinnersley *et al.* (1994), although differences in mean scores on the COOP-Wonca charts were not statistically significant at $p \leq 0.05$.

However, a significantly greater proportion of patients in the present study scored 5+ on the GHQ-12 compared with a study of patients at six Scottish fund-holding practices (Howie *et al.*, 1997). Moreover, significantly more patients in the present study received 'long' consultations (i.e. of 10 minutes or more) compared with the patient sample studied by Howie *et al.* (1994).

Table 9.5 Comparison of patient data from the present study with data from external studies

Patient characteristic	Data from external source ^{a-d}	Data from the present study
<u>Gender</u> ^a		
Ratio of female patients to male patients	1.56 : 1	1.19 : 1
<u>Age</u> ^b		
% aged 16-44	51	46
% aged 45-64	29	35
% aged 65+	20	19
<u>Physical activity level</u> (COOP-Wonca chart) ^c		
% scoring 1	14	12
% scoring 2	17	17
% scoring 3	36	36
% scoring 4	25	18
% scoring 5	8	17
median score	3.0	3.0
mean score (sd)	2.96 (1.15)	3.11 (1.24)
<u>Change in health in past 2 weeks</u> (COOP-Wonca chart) ^c		
% scoring 1	7	7
% scoring 2	14	6
% scoring 3	58	57
% scoring 4	15	25
% scoring 5	6	5
median score	3.0	3.0
mean score (sd)	2.99 (0.90)	3.15 (0.88)
<u>Emotional health status</u> (GHQ-12) ^d		
% scoring 0 - 4	80	65
% scoring 5+	20	35
<u>Consultation length</u> ^e		
% ≤ 5 minutes	18.5	16.2
% ≥ 10 minutes	26.0	39.3

^a External data base = male and female respondents to the 1993 General Household Survey who reported having consulted an NHS doctor at a GP surgery in preceding 14 days (Foster *et al.*, 1995).

^b External data base = all adult surgery contacts with a GP reported in the Morbidity Statistics for General Practice (MSGP4; McCormick *et al.*, 1995).

^c External data base = 100 consecutive patients aged 16+ consulting at one general practice as reported by Kinnersley *et al.*, 1994. The COOP-Wonca chart for 'Pain' was not used in the Kinnersley *et al.* study.

^d External data base = 4494 patients who reported one of 17 marker physical conditions in a study involving 6 Scottish fund holding general practices reported by Howie *et al.*, 1997.

^e External base = 994 patients reporting pain consulting over a two week period at six Scottish fund holding practices reported by Howie *et al.*, 1994

9.5 Breakdown of health problems discussed in the study sample consultations (n = 322)

A total of 322 problems were discussed in the 173 study sample consultations. Of these, 42% related to existing physical conditions, 32% to new physical complaints, 12% to existing psychosocial problems, 5% to new psychosocial problems and 9% to preventive care and administrative issues (see Table 9.6). ICPC coding shows that respiratory and skin conditions were the commonest *new* physical problems presented (46%), while circulatory and musculoskeletal conditions accounted for 41% of all *existing* physical problems (see Table 9.7).

Table 9.6 Breakdown of all health problems discussed in the study sample consultations (n=322)

Problem category	No. (%) of all health problems discussed over the full study sample
Preventive care	19 (5.9)
Routine administration	5 (1.6)
New physical	103 (32.0)
Existing physical	136 (42.2)
New psychosocial	17 (5.3)
Existing psychosocial	38 (11.8)
Other	4 (1.2)
Total	322 (100%)

Table 9.7 Types of health problems discussed (ICPC categories)

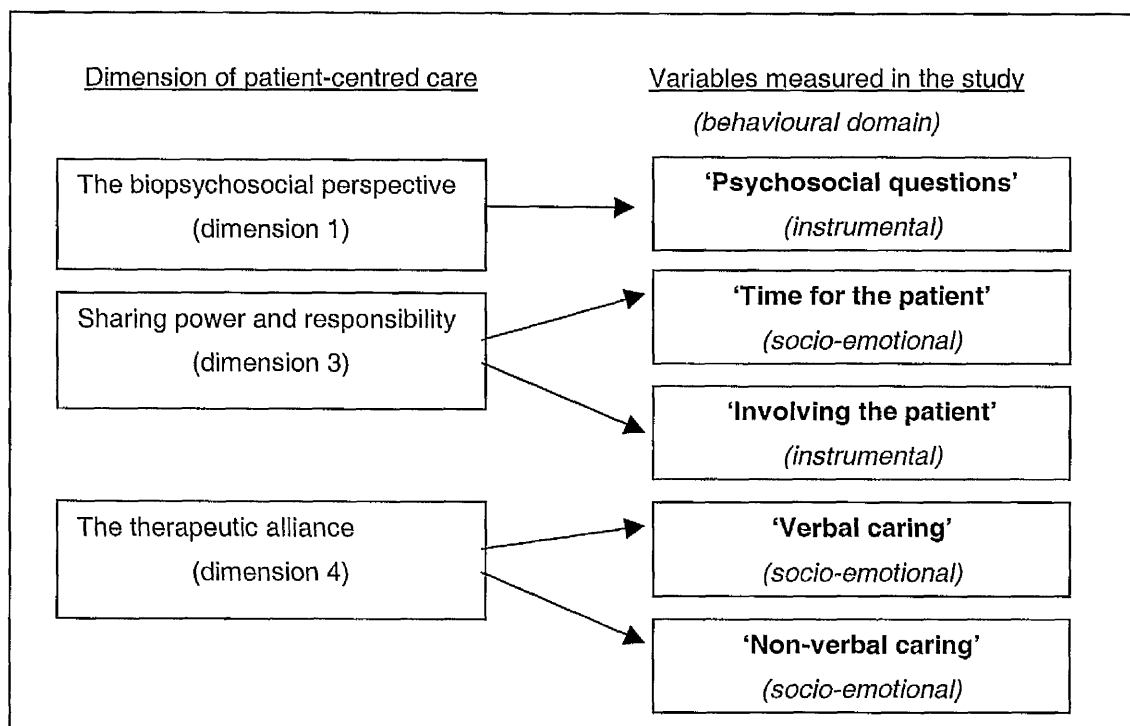
ICPC category	% all health problems coded (n = 322) ^a	% of new problems coded (n = 120)	% of existing health problems coded (n = 174)
General / unspecified	7.8	5.8	6.3
Blood	0.9	0	1.7
Digestive	5.6	6.7	5.8
Eye	2.8	3.3	2.9
Ear	1.2	3.3	0
Circulatory	10.9	3.3	17.2
Musculoskeletal	12.7	12.5	14.9
Neurological	2.2	1.7	2.3
Psychological	15.8	13.3	20.1
Respiratory	15.2	25.0	10.4
Skin	7.5	14.2	4.0
Endocrine / metabolic	5.9	5.0	7.5
Urology	1.6	1.7	1.7
Pregnancy / family planning	3.1	0	0.6
Female genital system	3.4	2.5	1.2
Male genital system	1.2	0.8	1.7
Social	2.2	0	1.7

^a Includes health problems that were coded as preventive care, routine administration or 'other' (as opposed to 'new' or 'existing'). Thus, the latter two columns do not add up to the first column.

9.6 Patient-centred consulting behaviours

To recap, three of the five dimensions of patient-centred care that were identified in Chapter 2 of this thesis were operationalised as five different measures of consulting behaviour. For the purpose of the main analyses (testing relationships between these five variables and two patient outcomes), the variables were subsequently categorised into two broad behavioural domains in accordance with the theoretical model proposed by Hall *et al.*, 1988 (described in Chapter 6). 'Instrumental' consulting behaviours are concerned with the main 'tasks' of the consultation (i.e. effective diagnosis and management of the patient's problem(s)). 'Socio-emotional' behaviours facilitate interpersonal aspects of the consultation, including the on-going doctor-patient relationship. Figure 9.1 summarises how the variables measured in this study (shown in bold) relate to these two domains and to the relevant dimensions of patient-centred care as described in Chapter 2.

Fig.9.1 Relationship between patient-centredness variables in the study, dimensions of patient-centred care and domains of consulting behaviour



For descriptive purposes, the range of observed scores for each *unstandardised* measure of patient-centred consulting behaviour (along with means and standard deviations) are presented in Table 9.8. Score distributions are displayed graphically in Figures 9.2 – 9.6.

To re-iterate, the instrumental variable '*Psychosocial questions*' was calculated as a proportion of all GP talk. Table 9.8 shows that, on average, 5% of GPs' talk comprised psychosocial questions. However, the mean may be an inflated indicator of central tendency in respect of this particular variable due to a number of high scoring outliers and the fact that scores were skewed towards the lower end of the distribution. The median proportion of GPs' talk comprising psychosocial questions was 3.1%.

The socio-emotional variable '*Time for the patient*' was calculated as a ratio of all patient talk relative to all GP talk in the consultation. Table 9.8 shows that, on average, GPs and patients talked in roughly equal amounts (mean ratio:1.08:1; median ratio:1.01:1), although again there was considerable variation in the sample (ranging from less than half, to over two-and-a-half times more patient talk to GP talk).

The instrumental variable termed '*Involving the patient*' was calculated as the proportion of GPs' talk taken up with biomedical information-giving and clarifying statements. This was the most normally distributed of the five patient-centredness variables. On average, this accounted for 26% of GPs' verbal consulting behaviour (ranging from 0 – 55%).

The socio-emotional variable '*Verbal caring*' comprised GPs' social talk and expressions of reassurance as a proportion of their total talk. On average, this accounted for 14% of GPs' total talk (median: 12.6%). The variable was somewhat skewed towards the lower end of the distribution, with a small number of high scoring outliers. It is worth noting that all consultations included some '*Verbal caring*', probably because personal greetings were included in this variable.

Observer ratings of GPs' 'warmth / friendliness' and 'interest / concern' constituted the basis of the measure of '*Non-verbal caring*'. The measure was not particularly discriminatory in that no GP scored below 50% of the maximum achievable score. However scores were relatively normally distributed around the observed mean (79%), although there was slight skewness towards the upper end of the distribution (median score: 83%).

As described in section 8.12.3.1, for the purpose of the main regression analyses all five patient-centredness variables were transformed into *standardised* scores (by subtracting the mean from each observation and dividing by the standard deviation). Thus the regression results for the different measures of patient-centredness presented later in Tables 9.12 and 9.13 do not correspond to the proportion- or ratio-based measurements discussed here.

Table 9.8 Descriptive statistics for unstandardised patient-centredness variables

Variable (dimension of patient-centred care)	Behavioural domain	Mean (sd)	Range
• 'Psychosocial questions' (biopsychosocial perspective)	Instrumental	0.050 (0.06)	0.00 – 0.28
• 'Time for the patient' (sharing power and responsibility)	Socio- emotional	1.083 (0.38)	0.42 – 2.53
• 'Involving the patient' (sharing power and responsibility)	Instrumental	0.255 (0.12)	0.00 – 0.55
• 'Verbal caring' (the therapeutic alliance)	Socio- emotional	0.144 (0.08)	0.02 – 0.49
• 'Non-verbal caring' (the therapeutic alliance)	Socio- emotional	0.793 (0.12)	0.50 – 1.00

Fig. 9.2

Psychosocial questions

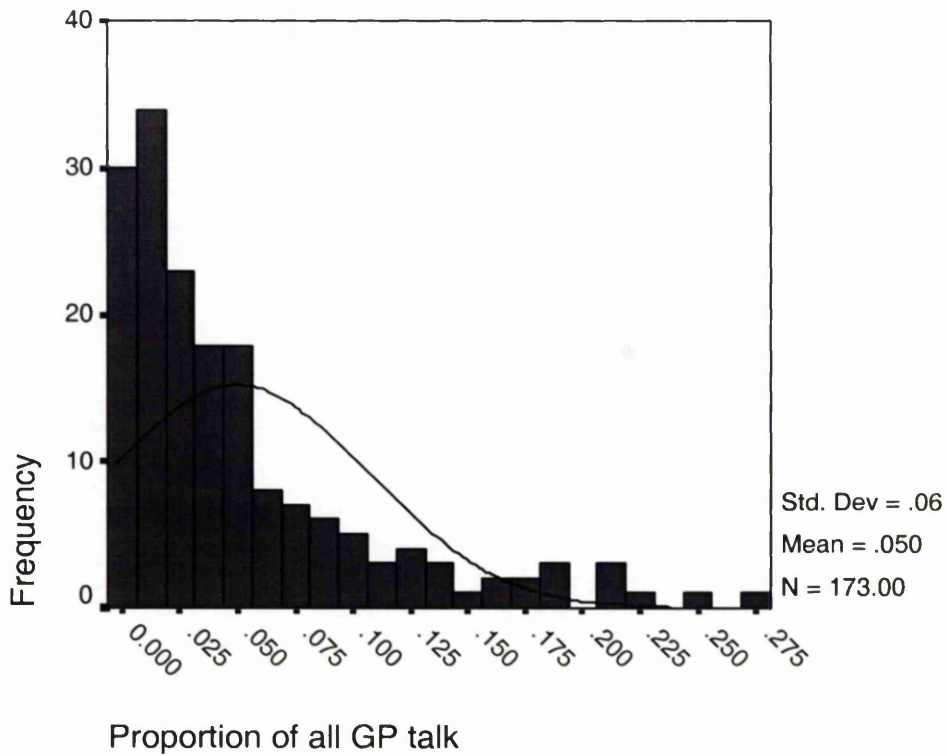


Fig. 9.3

Time for the patient

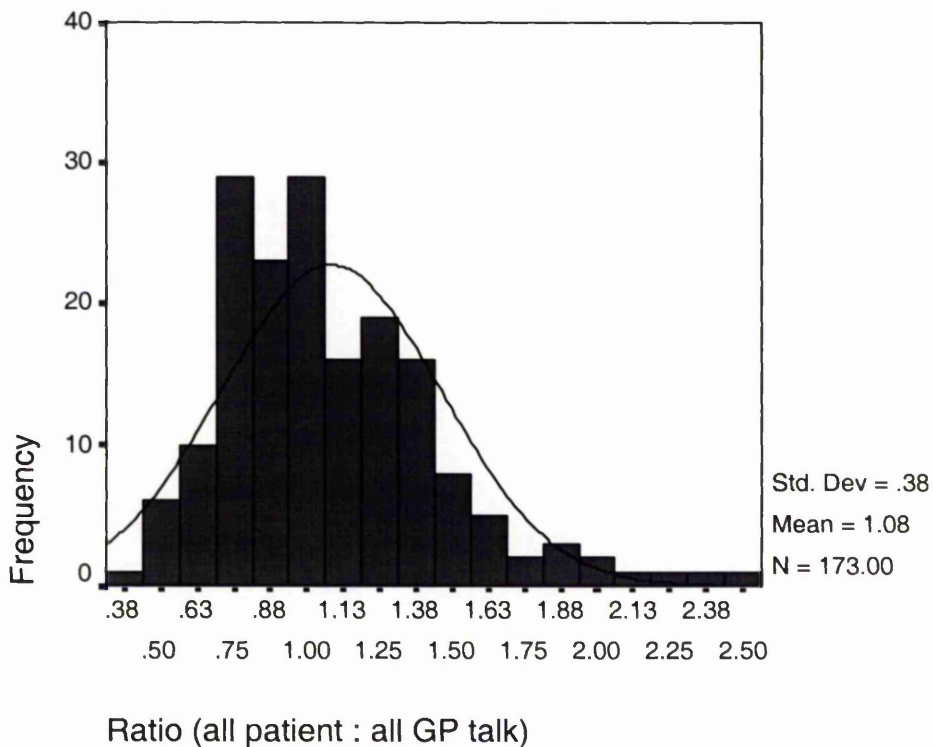


Fig. 9.4

Involving the patient

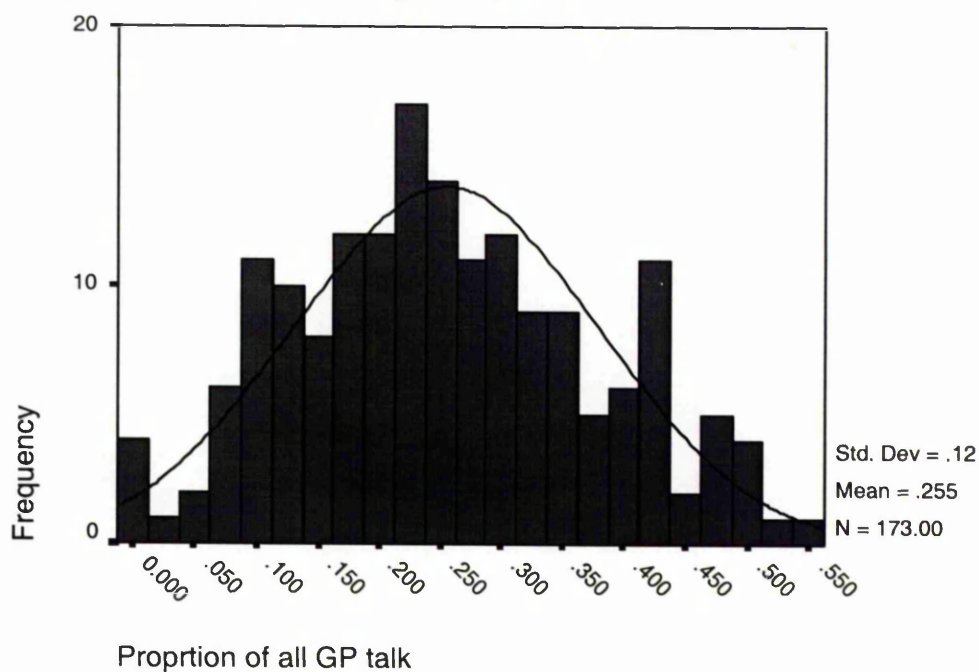


Fig. 9.5

Verbal caring

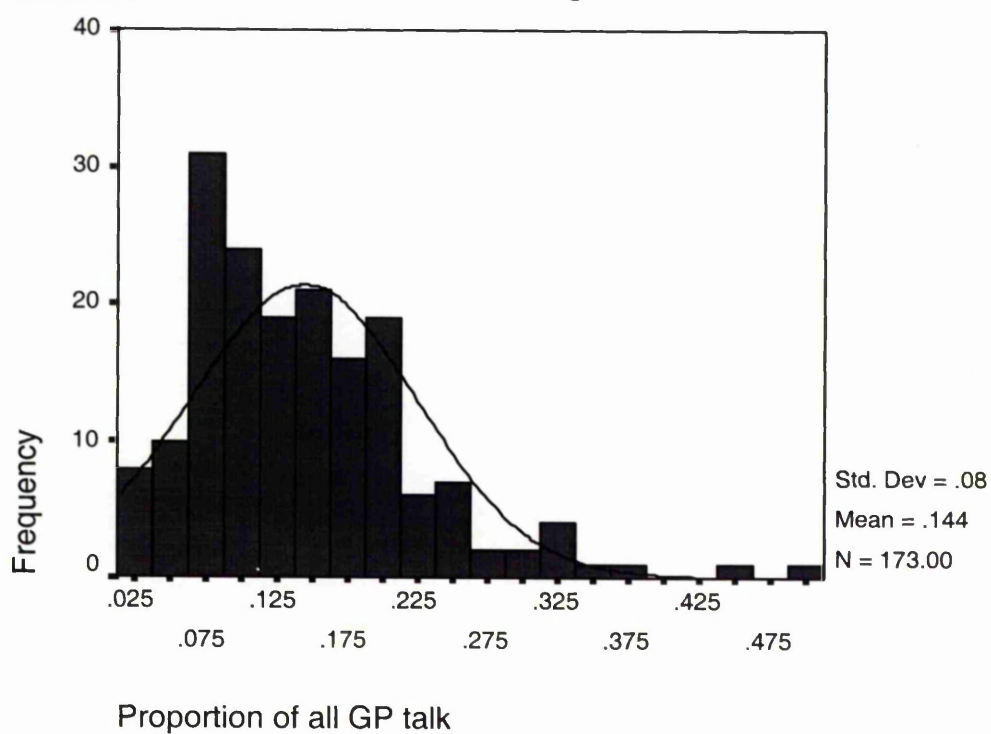
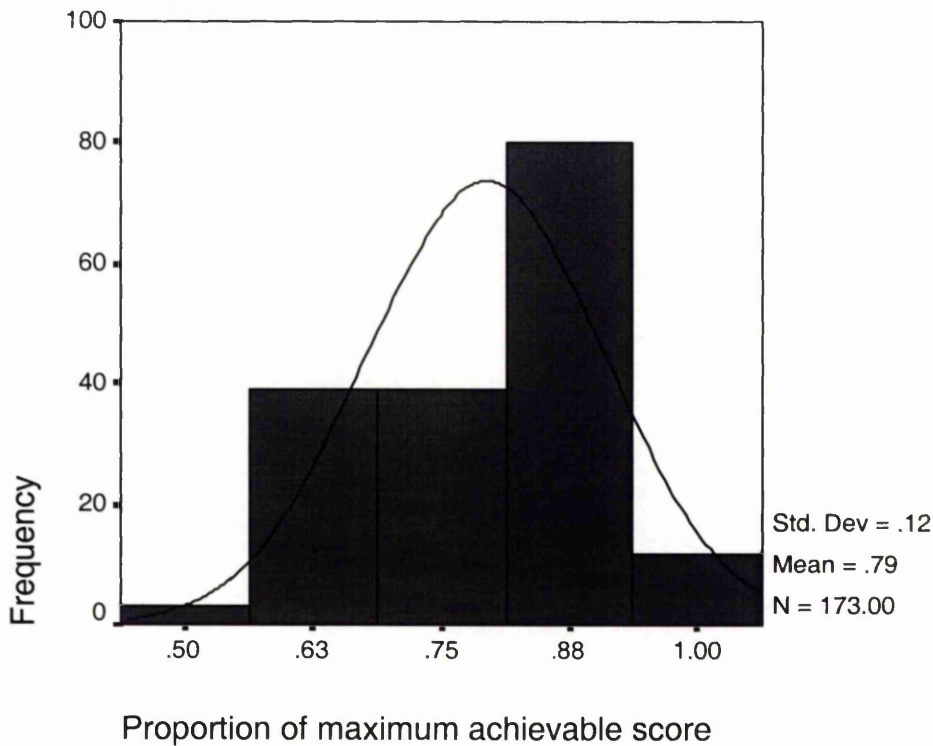


Fig. 9.6

Non-verbal caring



9.7 Characteristics of patient-centred consultations

For descriptive purposes and as a means of assessing the construct validity of the key process measures, Table 9.9 presents details of significant univariate associations between the five patient-centredness variables and various consultation 'input' and 'process' factors. However it should be stressed that identifying correlates of patient-centred consulting is not a main aim of the present study. Results of the two main multivariate analyses of patient-centred behaviour on patient outcomes are presented in section 9.10.

Table 9.9 **Profile of consultations scoring high on each patient-centredness measure (n=173)**

Variable [Behavioural domain] (dimension of patient-centredness)	Associated consultation input / process factors (at $p \leq 0.05$)	Test statistic	p-value
'Psychosocial questions' [Instrumental] (biopsychosocial perspective)	• Younger patient age	$r = 0.27$	<0.001
	• Better physical activity score	$rs = 0.16$	0.033
	• Worse psychological health status (i.e. higher GHQ-12 score)	$r = 0.22$	0.004
		$t = 4.56$	<0.001
	• Existing physical problem NOT discussed	$t = 2.50$	0.013
	• New psychosocial problem discussed	$t = 3.79$	<0.001
	• Existing psychosocial problem discussed	$t = 2.28$	0.024
	• Physical exam NOT conducted		
'Time for the patient' [Socio-emotional] (sharing power and responsibility)	• Worse psychological health status (i.e. higher GHQ-12 score)	$r = 0.21$	0.007
		$r = 0.24$	0.002
	• Longer consultation	$r = 0.17$	0.036
	• Proportionately more patient- directed eye gaze ^a	$t = 4.41$	<0.001
	• Existing psychosocial problem discussed	$t = 2.64$	0.010
	• NOT presenting a new physical problem only	$t = 2.56$	0.012
	• Physical exam NOT conducted	$t = 2.12$	0.036
	• New prescription NOT issued		

^a n = 159 (GPs' patient-directed eye gaze could not be measured in 14 consultations)

Table 9.9 (continued)

Variable [domain] (dimension of patient-centredness)	Associated consultation input / process factors	Test statistic	p-value
'Involving the patient' [Instrumental] (sharing power and responsibility)	• Fewer years on practice list	$r = 0.17$	0.023
	• Fewer visits in past 12 months	$r = 0.20$	0.008
	• Patient less well known to the GP	$rs = 0.17$ $t = 3.14$	0.025 0.004
	• New psychosocial problem NOT discussed	$t = 2.65$	0.009
	• Existing psychosocial problem NOT discussed	$t = 2.05$	0.042
	• Blood pressure NOT checked	$t = 3.69$	<0.001
	• Physical exam conducted	$t = 2.10$	0.037
	• Repeat prescription NOT issued	$t = 2.22$	0.028
	• Referred to secondary care		
'Verbal caring' [Socio-emotional] (therapeutic alliance)	• Patient better known to the GP	$rs = 0.16$	0.035
	• Better psychological health status (i.e. lower GHQ-12 score)	$r = 0.22$ $r = 0.23$	0.003 0.003
	• Shorter consultation	$r = 0.16$	0.047
	• Proportionately less patient- directed eye gaze ^a	$t = 2.14$	0.034
	• Existing psychosocial problem NOT discussed	$t = 2.32$	0.022
	• Repeat prescription issued		
'Non-verbal caring' [Socio-emotional] (therapeutic alliance)	• Married patient	$t = 2.27$	0.025
	• Longer consultation	$r = 0.25$	0.001
	• Proportionately more patient- directed eye gaze ^a	$r = 0.45$	<0.001
	• Repeat prescription issued	$t = 2.22$	0.028

As would be expected, consultations scoring high on '*Psychosocial questions*' tended to involve patients with greater psychological distress and fewer existing physical health problems. GPs' exhibited less of this behaviour with older patients.

Factors associated with more patient talk relative to GP talk (i.e. '*Time for the patient*') include poorer psychological health status and discussion of exiting psychosocial problems. The presentation of new physical health problems *only* was not a feature of consultations scoring high on this variable. These consultations were longer and there was proportionately more patient-directed eye gaze on the part of the GP.

Consultations scoring high on '*Involving the patient*' were associated with less frequent attenders who were less well known to the GP, and the presentation of physical health (as opposed to psychosocial) problems.

High scores on '*Verbal caring*' were evident in consultations where the patient was better known to the GP. Patients were less emotionally distressed and GPs were more likely to issue repeat prescriptions. These consultations tended to be shorter and were characterised by proportionately less patient directed eye-gaze.

Observers rated longer consultations with proportionately more patient directed eye-gaze high on '*Non-verbal caring*'. These consultations were more likely to be with married patients and GPs were more likely to issue repeat prescriptions.

9.8 Measures of patient-centredness in relation to GPs' own performance ratings

GPs' 10-point ratings of three dimensions of their own consultation performance were reasonably inter-correlated (Spearman's r 's: 0.38 – 0.54). Correlations with each measure of patient-centredness are presented in Table 9.10.

Table 9.10 Correlations^a between GPs' ratings of their consultation performance across three dimensions and the five measures of patient-centred consulting behaviour

Patient-centredness variable	GP-rated medical performance (n=170)	GP-rated psychosocial performance (n=166)	GP-rated doctor-patient relationship (n=167)
'Psychosocial questions'	-0.05	0.23**	-0.02
'Time for the patient'	-0.07	0.18*	0.15
'Involving the patient'	-0.10	-0.28***	-0.22**
'Verbal caring'	0.16*	0.10	0.24**
'Non-verbal caring'	0.15	0.15	0.21**

^a Spearman correlation coefficients

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

The table shows that GPs' ratings of their medical performance were only (weakly) associated with the measure of 'Verbal caring'. Consultations rated high by GPs' in terms of their psychosocial performance were associated with proportionately more psychosocial question-asking and, to a lesser extent, more patient talk relative to GP talk. Consultations in which GPs' gave proportionately more biomedical information and used more clarifying statements (i.e. 'Involving the patient') were rated poorly on psychosocial performance.

There was also a negative association between '*Involving the patient*' and GPs' ratings of the doctor-patient relationship, whereas measures of '*Verbal caring*' and '*Non-verbal caring*' were positively associated with relationship ratings.

9.9 Univariate analysis of relationships between patient-centredness and outcome

For the purpose of comparison with external studies of patient-centredness that have restricted analyses to univariate relationships, Table 9.11 presents univariate associations between each patient-centredness variable and the two outcome measures, namely: patient enablement (a binary variable), and percentage score on the Consultation Satisfaction Questionnaire (CSQ – a continuous variable).

The table shows that there were no univariate associations between any of the measures of patient-centred consulting and whether or not patients felt enabled. However, there were significant associations between CSQ score and two of the three patient-centredness variables that were categorised as 'socio-emotional' according to the definition by Hall *et al.*(1988), namely '*Verbal caring*' and '*Non-verbal caring*'.

Table 9.11 Univariate relationships^a between the five patient-centredness variables and patients' satisfaction scores (CSQ) and enablement status

Variable	'Psychosocial questions' [Instrumental]	'Time for the patient' [Socio-emotional]	'Involving the patient' [Instrumental]	'Verbal caring' [Socio-emotional]	'Non-verbal caring' [Socio-emotional]	% CSQ score
Psychosocial questions	1.0	0.23**	-0.34***	-0.23**	-0.02	-0.15
Time for the patient		1.0	-0.24***	0.04	0.03	0.09
Involving the patient			1.0	-0.28***	-0.05	-0.10
Verbal caring				1.0	0.15*	0.19*
Non-verbal caring					1.0	0.24***
% CSQ score						1.0
'Enabled' (n=110) vs. 'Not enabled' (n=63)	(0.049 vs. 0.051); t = -0.22	(1.064 vs. 1.116); t = -0.87	(0.253 vs. 0.257); t = -0.21	(0.145 vs. 0.142); t = 0.18	(0.805 vs. 0.774); t = 1.67	(79.00 vs. 75.61); t = 2.06*

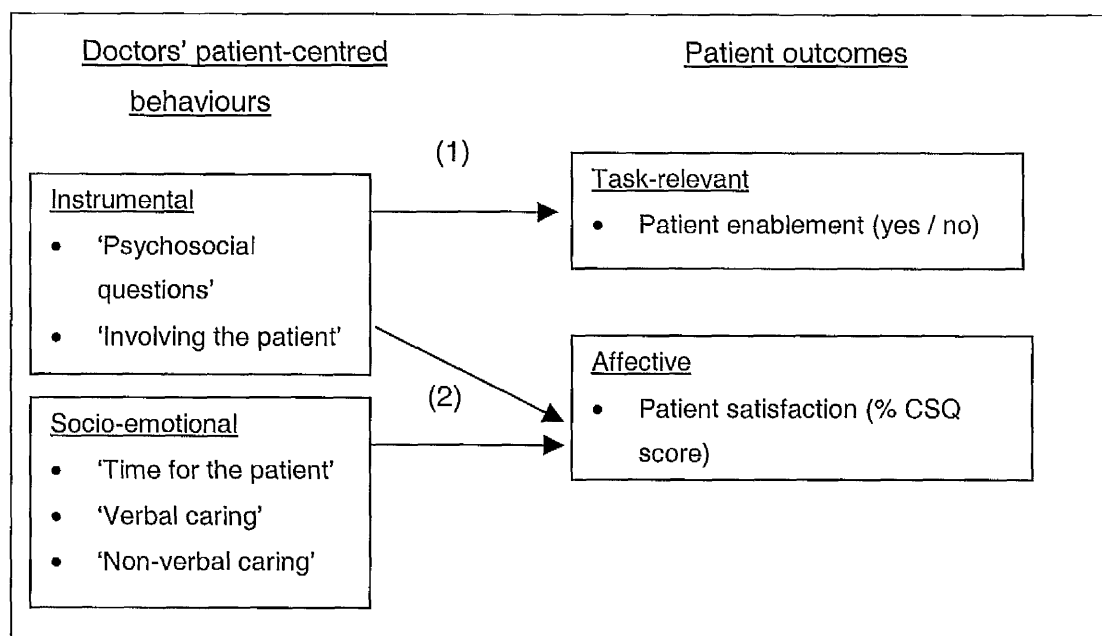
^a Pearson correlations except for enablement, where group means and t-statistics are reported

* p ≤ 0.05; ** p ≤ 0.01; *** p ≤ 0.001

9.10 Multivariate analysis of relationships between patient-centredness and outcome

To re-cap, Figure 9.7 shows the two hypothesised relationships under test in this study. In (1) only the two instrumental patient-centredness variables (i.e. 'Psychosocial questions' and 'Involving the patient') are expected to be independent predictors of whether patients are enabled by their consultation. However in (2), both these variables and the three socio-emotional patient-centred behaviours (i.e. 'Time for the patient', 'Verbal caring' and 'Non-verbal caring') are expected to predict patient satisfaction scores.

Fig. 9.7 Hypothesised relationships under test in the two multivariate analyses



Results of the logistic regression of patient-centredness variables on the dichotomised enablement outcome are presented in section 9.10.1, while results of the linear regression on patient CSQ score are presented in 9.10.2

9.10.1 Logistic regression of patient-centredness variables on patient enablement

Three consultation 'input' or 'process' variables had significant associations with enablement (see section 8.12.3.4). These were included in the multivariate analysis as potential confounders along with five other variables, namely: 'patient age', 'patient sex', 'GHQ-12 score', 'GP-patient acquaintance', and 'consultation length'. GHQ score was included to control for psychological morbidity. Patient age, sex, GP-patient acquaintance and consultation length, while having no significant relationships with the outcome in this data set, were included because previous work suggests they may be important determinants of enablement (Howie *et al.*, 1997, 1999).

The eight confounders were forced, together with the five patient-centredness variables, into a logistic regression equation with enablement as the dependent variable. Results are presented in Table 9.12. An odds ratio greater than one indicates that enabled patients 'scored' higher on that particular variable than those who were not enabled (and lower where the odds ratio is less than one), adjusted for other variables in the equation. However, none of these differences was statistically significant. In other words, neither of the two instrumental patient-centredness variables of interest in this analysis (i.e. '*Psychosocial questions*' and '*Involving the patient*'), nor any of the socio-emotional patient-centred behaviours or confounding factors included in the model was a significant independent predictor of being enabled (as opposed to not being enabled). The model explained only around 10% of the variance in enablement.

Table 9.12 Multivariate logistic regression of standardised patient-centredness variables^a on patient enablement status (adjusted for potential confounding factors^b)

Explanatory variable	Odds ratio Exp (B)	95% CI	p- value
'Psychosocial questions' ^a [<i>instrumental</i>]	0.971	0.654 – 1.444	0.885
'Involving the patient' ^a [<i>instrumental</i>]	0.825	0.560 – 1.215	0.331
'Time for the patient' ^a [<i>socio-emotional</i>]	0.874	0.612 – 1.247	0.456
'Verbal caring' ^a [<i>socio-emotional</i>]	1.080	0.732 – 1.591	0.699
'Non-verbal caring' ^a [<i>socio-emotional</i>]	1.362	0.950 – 1.954	0.093
GP acquaintance with the patient (higher score = greater acquaintance) ^b	0.858	0.659 – 1.118	0.257
Given a new prescription? (y=1, n=0) ^b	1.671	0.810 – 3.448	0.165
Consultation for new physical problem only? (y=1; n=0) ^b	2.168	0.822 – 5.718	0.118
Blood pressure check? (y=1; n=0) ^b	0.459	0.179 – 1.178	0.105
Consultation length (seconds) ^b	1.001	0.999 – 1.002	0.435
Patient GHQ-12 score (higher score = greater psychological morbidity) ^b	0.997	0.907 – 1.096	0.949
Patient age (years) ^b	1.000	0.978 – 1.023	0.992
Patient sex (male=1; female=0) ^b	0.931	0.472 – 1.836	0.836
(Constant)	-	-	0.618

Cox-Snell pseudo $R^2=0.100$; Chi-square=18.23 (13 df), $p=0.15$; $n=173$ cases.

^a Standardised patient-centredness variable (coefficients represent change in the odds of the dependent variable for a change of 1 standard deviation in the patient-centredness variable)

^b Confounding variable

9.10.2 Linear regression of patient-centredness variables on patient satisfaction

Eight variables had significant associations with CSQ score at $p \leq 0.05$ (see section 8.12.3.4). However, two of these (i.e. 'number of patient visits in the past year' and 'given a repeat prescription') were highly correlated with each other and with other confounders, so were replaced by two different variables: patient GHQ-12 score (to control for psychological morbidity) and patient sex (since there is some evidence that male patients report greater satisfaction than females – e.g. Williams and Calnan, 1991b).

The eight potential confounders were forced, along with the five patient-centredness variables, into a multiple regression equation with CSQ score as dependent variable. Table 9.13 shows that none of the five patient-centredness variables significantly predicted satisfaction score adjusting for other factors. The best independent predictors of satisfaction (all positive) were consultation length, patient age and the GP's level of acquaintance with the patient. The model explained about 22% of the overall variance in satisfaction scores.

Table 9.13 Multivariate linear regression of standardised patient-centredness variables^a on percentage patient satisfaction score (adjusted for potential confounding factors^b)

Explanatory variable	Regression Coefficient (B)	95% CI	p-value
'Psychosocial questions' ^a [<i>instrumental</i>]	-0.858	-2.579 – 0.864	0.327
'Involving the patient' ^a [<i>instrumental</i>]	-0.732	-2.405 – 0.942	0.389
'Time for the patient' ^a [<i>socio-emotional</i>]	0.447	-1.120 – 2.015	0.574
'Verbal caring' ^a [<i>socio-emotional</i>]	1.145	-0.512 – 2.803	0.174
'Non-verbal caring' ^a [<i>socio-emotional</i>]	0.909	-0.606 – 2.423	0.238
Physical activity level (higher score = worse health) ^b	0.730	-0.599 – 2.060	0.279
Change in health in past two weeks (higher score = worse health) ^b	-1.130	-2.860 – 0.601	0.199
GP acquaintance with the patient (higher score = greater acquaintance) ^b	1.329	0.257 – 2.401	0.015
Blood pressure checked (y=1, n=0) ^b	0.509	-3.578 – 4.597	0.806
Consultation length (seconds) ^b	0.008	0.003 – 0.014	0.004
Patient GHQ score (higher score = greater psychological morbidity) ^b	-0.132	-0.560 – 0.296	0.544
Patient age (years) ^b	0.110	0.008 – 0.212	0.034
Patient sex (male=1; female=0) ^b	-1.482	-4.373 – 1.410	0.313
(Constant)	58.352	43.84 – 72.87	0.000

$R^2=0.279$ (adjusted $R^2=0.220$); $F=4.730$ (13 df), $p<0.001$; $n=173$ cases

^a Standardised patient-centredness variable (coefficients represent change in the dependent variable for a change of 1 standard deviation in the patient-centredness variable)

^b Confounding variable

As mentioned in section 8.9.2, the measure of GPs' *'Non-verbal caring'* was unreliable but was included in analyses because it is regarded as an important aspect of the therapeutic alliance, complementing the measure of doctors' *'Verbal caring'*. However, since results of multiple regression are sensitive to the particular variables included in the predictor set (Tabachnick & Fidell, 2001), analyses were re-run this time excluding the measure of *'Non-verbal caring'*. This did not significantly influence any of the results presented in Tables 9.12 and 9.13.

9.11 Chapter summary

- Descriptive data were presented relating to the characteristics of the GPs, patients and consultations that comprise the study sample.
- The data suggest that levels of professional training and experience were relatively high among the participating GPs.
- Comparisons with data from external studies suggest participating patients were broadly representative of consulters in general practice although there were somewhat fewer females than might be expected, and patients' emotional (but not physical) health status was relatively poor. Study sample consultations were relatively long.
- A statistical analysis of the construct validity of each of the five measures of patient-centred consulting behaviour was presented in the form of univariate associations with consultation 'input' and 'process' variables, and with GPs' own ratings of their consultation performance.
- A univariate analysis of the relationship between the five patient-centredness variables and two patient outcomes showed significant relationships between two of the three patient-centred behaviours categorised as 'socio-emotional', and patient satisfaction scores. There were no significant univariate relationships between any patient-centredness variable and patient enablement.

- In the main multivariate analyses (undertaken to control for the effects of confounding variables), none of the five measures of patient-centred consulting was a significant predictor either of being enabled or of patients' satisfaction scores.

Chapter 10

Conclusions and discussion

Conclusions and discussion

10.1 Study findings

The following two hypotheses, derived from the theoretical framework presented in Chapter 6, were tested in this study:

1. *'Psychosocial questions'* and *'Involving the patient'* are patient-centred behaviours primarily concerned with problem diagnosis and management. These were therefore conceptualised as 'task-relevant' behaviours, hypothesised to predict *both* patient satisfaction and enablement
2. *'Time for the patient'*, *'Verbal-caring'* and *'Non-verbal caring'* are patient-centred behaviours concerned with facilitating the interpersonal relationship between doctor and patient. These were thus conceptualised as 'socio-emotional' behaviours, hypothesised to predict patient satisfaction, but not enablement.

There was no support for the first hypothesis that GPs' 'task-relevant' behaviours would predict both patient enablement and satisfaction. In univariate and multivariate analyses, neither *'Psychosocial questions'* nor *'Involving the patient'* was associated with either outcome.

There was only very weak support for the hypothesis that GPs' 'socio-emotional' behaviours would predict patients' satisfaction but not their enablement. Preliminary univariate analyses showed significant positive associations between two of the three socio-emotional variables (namely, *'Verbal-caring'* and *'Non-verbal caring'*) and CSQ score (Table 9.11). However, these relationships with satisfaction did not hold when adjusting for confounding factors in the main multivariate analysis (Table 9.13).

The following discussion will critique the conceptual and methodological strengths and weaknesses of the present study. The findings will be

discussed in respect of issues of construct validity (both of the measures of patient-centredness and outcomes that were used), and in terms of internal and external validity of the study design. Comparisons with previous studies of patient-centred consulting in primary care that were reviewed in Chapter 4 will be made, and the implications of the present study's findings in terms of the current evidence-base for a relationship between patient-centred consulting and outcomes will be assessed. The chapter concludes with an overview of the implications of this study for quality assurance and improvement initiatives in primary care, and for the direction of future research in this field.

10.2 Critique of the present study

The strengths of the present study in relation to previous work in this field are considered in detail in section 10.3. In brief, the study benefited from a conceptual analysis of 'patient-centredness' resulting in the identification of five distinct dimensions. Three of these dimensions were subsequently operationalised as five different GP consulting behaviours, using a well-validated, in-depth coding scheme for analysing doctor-patient communication applied to videotapes of 'real' (not simulated) consultations. A theoretical model, derived from a meta-analysis of the doctor-patient communication literature, was used to link the five patient-centred behaviours to two different patient outcomes. Furthermore, the study employed advanced methods of reliability analysis to ensure that the measures of patient-centredness were stable and consistent across the study sample, and multivariate statistical techniques were used to control for potential confounding factors in the main analysis. The study therefore provides a rigorous test of the hypothesised relationships. However, before accepting the finding that no relationships exist, it is necessary to consider threats to the validity of this conclusion.

10.2.1 Construct validity of the measures of patient-centredness

Lack of evidence for the hypothesised relationships may reflect poor construct validity in respect of the measures of patient-centredness used in

this study. Problems with construct validity could occur at a number of levels. Firstly, the five dimensions originally identified in Chapter 2 may be incorrect or incomplete. For example Table 9.11 showed that '*Time for the patient*' and '*Involving the patient*', the two variables that together represent the dimension 'sharing power and responsibility' were *negatively* correlated with one another ($r = -0.24$; $p \leq 0.001$). In other words, GPs gave significantly less information in consultations where patients were allowed more 'space' to determine the agenda. Furthermore, GPs' information-giving was also significantly negatively correlated with '*Verbal caring*' ($r = -0.28$) and '*Psychosocial questions*' ($r = -0.34$). Although the present study conceptualised GPs' use of a biopsychosocial perspective as 'task-relevant', it is possible that asking patients questions of a psychosocial nature (as opposed to biomedical questions) carries affective attributions, conveying a sense of interest and concern in the patient as an individual.

The direction of these relationships appears to support the conclusion reached by Hall *et al.* (1987) that GPs employ only two distinct styles of consulting: a 'task-oriented' style (characterised by information-provision) or an 'affective' style (characterised by socio-emotional behaviours). Thus, while the ideal patient-centred doctor (encompassed by the conceptual framework presented in Chapter 2) is able to integrate both approaches within the same consultation, the data suggest that in everyday practice GP consultations actually tend towards either a 'task-oriented' or 'affective' style, but not both.

Secondly, only three of the five dimensions of patient-centred care identified in Chapter 2 were operationalised in the present study, and it may be that the two omitted dimensions are important predictors of patient outcomes.

A third problem might relate to the specific way in which the patient-centredness variables were operationalised and subsequent effects on construct validity. Given the data available, the measures all appear reasonably face valid. However, limitations imposed by measurement

reliability meant that some of the operationalisations had to exclude relevant clusters of verbal behaviour, possibly to the detriment of the construct validity of the resulting patient-centredness variables.

Support for the construct validity of the measures of patient-centredness may be derived from relationships with other consultation 'input' and 'process' factors (Table 9.9) and also from GPs' own ratings of their consultation performance (Table 9.10). As might be expected, consultations scoring high on the instrumental variable termed '*Psychosocial questions*' involved patients with higher GHQ-12 scores and the presentation of new or on-going psychosocial problems (rather than discussion of physical health problems). These consultations were also rated significantly more highly by GPs in terms of their psychosocial performance.

It is interesting to note that there was a negative association between '*Psychosocial questions*' and patient age (Table 9.9). Since younger patients in the sample did not have significantly higher GHQ-12 scores than older patients, this association may suggest that GPs are less comfortable using a 'biopsychosocial perspective' with older patients. However, the construct validity of this variable as a measure of the 'biopsychosocial perspective' may be questioned. For example, no account was taken of GP behaviours aimed at incorporating health prevention / promotion and patient education into the consultation (aspects of the 'biopsychosocial perspective' regarded important by some other investigators, e.g. Roter *et al.*, 1987; Stewart *et al.*, 1995a). Thus, one might wish to include in the operationalisation of this particular dimension of patient-centred care GP behaviours aimed at counselling or persuading patients to change aspects of their lifestyle, social situation or cognitive processes (e.g. the 'Counsels-L/S-P/F' cluster of the RIAS scheme). In the present study, however, that particular cluster was unreliably coded (ICC = 0.41; see Table 8.6) and experience with the RIAS showed that, in practice, it is often difficult to differentiate GPs' information-giving from their counselling utterances in respect of psychosocial and lifestyle issues.

The second instrumental variable in the study, this time designed to tap into the 'sharing power and responsibility' dimension of patient-centredness, was *'Involving the patient'*. This was operationalised in terms of GPs' biomedical information-giving and use of clarifying statements (i.e. checking patient understanding). While one would have liked to include GPs' information-giving about psychosocial / lifestyle issues, that particular RIAS cluster was excluded due to unreliable coding (see section 8.10.2). Consultations scoring high on *'Involving the patient'* therefore tended to be characterised by the presentation of physical (as opposed to psychosocial) problems and involve patients who were less well known to the GP. GPs rated these consultations significantly lower both in terms of their psychosocial performance and the doctor-patient relationship (Table 9.10). This may indicate a degree of GP dissatisfaction with consultations with patients who are less familiar to them. Proportionately more GP information-giving could reflect a degree of interpersonal discomfort, perhaps because the unfamiliar patient's expectations are not well understood by the GP who compensates for this uncertainty by exerting more verbal control over the interaction.

The second variable designed to tap into the 'sharing power and responsibility' dimension of patient-centredness was *'Time for the patient'*, categorised as a socio-emotional consulting behaviour and operationalised in terms of the ratio of patient talk to GP talk in the consultation. Consultations scoring high on this variable were, not surprisingly, longer and characterised by more patient-directed eye gaze (Table 9.9). *'Time for the patient'* was also associated with higher GHQ-12 scores, discussion of psychosocial problems and with GP ratings of their psychosocial performance.

'Time for the patient' was designed to reflect the degree to which the GP gives the patient 'space' to tell their story of illness and set the consultation agenda. It is argued that adopting such a 'listening' role will encourage the patient to voice their ideas, conveying a respect for them as individuals and as 'experts' in their own illnesses. However it may be argued that, by virtue of the way in which it was operationalised, *'Time for the patient'* is a rather blunt measure of this aspect of 'sharing power and responsibility'. In the

absence of any sequential analysis of the conversation, it is not possible to tell (for example) whether the GP actively facilitates or cuts the patient off at key points in the telling of their 'story'. In retrospect, the measure may have been improved by giving more weight to indices of GPs' *active listening* (e.g. by including the RIAS GP cluster termed 'Agreement', which includes back-channel responses such as 'Ah ha', 'Mmm' and 'Go on'). Additionally, one might have increased emphasis on GPs' paraphrasing behaviour (i.e. where the GP re-phrases or repeats back what the patient has said as a means of checking their understanding of the patient's 'story'). Paraphrasing is arguably similar in function to 'reflecting', a GP behaviour identified by Byrne & Long (1976) as indicative of the patient-centred consulting style.

Notably, neither of the two measures of 'sharing power and responsibility' described above considers the degree and success by which doctor and patient negotiate their respective agendas, responsibilities and therapeutic goals. However, it is difficult to envisage how such issues might be studied using a reductionist instrument like the RIAS, which merely focuses on quantifying different verbal behaviours. Rating scales or more qualitative methodological approaches may be the only way of capturing the complex and dynamic interpersonal processes that underlie concepts like 'negotiation'.

Consultations scoring high on the two socio-emotional variables representing the 'therapeutic alliance' (i.e. '*Verbal caring*' and '*Non-verbal caring*') were positively associated with GPs' ratings of the doctor-patient relationship and tended to involve patients on repeat medication (suggesting an association with continuity of care). This supports the conceptualisation of this particular dimension of patient-centredness as relating, to some degree, to the maintenance and facilitation of a personal, on-going therapeutic relationship. However, the fact that consultations scoring high on '*Verbal caring*' tended to be shorter and involve proportionately less patient-directed eye gaze suggests a lack of construct validity in the operationalisation of this particular variable. Ideally, statements of empathy, legitimisation, partnership and showing concern should have been included, but were unreliably coded.

Thus '*Verbal caring*' was comprised only of GPs' social talk and positive expressions of encouragement and reassurance, behaviours that might be expected to facilitate a friendly, positive atmosphere in the consultation. Although GPs' 'verbal attention' behaviours (e.g. empathy and legitimisation) and the 'showing concern' cluster each accounted for less than 2% of total GP talk in the reliability sample, one might argue that these are key elements of the 'therapeutic alliance' which, if they could be coded reliably, should be more heavily weighted for than the less 'important' behaviours that were included in the measure of '*Verbal caring*' in the present study.

In light of the way in which it was operationalised (and, specifically, what was lacking), it is perhaps not unsurprising that consultations scoring high on '*Verbal caring*' were relatively short and uncomplicated, involving patients with lower levels of emotional distress.

Neither measure of the 'therapeutic alliance' in this study addressed important aspects such as patients' perceptions of the relevance or potency of the treatment interventions offered, or the extent of agreement with the goals of therapy (Roth & Fonagy, 1996). It is likely that such issues could only be fully addressed using qualitative methods, again highlighting the problems inherent in using a reductionist instrument like the RIAS to attempt to measure *all* important aspects of patient-centred consulting.

The RIAS is a well-validated instrument for analysing medical communication and has been used to operationalise 'patient-centredness' in various ways (see Chapter 3). However, in previous empirical work undertaken prior to this thesis (Mead & Bower, 2000b; see Appendix 4), a measure of patient-centredness based on the RIAS was found to correlate poorly with another well-validated instrument (i.e. the Henbest & Stewart (1989) measure of patient-centredness). This suggests that, had other process measures been used in the present study, these may have produced different findings in terms of relationships with outcomes.

Some researchers have suggested that patients' own perceptions of the patient-centredness of their consultations should be measured (as opposed to independent assessments), since the former may be better predictors of outcomes. Commenting on a database search for literature that including the term 'patient-centred(ness)', Stewart states in a recent editorial:

"Patient perceptions of patient-centredness are important to study. The Medline search indicated that most educators and researchers focused solely on experts' ratings of observed behaviour in clinical encounters. However in one study of both observation of the clinical encounter and patient perceptions, the patients' perception of the patient-centredness of the interaction was the stronger predictor, not only of health outcomes, but also efficiency of health care (fewer diagnostic tests and fewer referrals)¹. This can be described as the ultimate patient-centred finding: the patients', not the experts', views on patient-centredness predicted important outcomes" (Stewart, 2001, p. 445).

Also in support of this view, Little *et al.* (2001a) argue that operationalising patient-centred care on the basis of in-depth coding of doctors' verbal behaviour fails to capture patient perceptions, non-verbal behaviour or the on-going doctor-patient relationship. They surveyed 661 patients (from three GP practices) following their consultations to ask about their perceptions of the doctor's approach. The questionnaire contained items designed to map onto the components of patient-centred care proposed by Stewart *et al.* (1995a). As measures of consultation outcome, patients also completed a Medical Interview Satisfaction Scale (MISS), a Patient Enablement Instrument (PEI), and 435 patients were followed up after one month with the Measure Yourself Medical Outcome Profile (MYMOP; Paterson, 1996) which assesses symptom burden. Factor analysis of patient's responses to the patient-centredness questionnaire indicated five underlying factors, labelled

¹ The particular study referred to in this quote (Stewart *et al.*, 2000) was reviewed in Chapter 4.

by the authors as: communication / partnership, personal relationship with the doctor, health promotion, positive and clear approach to the problem, and interest in effect on the patient's life. In respect of the five-dimension conceptual framework proposed in this thesis, the 'communication / partnership' factor most clearly relates to dimensions 3 and 4 (i.e. 'sharing power and responsibility' and the 'therapeutic alliance'). The 'personal relationship' and 'positive approach' factors identified by Little *et al.* would also appear to map onto the 'therapeutic alliance' dimension, while health promotion is probably associated with the doctor's use of a 'biopsychosocial perspective'. Finally, 'interest in effects of the illness on the patient's life' clearly corresponds with the dimension termed 'patient-as-person' in this thesis.

Multivariate analyses showed that patients' perceptions that their doctor had demonstrated good communication / partnership and a positive approach to their problem were strong independent predictors of satisfaction scores. In respect of enablement, a positive approach, attention to health promotion and interest shown in the effect of the problem(s) on the patient's life were significant predictors. Finally, less symptom burden was associated with a positive approach, while a personal relationship with the doctor was associated with greater symptom burden at one month.

The authors conclude that patients' own perceptions of the patient-centredness of their consultations are strong predictors of outcome and suggest that the measurement of such perceptions provide a marker of the quality of care provided. However, there are two key problems in substituting objective measures of patient-centred consulting with patients' own perceptions. First is the issue 'halo effects'. Patients' responses both to questions about the patient-centredness of their care and to self-report outcomes like enablement or satisfaction may merely reflect a generalised response (a point conceded by Little *et al.*, 2001a). Indeed, inspection of the patient-centredness questionnaire items included in the Little study reveal high similarity of content with many of those included in the Medical Interview Satisfaction Survey (MISS). To exemplify this point, Figure 10.1 compares

items from the MISS with some of the patient-centredness items measuring 'communication / partnership' and 'positive approach' (the two main independent predictors of satisfaction in the Little *et al.* study). Furthermore, the extremely high multiple correlation found between the patient perception measure used in the study by Little *et al.* and patients' subsequent satisfaction scores (adjusted $R^2 = 0.78$) also indicates the possibility of circularity.

The second problem with using patient perceptions rather than objective measures of patient-centred care relates to the implications for monitoring and improving quality of care in general practice. This issue will be considered in more detail in section 10.6.

Fig. 10.1 **Similarity in item content between the patient-perception measure of consultation patient-centredness and the Medical Interview Satisfaction Scale (MISS), both used in the Little *et al.* (2001a) study**

Patient-centredness items (factor)	MISS items
<ul style="list-style-type: none"> The doctor was interested when I talked about my symptoms (communication / partnership) 	<ul style="list-style-type: none"> The doctor seemed to take my problems seriously
<ul style="list-style-type: none"> The doctor was interested in what I wanted to know (communication / partnership) 	<ul style="list-style-type: none"> The doctor gave me a chance to say what was really on my mind
<ul style="list-style-type: none"> The doctor was sympathetic (communication / partnership) 	<ul style="list-style-type: none"> The doctor seemed warm and friendly to me I really felt understood by my doctor
<ul style="list-style-type: none"> The doctor was careful to explain the plan of treatment (communication / partnership) 	<ul style="list-style-type: none"> The doctor has come up with a good plan for helping me I am not really certain how to follow the doctor's advice (-ve)
<ul style="list-style-type: none"> The doctor explained clearly what the problem was (positive approach) 	<ul style="list-style-type: none"> The doctor gave a poor explanation of my illness (-ve)
<ul style="list-style-type: none"> The doctor was positive about when the problem would settle (positive approach) 	<ul style="list-style-type: none"> After talking with the doctor, I have a good idea of how long it will be before I am well again

10.2.2 Construct validity of the outcome measures

In the present study, enablement is conceptualised as an indicator of the self-efficacy benefits of consulting a GP, and is expected to be associated with behaviours like treatment adherence and self-care. This is in contrast to satisfaction, which is conceived as a consultation outcome in and of itself. Although both instruments have received empirical validation in UK primary care settings (e.g. Baker, 1990; Baker & Whitfield, 1992; Howie *et al.*, 1995;

Baker, 1996; Howie *et al.*, 1997; Howie *et al.*, 1998; Howie *et al.*, 1999; Dowell *et al.*, 2001; Little *et al.*, 2001a), neither the CSQ nor PEI have previously been related to specific doctor communication behaviours. However, the CSQ compares well with the Medical Interview Satisfaction Scale (Kinnersley *et al.*, 1996), which has been used in two other studies measuring patient-centred care using objective methods (Henbest & Stewart, 1990; Kinnersley *et al.*, 1999).

The present study confirms a consistent finding in the literature that older patients are more satisfied than younger patients, irrespective of the process of care (Hall & Dornan, 1988; Williams & Calnan, 1991a; Williams & Calnan, 1991b; Rees Lewis, 1994; Kinnersley *et al.*, 1996). Consultation length was the only *process* factor to predict CSQ score independent of other variables (including GPs' patient-centred behaviours). Moreover, the fact that GP-patient acquaintance also predicted CSQ scores supports the criticism that satisfaction surveys may be prone to 'halo effects'; that is, patients' evaluations may be based more on familiarity and overall liking for the doctor than on specific consultation processes. Other authors have expressed concern that about the validity of 'patient satisfaction' as an indicator of the quality of care actually delivered (Williams, 1994; Fitzpatrick & White, 1997; Williams *et al.*, 1998).

The Patient Enablement Instrument is a relatively new consultation outcome measure that, to date, has received relatively little validation outside of work by its developers. Although the present study theoretically links enablement with self-efficacy, no studies have explored that association or assessed the PEI's predictive validity in terms of subsequent patient health behaviours. It is likely that the instrument requires more psychometric development as an outcome measure for GP consultations; for example, the relatively high proportion of 'zero' PEI scores found in this and other studies (e.g. Howie *et al.*, 1997) presents problems for multivariate statistical analyses. Furthermore, enablement and satisfaction may not be clearly distinct outcomes; a significant association between the two was also found in the present study (Table 9.11).

In summary, neither outcome measure used in this study was unproblematic and alternative measures may have demonstrated significant results. However in respect of the CSQ, there is no *qualitatively* superior consultation satisfaction instrument known to the author, while the PEI is one of few available alternatives to 'satisfaction' for measuring generic consultation outcomes in primary care.

Objective measures of outcome that may have shown relationships with patient-centred consulting include: patient recall of information / advice, compliance with treatment, subsequent use of health care resources (e.g. repeat consultations for the same problem), or patient health outcomes. The problems with measuring recall and compliance in observational studies in primary care were discussed in Chapter 7. In the present study, patient enablement was used as a proxy measure of these task-relevant outcomes (although, as mentioned above, its predictive validity remains unproven). Logistical constraints prevented a medical record search for each patient to examine medical resource use following the index consultation.

Patient health outcomes may be considered the 'gold standard' criterion by which to judge the effectiveness of medical care but were not measured in the present study for a number of reasons. First, as with record searches, there were logistical constraints to patient follow-up. Second, the theoretical model tested in this study makes no specific predictions about the relationship between doctors' consulting behaviours and patient health outcomes, restricting the focus instead to 'affective' and 'task-relevant' outcomes. It would therefore have been inappropriate to add other outcomes not specified by the model. Furthermore, there is no obvious *objective* measure of health outcome appropriate for use in primary care settings. Self-report generic health status instruments (such as the COOP-Wonca charts) are likely to be extremely insensitive as measures of *outcome* in primary care because of the wide range of problems presented to GPs, and the fact that health outcomes are likely to be influenced by a host of factors which may not be amenable to change via communication.

It therefore remains an open question as to whether relationships would have been found between the measures of patient-centredness and alternative, objectively measured outcomes. However, evidence from the previous literature is relatively weak in that, of the three studies employing multivariate analyses reviewed in Chapter 4, only Stewart *et al.* (2000) included any objective measures of outcome, and no relationship was found with an independent measure of patient-centredness used in that study. Rather, a relationship was found only with a measure based on patients' subjective perceptions (the limitations of which were described above).

10.2.3 Internal validity and statistical issues

Although condensing RIAS categories into 'clusters' of verbal behaviour for the purpose of coding consultations may reduce sensitivity of the instrument, reliability of the 'clusters' utilised in this study was adequate. However, reliabilities of the observer ratings of GP affect (which were used to operationalise the measure of '*Non-verbal caring*') were less acceptable.

Care was taken to control for factors confounded with outcome in the analyses. Null findings may reflect this conservative analytic strategy if the study over-controlled for confounders. Variables entered into each regression were analysed for their predictive explanatory power *independent* of the variance in outcome already explained by all other variables in the equation. Thus, if a particular explanatory variable is correlated with others (as well as with the outcome), only that part of the explanatory variable's predictive ability *not shared with other predictors* is considered when determining its *individual* power in predicting the outcome (Tabachnick & Fidell, 2001, p.131). However in support of the analytic strategy, the literature suggests (as confirmed by the present study) that patient and doctor factors may be stronger predictors of satisfaction than specific consultation processes. Moreover, in respect of enablement, lack of *univariate* relationships with any of the patient-centredness variables suggests that over-controlling for confounders was not an issue.

That 13 independent variables (IVs) were entered into each regression equation might give cause for concern. However, the study sample (n=173 consultations) exceeds suggested 'rule of thumb' sample size requirements for testing individual predictors in multiple regression, e.g. between 5 and 10 data points for each included IV (Motulsky, 1995) or $n \geq 104 + [\text{no. of IV's}]$ (Tabachnick & Fidell, 2001, p.132).

No pre-study power calculation was performed. However, a *post hoc* calculation with the GPOWER program (Erdfelder *et al.*, 1996) suggests that 173 cases and 13 predictors has greater than 90% power to detect a 'medium' effect size (equivalent to a total squared multiple correlation of 0.13). In other words, it is unlikely that the study is highly under-powered for detecting medium sized effects. On the other hand, if the relationship between patient-centredness and outcome were 'small' (equivalent to an R^2 of 0.02), then more cases would have been needed, although the practical significance of such a small effect size is unclear.

The issue of the clustering of consultations within GPs was examined using multilevel modelling. Although there was no evidence of significant clustering of outcomes at doctor level, too few GPs in the sample meant that this was not a robust test and the possibility of clustering could not be wholly discounted. However in terms of the main study findings, the possibility of clustering does not present a problem since individual-level analyses of clustered data tend to produce spuriously significant results, yet none of the patient-centredness variables of interest in this study were significant predictors of either patient outcome.

10.2.4 External validity

There are two potential problems with the study sample. First, consenting patients may not be representative of all eligible patients. Lack of data on the characteristics of patients who refused to take part in the study prevents a comparative analysis, although the estimated refusal rate was not high (10-15%) and biases associated with video recording are relatively well known

(Martin & Martin, 1984; Howe, 1997; Coleman & Manku-Scott, 1998). Table 9.5 suggested that patients in the present study were broadly similar to national profiles of consulters in terms of age and sex. Moreover, scores for self-reported physical health status were not significantly different to those obtained in another study (Kinnersley *et al.*, 1994). Mean satisfaction and enablement scores were also similar to those found in previous studies (e.g. (Kinnersley *et al.*, 1996; Howie *et al.*, 1997; Howie *et al.*, 1998; Howie *et al.*, 1999). However, it is possible that the patients who took part in the present study differed in other ways.

For example, UK adults average approximately 6 GP consultations per year (Office for National Statistics, 1998) and, although the average of 9.4 surgery visits recorded for patients in the present study included both nurse and GP consultations, it may be that frequent attenders were over-represented in this study sample. Moreover, comparison with GHQ-12 data from the study by Howie *et al.* (1997) suggests this sample may be over-representative of patients with higher levels of psychological distress. This may also explain, in part, the relatively high proportion of longer consultations found in the present study (i.e. lasting 10 minutes or more). However, it should be noted that patients were included in the study by Howie and colleagues if they reported having at least one of 17 acute or chronic *physical* conditions. Moreover, the study centred on 6 fund holding practices in the Grampian region, five of which were characterised as 'semi-rural', whereas 47% of patients in the present study were from inner-city practices, with a further 25% from two city-suburb practices (see Table 8.1). These factors may explain the noted differences.

The study is somewhat limited by the lack of data concerning the ethnic background, social class or level of educational attainment of participating patients. As noted in Chapter 7, there is some evidence of associations between these socio-demographic factors and patient satisfaction and (at least in the case of ethnicity) also with patient enablement. While this evidence is not consistent, these unmeasured variables may have been potential confounders of outcome in the present study sample.

Of greater concern is the use of a volunteer sample of GPs, which is always a problem for observational studies of in-depth consultation processes. Only one of the 14 GPs who took part was not either a member or fellow of the UK Royal College of General Practitioners (whereas national membership is more in the region of 50%). Moreover, 86% were teachers or trainers of university medical students or GP registrars and were thus likely to be reasonably confident of their consulting skills and relatively patient-centred. (This may contribute to explaining the relatively high incidence of 'long' consultations noted previously). The restricted range in patient-centredness associated with such bias might reduce associations with outcome, so the null findings reported here may not generalise to more representative GP samples. However given the time requirements of research of this type, and the intrusive nature of video-recording, recruiting such samples remains a key challenge for *all* research in this field.

10.3 The present study in the context of previous work

Section 10.2 discussed the strengths and weaknesses of the present study as a 'stand-alone' piece of work. Its comparative validity in respect of previous studies of patient-centred consulting in primary care (reviewed in Chapter 4) will now be assessed.

10.3.1 Theoretical issues

It was noted in Chapter 4 that a key limitation of previous studies is the lack of a clear theoretical framework linking specific dimensions of patient-centred care with specific outcomes. In the present study, an analysis of the conceptual and measurement literature was used to derive five distinct dimensions of patient-centredness. A theoretical model, grounded in the empirical doctor-patient communication literature, was then used to make specific predictions about relationships between consulting behaviours relating to three dimensions of patient-centred care and two different patient outcomes.

10.3.2 Measurement issues

As in the majority of previous studies, a verbal coding scheme was applied to videotapes of GP consultations in order to operationalise the behaviours of interest. However unlike previous studies, a measure of GPs' non-verbal 'caring' behaviour was also included (as part of the operationalisation of the 'therapeutic alliance' dimension of patient-centredness). In addition, some account was taken of the quantity of *patient* verbal behaviour (in relation to that of the GP) as part of the operationalisation of the 'sharing power and responsibility' dimension.

The three dimensions of patient-centred care measured in the present study are also the most commonly measured dimensions in previous studies (i.e. the 'biopsychosocial perspective', 'sharing power and responsibility' and the 'therapeutic alliance' - see table 4.2).

In operationalising the four verbal measures of patient-centred consulting that were used in this study, only reasonably reliable 'clusters' of GP and patient verbal behaviour were included (see Figure 8.13). Moreover, cluster reliability was assessed using the statistically rigorous method of intraclass correlation coefficients, the benefits of which were discussed in section 8.9.

As with the majority of previous studies, a self-report measure of patient satisfaction was used, which was completed immediately after the consultation (so reducing the risk of potential confounding by factors external to the consultation). The Consultation Satisfaction Questionnaire (CSQ) has proven reliability and validity. Moreover, both the CSQ and the self-complete Patient Enablement Instrument (PEI), which was used as the second outcome measure in this study, were developed within a UK primary care context.

10.3.3 Internal validity issues

As with previous empirical studies, an observational design was used to explore the relationship between patient-centred consulting and patient outcomes. No *a priori* power analysis was conducted. However, the study

does not suffer the limitation of most previous studies that have tended to relate patient-centred consulting to multiple patient outcomes. In the present study only two specific, theoretically derived hypotheses were tested. Furthermore, some account was taken of the 'unit of analysis' problem in that multi-level modelling was employed to examine the potential clustering of consultations within GPs. However, no obvious GP effect was found. The present study also identified and controlled for patient and consultation variables potentially confounded with the two outcomes using multivariate statistical techniques.

10.3.4 External validity issues

As noted above, there is the possibility of selection bias in respect both of the GPs and the patients who agreed to take part in this study. While some of the previous studies reviewed in Chapter 4 attempted to recruit doctors via random sampling methods, general practitioners were recruited to the present study by invitation via university-based research networks. However in terms of reported characteristics, GPs who participated in the present study are similar to those in previous studies in that there was a relatively high proportion of male doctors and the majority of participants were members of the Royal College of General Practitioners.

The estimated patient participation rate was similar to rates reported in previous studies (Table 4.4). The mean age of participating patients was also similar (i.e. mid-40's), although the proportion of female patients in the present study sample was comparatively low. Few previous studies have reported details of patients' presenting problems. However in the study by Kinnersley *et al.* (1999), which was restricted to adult patients consulting with a new episode of illness, 23% of consultations were for respiratory problems. In the present study a similar proportion of all *new* presenting problems were respiratory in nature (i.e. 25% - see Table 9.7).

10.3.5 Summary

In relation to previous studies reviewed in Chapter 4, the main strengths of the present study lie in attention to theoretical and measurement issues and

the high level of internal validity. However, the external validity of the study may be lower than that of some previous studies, due to the lack of attempt to recruit a random sample of GPs.

10.4 Synthesis of the study findings with previous work

Five of the eight studies reviewed in Chapter 4 used only univariate analytical methods, with all but one reporting some positive findings. However, results of such analyses are highly ambiguous given that they may in fact be explained by confounding factors (as was discussed in section 8.12.3.3). Of the three previous studies that used multivariate techniques to control for potential confounding factors, two included measures of patient satisfaction (Henbest & Stewart, 1990; Kinnersley *et al.*, 1999). A positive relationship was found only in the study by Kinnersley and colleagues. The present study's null findings therefore weaken support for the hypothesis that patients are more satisfied with patient-centred consultations in primary care.

None of the three previous studies that have used multivariate techniques explicitly identify any measured outcomes as 'task-relevant' according to the definition of Hall *et al.* (1988). However, some of the outcomes measured in the studies detailed in Table 4.1 might be considered 'task-relevant'; e.g. doctor-patient agreement about the problem (measured by Henbest & Stewart 1990 and by Kinnersley *et al.*, 1999), and subsequent utilisation of health services (measured by Stewart *et al.*, 2000). Neither of the two former studies found a relationship between an objective measure of patient-centred consulting and patients' subsequent reports of doctor-patient agreement. In the study by Stewart *et al.* (2000), while patients' *subjective reports* of the patient-centredness of their consultation were associated with subsequent recourse to fewer diagnostic tests and referrals, no such relationship was found for an *objective* measure of patient-centred care used in the same study. Thus, the lack of a relationship found in respect of patient enablement in the present study suggests that objective measures of patient-centred consulting do not predict task-relevant patient outcomes.

To many, it would seem surprising that the weight of evidence suggests patient-centred consulting does not lead to improved patient outcomes, considering that patients appear to value such a consulting style (e.g. (Little *et al.*, 2001b; Ogden *et al.*, 2002). However, this may reflect a more fundamental problem with the assumptions underlying the approach adopted in the present study and those reviewed in Chapter 4.

10.5 The problem of the 'drug metaphor' and implications for further research

There is an implicit assumption in the empirical literature that patient-centred behaviour and outcomes like satisfaction, enablement and adherence to therapy will be associated in a simple linear fashion. This reflects the so-called 'drug metaphor', originally described in psychotherapy research (Stiles & Shapiro, 1989; Stiles *et al.*, 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.

For example in the present study, four patient-centredness variables were calculated as linear functions of the frequency of particular utterances. However, some patient-centred behaviours may be more important at the beginning of a consultation than at the end, to the degree that early exchanges set the context for the later interaction. Thus, it might be reasonable to weight the data to take account of this. The possibility that such weighted data or more complex operationalisations (e.g. taking the sequence of speech into account - Wasserman & Inui, 1983) might show statistically significant relationships with outcomes cannot be ruled out.

The multivariate analyses performed in this study assume that increasing amounts of patient-centred behaviours will be associated with higher levels of satisfaction and enablement. However, it is possible that the 'effectiveness' of particular behaviours is context-dependent: *more* may not always be better for *all* patients *all* of the time. Patient preferences for clinical style are known to 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, an individual patient's preferences may vary depending on their reason for consulting. Savage & 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, 1997) found similar associations between patient-centredness and consultation 'type'.

As Winefield and colleagues suggest, the true therapeutic essence of 'patient-centredness' may have less to do with the relative quantity of specific behaviours than with the doctor's ability to successfully match his / her communication style to the particular needs of the patient:

"Sometimes this might mean power-sharing, sometimes directiveness, and sometimes deference" (Winefield *et al.*, 1996, p.821).

Such issues could be examined using sub-group analyses (e.g. by type of main presenting problem) or by exploring interaction effects, although there is a lack of theory to inform such analyses at present.

The approaches mentioned above (e.g. weighting data, sub-group analyses, examining interactions) represent possible modifications to the current research paradigm. However, more fundamental changes to the general approach may be required. Other methods suggested by research in psychotherapy include an 'events paradigm' (Elliott, 1984) which involves

both qualitative and quantitative description of micro-processes in the consultation, such as verbal exchange sequences explicitly identified as effecting patient change. However, such analyses are likely to be even more complex and time-consuming than the methods used in the present study, limiting their usefulness for routine professional monitoring.

If the effects of patient-centred consulting are context-dependent, full understanding may not be achieved within a quantitative paradigm; qualitative techniques may also be required. A review of approaches to consultation research in primary care identified four distinct 'domains', namely: clinical-observational; social-psychological; psychodynamic and sociological (Bower *et al.*, 2001; Appendix 4). Only the first two of these domains are inherently quantitative approaches in which the doctor-patient interaction is conceived of in terms of objectively measurable activities, with the focus of assessment on professional behaviour. The majority of patient-centredness research to date (including the present study) falls within these two domains, particularly 'clinical-observational'. However, the latter two qualitative approaches may provide alternative insights.

For example, a recent study by Barry *et al.* (2001) employs a sociological approach, conceiving of the consultation as a socially constructed form of language and practice. They combine discourse analysis of consultations with patient and doctor interviews and a quantitative classification of a range of consultation 'end-points' (including patient and doctor satisfaction, presence / absence of major misunderstandings, self-reported adherence) to study the way in which the struggle between doctor and patient identities and agendas (construed respectively in terms of Mishler's (1984) 'voice of medicine' and 'voice of the lifeworld') impact on consultation outcome. They found that when doctor and patient both used the voice of the lifeworld in the consultation, patients voiced more of their pre-consultation agendas and outcomes were positive. The poorest outcomes occurred where patients used the voice of the lifeworld in their consultations but were ignored or blocked by the doctors' use of the voice of medicine – a pattern particularly characteristic of consultations for chronic physical health problems.

Qualitative techniques may therefore be especially useful for furthering our understanding of those patient-centred care processes not easily amenable to quantitative study, such as negotiation of agendas, shared decision-making, agreement on therapeutic goals, etc. Moreover, qualitative methods may be the only means of exploring the 'idiographic' dimensions of patient-centred care, i.e. 'patient-as-person' and 'doctor-as-person'. In respect of the former, matched GP and patient interviews would help determine the extent of the doctor's understanding of the individual patient's values, concerns and expectations and the impact of this on patient outcomes. In respect of 'doctor-as-person', Balint groups have been shown to be a useful mechanism for facilitating GP self-awareness and insight into how their affective responses to particular patient presentations may be used as an aid to further management (Balint *et al.*, 1993).

As discussed in Chapter 3, a further limitation of the current research paradigm is the focus on single consultations to the degree that 'patient-centredness' may be related to the development of an on-going therapeutic relationship. However as with the other methodological developments suggested above, taking account of changes in the patient-centredness of care provided for individual patients over time would further increase the complexities of measurement and may reduce utility of the construct for evaluating training interventions, and for monitoring and improving quality of care.

10.6 Implications for 'patient-centredness' as a vehicle for quality improvement

This thesis meets the aims set out in Chapter 1 in terms of providing a clear definition of the concept of patient-centred care, examining issues relating to its measurement, and exploring its impact on patient outcomes at the level of the GP consultation. Had a relationship with outcomes been found in the present study, this would support the argument for applying measures of patient-centredness in quality improvement initiatives. Although the

measures used in the present study might be regarded too resource-intensive to be feasible for routine use in primary care, RIAS coding by trained observers takes between 2-3 times the length of the actual consultation (Roter, 1993; Roter & Larson, 2001). This may not be dissimilar to the time required of other research-based methods that have been used to assess the quality of clinical care, for example those based on detailed audit of patient medical records (as used in the study by Campbell *et al.* 2001). However, research-based measures such as these may indeed be too costly or time-consuming for routine quality assurance where computerisation or automation may be the only viable method of collecting data at regular intervals on all practising doctors.

Although objective measures of patient-centred care based on in-depth analysis of consultation behaviour may never be suitable for routine quality measurement, as discussed in Chapter 3 there is likely to be a trade-off between the feasibility of a measure on the one hand, and its reliability and sensitivity to change on the other. Reliability and sensitivity are particularly important issues to consider where measurement is to be related to incentive schemes or used for professional accreditation. There may be arguments for applying in-depth measures of proven validity and reliability in a targeted fashion (e.g. to improve the care provided by poorer performing doctors). As noted in Chapter 1, such methods are already being used as part of the membership examination and summative assessment for the UK Royal College of General Practitioners (RCGP). For the membership examination, GP registrars are required to submit videotapes of seven consecutive patient consultations, including at least one with a child under ten years of age, and one involving a significant psychosocial dimension (Royal College of General Practitioners, 2001). Consultations are assessed by separate examiners (working independently) in terms of the degree to which a variety of pre-specified 'performance competences' are demonstrated. Many of these competences relate directly to the 5-dimension framework for understanding patient-centred care presented in Chapter 2 of this thesis. For example, the doctor must demonstrate an ability to respond to patient's verbal and non-verbal cues about the nature of the problem and explore the complaint within

a social and psychological context. To obtain a 'merit-level' award, the doctor must elicit the patient's personal health understanding and take this into account when explaining the diagnosis, management options and effects of treatment. Checking patient understanding, involving the patient in management decisions 'to an appropriate extent' and establishing a sympathetic rapport are other key competences that are assessed.

However to some, the lack of evidence supporting a relationship between such patient-centred consulting behaviours and outcomes casts serious doubt on the utility of the 'patient-centredness' concept as a marker of quality of care, since this may be considered dependent on rigorous evidence of patient benefits. Yet despite this lack of evidence, patient-centredness may still have intrinsic appeal as a criterion for quality assessment in primary care because of wider values:

"Does patient-centred care improve patients' health? There is good evidence that it does. But I believe we are mistaken if we make this its justification. Some things are good in themselves" (McWhinney in Stewart *et al.*, 1995a, p.18).

In what way is patient-centred care a good thing in itself? As discussed in Chapters 1 and 2, the concept is a key tenet of the philosophy underpinning general practice medicine. This is partly due to the fact that the traditional 'biomedical' model of clinical practice has recognised limitations for advancing health in the broader sense, while patient-centred care (it has been argued) represents the 'paradigm shift' necessary to take general practice forward as a professional discipline (McWhinney, 1983). This professional imperative is summed up by Howie:

"Without a philosophy, general practice risks losing its identity; if 'patient-centredness' is its philosophy, general practices and the teams of professionals who staff them will surely endure" (Howie, 1999, p.154).

McWhinney justifies the patient-centred approach on moral grounds:

“Medicine has perennial moral problems, two of which are particularly serious in the present age: insensitivity to suffering and abuse of power.... Reforming our clinical method has at its deepest level a moral purpose: a restoration of the balance between thinking and feeling and a renunciation, or at least a sharing, of the enormous power modern technology has given us” (McWhinney in Stewart *et al.*, 1995a, p.18).

If patient-centredness is still regarded as a face valid marker of quality care in general practice, but use of in-depth measures cannot be justified on the basis of available evidence (e.g. the lack of relationship with outcomes and disagreement about methods of measurement), then it may be necessary to look for less resource-intensive measures in order to ensure that quality assurance and improvement initiatives take adequate account of the importance of good interpersonal care in general practice medicine.

As described in section 10.2.1, measures of the patient-centredness of consultations based on patients' own perceptions have been proposed (Stewart *et al.*, 2000; Little *et al.*, 2001a). One instrument currently being used to measure patients' views of their doctor's patient-centredness is the General Practice Assessment Survey (Ramsay *et al.*, 2001). GPAS includes specific sub-scales measuring perceptions of the doctor's communication skills (e.g. listening and information-giving), interpersonal care (e.g. showing caring and concern) and depth of knowledge of the patient (e.g. in terms of social roles and responsibilities). These may all be considered aspects of patient-centred care as described in Chapter 2 of this thesis. GPAS is easily administered and scored, and is being widely used by Primary Care Groups and Trusts around the UK to complement other quality measures.

However Chapter 7 of this thesis highlighted some of the problems with patient-based measures of quality of care. 'Halo' effects, social desirability response bias, normative effects and lack of direct relationships with doctor

behaviour may all limit the utility of such measures for quality improvement purposes. For example, if patients' perceptions of their doctor's 'partnership' or 'knowledge of the patient' reflect general impressions based more on familiarity than on actual behaviour, then patient scores fail to identify a mechanism by which the doctor can change those perceptions through changes in consulting behaviour. Moreover, there is a possibility of circularity when relating patient-report measures of both the care process and its outcomes (as was discussed in section 10.2.1).

As described in Chapter 7, Howie and colleagues have recently proposed an alternative proxy measure of GP's patient-centredness (broader than measures based wholly on patients' perceptions). They argue that consultation length, continuity of care and patient enablement together reflect the patient-centredness of the general practitioner's working style. The 'consultation quality index' (CQI) combines rankings across these three key component variables based on a sample of fifty or more patients per GP (i.e. mean consultation length, mean enablement score and % of patients who report knowing the doctor 'well' or 'very well' - Howie *et al.*, 2000). The authors suggest that a principal application of the CQI is likely to be as a component of packages for auditing quality of care at practice and doctor level (e.g. as part of the RCGP Quality Practice Award).

Although the CQI combines both patient perceptions and objective process measurement (i.e. of consultation length), it may still be relatively limited in its utility for quality *improvement*, in that it fails to identify specific mechanisms by which doctors or practices can improve their scores, other than possibly through changes to consultation booking intervals in order to provide more time for patients. Organisational changes may also facilitate greater continuity of care for patient, although achieving better rankings on this particular component of the CQI is less likely to be within the direct control of the doctor / practice. Furthermore, there is presently too little known about what specific consulting behaviours patients find 'enabling' for PEI scores to be useful as a means of identifying care processes that might be changed and improved.

In summary, the lack of evidence of a relationship with outcomes may undermine the utility of the concept of patient-centredness as a vehicle for quality improvement in general practice. However, to the degree that patient-centred care is professionally valued as a key tenet of general practice medicine, in-depth measures may be useful for targeted use (e.g. with poorly performing doctors or those with a specific interest in improving communication skills). For routine quality assurance initiatives, less resource-intensive measures are likely to be required such as GPAS or the CQI. However the sensitivity, validity and reliability of such measures in relation to doctors' consulting skills has yet to be proven, and their utility for quality *improvement* remains untested.

10.7 Future directions for patient-centredness research

This thesis has raised a number of issues in patient-centredness research, specifically in relation to:

- definitions of patient-centred care
- appropriateness of the quantitative research paradigm
- operationalising patient-centred behaviours
- outcomes of patient-centred care
- internal and external validity of studies relating patient-centredness to outcomes

The following section will identify particular priorities for research in this field and outline directions that future work should take.

In terms of defining patient-centredness, the conceptual framework on which this thesis is based (presented in Chapter 2) was derived from a review of the theoretical and empirical patient-centredness literature. As such, it may be argued that this reflects a predominantly academic or professional perspective (rather than a patient perspective) on what constitutes good quality interpersonal care. Although the satisfaction literature identifies

similar themes among patients' priorities for care (Hall & Dornan, 1988; Wensing *et al.*, 1998), a recent study by Ogden *et al.* (2001) suggests that patients and doctors may afford different *priority* to aspects of the patient-centred approach. The investigators found that GPs rated affective aspects of consultations significantly more importantly than patients, while the latter rated information-giving more important. They conclude that doctors may over-emphasise 'relationship' aspects of the consultation to the detriment of giving patients the information they want. Indeed in the present study, participating GPs self-rated consultations scoring high on '*Involving the patient*' (a measure concerned primarily with biomedical information-giving and clarifying behaviours) as significantly poorer in terms of the doctor-patient relationship (Table 9.10). However, patients may in fact regard information-giving as fundamental to a good doctor-patient relationship. It is therefore important to ensure that patients' views are more fully incorporated into definitions of patient-centred care than has occurred to date.

Current conceptualisations of patient-centredness not only reflect an academic, professional perspective but are also firmly rooted in Western medical culture. In respect of better understanding and incorporating the patient perspective, it is therefore important to explore possible differences between ethnic groups in terms of priorities for patient-centredness. Cultural norms and values may influence patients' views, for example, of the appropriateness of the GP as someone with whom to discuss psychosocial problems or their expectations of sharing power and responsibility for medical decision-making.

Despite the current lack of evidence of relationships with outcomes, it may be premature at this stage to abandon the quantitative approach altogether for more qualitative research into patient-centredness. As discussed in section 10.5, it is likely that individual patients' needs vary depending on the type of presenting problem and other circumstances (e.g. degree of anxiety associated with the symptoms). Not all types of patient-centred behaviour will be equally important for patients presenting different types of problem. As noted, for example, patients presenting simple physical problems may

respond better to a more 'directive' than 'sharing' approach on the part of the GP (Savage & Armstrong 1990). And it was suggested that the true essence of 'patient-centredness' may lie in the doctor's ability to match his / her consulting behaviour to the individual needs of the patient.

It is therefore important for future work to develop the theoretical model presented in Chapter 6 to take better account of the context-specific nature of the hypothesised relationships. One might expect, for example, that GP consulting behaviours relating to the 'therapeutic alliance' will be more important predictors of outcome among patients with complex psychosocial problems than for patients presenting simple physical complaints. The possibility of non-linear relationships with outcomes was also discussed earlier. For example, patients presenting new problems may particularly appreciate statements of legitimisation and empathy from the doctor early on in the encounter, and data could be weighted accordingly to take account of this when studying relationships with outcomes. Again, patient input (e.g. through focus group or vignette-based survey work) may usefully inform such developments to the theoretical model.

The present study indicates that there may be problems in reliably coding certain aspects of doctors' verbal and non-verbal behaviour that may be of importance in terms of operationalising measures of patient-centredness, and these difficulties need to be overcome, possibly through improvements to the RIAS method. However, given the resource intensive nature of the RIAS-based measures used in the present study, future research might usefully seek to develop and assess the concurrent validity and reliability of less in-depth measures (e.g. rating scales to assess the doctor's use of a 'biopsychosocial perspective' or attention to the 'therapeutic alliance'). Alternatively, researchers might explore the possibility of creating shorter versions of more complex measures (e.g. assessing the validity of RIAS-based measures applied to only the first two minutes of a consultation). Such developments may overcome the limitations discussed in the previous section concerning the utility of measures of patient-centredness for quality assessment.

In relation to the issue of outcomes, Chapter 7 and this discussion have indicated limitations in the validity of the outcome measures used in the present study and both may benefit from further development in that regard. However as suggested above, relationships between measures of patient-centredness and outcome may be highly dependent on contextual issues such as presenting problem. Therefore the priority would seem to be to determine whether the context-specific approach proposed above shows relationships between patient-centred care and these particular outcomes. Although satisfaction and enablement do not exhaust the potential outcomes of patient-centred consultations, it would seem premature to develop new outcome measures without first conducting the more context-based research suggested above.

However, if quality assessment procedures were to use enablement as a proxy indicator of doctors' patient-centredness (as suggested by Howie *et al.* in relation to the CQI), then further validation of enablement would be a priority for research in this field. Howie (1999) suggests the use of qualitative research methods to better understand the nature of enablement and patient-centredness and the relationship between them.

Chapter 4 and the present discussion have highlighted problems with the internal and external validity of studies of relationships between patient-centredness and outcomes. Although increases in sample size and sophistication of statistical analyses are always to be welcomed, it seems likely that more recent studies (e.g. Kinnersley *et al.*, 1999; Stewart *et al.*, 2000 and the present study) represent fairly high levels of internal validity, notwithstanding the limits to inferring causality in observational studies. Far greater priority should therefore be given to issues of external validity in terms of recruiting more representative samples of general practitioners. Although the voluntary nature of research will always limit levels of participation, thought should be given to suitable incentives to encourage a wider range of doctors to take part in such studies.

10.8 Chapter summary

- There was no support for the first hypothesis that GPs' 'instrumental' patient-centred consulting behaviours would predict both patient enablement and satisfaction, nor for the second hypothesis that 'socio-emotional' behaviours would predict patient satisfaction but *not* enablement.
- The main strengths of the present study lie in the attention to theoretical and measurement issues and adequate internal validity (i.e. sample size, controlling for confounding variables).
- However external validity may be compromised due to the lack of random sampling of GPs.
- A number of potential problems with construct validity of the measures of patient-centredness were identified, including the validity of the conceptual framework on which measures were based, the exclusion of some dimensions of patient-centredness, and the specific operationalisations used.
- In terms of construct validity of the outcome measures, neither measure was unproblematic and alternative measures may have demonstrated significant results.
- Considering the results of the present study in terms of the previous literature, the null findings weaken support for the hypothesis that patients are more satisfied or enabled with patient-centred consultations in primary care.
- Wider research issues include the validity of the assumption of a linear relationship between patient-centred behaviour and outcomes; the role of qualitative research in studying patient-centredness; and the issue of

continuity of care and the doctor-patient relationship as it develops over time.

- Lack of a relationship between patient-centred consulting and outcomes may cast doubt on the utility of the concept as a marker of quality of care. However, 'patient-centredness' is a face valid marker of key aspects of the philosophy underpinning general practice medicine and, as such, may still have a role in quality improvement initiatives.
- Key research priorities for the future include further development of the conceptual framework, especially incorporating the patient perspective; use of innovative quantitative approaches to examine relationships; development and further validation of outcome measures for use in patient-centredness research, and the importance of external validity, especially in relation to the general practitioners included in future studies.

Addendum

I should like to take this opportunity to reflect on some of the issues discussed in my *viva voce* examination concerning my chosen methodology and the conclusions I have drawn from the empirical work in this thesis.

I acknowledge that the scientific rigour with which the study was conducted may have operated as something of a constraint. Applying more advanced and stringent methods of reliability analysis, for example, clearly compromised the construct validity of some key variables. On reflection, the theoretical rationale for including such important RIAS coding clusters as doctors' 'verbal attention' and 'showing concern' when operationalising the variable '*Verbal caring*' probably outweighs the scientific rationale for their exclusion (i.e. due to relatively poor levels of inter-rater reliability). Similarly, the variable measuring the biopsychosocial perspective should probably have taken account of *all* GPs' psychosocial / lifestyle discussion in consultations (including information-giving and counselling statements) and not merely been restricted to question-asking (again, on the grounds of reliability).

I accept that the validity of the patient-centredness measure labelled '*Involving the patient*' is also questionable. The variable was operationalised as a proportionate measure of GPs' biomedical information-giving and their use of clarifying statements (e.g. soliciting patient opinions, checking understanding). The theoretical rationale was that verbal behaviours such as these would facilitate patient involvement in decision-making about problem management. However, I acknowledge that merely giving patients information about their problem and treatment options does not guarantee their subsequent involvement in decision-making, and that information *quality* not *quantity* is the key issue. Information may be inappropriately pitched and poorly communicated – something that is impossible to measure using a frequency-based analysis scheme such as RIAS. Concerns about the validity of '*Involving the patient*' are borne out by the study data; the measure

was inversely correlated with '*Time for the patient*' (a ratio of total patient to total GP talk). In other words, patients were less (as opposed to *more*) verbally participative in consultations scoring high on '*Involving the patient*'. On reflection, this variable would more appropriately have been labelled 'Giving information'.

The highly skewed distribution of patient enablement (PEI) scores in the study sample necessitated undertaking a logistic regression analysis, treating enablement as a binary dependent variable. However, the chosen method for dichotomising PEI scores (i.e. 0% = 'not enabled' and >0% = 'enabled') may have been overly conservative, resulting in loss of important information. The rationale for choosing this method was not discussed in the thesis but was based on a literal translation, whereby any response other than 'same' or 'less' to a PEI item deemed relevant by the patient was assumed to indicate that some degree of enablement had been achieved in the consultation. I accept that this is a particularly low cut-off point which fails to distinguish patients who experienced very mild levels of enablement from those who felt highly enabled by their consultations.

A variety of alternative strategies for dichotomising PEI scores are discussed by Howie *et al.* (1997). Table A1 compares three possible methods (b – d) with that used in this thesis (a). The table shows that all three alternatives split the sample very differently from method (a). Cross-tabulations indicated that patients were classified with a high degree of similarity in each of the three alternative methods; therefore one was chosen at random and the original logistic regression analysis re-run (with appropriate confounders included) to examine whether this alternative dichotomisation substantively modified the original results.

Table A1. No. (%) of cases in each analysis group according to method of dichotomising PEI scores

	(a) 0% vs. >0%	(b) Less than vs. \geq group mean score	(c) Less than 50% vs. \geq 50%	(d) Less than vs. \geq mean of all scores above zero
'Not enabled' group	63 (36.4)	112 (64.7)	131 (75.7)	126 (72.8)
'Enabled' group	110 (63.6)	61 (35.3)	42 (24.3)	47 (27.2)

The results of the re-analysis indicate that, unlike the original equation (table 9.12) there are three significant independent predictors of 'being enabled', namely: not being prescribed repeat medication; consulting for a new physical problem, and the patient-centredness variable '*Verbal caring*' (an aspect of the therapeutic alliance).

This suggests that the original approach taken to dichotomising enablement scores had a significant effect on the analysis and thus on the broad negative conclusions drawn concerning the relationship between patient-centredness and patient outcomes.

However, I feel that three caveats should be noted. Firstly, the decision to modify the dichotomisation of PEI scores has been made *post-hoc* after considering results of the initial analysis. Secondly, there is no agreed and validated method for scoring enablement as a dichotomous variable, and therefore the results of this re-analysis are, to a degree, arbitrary. Thirdly, any additional analyses increase the possibility of chance findings in a study. Together, these three issues imply that the results of this re-analysis can only be considered suggestive rather than definitive.

It should also be noted that although the re-analysis does show a relationship between one measure of patient-centredness ('*Verbal caring*') and 'being enabled', this is not a relationship predicted by the theoretical model (Fig. 8.14). Therefore the re-analysis does not impact on the overall results of the

thesis in terms of having important bearing on the validity of the model under test. However the findings of the re-analysis may indicate that the theoretical model needs to be modified, and would have suggested additional research questions in the thesis.

These considerations also apply to the broad issues discussed earlier concerning the inclusion / exclusion of particular RIAS categories when measuring patient-centred consulting behaviours. In other words, the results of analyses in this thesis may have been sensitive to the particular operationalisations employed and alternatives may have generated different findings. However, further re-analyses would be vulnerable to similar criticisms concerning their post-hoc and arbitrary nature and the problem of multiple hypothesis testing.

The thesis may possibly have downplayed the limitations of the RIAS coding scheme in being sensitive to patient preferences for GP consulting style. Section 10.5 dealt with these issues in its discussion of the 'drug metaphor', but the importance of these issues may not have been sufficiently reflected in section 10.7 on 'Future directions for patient-centredness research'. The study by McKinstry (2000) provides further evidence that patients' desire for aspects of patient-centredness in their consultations varies; in particular, patients appear to prefer a more 'directive' approach for physical health problems and a more 'sharing' approach in consultations for psychosocial problems. Thus the thesis may have benefited from some modifications to the generic theoretical model to take account of these two broad types of consultation prior to the empirical work, or by undertaking *post-hoc* analyses.

I should like to conclude by stating that I strongly believe that 'patient-centredness' is an important aspect of medical care. The somewhat negative tone of the conclusions in this thesis possibly reflect a degree of frustration in my failing to find evidence of the hypothesised relationships with patient outcome. The content of the viva reflected the tension between the conservative approach I have been encouraged to take by my supervisors and the more exploratory style of my examiners (which may in fact be a more

accurate reflection of my own personality!). However, the process of completing the thesis has given me great insight into the complexities faced by researchers attempting to untangle the important elements of doctor-patient interactions, and I hope that the work represents a small but significant advance in this field.

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Appendix 1

- **Sample GP letter and outline protocol for the Euro-communication study (pp.322-326)**
- **Patient information sheet for the Euro-communication study (p. 327)**
- **Consent form for the Euro-communication study (p.328)**

Dear Doctor

**Euro-communication: a comparative study of doctor-patient
communication across six European countries**

Thank you for your interest in taking part in this study. A brief outline protocol is attached. This is a collaborative project between 6 European countries exploring how differences in the organisation of health care influence what actually happens in the consultation between doctors and patients.

What it will involve:

- The study researcher (Nicki Mead) and an assistant will set up a video camera in your consulting room. Each suitable patient will be asked whether they are willing to take part, and if so, the video camera should be set to record the consultation. Written consent is obtained from the patient both before and after recording.
- Each suitable patient will be asked to complete a brief questionnaire (both before and after the consultation) concerning their current health status and satisfaction.
- After each patient has been seen we will ask you to spend a minute ticking boxes on a log sheet to indicate, for example, how well you know the patient and to what degree you feel psychological factors are involved in the patient's presentation.
- After data collection, we will ask you to complete a summary questionnaire about your previous training and experience together with a brief scale measuring your attitudes to various aspects of general practice medicine,

It is estimated that the researchers will need to spend two surgery sessions at your practice in order to complete this research.

We hope that the research will be of direct benefit to you in the future. You will receive feedback relating to our research findings upon completion of the study as well as a copy of your own videotaped consultations.

All material will be treated in the strictest confidence. You can, of course, choose to leave the study at any stage.

Once again thank you very much for your co-operation. Your valuable time is very much appreciated.

Yours sincerely

Dr Linda Gask
Senior lecturer and Principal Investigator

Euro-communication: a comparative study of doctor-patient communication across six European countries

This study is being co-ordinated by NIVEL (Netherlands Institute for Primary Health Care). The UK principal investigator is Dr Linda Gask. The UK-arm of the study is being conducted in collaboration with the RCGP Research unit, Birmingham (associate partners).

Background

This study will form the British component to a multi-centre European study funded by BIOMED 2. The study attempts to investigate the consequences of health care system factors on doctor-patient communication.

Good communication skills, adequate consultation time and knowledge of the patient's history appear to be positive correlates of a successful doctor-patient interaction. In addition to these doctor-related factors it can be assumed that structural factors related to the health care system play a role. A remuneration system which is, for instance, based on medical interventions may act as a disincentive to spending time talking with patients. If patients are not registered with a family doctor and if secondary care is accessible without referral from a GP, it will generally be more difficult for GPs to know patients' histories.

NIVEL has previously conducted extensive work into difference between health care systems. In an earlier research project, the European GP Task Profile study, GPs from all over Europe were asked by questionnaire about their self-reported tasks. In countries where GPs have a gatekeeper function, they considered themselves responsible for a much broader range of activities than do GPs in countries with direct access to specialist care. With particular regard to psychological and social problems, and children's and women's health, it appears that GPs with gatekeeper functions consider themselves much more as 'doctors of first contact' than do GPs where direct access is available. However these differences are based on self-report. The next step is to study what is going on in the encounters between patients and doctors across the different countries.

The main European study

In the main study the following questions will be asked:

- Are there differences in doctor-patient communication in different countries?
- Are these differences related to the characteristics of the health care system?

Manchester University has agreed to participate in collaboration with the Royal College of General Practitioners Research Unit in Birmingham. Other partners include Universiteit Gent (Belgium), Medical University of Hannover (Germany) Servicio Adaluz de Salud (Spain). Data are also being collected in Switzerland (non-EU collaboration).

Method

For the UK contribution to this study we need to recruit a minimum of 27 GPs from whom we will collect:

- Videotapes of 15-20 patient consultations
- From the GP (via a consultation log sheet): information about diagnosis, assessment of the importance of psychosocial factors, acquaintance with the patient, medication prescribed (yes / no) and self-evaluation of consultation performance
- From the patient (via questionnaire): GHQ-12, patient's expectations of the consultation, health status using COOP / WONCA scale; patient satisfaction following the consultation; 6-item post-consultation 'enablement' scale

Each GP will also complete questionnaires designed to ask about previous training and experience and about attitudes towards various aspects of their professional role and clinical care.

For ease of collection and to minimise costs but maximise the range of settings recorded, we aim to collect data in three sites: Manchester, Birmingham (via the RCGP research Unit, who are partners in the project) and Exeter (via the Postgraduate Medical School in Exeter: Professor Denis Pereira Gray and Dr Keith Lloyd). We realise that this will not be a random sample of GPs but it is not possible to generate a random sample who would be willing to have their consultations videotaped. Furthermore, we are interested in the specific doctor-

patient interactions, and in broader cultural differences between the countries, rather than in making general statements about UK GPs.

The video data will be analysed using an adapted version of Debra Roter's Interaction Analysis System. This coding system provides information about:

- amount of affective behaviour, e.g. empathy, listening, concern, etc.;
- amount of instrumental behaviour, e.g. questions, information, advice-giving, etc.;
- non-verbal behaviour.

Timescale and resources

The project begins on the 1st April 1996. Data collection begins in the participating countries in August 1996 and should be complete by mid-1998. There will be feedback to the participating GPs following completion of the data analysis phase.

Funding.

A grant has been obtained from Pfizer UK of £12,000 to support the UK data collection. ECU 11,000 (£9,166) are available from the central budget at NIVEL a giving total of £21,166

Ethical Committee approval has been granted for the study by Central, North and South Manchester, Preston, Birmingham, Worcester, Leicester and Exeter.

How doctors and patients communicate with each other in different European countries

A study carried out by the University of Manchester

WHAT IS IT ABOUT?

We are trying to find out whether there are differences in the way doctors and patients talk to each other and agree on treatment across six different European countries. This project is also being carried out in Spain, Belgium, the Netherlands, Switzerland and Germany.

WHAT WOULD I HAVE TO DO?

If you agree to take part we would like you to help us in the following ways:

1. We would like you to complete some questionnaires for us. This will take about five minutes of your time before you see the doctor and a further five minutes afterwards.
2. We would like to record your consultation with the doctor using a video camera. No one else will be in the room except you and your doctor. The video recording will be used to study communication between doctors and patients. The tape will be destroyed at the end of the study.

WHAT ABOUT CONFIDENTIALITY?

No intimate examination will be recorded. The camera can be switched off at any time should you request this.

The videotape is subject to the same degree of confidentiality and security as patients' medical records. Tapes are stored in locked cabinets.

The videotape will be seen only by the study researchers and by your own GP. All information about you is strictly confidential. In particular, your questionnaires will not be shown to your doctor.

COULD I CHANGE MY MIND?

You are free to decide not to take part or to withdraw from the study at anytime in the future without giving your reasons. This will not affect your treatment or your relationship with the doctor in any way.

If, after giving permission for your consultation to be recorded, you change your mind please contact your GP _____ on _____, or phone the researcher _____ on _____

We must point out that the research may not be of direct benefit to you but may help others in the future.

PLEASE RETAIN THIS SHEET FOR YOUR INFORMATION

How doctors and patients communicate with each other in different European countries

A study carried out by the University of Manchester.

- YES: I am the patient and I have been given a written explanation of the study
- YES: I have had enough time to think about the study and decide without pressure if I want to take part
- YES: I understand that the decision is up to me and that I can opt out without it affecting how I am treated
- YES: I have been assured that all information collected in the study will be held in confidence
- YES: I confirm that I agree to take part in this study
- YES: I give my permission for my consultation to be video-recorded and used for the purpose of researching doctor-patient communication
- YES: I understand that the videotape will only be seen by the researchers and by my own GP

Signed (before consultation): _____ **Date:** _____

Signature of any person accompanying: _____

Please complete the next section following your consultation (delete as appropriate):

Following my consultation, I am / am not still willing for the video-recording to be used for the above purposes.

Signed (after consultation): _____ **Date:** _____

Signature of any person accompanying: _____

Signature of GP: _____

RESEARCHER:

I confirm that I have fully explained the purpose and nature of the investigation.

Signature of researcher: _____

Appendix 2

- **Pre-consultation patient questionnaire (pp. 330-335)**
- **Post-consultation patient questionnaire (pp. 336-340)**
- **Post-consultation GP log sheet (p.341)**

EUROCOMMUNICATION



**Questionnaire for the
patient**

**Fragebogen für den
Patienten**

**Questionnaire pour le
patient**

**Cuestionario por el
paciente**

**Vragenlijst voor de
patiënt**

a comparative study on doctor-patient
communication in different European countries

eine vergleichende Studie über Arzt-Patient
Kommunikation in verschiedenen Europäischen
Ländern

une recherche comparative de la communication
médecin-patient dans divers pays Européens

un estudio comparativo de la comunicación entre
médico y paciente en varios países Europeos

een vergelijkend onderzoek naar arts-patiënt
communicatie in verschillende Europese landen

PERSONAL INFORMATION

Please, complete or tick the next questions:

In what year were you born?

year of birth:

Are you a man or a woman?

☐ man
☐ woman

Do you live alone?

☐ no
☐ yes

Do you live with:
(tick all that concerns you)

☐ partner
☐ own children, number
☐ other children, number
☐ parents/parents-in-law
☐ sisters/brothers
☐ other adults

Are you employed?

☐ no
☐ yes, hours per week

What is the highest level of education you attained?

☐ none
☐ primary school
☐ secondary school
☐ higher vocational training/university

For which health problem(s) are you visiting your GP today?

problem 1.

problem 2.

problem 3.

Is this the first time you have visited your GP for these problems?

problem 1. ☐ no ☐ yes
problem 2. ☐ no ☐ yes
problem 3. ☐ no ☐ yes

GENERAL HEALTH QUESTIONNAIRE






We should like to know how you have been feeling in general over the past few weeks. Please answer ALL the questions below by underlining or circling the answer which most closely applies to you.

Have you recently...				
1. been able to concentrate on whatever you're doing?	Better than usual	Same as usual	Less than usual	Much less than usual
2. lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
3. felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less than usual
4. felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less than usual
5. felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
6. felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
7. been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
8. been able to face up to your problems?	More so than usual	Same as usual	Less so than usual	Much less able
9. been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
10. been losing confidence in yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
11. been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
12. been feeling reasonably happy, all things considered?	More so than usual	About same as usual	Less so than usual	Much less than usual

Thank you very much for your time and help.

Physical fitness




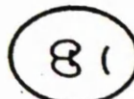
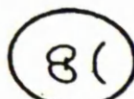
During the past 2 weeks ...
What was the hardest physical activity you could do for at least 2 minutes?

Very heavy, (for example) run, at a fast pace	1	
Heavy, (for example) jog, at a slow pace	2	
Moderate, (for example) walk, at a fast pace	3	
Light, (for example) walk, at a medium pace	4	
Very light, (for example) walk, at a slow pace or not able to walk	5	

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Feelings




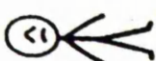

During the past 2 weeks ...
How much have you been bothered by emotional problems such as feeling
anxious, depressed, irritable, or downhearted and sad?

Not at all	1	
Slightly	2	
Moderately	3	
Quite a bit	4	
Extremely	5	

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Daily activities

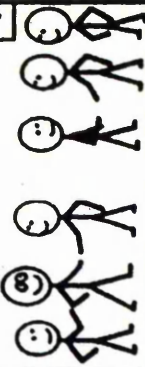
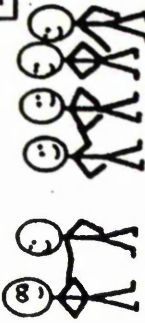
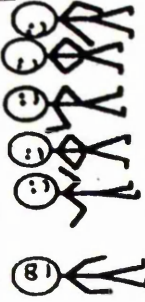

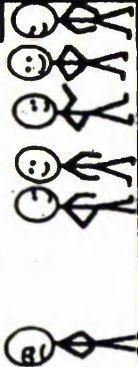
During the past 2 weeks ...
How much difficulty have you had doing your usual activities or tasks, both inside and outside the house because of your physical and emotional health?

1	No difficulty at all	
2	A little bit of difficulty	
3	Some difficulty	
4	Much difficulty	
5	Could not do	

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Social activities

During the past 2 weeks ...
Has your physical or emotional health limited your social activities with family, friends, neighbours or groups?

1	Not at all	
2	Slightly	
3	Moderately	
4	Quite a bit	
5	Extremely	

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Change in health

How would you rate your overall health now compared to 2 weeks ago?

1		Much better
2		A little better
3		About the same
4		A little worse
5		Much worse

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Overall health

During the past 2 weeks ...
How would you rate your health in general?

1		Excellent
2		Very good
3		Good
4		Fair
5		Poor






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PATIENT QUESTIONNAIRE BEFORE CONSULTATION

Please tick for **each** item how important you think it is for your visit **today**.

Pain

During the past 2 weeks ...
How much bodily pain have you generally had?

No pain		1
Very mild pain		2
Mild pain		3
Moderate pain		4
Severe pain		5

If you consider an item as 'not applicable', please tick the last box.
For example: you are visiting the GP today for a routine control of your blood pressure. You do not have any symptoms, so some items, like nr.1 (about symptoms) and nr.4 (about emotional problems), are not related to your present problem. So, you would tick the box 'not applicable' for these items.

Another example: you are visiting your GP for stomach-ache for the first time. Then, item nr.3 and nr.8 are not related to your today's visit. So you would tick the box 'not applicable' for these items.

	not impor- tant	rather impor- tant	impor- tant	utmost impor- tant	not appli- cable
1. I would like Dr to tell me what my symptoms mean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I feel anxious and would like Dr's help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I want a previous diagnosis confirmed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I want Dr to talk with me about my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I have emotional problems for which I would like some help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I want to be examined for the cause of my condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I want Dr to explain my emotional problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I would like Dr to explain some test results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I want Dr to explain the likely course of my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I'm having difficult time and would like some support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I want advice on a drug I am taking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I want Dr to explain how serious my problem is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I want medication for my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I want to be referred to a specialist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Edinburgh enablement questionnaire

..... Please answer the six questions below after you have seen the doctor. Tick one box for each question.

As a result of your visit to the doctor today, do you feel:

	Much better	Better	Same	Less	This question does not apply to me
1. able to understand your illness / problem?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. able to cope with your illness or problem?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. able to keep yourself healthy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. able to cope with life?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. confident about your health?	Much more <input type="checkbox"/>	More <input type="checkbox"/>	Same <input type="checkbox"/>	Less <input type="checkbox"/>	<input type="checkbox"/>
6. able to help yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The Consultation Satisfaction Questionnaire (CSQ)

Please answer ALL the questions after you have seen the doctor.

Draw a circle around the answer that is closest to how you feel.

"Neutral" means that you have no feelings either way.

For example:

The doctor explained things very well to me

Strongly
Agree

Agree

Neutral

Disagree

Strongly
disagree

Your answers are entirely confidential. This form will not be shown to your doctor or any other staff at your GP practice.

1. I am totally satisfied with my visit to this doctor

Strongly
Agree

Agree

Neutral

Disagree

Strongly
disagree

2. This doctor was very careful to check everything when examining me

Strongly
Agree

Agree

Neutral

Disagree

Strongly
disagree

3. I will follow this doctor's advice because I think he / she is absolutely right

Strongly
Agree

Agree

Neutral

Disagree

Strongly
disagree

4. I felt able to tell this doctor about very personal things

Strongly
Agree

Agree

Neutral

Disagree

Strongly
disagree

5. The time I was able to spend with the doctor was a bit too short

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

6. The doctor told me everything about my treatment

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

7. Some things about my consultation with the doctor could have been better

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

8. There are some things this doctor does not know about me

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

9. This doctor examined me very thoroughly

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

10. I thought this doctor took notice of me as a person

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

11. The time I was allowed to spend with the doctor was not long enough to deal with everything I wanted

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

12. I understand my illness much better after seeing this doctor

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

13. This doctor was interested in me as a person not just my illness

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

14. This doctor knows all about me

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

15. I felt this doctor really knew what I was thinking

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

16. I wish it had been possible to spend a little longer with the doctor

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

17. I am not completely satisfied with my visit to the doctor

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

18. I would find it difficult to tell this doctor about some private things

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
-------------------	-------	---------	----------	----------------------

Thank you very much for your time and help.

PATIENT QUESTIONNAIRE AFTER CONSULTATION

Please tick for **each** item how satisfied you are about the item the Dr carried out during your visit **today**.

If you consider an item as 'not applicable', please tick the last box.

Please tick for **each** item if the Dr carried it out during your visit **today**.
If you consider an item as 'not applicable', please tick the last box.

	not	really not	really yes	yes	not applicable	very satisfied	less satisfied	unsatis- fied	not applicable
1. Dr told me what my symptoms mean	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Dr gave me some help for my anxiousness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Dr confirmed a previous diagnosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Dr talked with me about my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Dr gave me some help for my emotional problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Dr examined me for the cause of my condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Dr explained my emotional problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Dr explained some test results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Dr explained the likely course of my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Dr gave some support for the difficult time I have	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Dr gave advice on a drug I am taking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Dr explained how serious my problem is	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Dr gave me medication for my problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Dr referred me to a specialist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
THANK YOU VERY MUCH FOR YOUR COOPERATION!									

Patient	Sex	Year of birth	How many years patient?	How many visits last year?	Know her/him not-good 1-2-3-4-5	Reason 1 for visit according to the patient	Reason 2 for visit according to the patient	Reason 3 for visit according to the patient	Problem 1 according to the GP N/E Med	Problem 2 according to the GP N/E Med	Problem 3 according to the GP N/E Med	Psychol. factors involved no - yes 1-2-3-4-5	Evaluation medical perform. bad - good 1 - 10	Evaluation psychol. perform. bad - good 1 - 10	Evaluation doctor-pat. relation bad - good 1 - 10
1					1-2-3-4-5				N/E	O	N/E	Med	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5
2					1-2-3-4-5				N/E	O	N/E	O	1-2-3-4-5	6-7-8-9-10	6-7-8-9-10
3					1-2-3-4-5				N/E	O	N/E	O	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5
4					1-2-3-4-5				N/E	O	N/E	O	1-2-3-4-5	6-7-8-9-10	6-7-8-9-10
5					1-2-3-4-5				N/E	O	N/E	O	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5
6					1-2-3-4-5				N/E	O	N/E	O	1-2-3-4-5	6-7-8-9-10	6-7-8-9-10
7					1-2-3-4-5				N/E	O	N/E	O	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5
8					1-2-3-4-5				N/E	O	N/E	O	1-2-3-4-5	6-7-8-9-10	6-7-8-9-10
9					1-2-3-4-5				N/E	O	N/E	O	1-2-3-4-5	1-2-3-4-5	1-2-3-4-5
10					1-2-3-4-5				N/E	O	N/E	O	1-2-3-4-5	6-7-8-9-10	6-7-8-9-10

Appendix 3

- **Descriptions of coding categories for the Roter Interaction Analysis System (RIAS; pp.343-348)**

Descriptions and examples of coding categories for the Roter Interaction Analysis System (RIAS)

1. Personal remarks, social conversation (Pers)
 - Greetings, e.g. "Hello", "I'm Doctor Smith", "How are you doing?"*
 - Initiating contact through friendly statements that are part of a formal greeting, e.g. "Nice to meet you".
 - Goodbyes, e.g. "Bye now", "See you", "Take care"
 - Return of greetings, e.g. "Fine thanks, and you?"
 - Conversation on social topics (e.g. weather, sports, television) or other discussion not directly related to the own patient's physical health or psychosocial wellbeing
- * If the patient responds to a greeting like "How are you?" with a description of medical problems, the statement is coded as '? Med' (i.e. open-ended question medical condition) as this was the way in which the initial question was interpreted. Similarly, if the patient responds with a description of his / her emotional state (e.g. "I'm feeling quite low, actually") the initial question would be coded as '? P/F' (i.e. open-ended question – psychosocial / feelings).
2. Jokes, Laughter (Joke)
 - Making friendly jokes, attempts to amuse or entertain (including morbid jokes where there is no obvious underlying psychological distress or concern), e.g. "they gave me so many injections I felt like a pin cushion!"
 - Laughter in response to jokes, including nervous laughter
3. Approval – direct (Approve)
 - Compliments directed at the other person present, e.g. "That's good", "You're looking a lot better today", "Well done"
 - Showing the other gratitude or appreciation, e.g. "I don't know how I'd have done it without you", "Thanks for your help"
 - Any expression of approval, praise, reward, respect or admiration for the other. Includes statements such as "Please", "Thank you", "Nice to have met you", "That's a good idea", etc.

- Exclamations that convey positive feeling in response to something the other said, e.g. "Interesting!", "Wow!", "Excellent!"
- Complimenting something attributed to the other, e.g. "I like your new haircut", "Your children are very well behaved to day", "Your handwriting is very neat", etc.
- 4. Compliment – general (Comp)
 - Compliments, gratitude, appreciation, approval etc. directed at another not involved in the interaction, e.g. "The nurses at the hospital were very nice", "I don't know how we'd manage without the new receptionist", "Dr Jones is very good".
- 5. Shows agreement or understanding (Agree)
 - Signs of agreement or understanding, e.g. "I see", "Okay", "I know", "That's right", "Oh really"
 - Includes conceding a point, social amenities and apologies that do not indicate particular concern for the other's feelings (see Concern / Worry category), e.g. "I'm sorry", "You were right", "Pardon?", "Sorry about the mix-up with the appointment date".
 - Includes agreements phrased negatively, e.g.:

Dr: "It's not a good idea to play football for a few weeks" (Counsel-L/S)

Pt: "No, I won't" (Agree)

Pt: "I don't really like my food too spicy anyway" (Gives info-L/S)

Dr: "No, me neither" (Agree)
- 6. Paraphrases or checks own understanding (Check)
 - Mechanism by which the speaker re-states or reflects back information given by the other in order to check the accuracy of the information or confirm a shared understanding of the facts or issues being discussed (in essence, 'do I understand what you are saying?', 'have I got it right?'), e.g.:

Dr: "Your blood pressure's quite high today" (Give med)

Pt: "It's high is it?" (Check)

- Includes paraphrases or repetitions of the other's communication in either declarative or interrogative form, e.g.:

Pt: "I've been getting these pains in my chest" (Gives med)

Dr: "Pains in your chest? Right." (Check; Agree)

- Includes re-statements of information which label a contextual fact expressed but not explicitly labelled by the other, or which feeds back the essence of a verbal message without adding new information, e.g.

Dr: "When did you last get your eyes checked?" ((?)Med)

Pt: "I went last summer" (Gives med)

Dr: "Oh, only a year or so ago then" (Check)

Dr: "You said earlier your stomach's been a bit upset as well?" (Check)

Pt: "Yeah, for a couple of weeks now" (Agree; Gives med)

- Includes statements made (from medical record or memory) which are a clear review of common knowledge

Dr: "Last time we said we'd start reducing your dose didn't we?" (Check)

Pt: "That's right, yeah" (Agree)

7. Expresses empathy (Empathy)

- Statements that interpret, paraphrase, recognise or name the other's emotional state, e.g. "That must be worrying for you", "What a relief", "You seem a little bit tense today"

8. Shows concern or worry (Concern)

- A statement indicating that a condition or event is serious, worrisome, distressing or deserving special attention (such as comfort, support, reassurance) and is of particular concern right now in the medical consultation, e.g. "It's getting worse doctor", "I'm very concerned about your blood pressure", "Am I heading for the hospital?", "I hope this isn't too painful".

- Includes negative descriptions of one's physical or emotional state in somewhat non-specific terms, e.g. "It's killing me", "I feel weird", "I'm sure I'm not right".
- Includes requests for pardon or indications of concern for the other's feelings (not including routine social amenities), e.g. "Oh I'm sorry that hurt you", "Do you need to sit down?"

9. Reassures, encourages or shows optimism (R/O)

- Statements indicating optimism, encouragement, allayance of fears or reassurance, e.g. "I wouldn't worry about that", "I'm sure that'll be all we need to do", "My asthma's much better now", "This won't hurt at all", "This should clear it up".
- Includes positive descriptions of one's physical or emotional state in somewhat non-specific terms, e.g. "I'm feeling better than ever", "I've been doing really well on those", "I'll give it a try".
- Includes statements showing awareness of the other's feelings expressed in a positive, upbeat way, e.g. "See, that didn't hurt at all!"
- Includes responses to requests for reassurance, e.g.

Pt: "Will I need to have this [procedure] done again?" ((?)Med)

Dr: "No, I don't think you'll have any more trouble from this again"

(Gives med; R/O)

10. Legitimises (Leg)

- Statements indicating that the other's* actions, emotions or ideas are understandable or normal, e.g. "No wonder you're feeling tired", "It's natural to be concerned", "I can see why you didn't want to wait around".
- Includes statements that normalise the other's actions, emotions or ideas by making them universal, e.g. "Who wouldn't be afraid of cancer", "All new mothers feel a bit down at times", "I've felt the same way myself".

* If the speaker legitimises him / herself, code as 'Agree' because it is an apology, e.g. "I don't usually come for a cold but..." (Agree)

11. Shows partnership or support (Partner)

- Statements assuring support to the other or which convey a sense of partnership and help, e.g. "Let me know if I can help", "Let's try that then", "Maybe we can come up with a plan".

12. Shows disapproval – direct (Disapprove)

- Any statement of disapproval, criticism, complaint, rejection, colliness or disbelief directed to the other. Includes statements that contradict or refute something expressed by the other, sarcasm and protests or defensive statements, e.g. "That's impossible", "You can't be serious?", "I thought you said I wouldn't need any more of those pills?", "I didn't say it would be completely healed in two weeks", "Oh great, another blood test", "Cutting down isn't good enough; you're going to have to give them up".

13. Shows criticism – general (Criticism)

- Any statement of disapproval, criticism, complaint, rejection, colliness or disbelief directed to another not involved in the exchange. Includes statements that contradict or refute another's actions, ideas or opinions, sarcasm and protests or defensive statements, e.g. "They're useless at that hospital", "She's never there when I need her", "I don't buy all this rubbish about vitamins and supplements", "They said it would cost three-thousand pounds, like we can really afford that".

14. Asks for reassurance (?Reassure)

- Concerns in question form that convey a need or desire to be reassured or encouraged (pay attention to voice tone, intonation and emotional context to distinguish from other questions), e.g. "Do you think it's getting worse?", "Will it ever feel completely normal?", "Do you think these headaches could be something serious?"
- Includes questions where the subject of concern is the speaker (i.e. the speaker is asking for reassurances in relation to his / her own thoughts or actions), e.g. "Am I hurting you?" (during examination); cf. "Are you okay?" [Concern], "Have I been of any help?", "Am I doing better, doctor?"

15. Transition words (Trans)

- Statements or sentence fragments indicating movement to another topic or area of discussion, train of thought or action, e.g. "Right, then...", "Now...", "Let's see..."

- Includes utterances that function as 'palce-holders' if they are separated from other utterances by a pause of one second or more, e.g.:

Dr: "Let's see...[1 sec]...you've been getting dizzy and having headaches...[1 sec]...uh...[1 sec]...any cold symptoms?" (Trans; Check; Trans; (?)Med)

16. Gives orientation, directions, instructions (Orient)

- Statements that tell the other person what is about to happen, what is expected during the consultation or examination, or which serve to organise the visit. These statements serve to guide the other's behaviour and facilitate the process of the encounter, e.g. "Now I'd like to take your blood pressure", "Let's just check your weight", "There are two things we need to discuss", "I'd like to ask you a few more questions".
- Include instructions in the imperative form relating to the examination or visit, e.g. "Just say 'Ah'", "Take that to the receptionist", "Roll up your sleeve for me", "You can get dressed now".
- When in doubt about the informative quality of an utterance, a more substantial category takes priority, e.g. "Now I need to look in your mouth to see if your glands are swollen" (Give med), "All you're going to feel is a little prick" (R/O).
- When the doctor says aloud what s/he is writing down, this should be coded as 'Orient'

17. Bid for repetition, clarification (?Rep)

- Mechanisms for requesting repetition of the other's previous statement (used when something has not been clearly heard or understood). These usually follow immediately or shortly after the statement needing repetition, e.g. "Sorry?", "What was that?", "I didn't follow what you just said", "Huh?", "Did you say the white pills?"

18. Checks other's understanding; asks for permission or agreement (?Understand)

- Mechanism by which the doctor or patient quickly checks that the information has been followed or understood (i.e. in essence, "Do you understand what I'm saying?"), e.g. "Are you with me?", "Is that all right?", "Okay?", "Can you repeat what I've just told you?"
- Includes requests for permission or agreement, e.g. "Let's see the other foot. Okay?" (Orient; ?Understand); "They don't look like chickenpox spots to me if you know what I mean?" (Give med; ?Understand)

19. Asks for opinion (?Opinion) – doctor category only

- Questions that ask for the patient's opinion, point of view or perspective relating to diagnosis, aetiology, treatment, prevention or prognosis, e.g. "What do you think it could be?", "What do you think might help?", "How do you think you've been doing on these new tablets?", "Do you think you'll be able to quit smoking?"

20. Closed-ended question – medical condition ((?)Med)

- Direct questions asking for specific information (i.e. where short responses are generally the only response options) relating to own and family medical histories, medical condition / symptoms (present or past), physical functioning (e.g. regarding degree of pain or disability), practices relating to the medical condition and allergies (except to drugs), e.g. "Have you ever been seen at the hospital for this problem?", "Do you get any pains in your arms or legs?", "When will the fracture be healed?", "Did they do a blood test last time?", "Anyone else in your family have high blood pressure?"

21. Closed-ended question – therapeutic regimen ((?)Thera)

- Direct questions asking for specific information relating to past or current drug regimens, treatment practices and lifestyle controls relating specifically to the patient's medical condition, e.g. "Have you been taking your aspirin?", "How often should I take the green tablets?", "Have you cut down your salt intake?" (to a hypertensive patient), "Do I need a prescription for that?", "Did you want to check my cholesterol?", "Are you still seeing the physio?"

22. Closed-ended question – lifestyle / social context ((?)L/S)

- Direct questions pertaining to lifestyle (smoking, diet, sleep, alcohol and exercise habits), family and home situations, work or employment, prevention and self-care issues not related to a specific health problem, e.g. "Who's living at home with you now?", "Do you think five cups of coffee a day is too much?", "Are you working now?", "Is your husband drinking more than he used to?", "Do you use birth control?"

23. Closed-ended question – psychosocial / feelings ((?)P/F)

- Questions pertaining to psychological or emotional issues, including questions about worries, concerns or feelings such as pain, stress or personal likes and dislikes, e.g.

"Are you anxious about it?" "Have you been crying a lot lately?", "Don't you like your job?", "Have you been more stressed than usual?"

24. Open-ended question – medical condition (?Med)

- Distinguished from closed-ended questions by their non-specificity and / or probing intent, e.g. "What's the problem?", "Have you had any other symptoms at all?", "What's your breathing been like?", "What do you think this means for my recovery?", "What were the results?", "Any pains in your legs or anything like that? (note: 'anything like that' indicates probing, therefore code as open-ended rather than closed-ended question).

25. Open-ended question – therapeutic regimen (?Thera)

- E.g.'s: "How've you been doing with the inhalers?", "Why shouldn't I carry on with the blue pills?", "Tell me how you reacted to the aspirin", "What kind of side-effects can I expect?", "Why did you stop the antibiotics?"

26. Open-ended question – lifestyle / social context (?L/S)

- E.g.'s: "How do you spend your days?", "Why did you decide to change jobs?", "How did you manage to quit smoking?", "What do you think I could do to lose some weight?", "Tell me about your mother's illness", "What do you use for birth control?"

27. Open-ended question – psychosocial / feelings (?P/F)

- E.g.'s: "What do you mean by 'lousy'?", "How do you cope with the pain?", "Why don't you like your job?", "How does your husband's drinking make you feel?", "What are you most worried about?"
- Includes any open-ended questioning with unclear purpose where the listener responds with psychosocial discussion, e.g. "What's been going on?", "How have you been feeling?", "Anything else?"

28. Gives information – medical condition (Gives med)

- Statements of fact or opinion relating to medical condition, symptoms, diagnosis, prognosis, past tests, test results, medical history (including family history), practices and allergies, e.g. "Your blood pressure is 120 over 80", "I've had stomach ache for a week", "My grandfather and my dad both had heart attacks", "It sounds like migraine to me", "The rash will clear up by itself in a few days", "I think I'm allergic to cow's milk".

Note – a 'Yes' or 'No' response to a question that imparts *new information* should not be confused with 'Agree' or 'Disagree', but should be coded in the relevant 'Gives information' category, e.g:

Dr: "Have you had any heartburn?" ((?)Med)

Pt: "Yes" (Gives med)

Dr: "Have you found you've been having difficulty concentrating?" ((?)P/F)

Pt: "No" (Gives P/F)

Pt: Should I take those tablets with food?" ((?)Thera)

Dr: "Yes" (Gives thera)

32. Counsels or directs behaviour – medical condition / therapeutic regimen (Counsel-Med/Thera)

- This is a doctor-only category. Statements which imply resolution or action to be taken by the patient (characterised by the intent to persuade, influence, direct or change behaviour) regarding the medical problem, drug regimen, future appointments and tests. Also includes statements about self-care activities and lifestyle controls specifically relating to the medical problem, e.g. "Come back if you're not feeling better by next week", "You're going to have to cut down on the salt", "Take this medicine three times a day", "I'd like you to take the full course".

33. Counsels or directs behaviour – lifestyle / social context or psychosocial / feelings (Counsel-LS-P/F)

- This is a doctor-only category. Includes statements relating to lifestyle, family, activities of daily living, work and employment, general health promotion / prevention (not specifically related to the medical condition), and psychosocial issues including emotional problems and concerns, e.g. "You really need to get out more and meet people", "You might want to try some deep-breathing exercises when you feel especially wound-up", "Try not to worry too much about your husband", "It's important to watch your drinking when you're under pressure", "Why not get down to the community college and sign up for one of those evening classes they run?", "You really need to think about making some changes to your diet", "I used to smoke until I realised it was killing me".

29. Gives information – therapeutic regimen (Gives thera)

- Statements of fact or opinion regarding current treatment plan, including medications, drug allergies, tests and procedures to be performed, imminent hospitalisations and other medical appointments or specific lifestyle controls relating to the medical condition, e.g. "It's a different kind of pain killer", "I take those blue pills twice a day", "We'll have them do an exercise ECG done while you're in hospital, I think", "That new inhaler doesn't seem to be doing much", "The penicillin should clear up the infection", "They probably meant you to stay on those tablets for a few months", "I pay for my prescriptions", "I'm going to make an appointment for you in two months".

30. Gives information – lifestyle / social context (Gives LS)

- Statements of fact or opinion relating to lifestyle, family and home situations, work, employment and health and self-care issues not pertaining to a specific medical problem, e.g. "I go to the gym a couple of times a week", "I was drinking up to ten cups a day at one point", "I'm thinking of moving nearer to where I work", "I want to start trying for a family next year", "We're starting up a smoking cessation clinic. I think you should think about going" (Gives thera, Counsel-Med/Thera).

31. Gives information – psychosocial / feelings (Gives P/F)

- Statements relating to psychosocial problems or concerns (e.g. stress, feelings and emotions, general state of mind or philosophical outlook, values or beliefs). These may refer to lifestyle, medical or therapeutic issues but are distinguished from other 'Gives information' categories by their psychosocial / affective dimension. They are, however, less immediate, intimate or intense than statements coded in other categories such as 'Reassures' or 'Concern'. e.g. "My daughter and I used to have some wonderful times together", "Every marriage has it's ups and downs, I suppose", "I hope I'll find a job over the summer", "Coffee just makes me feel anxious and irritable", "I get quite nervous when I'm due to fly anywhere", "I'm quite a strong-willed person".

34. Other (Other)

- Utterances that cannot be heard, are unintelligible (including broken sentences that do not convey a complete thought or idea), or that cannot be adequately assigned to any of the above categories should be coded as 'Other'.

35. Back-channel responses (category added for Euro-communication study, coded in with the 'Agreement' cluster)

- Utterances that imply active listening and attention to the other without attempting to take control of the conversation, effectively encouraging the other to continue speaking, e.g. "Mmm", "U-huh".

Appendix 4

- **Published papers and articles in press related to work in this thesis (pp.350-395)**

Patient-centredness

A history

Carl May and Nicola Mead

INTRODUCTION

Contemporary medicine is awash with ideas about the *patient-as-person*. Enablement, empowerment, negotiation and patient-centredness all form a vital part of a professional vocabulary that stresses that the role of the doctor is to respond in some new way to the patient as an experiencing individual, rather than as a representative object of organic or psychogenic pathology. In general practice, especially, the *patient-as-person* is given enormous significance as a partner in the often complex negotiations that take place in the consultation. As, increasingly, the quality of doctor-patient interaction has become a proxy measure for quality of care, patient-centredness is expressed in the construction of formal models of doctor-patient interaction.

While these formal models are a novel innovation in recent medical thinking, what underlies them may not be. In this chapter we will consider the history of the *patient-as-person* as this has been set out in recent accounts, and then lead on to the way in which these formal models represents a real problem for contemporary medicine.

We begin by discussing two important and influential theses in the current historical sociology of medicine. The first of these, offered by Jewson (1976) and echoed in historical studies (Fissell, 1991), is that the rise of scientific medicine in the nineteenth century led inevitably to the disappearance of the 'sick man' from medical cosmology; and the second, offered by Armstrong (1982), is that the 'person' was rediscovered as a medical problem at the end of the interwar period. In the context of these two theses, the more recent growth of medical ideas about *patienthood* as a 'biopsychosocial' phenomenon can be seen as an attempt to recapture a lost world of medical practice, as well as a recognition that illness and disease are produced by and

From: *General practice and ethics: uncertainty and responsibility*. Edited by C. Dowrick and L. Frith. London: Routledge, 1999

experienced in complex ecologies. The chapter then turns to some of the more recent material on 'models' of the consultation and the problems of 'communicating' with the patient.

THE DECLINE OF THE PATIENT?

At the end of the eighteenth century medicine was by its very nature holistic and patient-centred. There could be no other source of medical knowledge about the patient other than her or his own account of symptoms, and this knowledge was primarily acquired through listening to this account (May, 1997), and performing observations of the external appearance of the body. The internal and external mechanisms that drove both disease causation and natural history were, in any case, not understood in any meaningful sense. In practice, this meant that:

Physical examination was therefore not practised, as it would have served little purpose. Treatment was in any case along general lines and followed a set routine of evacuation, counter-irritation and the administration of 'specifics'. ... Diagnosis was arrived at by what was called an 'estimate of symptoms and appearances'.

(Macalpine and Hunter, 1969: xvi)

In this model of practice, Jewson has noted, there was none of the distinction between psyche and soma that is made by contemporary medicine, and which it finds so troubling (Good, 1994). Instead, these were integral components of the manifestation of illness, equally applicable to the ague (malaria) or habitual temulency (addiction to alcohol). The important thing to note here, was that diagnosis involved a qualitative judgement about the moral state of the patient as much as it did about the appearance of the illness itself; and susceptibility and culpability were intimately linked. In addition, both diagnosis and treatment were negotiable with the patient. In her account of doctors at work in eighteenth-century Bristol, Fissell (1991) describes negotiations about disease causation and treatment that would be familiar to any general practitioner today.

If eighteenth-century medicine was marked by holism and a focus on the subjective and experiential aspects of illness, the nineteenth century was marked by relentless scientific medicalization and somatization, and by the consequent rapid decline in importance of the patient's own account. The shift here was away from *illness* as a subjective (and

individualized) experience, towards *disease* as objective (and generalized) phenomena. What mattered in this heroic age of scientific innovation and discovery was the uncovering of discrete and identifiable pathologies. Medicine shifted from the bedside to the hospital, and the medical profession itself became marked by a complex division of labour founded on the emergence of new, scientific specialities. For writers like Jewson, this meant that:

Interest in the unique qualities of the whole person evaporated to be replaced by studies of specific organic lesions and malfunctions. Disease became a precise and objectively identifiable event occurring within the tissues, of which the patient might be unaware. ... The experiential manifestations of disease, which had previously been the very stuff of illness, were now demoted to the role of secondary signs.

(Jewson, 1976: 235)

Jewson is quite correct, of course, but we must offer a caveat here. The apparent shift from bedside to hospital medicine in the nineteenth century, is of course, followed by a parallel focus in historiography itself. The history of medicine has therefore taken a disproportionate interest in the processes and practices of scientific discovery and the social organization of medicine that were involved in the shift to hospital diagnosis and treatment dominated by the laboratory sciences. The family doctor or general practitioner has thus been marginalized, although we can be confident that such practitioners were still providing the bulk of medical care to the population. If the patient was reduced to the object of medical procedure in the hospital, we have no strong historical evidence that the patient-as-person ceased to matter in family practice.¹ Indeed, the social history (as opposed to the medical history) of general practice remains unwritten in any systematic way.

There is a second reason to be sceptical about Jewson's thesis. For much of the nineteenth century, there was a strong differentiation in the distribution of medical care by social class. The emergent public hospitals – driven as much by the need to locate growing numbers of medical students as by philanthropic motives – primarily catered for the urban working class. The urban elites and the country gentry could be confident of being treated and nursed at home. Because of the highly marked division between Victorian hospital patients (often pauperized and poorly educated) and doctors (often characterized by a rigid middle-class formality), the kinds of interpersonal negotiations that characterized earlier

doctor-patient relationships appear far more unlikely. Deference to the doctor can therefore be considered as a function of differential social status, as much as stemming from the subordination of the experiencing subject to the authority of science.

What is absolutely clear is that the patient-as-person vanished from medical textbooks during this period. Physical hygiene and the avoidance of infection became crucial components of the management of the patient, who after all had an increasing probability of being cured, or at least palliated, as a result of the radical growth of medico-scientific knowledge throughout the nineteenth century.² This latter point is often neglected by critical histories and sociologies of medicine that focus on the zenith of scientific medicalization (e.g. Arney and Bergen, 1983).

But if the patient-as-person vanished from the medical textbook, as Arney and Bergen suggest, there is not much evidence that the wider medical literature could accommodate such a claim.³ Victorian medicine grappled with the problem of differentiating between disease as an asocial objective phenomenon to which individuals were susceptible and as a moral problem which arose as the result of individual culpability across a broad range of disease states – from cholera in the 1830s (Morris, 1976) to insanity in the 1880s (Thompson, 1988) – and which often had a hereditary or eugenicist basis. The important point that needs to be made here is that where the patient-as-person achieves prominence in the medical literature of the late nineteenth century it is primarily as a *moral actor*, that is, in qualitative judgements about the moral character of the patient.

REDISCOVERING THE PATIENT?

The second thesis drawn from historical sociology that we should take note of is advanced by Armstrong (1982). Where Jewson was concerned to show how the patient-as-person disappeared from the medical worldview, and became the passive object of medical knowledge and practice, Armstrong is concerned to show how the patient-as-person was discovered in the interwar period. In particular, he takes as his focus the problems of the 'defaulting' patient and of non-compliance. Once again, this kind of critical literature has initially little to say about the family doctor. What it does demonstrate very effectively is the way in which a new discipline, psychology, was drawn on to redefine the doctor-patient relationship.

Armstrong has shown how the history of ideas about the patient in

British medicine this century has been marked by a shift from seeing the consultation as a meeting in which the patient is the passive recipient of diagnosis and treatment, to one where the patient is considered as a negotiating partner. In part, this has its origins in the influence of ideas about the 'personality' and the 'unconscious' of the patient that took hold in the 1930s (e.g. Brackenbury, 1935). The personality of the patient became one of the key conditions through which non-compliance could be accounted for, and the unconscious was seen as a source of 'blocks' which inhibited recovery. This reflects the growing importance that was attached to broadly psychoanalytic explanations of ill-health at the end of the interwar period (Shorter, 1997).

Central to this new shift was the possibility of negotiation within the consultation, and of the 'problem' of miscommunication between doctor and patient. Concerns about poor compliance had as their corollary a set of ideas that reflected a much stronger relationship between psyche and soma than had been the case at the turn of the century. In part this was derived from wide experience of the physiological effects of psychological trauma during the First World War. But it also reflects a growing sense that community medicine might attend to the patient in a much wider sense. In this context, it is worth noting that medical elites towards the end of the interwar period saw a role for 'social' medicine, which reflected political shifts towards welfarism that had their ultimate and spectacular effect in the Beveridge Report of 1944 and of the creation of the NHS in 1947.

The principal announcement of this much greater range for 'social' medicine may be found in what now seems an unremarkable statement by the secretary of the British Medical Association in 1935:

the relationship between doctor and patient is not merely between two persons, but between two personalities. ... It is never the body which is out of health, but always the complete being.

(Brackenbury, 1935, cited in Armstrong, 1982)

In retrospect, this is a crucial statement of what we might now characterize as 'holistic' medicine and, importantly, it was aimed primarily at general practitioners. It accomplished two quite distinct ends. First, it suggested that there was no aspect of the patient that could not be, at some level, a problem for which medical attention was not relevant. It thus radically expanded the field of medicine to include the patient's personality and relationships. But second, and for the purposes of this chapter more relevant, it signalled that the doctor was also a potential problem.

The doctor's personality and behaviour might also be a block to achieving the patient's health.

What we have, then, in the period under review, is a shift in the nature of medical judgements about the patient-as-person. Qualitative moral judgements about the patient's character give way to psychological assessments of the patient's personality. The scientific and moral authority of the doctor is similarly displaced by a more problematic professional identity.⁴

THE PATIENT-AS-PERSON IN GENERAL PRACTICE

In general practice the shift to seeing the personality of the patient as being in some way fundamental to the outcome of the consultation reaches its zenith in the work of Michael Balint during the 1940s and 1950s (Balint, 1957). Balint's view was that the 'relationship' between doctor and patient was intrinsically therapeutic and, while the extent to which this influenced doctors in practice is arguable, such a view exercised a considerable influence on general practice's professional elites and especially the embryo Royal College (May *et al.*, 1996). The doctor-patient relationship thus became central to professional doctrine in general practice, in part because it offered a point of departure for a theoretical framework for a kind of medicine that lacked complex diagnostic technologies. It thus offered a means by which general practice could contest the growing threat posed by the rapid growth of hospital medicine in the new National Health Service. This kind of 'model' thus served two distinct purposes: it set up the medical encounter as a therapeutic technique in itself (hence Balint's famous aphorism that *the doctor is the drug*), while at the same time providing a novel means for differentiating general practice from specialized hospital medicine. Where the latter invested its efforts in specific pathological entities, general practice could come to examine the 'whole person' in her or his wider social context. This kind of view has gathered increasing momentum: it is the core, for example, of *The Future General Practitioner* (RCGP, 1972) and of much of the educational and exhortative literature that has followed from this (e.g. Neighbour, 1987).

The shift towards 'patient-centred' general practice that is evident throughout the period since 1960 is, of course, much more than a means of securing professional differentiation from hospital medicine. It is also a *moral* enterprise, and this is common to both forms of medicine.

Its clearest exposition may be found in a pivotal statement by a paediatrician:

The essential unit of medical practice is the occasion when, in the intimacy of the consulting room or sick room, a person who is ill, or believes himself to be ill, seeks the advice of a doctor whom he trusts. This is a consultation and all else in the practice of medicine follows from it.

(Spence, 1960: 271)

The relationship between doctor and patient, therefore, is not simply a technical device for the delivery of medical care, but is founded on bonds of personal obligation and trust. The problem here is that while these may be assumed in the mass of research literature that has emerged since the 1960s, the research-based models of the consultation in general practice that have developed since then have taken as their primary focus the things that doctors do with patients, rather than who they are to them. That is, they have focused on improving the technical quality of the doctor's activities – by prescribing style in the structure, content and duration of the consultation (e.g. Howie *et al.*, 1991). Medical models of the consultation are thus primarily skills based, and treat it as a problem to be resolved through educational interventions.

One way to explain this focus on the consultation as a technical problem of practice is to see medical models of doctor-patient interaction as being propelled by the need to respond to external pressures and wider social trends. Broadly speaking, these have taken the following – initially connected – forms. First, the period since the 1960s has seen a sustained political critique of medical practice much of which has been derived in part or in whole from the social sciences, in which feminist critiques of patriarchal medical science, and the objectification of the patient, have been especially vocal (Miles, 1991). Second, a slightly later development is the translation of this critique into the advocacy of patient interests through the emergence of ideas about consumerism and their subsequent – but problematic – incorporation into health policy (Fitzpatrick and White, 1997). Finally, there have been structural changes in the organization of primary care resulting from the managerial encroachment of general practice through successive NHS reorganizations (Caban and Williams, 1995; Downick, 1997).

These developments have come together in a way which compounds the doctor as a problem. The 'new' patient-centredness has been ushered in by an extraordinary growth in techniques for modelling the optimum

consultation. This is embodied in ideas about 'the patient as expert' (Tuckett *et al.*, 1985), the 'inner consultation' (Neighbour, 1987) and the 'exceptional potential of every consultation' (Stott and Davis, 1979) that reflect both the psychoanalytic antecedents of much of the current literature, and their contemporary reduction to variables in the language and behaviour of the doctor. The purpose of such literature is thus to optimize *technical efficiency* in dealing with the patient.² But it also provides a means of setting the doctor's *persona* up as a problem for the patient, hence the emergence of an equally broad literature on patient satisfaction with the consultation, which offers an explicit critique of the doctor in general practice (cf Fitzpatrick and White, 1997).

The problem with this literature is that in pressing the case for the widest possible definition of the patient, it inevitably leads to both resentment about the disparity between 'theory' and 'practice' – which we can observe across the health professions (May, 1992) – and to a practical problem. When the communications skills of general practitioners fail to meet the demands of 'patient-centred' performance indicators, this can only be construed as an individual problem. It is thus a technical deficiency which can perhaps be resolved by training – or reaccreditation.³ But this literature says rather less about the ways in which structural features of the doctor's work may impinge on the encounter with the patient, or about the more general context in which this takes place. Furthermore, it is often difficult to identify precisely what individual commentators mean by 'patient-centredness', for in theory and practice the definitions employed in the clinical research literature are frequently nebulous. For example, Stewart *et al.* (1995) outline a six component *patient-centred clinical method* which involves:

- exploring both the disease and the illness experience
- understanding the whole person
- finding common ground regarding management
- incorporating health promotion and prevention
- enhancing the doctor-patient relationship
- being realistic

Underpinning this kind of approach to the consultation lies a set of appropriate 'professional attitudes' (Mead, 1997). These include:

- openness to the full range of problems presented by the patient
- interest in and receptiveness to the patient's agenda

- regard for patients as unique individuals with their own beliefs and preferences
- belief in the patient as an expert in his or her own illness
- belief in collaboration and partnership with patients regarding management
- self-awareness of limitations and emotional responses

Stewart *et al.*'s work is but a part of the very extensive literature that attempts to define 'patient-centredness' and set out means by which the content and quality of the consultation may be measured in these terms. In the appendix to this chapter, we set out in tabular form some pointers to the way in which this literature has prescribed an appropriate set of 'attitudes' or 'values' for the patient-centred general practitioner. Indeed, patient-centredness is often constructed as a good thing, precisely on moral grounds: it permits the doctor to enter into the patient's own definitions of disease and empowers the patient to speak more openly about her or his problems (McWhinney, 1995; Smith and Hoppe, 1991). It has also been argued that patient-centred consultation styles are more clinically appropriate and effective, since in opening up the consultation they are responsive to patients' perceived needs, and might therefore be expected to lead to improved patient outcomes (i.e. satisfaction, recall, compliance and health outcomes). It may be that such approaches lead to improved outcomes in terms of satisfaction (though even here the evidence is conflicting), but there is much less evidence to suggest that compliance and health outcomes are greatly affected by the doctor's consulting style – partly because many of the measures on which such studies are based have not been properly established as valid or reliable (Mead, 1997). In fact, studies of consulting style have largely shied away from exploring the question of whether there is a demonstrable health gain resulting from patient-centred approaches to the consultation.

The literature on the perfect consultation may therefore isolate the skills of the doctor from the context in which s/he works, and from the objectives of both the doctor and patient. Nor does this model necessarily reinstate the patient as an experiencing individual. Fissell (1991) points to the way in which patients' narratives at the end of the eighteenth century were constructed around proximal cause and long *social* histories. There is no strong evidence that this has changed; indeed current work on the experience of illness suggests precisely the same organization for such accounts (Bury, 1982; Lupton, 1994). There is no place in the five or ten minute consultation for such an expression of subjectivity. Nor, in

truth, is there much evidence that doctors want to hear them (Dowrick *et al.*, 1995; May *et al.*, 1996).

CONCLUDING COMMENTS

So how can we account for the expansive nature of 'patient-centredness'? First of all we must emphasize that it represents a moral imperative in contemporary health care: a shift away from the kinds of paternalism that are commonly held to have characterized medicine before the war, and towards seeing health and illness as experiences that *do* impact upon the generality of the patient's well being. In this sense, patient-centredness is about avoiding precisely those facets of the doctor–patient relationship that patients have historically objected to – being treated as a 'disease' rather than a person, not being listened to, not feeling 'cared' for or cared about. Similarly, we can see the growth of patient-centredness as an attempt to empower the patient and to expand their contribution to the consultation. But we should also see patient-centredness – as a way of seeing and acting in the consultation – as part of a wider process in which general practitioners have to work harder to negotiate increasingly complex relationships. Lupton points out that:

doctors are ... aware that their patients' trust is now no longer necessarily won by virtue of their occupying the role of 'doctor' but must be earned and worked at continually. ... Changes in the medical encounter and the status of doctors are not just a matter of the State, patients or other groups 'gaining' or 'taking' more power from doctors, or vice versa, but involve a series of dynamic and interpersonal negotiations of power centred on the ethic of professional practice. (Lupton, 1997: 493)

But it might be that the 'ethic' of patient-centredness, or the values about 'holistic' care that form such a deep and powerful component of professional training for general practice, involve signing up to a series of positional – perhaps irresolvable – problems in the consultation itself. We have sketched out some of the features of the way in which the 'problem' of the patient has changed for medicine over time. Three quite distinct kinds of 'problem' have been identified here: at the zenith of scientific somatization, the patient is a *moral* character; in the shift towards 'social' and ultimately 'biopsychosocial' medicine, the patient is a *psychological* problem, while in the current context – in which patient 'satisfaction' is so

Appendix Professional attitudes associated with patient-centredness (set into the framework proposed by Stewart et al., 1995)

Component (Stewart et al., 1995)	Examples of professional attitudes / values identified from the literature
Exploring the disease and illness experience	Openness to full range of patient-presented problems (Stewart et al., 1995); Receptiveness to patients' offers/cues/prompts of expectations, feelings, fears (McWhinney, 1985; Stewart et al., 1995; Grol et al., 1990; Winefield et al., 1996); Openness to 'hidden agenda' (Lipkin et al., 1984); Feels responsible for non-medical aspects of problems (Grol et al., 1990); Positive regard for patients with psychosocial problems, 'non-problems', self-treatable illness, etc. (Cockburn et al., 1987); Interest in behavioural aspects of medicine and speculative thinking (deMonchy, 1992); Sensitivity to what is going on, unconsciously or consciously in the patient's mind (Balint, 1964).
Understanding the whole person	Respects fundamental worth of all patients – belief in value as persons; Respects cultural values of ethnic groups (Stewart et al., 1995); Interest in psychological and social factors in patient's environment (Cockburn et al., 1987); Respect for patient's autonomy, individuality – accepting of diverse backgrounds and personal styles (Lipkin et al., 1984).
Finding common ground regarding management	Willingness to collaborate and share management responsibility with patients (Stewart et al., 1995; Lipkin et al., 1984); Belief in partnership; Openness to patients' differential preferences for decision-making (Cockburn et al., 1987); Willingness to let patients decide on basis of full information; Considers patient basically equal (deMonchy, 1988); Respects patient values, preferences, expressed needs (Delbanco, 1992); Regards patient as 'expert' in her or his illness (Tuckett et al., 1985).
Incorporating prevention and health promotion	Enthusiastic interest in three stages of prevention; Willingness to invest time and energy incorporating screening, prevention, health promotion into patient day-to-day care; Values health promotion (Stewart et al., 1995); Values preventive medicine – positive regard for role of GP in preventive care (Cockburn et al., 1987).
Enhancing the patient-doctor	Accepts risks of exposing own weakness and vulnerability, of being hurt; Long-term commitment to patient well-being; Willingness to act as patient advocate (Stewart et al., 1995); Openness to cues of the relationship developing affective relationship (Winefield et al., 1996); Values openness, honesty, information-disclosure; Values for professional role in providing emotional support/counselling (Cockburn et al., 1987); Unconditional positive regard for patients (Lipkin et al., 1984).
Being realistic	Self-awareness of limitations and personal response to stress; Willingness to ask for help when needed (Stewart et al., 1995); Self-awareness of emotional responses (Winefield et al., 1996, Smith and Hoppe, 1991); Considers own opinion as part of team approach (deMonchy, 1992).

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prominent a professional and political issue – the patient is increasingly seen as a *critic* of medical practice.

The chapter has focused initially on work that charts the ways in which the patient is lost to, and subsequently rediscovered in, medical discourse. The post-war 'rediscovery' of the patient and the notion that the encounter between doctor and patient is intrinsically therapeutic have, it has been suggested, created a way of seeing the *doctor* as the problem presented by the consultation. The shift here is from the doctor as reflexive listener, striving to make sense of the patient as a person, to the doctor's behaviour as measurable evidence of the deployment of a package of communications skills.

The growth of a literature organized around formal models of patient-centredness (bearing in mind that quality of the consultation is increasingly constituted as a proxy measure for quality of care) has two effects when it is translated into practice. First, it demands ever more of the doctor, perhaps more than we can reasonably expect from a consultation; second, it shifts the focus away from 'relationships' in which the doctor and patient mean something to each other, and are bound together by bonds of trust and obligation, focusing instead on communications 'skills' as a technical achievement.

NOTES

- 1 Bynum (1994: 29) provides some useful evidence to the contrary.
- 2 Although there are important debates about whether declining death rates are the result of direct innovation in clinical medicine, or of the extraordinary developments in public health medicine during the nineteenth century, there is no doubt that doctors were much less likely to kill their patients as the result of treatments at the end of the century than they were at the beginning.
- 3 The real danger here is to assume that the medical textbook corresponds in a direct way to what doctors actually do, when it does not. The purpose of the medical textbook is to outline the things that doctors should *know* about disease before they meet the patient. It is a training manual.
- 4 It is interesting that it is only once this focus on the psychological aspects of the consultation gets underway that family practice begins to emerge in the literature as a 'space' where the doctor-patient relationship was important.
- 5 The forms of behaviour that are specified in such approaches simulate those that are to be found in long-standing relationships. One way to understand the growth of ideas about 'patient-centredness' therefore is to see them as a means by which doctors may compensate for the lack of 'in-depth' knowledge about the patient.
- 6 This is not to say that communications skills are not important, because they

so clearly are. The point we emphasize here is that the objective of the general practitioner in the consultation may often be opaque to the expert observer and, more importantly, to the patient.

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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 Maesseneer, Whitfield & Mokkink, 1990; Winfield, 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) incorporating

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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 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 'triadial 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 'biogra-

phy' (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

relationship between adults — Szasz & Hollender, 1956), where power and responsibility are shared with the patient. Related notions like 'user involvement', 'negotiation', 'concurrence' 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; deMontigny, Richardson, Brown & Harden, 1988; Stewart et al., 1995a; Winfield et al., 1996; Laine & Davidoff, 1996; Kinnouth, Woodcock, Griffin, Spiegall, 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 & Foa, 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; Spitzer, 1990).

Although the practice 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, this 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, Hall & 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 medicines (and subsequently, to establish a framework for GP vocational training) as with perceived limitations of the 'biomedical model' (Mead & Bower, 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; Wisow 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 & Dorman, 1988; Baker, 1990; Williams & Chan, 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 PsycInfo) 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 (deMontigny et al., 1988)	43	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	$\alpha = 0.62$ ($n = 52$ 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	$\alpha = 0.49-0.67$; $n = 387$ 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 areas (r 's from 0.19 to 0.23, $n = 80$ — 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, Kiler, 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 uti-

lity 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, Hopson, 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 across each dimension)	2, 3, (4)	Inter-rater: kappa = 0.84; intrate: $\alpha = 0.61$ ($n = 57$; Winefield et al., 1996)	Low correlations with another measure of patient-centredness based on verbal behaviour coding (r^2 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' ($r = 18.66-18.84$ somatic complaints; 40.6-49.6 psychosocial complaints presented to a sample of 30 self-selecting GPs)
Langewitz, Philipp, Kils and Wosmer (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 (5-point scale) for entire consultation	2, 3	Mean inter-rater agreement (i.e. where difference between two raters does not exceed 1 scale point) = 83.5% (3 raters; number of consultations not reported)	Significant increase in ratings following training in patient-centred consultation 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
Cokene 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 sequence; (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 (τ) — skill 1, $p < 0.01$; skill 2, $p < 0.02$; skill 3, $p < 0.05$). Number of consultations not reported	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 difference 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 rated on 5-point scale. Summed 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 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)	Poor concurrent validity with two other measures of patient-centredness (i.e. adaptation of Roter Interaction Analysis System: $r = 0.37$; Frabets & 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 Peters, Towns-Owen 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 practices ($n = 20$ trained 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/relax; agrees; asks for opinion; asks for suggestion; shows tension. Patient behaviour: gives opinion; disagrees; shows tension; shows antagonism; gives suggestion; gives orientation (adapted from Bates' 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/relax, 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 satisfaction, impressions of affect and recall (r 's from 0.27 to 0.62 for frequency-based measures; 0.11–0.38 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 Siles' 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's scale (r 's 0.17 and 0.21 — see Table 3). Moderate correlations between 'doctor receptiveness' and 'patient involvement' ($r = 0.40$). 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 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 utterance 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 Siles' 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)
Ozell and Killen (1997)	Relational Communication Control Coding System - pragmatic function of each speaker's statements coded in terms of controlling/accepting/neutral behaviour. Paired statements (i.e. speaker-responder) also coded in terms of control 'dynamics'	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)
Winrow et al. (1998)	Healthcare provider behaviour: 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 parents in 33% of sampled visits and with the child patient in 35%. '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 sites)
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 $r = 0.21$ (Hembert & 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
Budger et al. (1994)	Interaction Analysis System for Interview Evaluation (SIE-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 SIE-81 development work)	No relationship with attitudes to psychosocial issues (measured using Physician Interview Scale). Affective 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)

(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 Bates' (1956) Interaction Process Analysis (IPA), Siles' (1978) Verbal Response Modes (VRM) and Roter's (1977) Interaction Analysis System (IAS). A useful comparison of these three techniques is provided by Inui, Carter, Kukulski 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

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 (Winfield 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 (Picters et al., 1994). However, two of the scales have demonstrated low concurrent validity with other observation-based measures of patient-centredness (Winfield 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 Winfield et al. (1996) and Langewitz et al.

improving feasibility. Measurement is in terms of frequency 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' (Winfield 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 (Winfield et al., 1996), more anxious or emotionally distressed (Butow et al., 1995; Mead & Bower, 2000) and better known to the doctor (Winfield et al., 1996; Mead & Bower, 2000). Associations are also reported with eye contact (Mead & Bower, 2000), type of consultation (Winfield et al., 1996) and consultation length (Winfield 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 (Winfield 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 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) 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, Lorenstein, McCracken & McWhinney, 1986)
Brown et al. (1986)	2, 3	Inter-rater: $r = 0.69-0.84$ for 3 coders ($n = 6$ tapes; Brown et al., 1986)	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, Lorenstein, McCracken & McWhinney, 1986)
Henbest and Stewart (1989)	2, 3	Inter-rater reliability: patient offers — 85% agreement; physician response scores: $r = 0.31$ (Henbest & Stewart, 1989); $r = 0.50$ (Law & Britten, 1995); intraclass correlation coefficient = 0.58 using 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' ascription 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, 1989)

Table 4 (continued)

Method	Dimensions	Reliability	Validity
Brown, Stewart and Tesler (1995)	2, 3, (4)	Inter-rater: $r = 0.83$ ($r = 0.19$ consultation); intra-rater: $r = 0.73$ ($r = 0.20$ consultation); Stewart, Brown, Donner, McWhinney, Oates & Weston, 1995b)	Female GPs (especially trainees) scored higher on patient-centredness than male 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-consultations with measured consultation input or process variables ($n = 55$ videotaped consultations from 24 volunteer GPs; Mead & Bower, 2000) 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, 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

Facts 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' — Fresolini, 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-centredness' 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 qualitative 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 pro-

posed 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; Birchall, 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

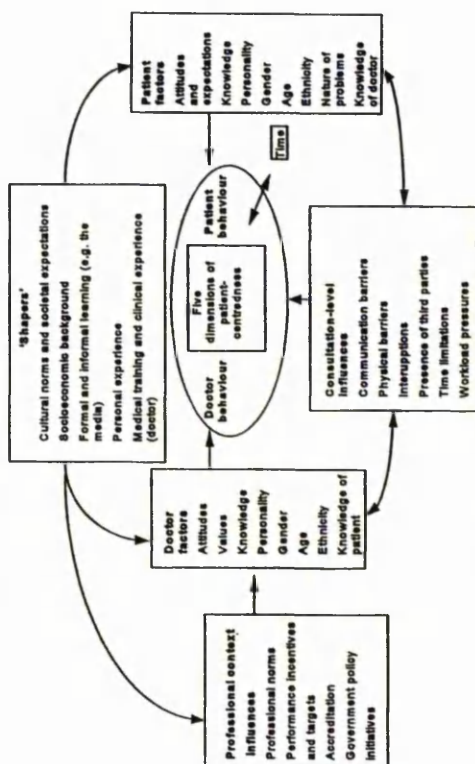


Fig. 1. Factors influencing patient-centredness.

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 (Oak & 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 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 consultations, 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. Balnt (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, Sorofo 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 (Frausella & 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, Eagle, Schraier 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 (1989) 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' (Siles & Shapiro, 1989), originally described in psychotherapy research (Siles, 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 & Ashson, 1979; Cart-

Conclusion

wright & 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. Winfield et al. (1996), Winfield, 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, 1983), 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 micro-processes in the consultation (such as verbal exchange sequences explicitly identified as affecting 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 existing doubt on the validity of instruments. Winfield et al. (1996) call for the 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.

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Measuring patient-centredness: a comparison of three observation-based instruments

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Abstract

The aim of this study was to assess the reliability and validity of three different observation-based measures of patient-centredness. The three face-valid instruments were each applied to the same sample of 55 videotaped GP consultations. Associations were explored with consultation 'input' variables (e.g. patient and doctor demographic characteristics, patient health status) and 'process' variables (e.g. consultation length). The three measures demonstrated varying levels of inter-rater reliability. Reliability was proportional to training requirements. Differences in construct validity of the three measures were evident and their concurrent validity was relatively low. Researchers must exercise caution in their choice of measurement method because of differences in how the concept of 'patient-centredness' is operationalised. Greater conceptual specificity and simplification are required for meaningful, reliable measurement. The implications for research, and for assessing the quality of individual doctors' 'interpersonal' care are discussed. © 2000 Elsevier Science Ireland Ltd. All rights reserved.

Keywords: Patient-centredness; Measurement; Consultation analysis; Doctor–patient communication; Quality of care

1. Introduction

Central to current UK reforms of the National Health Service is the issue of 'quality of care' [1]. The advent of concepts such as 'clinical governance' (where primary care professionals are directly responsible for the quality of care delivered by newly established Primary Care Groups) highlights the need for valid and reliable measures of 'quality' [2]. While

undoubtedly important, measures of clinical performance alone do not capture the complexities of providing high quality general practice care. The doctor–patient relationship, the concept of patient-as-person and the intrinsic therapeutic nature of the consultation itself have been core themes in the professional development of general practice [3]. Measures of the quality of interpersonal aspects of care are therefore also required as adjuncts to those of clinical performance.

The concept of 'patient-centredness' is increasingly regarded as a proxy for high quality interpersonal care. However, while strong moral and clinical

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justifications have been advanced [4,5], there is a lack of consistent empirical evidence that patient-centredness is associated with improved outcomes. In part, this lack of consistency may be due to the fact that patient-centredness has been defined and measured in various ways: for example, as a professional attitude [5,6], a set of knowledge [7], and in terms of consultation behaviours [8,9]. Even studies adopting the latter behaviourist approach have utilised a wide variety of different methods for measuring the patient-centredness of medical consultations.

Only one study to date has explored the concurrent validity of different measures. Winefield et al. [10] conceptualise the patient-centred consultation as one in which the doctor is (a) receptive to the patient's opinions and expectations, (b) involves the patient in decision-making about treatment, and (c) is attentive to one of the effective relationship with the patient. Using transcripts of 210 audiotaped primary care consultations, the authors found a low correlation between two different measures of patient-centredness (one a 'global' scale for rating doctors' patient-centred behaviour, and the second, a more intensive method based on coding doctor and patient verbal behaviours). Furthermore, while psychosocial or 'complex' consultations scored high in patient-centredness on both measures, there was less consistency between the measures in respect of their associations with patient age, acquaintance with the doctor, consultation length or patient and doctor satisfaction.

These findings suggest that studies employing different methods of quantifying patient-centredness may not actually be measuring the same domain of care. Such methodological inconsistency confounds cross-study comparison and hampers development of a body of evidence concerning the determinants and outcomes of patient-centredness. Building on the work of Winefield et al. [10], the aims of the present study were to (1) assess the inter-rater reliability and concurrent validity of three different observation-based measures of patient-centredness, (2) compare construct validity of the measures through associations with consultation variables commonly measured in other empirical studies, and (3) discuss feasibility of the measures for use in research and quality assessment.

2. Methods

2.1. Study sample

The study sample initially consisted of 72 videotaped consultations with adult patients involving 24 volunteer GPs working from 13 UK practices (in Birmingham, Manchester and Exeter). The sample was later reduced to 55 consultations after reliability problems were identified in respect of one of the patient-centredness measures (see Results section for further details).

The videotaping of consultations was undertaken as part of an on-going, European-wide study of doctor–patient communication (the 'Euro-communication' study). A minimum of 15 consultations were videotaped for each UK general practitioner who participated in Euro-communication, of which three consultations were randomly selected (per GP) for inclusion in the present study.

2.2. Data collection procedure

Patients were recruited in the waiting room during routine surgeries. Consecutive adult patients were informed about the Euro-communication study and invited to participate by a researcher. It was stressed that the decision to participate was entirely voluntary and would not affect the patient's care in any way. Patients gave written consent to videotaping both before and after their consultation. While no systematic record of refusal rates was kept, it is estimated that 10–15% of patients declined to take part. This figure is comparable with rates reported for other GP studies involving videotaping [11,12]. Refusal to participate may be associated with younger patient age, greater levels of emotional distress and consultations for gynaecological problems [11–13].

2.3. Measures of consultation inputs and processes

Data were collected (via patient and GP survey) across a number of variables that may be described as 'inputs' to the consultation (see Fig. 1). Fig. 2 presents details of the consultation 'processes' that were measured. With the exception of GP ratings of

Input variables	Measurement method
• Patient age and sex	Pre-consultation patient questionnaire
• GP age and sex	GP questionnaire
• Patient pre-consultation health status	Patient-completed 7-item COOP/Wonca charts [14]
• Patient pre-consultation psychological health status	Patient-completed 12-item General Health Questionnaire [15]
• GP level of acquaintance with the patient	Rated by the GP on a 5-point scale immediately following the consultation

Fig. 1. Consultation input variables measured.

Process variables	Measurement method
• Importance of psychological factors in the consultation	Rated by the GP on a 5-point scale immediately following the consultation
• Overall length of consultation	Stopwatch applied to video-recordings
• Proportion of consultation where GP looks at patient's face ('patient-directed eye gaze')	Stopwatch applied to video-recordings
• Patient-centredness (measure #1)	Evaluative rating scale of GP behaviour applied to video-recordings (see text for details)
• Patient-centredness (measure #2)	Adaptation of the Roter Interaction Analysis System [16] applied to video-recordings (see text)
• Patient-centredness (measure #3)	Henbest and Stewart measure [17] applied to video-recordings (see text)

Fig. 2. Consultation process variables measured.

the importance of psychological factors in the consultation, all process measures were applied to the videotapes by trained independent observers.

In some consultations, physical examinations and other diagnostic procedures (e.g. blood pressure or peak flow monitoring) were conducted out of range of the camera. For standardisation, it was therefore decided to exclude all such examinations and procedures when measuring the consultation processes detailed in Fig. 2.

2.4. The three measures of patient-centredness

2.4.1. The rating scale

This scale was devised specifically for use in the Euro-communication study. Following an initial once-through viewing of the videotaped consultation, the doctor's patient-centred behaviour was rated from 0 ('poor') to 5 ('excellent') across the following five dimensions:

- Involving the patient in problem-definition (i.e. encouraging full expression of problem(s) and expectations of the visit).
- Involving the patient in decision-making regarding management of presented problem(s).
- Picking up cues from the patient about 'hidden' aspects of the problem or other unresolved concerns.
- Exploring issues of patient ambivalence and self-efficacy (e.g. with respect to confidence in the management plan).
- The doctor's overall 'responsiveness' (i.e. whether the doctor appears to listen and makes contextually appropriate responses throughout).

An overall patient-centredness score is calculated by totalling the five dimension scores and dividing by the maximum possible score (i.e. 25). Occasionally the observer may regard one (or more) dimensions as not applicable to a particular consultation in which case the doctor is scored across relevant dimensions only. In all cases, the final patient-centredness score falls between 0 and 1.

The five behavioural dimensions all have face validity having been identified as key features of a patient-centred consulting style from a review of the

conceptual and empirical literature. However, the Euro-communication scale has not previously been validated empirically.

2.4.2. The Roter-based method

The second measure was adapted from the Roter Interaction Analysis System (RIAS) [16]. This scheme codes the verbal 'utterances' of both doctor and patient into mutually exclusive categories. Measurement is in terms of frequencies of utterances in the different categories. The original RIAS comprises 34 behaviour categories designed to encompass the full content and context of routine medical dialogue. For the purpose of the Euro-communication study, these categories were condensed into seven affective (i.e. socio-emotional) and nine instrumental (i.e. task-focused) 'clusters'.

Following RIAS coding of study sample consultations, a measure of patient-centredness was calculated based on a method used by Ford et al. [18]. RIAS clusters indicative of *patient-centred* consultation behaviour were selected as follows:

- All GP and patient questions and information-giving about psychosocial or lifestyle-related issues.
- All patient biomedical question-asking.
- All GP verbal attention (i.e. statements of empathy, legitimisation or partnership).
- All GP 'clarifying' behaviour (i.e. asking the patient's opinion, checking patient understanding and requests for repetition of something misunderstood or misunderstood).

Conversely, RIAS clusters indicative of a *doctor-centred* style were selected as follows:

- All GP biomedical question-asking and information-giving.
- All GP 'directive' statements (i.e. those which guide or instruct the patient within the immediacy of the consultation).
- All patient biomedical information-giving.

A ratio of patient-centred to doctor-centred talk was then calculated for each consultation.

account scores from all four observers ($R = 0.34$). However, examination of raw data from the reliability sample revealed, in this case, that observer D was not using the RIAS scheme correctly and required re-training. Excluding data from observer D boosted inter-rater reliability of Roter scores for the other three observers to a reasonable level ($R = 0.71$).

At the time reliability analyses were undertaken, observer D had already RIAS coded a subsample of 17 of the 72 study consultations. However, evidence of this observer's poor reliability using RIAS led to the decision to omit those 17 consultations from the study, reducing the sample to 55 (still involving 24 GPs) which were RIAS coded by either observer A, B or C.

For pragmatic reasons, inter-rater agreement for the Henbest and Stewart measure was calculated across this reduced sample. Observers A and B each coded the 55 consultations independently of one another. Table 1 shows that the intra-class correlation coefficient was modest ($R = 0.58$).

Reliability can be improved by using multiple observers and taking the average of their scores [21]. In the case of the rating scale (based on data from the 20 reliability sample consultations), R increased to 0.51 when agreement was assessed between the averaged scores of observers A and B and the averaged scores of C and D (Table 1, third column). While this improved on the reliability of data from single raters, it was still not a very good level of agreement and was felt not to justify the extra time required to double-rate all 55 consultations using that particular measure. Thus, the reliability of rating scale scores in subsequent analyses remains very low ($R = 0.34$).

After excluding data from observer D, the Roter-based measure was sufficiently reliable not to require resource intensive multiple-coding methods. In the case of the Henbest and Stewart measure, the exact reliability of averaged ratings could not be ascertained since only two observers (not four) had applied this measure to the 55 study sample consultations. In such cases, the Spearman-Brown prophecy formula may be used to estimate the increase in reliability if scores are averaged over multiple raters [21]. Using this formula, the estimated reliability of the measure when scores are averaged over two raters is $R = 0.73$. All subsequent analyses involving

this measure therefore use the averaged scores of observers A and B for each consultation.

4.2. Relationship between the three measures of patient-centredness

Correlations between the three measures were low, the highest being between the Euro-communication rating scale and the Roter-based measure ($r = 0.37$; $p < 0.01$). The correlation between the rating scale and the Henbest and Stewart measure was $r = 0.35$ ($p < 0.01$), while the lowest correlation was between the Roter method and Henbest and Stewart ($r = 0.21$; $p = 0.12$).

4.3. Relationships with consultation 'input' and process variables

Table 2 shows that the Euro-communication rating scale was significantly correlated with five variables: GP age, perceived acquaintance with the patient, consultation length, proportion of patient-directed eye gaze in the consultation, and GP ratings of the importance of psychological factors. With the exception of GP age, the Roter-based measure was also significantly associated with these variables. However, correlations were somewhat lower than for the rating scale except in the case of GP ratings of psychological factors in the consultation. In addition, the Roter method was the only measure to be significantly correlated with patient GHQ score. Of the ten variables measured, the Henbest and Stewart instrument was significantly associated with only one — patient-directed eye gaze.

5. Discussion

5.1. Reliability

The reliability of any observation-based measure is potentially confounded by a number of factors: bias in the sample, the experience and training of observers, and the degree of subjective judgement required when applying the measure.

The GPs who volunteered for this study were not representative of UK general practitioners: 19 (79%) were GP vocational trainees or taught general prac-

2.4.3. The Henbest and Stewart method

This measure focuses on the doctor's overall responsiveness to verbal offers made by the patient. An 'offer' is defined as any expressed symptom, thought, feeling, expectation or prompt. The patient's offers are noted by the observer as they occur and the doctor's response to each offer is scored in one of four ways: ignores (scores 0), closed response (scores 1), open response (scores 2) and 'specific facilitation' (scores 3). A patient-centredness score is calculated for the overall consultation by summing the doctor's response scores and dividing by the total number of patient 'offers'. A more complete description of the method is provided by the authors [17,19].

2.5. Training and background of observers

Five observers were involved in applying the various process measures (including the three measures of patient-centredness) to the videotaped consultations. The Euro-communication rating scale, stopwatch measures and modified Roter coding scheme were applied (in that order) to different subsamples of the 72 consultations by four observers (A, B, C and D). Subsequently, the Henbest and Stewart measure was applied by two observers (A and E). None of the observers had prior experience of rating medical consultations; four have backgrounds in psychology while observer A is an experienced health services researcher. Training in use of the instruments varied; approximately 2 h was provided for the rating scale, 10 h for the Henbest

and Stewart measure and 25 h for the RIAS coding scheme.

3. Analyses

The intra-class correlation coefficient (R), a measure of actual agreement rather than association, was used to examine the inter-rater reliability of each patient-centredness measure [20]. Associations with consultation input and process variables were examined using Spearman correlations (r).

4. Results

4.1. Inter-rater reliability

Inter-rater reliability was calculated for both the Euro-communication rating scale and the Roter-based measure using data from four observers (A, B, C and D) who, prior to this study, had each coded the same sample of twenty videotaped consultations (the 'reliability sample'). None of the 20 reliability sample consultations was among the 72 selected for inclusion in this study.

Reliability analyses showed that the internal consistency of the five-dimension Euro-communication rating scale was high (Cronbach's $\alpha = 0.90$). However, the level of agreement between raters using this scale was poor ($R = 0.34$; Table 1). Moreover, inter-rater agreement was not due to any one observer but was uniform across all four. For the Roter-based measure, inter-rater agreement was also poor taking into

Table 1
Inter-rater reliability of the measures

	Spearman correlations	Intra-class (One rater)	Intra-class (Average of two raters)
Rating scale ($n = 20$; four raters)	0.30-0.52	0.34*	0.51 (0.51)
Roter method ($n = 20$)	0.37-0.85 (four raters) 0.66-0.85 (three raters)	0.24 (four raters) 0.17 (three raters)	Not necessary
Henbest and Stewart ($n = 55$; two raters)	0.55	0.58	0.73* (Estimated)

*These figures indicate the reliability of scores used in subsequent analyses.

Table 2
Relationship between measures of patient-centredness and consultation input and process variables

Variable name	Variable distribution	Significant correlations with measures
Patient age (<i>n</i> = 55)	Mean: 50.6 yrs (Range: 20-86 yrs)	None
Patient sex (<i>n</i> = 55)	19 (35%) Male 36 (65%) Female	None
GP age (<i>n</i> = 24)	Mean: 42.2 yrs (Range: 29-55 yrs)	Rating scale (<i>r</i> = 0.27)*
GP sex (<i>n</i> = 24)	20 (83%) Male 4 (17%) Female	None
Patient health status (<i>n</i> = 49)*	Mean: 54.2% (sd: 13.4%) (Range: 28.6-91.4%)	None
Patient GHQ score (<i>n</i> = 48)	Mean: 3.9 (sd: 3.2) (Range: 0-12)	None
Acquaintance with patient (<i>n</i> = 54)	Median GP rating: 4 (Range: 1-5)	Rating scale (<i>r</i> = 0.38)* Rotter-based measure (<i>r</i> = 0.31)*
Consultation length (excl. physical exam)	Mean: 8.8 min (Range: 2.4-27.5)	Rating scale (<i>r</i> = 0.45)* Rotter-based measure (<i>r</i> = 0.38)*
Patient-directed eye gaze	Mean: 61% (sd: 21.7) (Range: 9-96%)	Rating scale (<i>r</i> = 0.51)* Rotter-based measure (<i>r</i> = 0.37)*
Importance of psychological factors	Median GP rating: 2 (Range: 1-5)	Henbest and Stewart (<i>r</i> = 0.28)* Rating scale (<i>r</i> = 0.41)* Rotter-based measure (<i>r</i> = 0.25)*

* *P* < 0.05.

* *P* < 0.01.

* Health status was scored as a percentage of the maximum possible score (higher scores indicate worse health status).

two medicine in universities. It is therefore likely that the communication skills of this group of GPs are above average. This may have restricted variance in patient-centredness scores, potentially reducing the reliability of data and attenuating associations with other variables.

Poor inter-rater reliability found for the Euro-communication rating scale may reflect the limited development work associated with this measure and the difficulties in rating relatively 'global' attributes of consultations. Vachek [22] reported similarly low inter-rater reliability for a patient-centredness scale in which observers rated patients' involvement in consultation decision-making about diagnosis and therapy (corresponding to the first two dimensions of the Euro-communication scale).

In the present study, while observers using the Euro-communication scale demonstrated low levels of agreement with one another, the measure's high internal consistency ($\alpha = 0.90$) shows a tendency for individual doctors to be rated similarly across each of the five dimensions comprising the scale. One explanation may be that these five dimensions of patient-centred behaviour are not, in fact, clearly differentiable (an issue which requires further empirical examination). Alternatively, the scale may be prone to 'halo effects' whereby judgements made on individual behavioural dimensions are influenced by the observer's overall impression of the doctor.

The inter-rater reliability of the Rotter-based measure was moderate to good after data from one observer were excluded. Other published studies

have also reported good reliability for the Rotter coding scheme [18,23]. Generally speaking, measures based on verbal behaviour coding are more reliable than scales which rate more broadly defined behaviours (such as the five dimensions comprising the Euro-communication measure). This is because verbal coding schemes reduce the consultation to frequencies of specifically defined units of behaviour, the categorisation of which usually requires less subjective judgement on the part of the observer.

Reliability of the Henbest and Stewart measure was modest using data from single raters, but improved to a reasonable level when scores were averaged over two observers. Previous studies using this measure have omitted to report inter-rater reliability for final scores, focusing instead on levels of association in the recording of patients' offers or the scoring of doctors' responses [19,24]. In the present study, high correlations were achieved between observers A and B both in terms of the number of patient offers recorded and in scoring doctors' responses ($r = 0.90$ in both cases) suggesting that the measure was not being used any less reliably than in other studies. The problem comes when dividing one somewhat unrelatively measured criterion by another in order to produce a mean score for the overall consultation.

Reliability is an important requirement of any research measure. However, if patient-centredness were to be used as a criterion for assessing the performance of individual doctors for accreditation or quality assurance purposes, reliability is crucial. In the present study it is unclear to what extent moderate levels of reliability were due to a 'high quality' group of doctors generating a restricted range of scores, or to insufficient training of observers. Empirical replication is essential to determine whether any of these measures is sufficiently reliable for routine use in research and clinical contexts.

5.2. Validity

Correlations between the three instruments are low enough to cast doubt on the suggestion that they are all measuring a common construct. Indeed the most reliably rated measures (the Rotter and the Henbest and Stewart methods) actually had the lowest concurrent associations.

In terms of construct validity, relatively strong associations between the Euro-communication rating scale and factors like GP age, acquaintance with the patient, and eye-gaze suggest it is measuring some 'affective' quality of the doctor-patient relationship. However, since reliability of ratings was so low, these associations cannot be interpreted with great confidence.

That the Rotter measure was associated with GP ratings of psychological factors and patient GHQ scores suggests it is tapping into the psychosocial content of consultations. This is perhaps unsurprising since the RIAS clusters classified as 'patient-centred' for this measure included all psychosocial information exchange in the consultation. Indeed, bio-medical information-giving by the doctor was treated as 'doctor-centred' behaviour. However, there is distinct confusion in the literature concerning the 'affective' or 'instrumental' nature of doctors' information-giving about such things as the cause and severity of an illness, or a particular treatment and its side-effects [25]. Whether such behaviour should be regarded as 'patient' or 'doctor-centred' continues to be the subject of some debate. What is apparent from a growing number of patient satisfaction studies is that provision of such information is a crucial determinant of patients' evaluations of their care [25-27]. Thus, it may be inappropriate for a measure of patient-centredness to distinguish biomedical from other types of information-giving by doctors (as did the Rotter method in this study).

In light of this, a second Rotter-based measure was calculated which was identical to the first except, in this case, GP biomedical information-giving was treated as *patient-centred* behaviour. In subsequent data analyses, associations with patient GHQ scores and GP ratings of psychological factors actually increased ($r = 0.37$ and $r = 0.54$ respectively), supporting our initial conclusion that the Rotter measure (calculated either way) taps into the psychosocial component of consultations. In addition, associations were found for the second Rotter measure with lower patient age and poorer patient health status ($r = 0.30$ and $r = 0.28$ respectively; $p < 0.05$). Taken together, these findings suggest that patient emotional distress is associated with proportionately more GP information-giving (of all kinds) in consultations, while GPs give more biomedical information to younger

patients and those who are more ill. However, it should be noted that the two different Roter-based measures of patient-centredness were highly correlated with one another ($r=0.73$). Therefore, any differences in relationships with input and process variables should be interpreted with caution, particularly since multiple statistical testing can yield chance associations.

The Heabest and Stewart instrument was not associated with either patient GHQ score or GP ratings of psychological factors, suggesting that it is not measuring the psychosocial content of consultations. This might be considered a positive characteristic since patient-centred care should be as relevant to consultations with a predominantly 'physical' agenda as those where patient emotional distress is a key feature. However, the present study is able to shed little light on the question of what aspects of the consultation this particular instrument actually measures.

6. Implications

The utility of a measure of patient-centredness for research and quality assessment depends on its validity, reliability and feasibility, and a trade-off between the three criteria is often necessary. While no universally agreed definition exists, there is broad consensus that patient-centredness involves the doctor being open and responsive to the concerns and needs of patients (including needs for information and participation in decision-making). Concerns and needs vary between individuals as well as for the same patient over time. A measure of patient-centredness that attempts to be sensitive to such complexity may compromise reliability and feasibility, while a reliable and feasible measure may only be sensitive to very broad differences between practitioners.

If the assessment of individual GPs' quality of care were to incorporate a measure of patient-centredness, the method should not be so resource intensive as to be prohibitive for routine evaluation. The issue of training requires consideration: it should be noted that the reliability of measures used in the present study was proportional to the amount of time spent training the observers.

In conclusion, the three measures of patient-centredness in this study demonstrated varying levels of reliability and relatively low concurrent validity. At present, none appears sufficiently well-developed for routine use in the professional assessment of individual doctors. The utility of patient-centredness as a criterion for judging quality of care depends on evidence of positive associations with outcomes such as patient satisfaction, health status, recall of information and adherence to treatment. This in turn requires valid and reliable measurement of the concept in empirical studies. As the present study shows, investigators must exercise caution in their choice of measurement method because of differences in the way patient-centredness is operationalised. Similarity in the labelling of measures may not imply a common conceptual or empirical basis.

Although a multidimensional conceptualisation of 'patient-centredness' accurately reflects the complexities of general practice care [28], greater conceptual specificity and simplification are required for meaningful, reliable measurement. The challenge for researchers is to define more succinctly (in terms that can be operationalised) the different dimensions of patient-centredness and their appropriate outcomes, and to develop a 'toolbox' of measures which adequately captures each dimension.

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Patient-centred consultations and outcomes in primary care: a review of the literature

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Abstract

Although 'patient-centred' consulting skills are increasingly seen as crucial for the delivery of effective primary care, there is significant lack of clarity over the precise definition of the term, optimal methods of measurement, and the relationship between patient-centred care and patient outcomes. The present study sought to review all empirical studies to date that have investigated the relationship between measures of patient-centred consulting and outcomes in primary care, and to examine the methodological rigour of the studies. A number of observational studies were identified, all of which reported some relationships between doctor behaviour defined as 'patient-centred' and a variety of patient health outcomes. However, the pattern of associations was not clear or consistent, and some of the studies had shortcomings in terms of their internal and external validity. Although the current evidence base may be suggestive of a relationship between patient-centred consulting behaviour and patient outcomes, the case has not been made definitively.

1. Introduction

A 'patient-centred' consulting style is increasingly advocated, particularly in primary care where complex undifferentiated problems, a high prevalence of psychosocial disorder and the long-term nature of the doctor-patient relationship all highlight the need for good communication [1-5]. However, despite general agreement on the importance of the broad construct of 'patient-centredness', there is less agreement about the exact definition of the term, optimal methods of measurement, or the magnitude of benefits associated with it in terms of patient outcomes like satisfaction, physical and emotional functioning.

1.1 *Defining patient-centredness*

'Patient-centredness' has been described in various ways in the literature. Some highlight single issues, such as 'understanding the patient as a unique human being' [6], or '[entering] the

- (3) Sharing power and responsibility - sensitivity to patients' preferences for information and shared decision-making and responding appropriately to these;
- (4) The therapeutic alliance - developing common therapeutic goals and enhancing the personal bond between doctor and patient;
- (5) The 'doctor-as-person' - awareness of the influence of the personal qualities and subjectivity of the doctor on the practise of medicine.

1.2 *Measuring patient-centredness and its outcomes*

Investigators have used a variety of methods for measuring patient-centredness including doctor and patient questionnaires and process measures of audio- or videotaped consultations. In respect of the latter, patient-centred consulting has been variously operationalised using checklists (to indicate the presence of certain skills), rating scales (to measure the quality or quantity of particular behaviours) or verbal coding schemes (to calculate frequencies or proportions of specific 'utterances') [8]. The exact content of different measures varies, reflecting the lack of clarity surrounding the concept. Thus, empirical relationships between different measures of patient-centredness are not always high [9].

What is the relationship between patient-centred consulting and patient outcomes? At present, it is unclear what the optimum outcome measure should be for such studies. Although usually seen as the 'gold standard' indicator of effectiveness, health outcomes may not be sensitive to the more interpersonal (as opposed to clinical) aspects of medical consultations. Process-referent measures, such as patient satisfaction, may be more sensitive indicators of the impact of doctors' communication style.

In a recent editorial, Stewart claims 'evidence of tangible benefit' from patient-centred communication in terms of improved satisfaction, adherence and health outcomes [10]. In support, she draws on an earlier comprehensive review of 'effective physician-patient communication and health outcomes' in which 16 out of 21 included studies reported improvement in various patient-level outcomes

such as distress, functioning, physiologic measures (e.g. blood pressure) and health service utilisation [11]. However, the reviewed studies covered a wide variety of clinical settings and patient populations and, importantly, none measured aspects of doctor-patient communication explicitly defined as 'patient-centred' by the respective investigators; a limitation highlighted by Graugaard and Finset [12]:

"Evidence of the effectiveness of the patient-centred model...has mostly been derived from studies that have not specifically been designed to evaluate this model but that, nevertheless, have been interpreted as supporting one or a number of its elements". If 'patient-centredness' is a specific model of care that can be taught and assessed, and not merely a diffuse concept that subsumes the myriad ways in which doctors communicate effectively with patients, benefits need to be demonstrated using studies that explicitly relate patient-centred consulting behaviour to outcome, preferably studies conducted within similar clinical contexts.

1.3 *Aims of the review*

The present review sought to examine the following issues:

- (a) How has patient-centred consulting been defined and measured in studies that explore relationships with patient outcomes?
- (b) What outcome measures have been used to examine the effects of patient-centred consulting?
- (c) Are patient-centred consultations associated with improved outcomes in primary care?

2. Method

2.1 *The search strategy*

Relevant empirical literature was identified from searches of computerised databases (Medline and PsychInfo) using both UK and US spellings of the term 'patient-centred(ness)'. Searches were restricted to English language (non-nursing) journals published between 1969 - 2000. Studies were included in the review if they: (1) utilised a quantitative measure of a construct termed 'patient-centred/ness'

(however defined by the investigators); (2) included at least one measure of consultation outcome at the level of the patient, and (3) were conducted in a primary care setting, involving qualified or trainee doctors (as opposed to other health professionals). Although patient-centredness is also an important concept in relation to other disciplines, there may be important differences in meaning: doctors and nurses differ in their conceptualisation of related terms such as 'holism' [13]. Also, the different clinical conditions under which different professionals work (e.g. length of consultations, types of problems seen) means that the results found for one professional group may not generalise to another.

The reference lists of studies examined for the review were also searched for other relevant literature. A list of excluded studies is available from the authors.

2.2 Data extraction

Data were extracted from selected studies on three key issues of relevance:

2.2.1 Measurement issues

The various measures of patient-centred consulting used by studies were examined in terms of their type and scope, relationship to the proposed five-dimension model of patient-centred care [8] and issues of reliability and validity. Data on outcome measures used in each study were also extracted.

2.2.2 Internal validity

This refers to the confidence with which one can assume a 'cause-effect' relationship exists between two variables, namely (in this case) between patient-centred consulting behaviour and a particular outcome. Key issues examined were study design, statistical power, and whether studies controlled for sources of potential bias (such as confounders). It is known, for example, that patient satisfaction is positively related to patient age [14-17] and this relationship may account for an observed association between patient-centredness and satisfaction unless the confounding variable (patient age) is controlled for.

2.2.3 External validity

This refers to the confidence with which the findings of a particular study can be generalised to other professionals, patients and settings. Key issues examined were the methods used to recruit doctors and patients, and the characteristics of those who participated in the research.

Data were extracted by a single author (NM) and placed into tables for ease of comparison.

3. Results

Eight published studies met the inclusion criteria for the review [18-25]. One further study, undertaken by the present authors and currently in press [26] was also included. Tables 1 and 2 present data on process and outcome measures used in the studies. Data on internal and external validity can be found in tables 3 and 4 respectively.

3.1 Measurement issues

All the studies used verbal coding schemes as the basis for measuring patient-centredness. In the majority of studies, frequencies or proportions of specific verbal behaviours defined by the investigators as 'patient-centred' are calculated. However, one study [22] also used a rating scale to score the doctor's best performance across five 'global' interviewing skills, while three others use a variation of the same measure (developed by Stewart and colleagues) whereby doctors' responses to patients' verbal 'offers' are categorised then scored for the degree to which they facilitate further expression of the patient's illness experience [20,24,25].

Only one study [21] used a measure that examined the doctor's non-verbal behaviour (specifically, 'use of silence'). Four studies used measures that included aspects of patients' (as well as doctors') verbal behaviour [18,22,23,26]. All the included studies measured patient-centredness using data from consultation audio- or videotapes, supplemented by patient interview in one study [25]. All but two report inter-rater reliability of the measure, although the statistical methods used to assess reliability varied widely, including correlations, kappa

scores, intra-class correlation coefficients and percentage agreement.

In terms of outcome measures, all but one study included a measure of patients' satisfaction with their consultation. However, there was wide variation both in the satisfaction measures used and their mode of administration. Patients completed the 29-item Medical Interview Satisfaction Scale (MISS) [27] immediately following their consultation in two of the studies [20,24]. Cape [21] also used the MISS, supplemented by items from other measures of patients' experience of therapeutic interactions, although these were administered in semi-structured interviews with patients up to 5 days after their visit. Two other studies administered self-completion satisfaction measures immediately post-consultation [22,26]; the former used a six-item rating scale developed by the investigators while the latter used the 18-item Consultation Satisfaction Questionnaire (CSQ) [28]. In the study by Stewart [18], satisfaction was assessed using 17 questions (derived from a previously validated scale) asked during face-to-face patient interviews 10-days after the visit. Cecil and Killen [23] used two 5-point scales administered as part of a telephone survey 2 to 3 weeks after patients' consultations. In the study by Roter et al. [19], three students (acting as role-playing 'patients') listened to audiotapes of consultations then rated their satisfaction across eleven 5-point scales developed from the literature.

Other outcomes examined by the studies include more specific measures of the patient's view of the consultation (e.g. perceived doctor-patient agreement, feeling understood, feeling 'enabled' [29], impressions of doctor status [19,20,24,26], changes in health status [20,24,25], treatment compliance [18,23], information recall [19] and utilisation of health services [25]).

Table 2 lists the specific doctor and patient behaviours included in each measure of 'patient-centredness' and notes which of the five dimensions of patient-centred care (described earlier) each study appears to address, in the opinion of the reviewers. All the measures examine some aspect of the dimension 'sharing power and responsibility'. The majority also appear to address the

'therapeutic alliance', although the focus seems to be on doctor rather than patient behaviours. Five studies used measures that, in the opinion of the reviewers, attempt to tap into the dimension of 'patient-as-person' [20-22, 24,25]. There were fewer measures of the 'biopsychosocial perspective' and none of the 'doctor-as-person' dimension of patient-centred care.

3.2 Internal validity

All the studies used an observational design rather than experimental methods, and thus cannot provide rigorous evidence that patient-centredness was causally related to outcomes, as relationships found may be explained by confounding factors. However, only four studies used multivariate statistical techniques to control for potential confounders [20, 24-26]. Three studies report a power calculation [24-26], and thus the rest were vulnerable to Type II errors. Multiple hypothesis testing was common, increasing the chance of Type I errors. An additional statistical issue of note is that when multiple consultations are provided by individual doctors, there is a problem of 'clustering', i.e. more similar outcomes among patients under the care of a particular doctor [24]. This can cause incorrect estimation of significance levels. Five studies addressed this unit of analysis problem: one used scores aggregated at a higher level unit [19], three dealt with the problem statistically [20,25,26] and one dealt with it through design, whereby only one consultation per participating doctor was randomly selected for analysis [24].

3.3 External validity

Generally, studies provided relatively little information about the doctors who took part. Only three attempted to recruit doctors using random sampling methods [22,24,25], each reporting similar uptake rates (between 41% and 47%). This may be considered a reasonable participation rate considering that the studies all involved audiotaping (which is quite intrusive and potentially threatening).

The remaining studies are of poorer quality in that all employed convenience sampling. For example, Stewart [18], Roter et al. [19] and

Table 2 Data on measurement of patient-centredness and the relationship to dimensions of patient-centredness

Study	Doctor behaviours measured	Patient behaviours measured	Dimensions [8]
Stewart [18]	'Supportive' behaviours = shows solidarity, expresses tension release, agrees / understands; 'Encouraging patient expression' = asks for opinion, suggestion, help	'Expression of feelings' = gives opinion; disagrees; shows tension; shows antagonism 'Providing information' = gives suggestion; gives orientation / information	Sharing power and responsibility; Therapeutic alliance
Roter et al. [19]	Giving information / orientation / opinion relating to medical procedures, condition, therapy or prevention; Counselling about prevention, lifestyle or therapy	None	Biopsychosocial perspective; Sharing power and responsibility
Henbest & Stewart [20]	Doctor's responses to patient 'offers' (of symptoms, thoughts, feelings, expectations or prompts). Responses categorised as 'ignores', 'closed', 'open' or 'specific facilitation'.	None (number of patient 'offers' used only as denominator to calculate doctor's patient-centredness score)	Patient-as-person; Sharing power and responsibility; (Biopsychosocial perspective)
Cape [21]	Wide range of behaviours primarily focused on eliciting and using patient knowledge and experience, e.g. open questions, seeking & using patient ideas, offering and accepting feeling, reassuring, encouraging, using silence, etc.	None	Patient-as-person; Sharing power and responsibility; Therapeutic alliance
Winefield et al. [22]	(i) 'Doctor receptiveness' = open questions; reflections, acknowledgements (ii) Soliciting patient's views; Responding to patient's views; Relating information to patient's views; Involving patients in management; Checking understanding	(i) 'Patient involvement' = questions; positive and negative attitudes to treatment; accounts of private (unobservable) symptoms; accounts of actions; opinions (ii) None	(i) Patient-as-person; Sharing power and responsibility; Therapeutic alliance; (Biopsychosocial perspective); (ii) Patient-as-person; Sharing power and responsibility; (Therapeutic alliance)
Cecil & Killeen [23]	Verbal behaviours coded as 'controlling', 'accepting' or 'neutral'.	Verbal behaviours coded as 'controlling', 'accepting' or 'neutral'.	Sharing power and responsibility
Kinnersley et al. [24]	'Exploring the disease & illness experience' = doctor's responses (preliminary exploration, further exploration, cut-off) to patient 'offers'; 'Understanding whole person' = eliciting & exploring life cycle, personality and social issues; 'Finding common ground' = clear expression of problem and management goals; giving patient opportunity to ask questions; engaging in mutual discussion; clarifying agreements; flexible response to disagreements	None	Patient-as-person; Sharing power and responsibility; Therapeutic alliance (Biopsychosocial perspective)
Stewart et al. [25]	(i) As for Kinnersley et al. [24] (ii) Perceived extent of doctor's discussion & explanation of problem and treatment; giving opinion; giving opportunity for patient to ask questions; asking about treatment goals; discussion of respective roles, etc.	(i) None (ii) None	(i) Patient-as-person; Sharing power and responsibility; Therapeutic alliance; (Biopsychosocial perspective) (ii) Sharing power and responsibility; Therapeutic alliance
Mead et al. [26]	Psychosocial / lifestyle questions; biomedical information-giving; soliciting patient opinions; checking understanding; social talk; reassurances; encouragement; ratings of warmth/friendliness and interest/concern	All 'active' patient talk (expressed as a ratio of doctor : patient talk)	Biopsychosocial perspective; Sharing power and responsibility; Therapeutic alliance

Table 1 Data on methodological issues in measurement

Study	Instrument used or adapted to measure patient-centred consulting	Type of measure (checklist, rating scale, etc.)	Includes non-verbal behaviours?	Includes patient behaviours?	Method of application	Inter-rater reliability	Post-consultation patient outcomes measured
Stewart [18]	Bales' Interaction Process Analysis (IPA) [32]	Verbal coding scheme	No	Yes	Audiotapes and transcripts	90.3% of statements assigned same codes	Satisfaction Self-report compliance Pill count compliance
Roter et al. [19]	Roter's Interaction Analysis System (RIAS) [33]	Verbal coding scheme	No	No	Transcripts of audiotapes	Median correlation of 0.81	Satisfaction Impressions of doctor affect Information recall
Henbest & Stewart [20]	Henbest & Stewart method [34]	Verbal coding combined with rating scales	No	No	Transcripts of audiotapes	Similar patient 'offers' noted in 85% of cases; correlation between response scores of 0.91	Satisfaction Doctor-patient agreement Feeling understood Level of discomfort Level of concern Symptom resolution
Cape [21]	Byrne and Long method [35]	Verbal coding scheme	Yes	No	Audiotapes	No formal assessment	Satisfaction Patient experience of the consultation
Winefield et al. [22]	(i) Stiles' Verbal Response Modes (VRM) [36] (ii) Farmer patient-centredness scale (unpublished) [22]	(i) Verbal coding scheme (ii) Rating scale	(i) No (ii) No	(i) Yes (ii) No	(i) Transcripts of audiotapes (ii) Transcripts of audiotapes	(i) Cohen's Kappa: 0.84 - 0.90 (ii) Cohen's Kappa 0.84	(i) Satisfaction (ii) Satisfaction
Cecil & Killeen [23]	Relational Communication Control Coding Scheme (RCCCS) [37]	Verbal coding scheme	No	Yes	Videotapes	Cohen's Kappa for allocating codes to 'verbal messages': 0.85 One rater used to assessed intra-rater reliability only	Satisfaction Self-report compliance
Kinnersley et al. [24]	Brown, Stewart & Tessier method [38]	Verbal coding combined with rating scales and checklists.	No	No	Audiotapes	One rater used to assessed intra-rater reliability only	Satisfaction Doctor-patient agreement Symptom resolution Level of concern Change in functional health status
Stewart et al. [25]	(i) Brown, Stewart & Tessier method [38] (ii) Patient perceptions of patient-centredness questionnaire [25]	(i) Verbal coding combined with rating scales and checklists. (ii) 14-item patient-report measure	No (ii) 14-item patient-report measure	No	(i) Audiotapes (ii) Post-consultation patient interviews	(i) Correlation of 0.83 (ii) Not reported	Level of discomfort Level of concern Self-report health status Number of visits to the doctor Tests and referrals
Mead et al. [26]	Roter Interaction Analysis System (RIAS) [33]	Verbal coding scheme	No	Yes	Videotapes	Mean intra-class coefficient for coded patient behaviours of 0.61 and doctor behaviours of 0.71	Satisfaction Enablement

Table 3 Data on internal validity

Study	Power	Considered unit of analysis problem?	Confounders controlled for:	Results
Stewart [18]	No	No	N/A	<u>Univariate:</u> High proportion of patient-centred behaviours by doctor (i.e. > sample median) associated with higher patient-report compliance (57.8% vs. 34.5%, $p < 0.05$), but no associations with pill count or patient satisfaction. High proportion of patient-centred behaviours expressed by patient not associated with satisfaction, reported compliance or pill count. <u>Multivariate:</u> N/A
Roter et al. [19]	No	Yes	N/A	<u>Univariate</u> (proportionate measures): Doctors' 'information-giving' associated with: global satisfaction (Pearson's $r = 0.38^{**}$), task satisfaction ($r = 0.58^{***}$), ratio recall ($r = 0.47^{***}$) and absolute recall ($r = 0.40^{**}$). Doctors' 'counseling' associated with global satisfaction ($r = 0.18^{**}$), task satisfaction ($r = 0.49^{***}$), ratio recall ($r = 0.38$), absolute recall ($r = 0.46^{**}$) and impressions of boredom (-0.46^{**}). No associations with 'humaneness satisfaction'. <u>Multivariate:</u> N/A
Henbest & Stewart [20]	No	Yes	Patient age, sex, occupation, education, SEC and marital status; doctor type and severity of problem; consultation length; regular doctor; who originated appointments; past frequency of contact; duration of relationship with doctor	<u>Univariate:</u> Patient-centredness score associated with (patient-reported) doctor-patient discussion of reason for coming (Spearman's $r = 0.42^{***}$); doctor's understanding of importance of reason ($r = 0.30^{**}$); knowing what patient's reason was ($r = 0.33^{**}$); patient feel understood (Mann-Whitney $U = 431.0$, $p < 0.01$). Significant association between patient-centred response to main symptom and patient consultation decrease in patient concern ($\chi^2 = 7.30$, $p = 0.03$). No associations with (i) doctor-patient agreement about problem, (ii) symptom resolution, (iii) patient satisfaction. <u>Multivariate</u> (regression coefficients not reported): associations with doctor-patient discussion of reason for coming and understanding importance of reason. Association between patient-centredness of response to main symptom and decreased patient concern. No associations with (i) knowing patient's reason for consulting, (ii) doctor-patient agreement about problem, (iii) patient feeling understood, (iv) symptom resolution, (v) patient satisfaction.
Cape [21]	No	No	N/A	<u>Univariate:</u> No association with (i) interview rating of patients' consultation experience, or (ii) patients' overall satisfaction. <u>Multivariate:</u> N/A
Winfieled et al. [22]	No	No	N/A	(i) (Verbal coding measure) <u>Univariate:</u> No associations between 'doctor receptiveness' or 'patient involvement' (either in diagnosis prescriptive stage of consultation, or overall) and patient satisfaction. (ii) (Rating scale measure) <u>Univariate:</u> Significant association between overall rating of doctor's patient-centredness and patient satisfaction (Pearson's $r = 0.19^{**}$). <u>Multivariate:</u> N/A
Cecil & Killen [23]	No	No	N/A	<u>Univariate:</u> Negative association between doctors' 'controlling' statements and self-report compliance (Pearson's $r = -0.26^{*}$). In post analyses, significant negative association with self-report compliance where patients initiated 'submissive' statements followed by doctors' 'controlling' statements ($r = -0.35^{**}$). Negative association with patient satisfaction where doctors' initiate 'controlling' statements followed by patients' 'accepting' statements ($r = -0.25^{*}$). No association between patients' 'assertiveness' and subsequent satisfaction. <u>Multivariate:</u> N/A

Little information was provided about socio-economic status or levels of educational attainment, and cross-national comparisons are often difficult in this respect. Only two studies gave information comparing participating patients with non-participants. One found that refusers were older but had a similar sex distribution to participants [18], although the second found that participants were representative of all eligible patients in terms of age but not sex (with fewer females agreeing to take part) [25].

3.4 Summary of findings of the included studies

Five studies report univariate results only [18,19,21,23] - see table 3. Of these, only one found no relationship between patient-centredness and outcome [21]. However, most of these studies tested multiple hypotheses and all report non-significant correlations between some measures of patient-centred consulting and outcomes. Patient satisfaction was the most commonly studied outcome: no association is reported in two studies [18,21], two others found some evidence of a relationship [19,23] and one reported both a significant and a non-significant association, depending on the measure of patient-centredness used [22].

Of the four studies that used multivariate analyses to control for confounders, one reported an association with patient satisfaction but not with other health outcomes [24]. Two others failed to find an association with satisfaction [20,26], although the former did report associations with patients' perceptions of the consultation process and with reduced levels of concern. No association was found between patient-centred consulting and patient enablement in the study by Mead et al. [26]. The fourth study failed to detect any association between an objective measure of patient-centred communication and patient health outcomes, but reported that patients' own perceptions of the patient-centredness of their consultation did predict health status and health utilisation outcomes [25].

Cape [21] recruited doctors known to have particular expertise or interest (e.g. in 'the doctor-patient relationship' [18]). Cecil and Killen [23] recruited doctors from one clinic only, while general practitioners were recruited via university-based research networks to the study by Mead et al. [26].

There is some evidence that doctors who took part in these studies were not representative of the wider physician population. Even in the studies that used random sampling, Kinnersley et al. [24] and Stewart et al. [25] both report that participants were significantly more likely than non-participants to be members of their respective country's professional college. Eighty-six percent of GP volunteers to the study by Mead et al. [26] were members of the UK Royal College of General Practitioners, whereas national membership is more in the region of 50%. Kinnersley et al. also found that participating GPs had been qualified fewer years than non-participants [24]: it is possible that younger, more recently qualified doctors may have received specific communication skills training and therefore feel more confident in this area. This may restrict the range in process and outcome measurements recorded in a study (e.g. if no doctors obtain particularly low patient-centredness scores), which may in turn reduce the magnitude of correlations between variables. One study reports an age range (23-44 years) suggestive of a relatively young and recently qualified group of doctors [22], although there appears more variation in the sample recruited by Mead et al. [26]. Six studies report the sex of participating doctors, who were predominantly male (ranging from 72% - 100%). In this respect, the studies all seem fairly representative.

In terms of patient recruitment, the 7 studies in which consecutive (eligible) patients were approached over a set study period report quite high participation rates (72% - 94%). Cecil and Killen [23] used convenience sampling to obtain a 'representative sample' of patients, which is a less robust method. The study by Roter et al. [19] used simulated patients and raters; thus the external validity of this study is very limited.

The typical patient participant in these studies was female, mid-40s, and married.

Table 4 Data on external validity

Study & country	Doctor recruitment	No. of participating doctors	Participating doctor characteristics	Patient recruitment and response rate	Inclusion criteria	No. consultations studied	Patient characteristics
Stewart [18] Canada	By invitation	22 (92% of those invited)	None stated	74% of eligible patients	New or continuing illness taking medication	140	Age: 38% 1-22 yrs; 24% 23-44 yrs; 24% 45-64 yrs; 11% 65+ yrs Sex: 58% female
Roter et al. [19] USA	Not stated	43	Primary care physicians (100% male)	Non-patient volunteers	Simulations	86	Simulated patients so not applicable
Henbest and Stewart [20] Canada	Not stated	6	Experienced family doctors	77% of patients completed data collection	Adults with new symptom presentation	73	Age: Unclear Sex: 66% female
Cape [21] UK	By invitation	9 (33% of those invited)	76% male, mean experience 19.6 years	Consultations selected from larger sample	Aged 18-75, presenting emotional problem	88	Age: Mean: 43.9 yrs (range: 19-75) Sex: 78% female
Winefield et al. [22] Australia	Random sampling	19 (41% of those sampled)	Aged 23-44, average 10yrs since graduation	83% of consecutive eligible patients	Adult patients	190	Age: Mean: 46.2 yrs Sex: 67% female
Cecil and Killeen [23] USA	By invitation	15 (83% of those invited)	73% male, mix of experience	Convenience sampling	Not stated	50	Age: Mean: 37 yrs (range: 18 - 81) Sex: 70% female
Kinnersley et al. [24] UK	Random sampling	143 (46% of those sampled)	72% male, 52% with 10-19yrs experience, more likely to hold MRCP than non-participants	88% of patients	Adult patients consulting with new illness	143	Age: Mean: 44.8 yrs Sex: 66% female
Stewart et al. [25] Canada	Random sampling	39 (47% of those sampled)	72% male, more likely to be certificants of College of Family Physicians of Canada than non-participants	72% of eligible patients	Adult patients	315	Age: 61% 18-44 yrs; 24% 45-64 yrs; 14% 65+ yrs. Sex: 54% female
Mead et al. [26] UK	By invitation	14	86% male, aged 33-56 (mean: 44.9yrs) with between 3-23 years experience (mean: 14.4yrs); 86% held MRCP.	(Estimated) 85% of eligible patients	Adult patients	173	Age: Mean: 47.9yrs (range: 17-90) Sex: 54% female

Table 3 Data on internal validity (continued)

Study	Power	Considered unit of analysis problem?	Confounders controlled for:	Results
Kinnersley et al. [24]	Yes	Yes	Patient marital status & morbidity, age, sex, education, SES, long-standing illness, acquaintance with doctor, consultations in 12m; doctor sex, doctor x patient sex, year of qualification; levels of patient concern & discomfort; prescription; referral; doctor-rated prognosis	<u>Univariate</u> : Association between patient-centred score and patient satisfaction (Pearson's $r=0.26^{**}$). No associations with doctor-patient agreement, resolution of symptoms, resolution of concerns or functional health status. <u>Multivariate</u> : Patient-centred score and patient satisfaction (adjusted): $B=1.57$ ($p=0.003$). No significant relationships (adjusted for confounders) with doctor-patient agreement, resolution of symptoms, resolution of concerns or functional health status.
Stewart et al. [25]	Yes	Yes	Patient marital status, type of main problem; baseline levels of discomfort and concern	<u>Univariate</u> : None reported (i) (Objective measure) <u>Multivariate</u> : No associations between patient-centredness score and any patient health or medical care outcomes. (ii) (Patient-report measure) <u>Multivariate</u> : total score associated with reduced levels of discomfort and concern, better mental health status, fewer diagnostic tests and referrals.
Mead et al. [26]	Yes	Yes	Patient age, sex, psychological morbidity; physical activity level, change in health in past 2 weeks; blood pressure checked, new prescription issued, consultation length, new physical problem; GP acquaintance with patient	<u>Univariate</u> : associations between 2 measures of patient-centred behaviour and patients' satisfaction, i.e. 'verbal caring' (= social tall reassurances and encouragement) $r=0.19^*$; and 'non-verbal caring' (= rated GP warmth and concern), $r=0.22^{**}$. No associations with other measures of patient-centred behaviour and none with patients' post-consultation enablement. <u>Multivariate</u> : No associations between any of the five patient-centred behaviours measured and (i) patient enablement or (ii) patient satisfaction (adjusting for confounding variables).

4. Discussion

Primary care studies examining the relationship between consultation patient-centredness (as defined and operationalised by the respective investigators) and patient outcomes were identified for this review. An alternative approach would have been to define 'patient-centredness' *a priori*, then search for all studies measuring aspects of doctor-patient communication that met that definition. While the latter approach may have had advantages theoretically, it was not taken for two reasons. First, there is no universally agreed definition of 'patient-centredness'; the present approach therefore circumvents this problem by relying on investigators themselves to identify their study as relating to the construct. Secondly, the adopted approach restricted analysis to a limited number of studies, allowing more comprehensive consideration of the methodological detail of each.

Generally, internal validity was not high. Stewart also reported that observational studies included in her review often failed to control for important confounders [11]. However, it should be noted that more recently published studies are using more sophisticated and appropriate design and analytical techniques [24-26].

The external validity of studies was also not high. However, the very nature of the methodology used by most studies (i.e. relatively intrusive measures of the consultation process) means that improving external validity might be difficult. Certain doctors are unlikely to agree to take part in such studies (e.g. those with poor self-assessed communication skills). Moreover, patients with particularly sensitive physical or psychosocial problems (where patient-centred consulting skills may be of utmost importance) may not be willing to have their consultations studied [30].

It is possible, however, for studies to improve reporting of differences between participants and non-participants. To facilitate judgements about representativeness and cross-study comparisons, future research should present details of those doctors who participate (and those who refuse), including age, sex and clinical experience. Similar basic information about the patient population should also be supplied.

The different methods used to operationalise patient-centredness in these studies reflect current ambiguity over definition of the term. Is patient-centredness primarily part of the doctor's clinical method or should patients' behaviour in the consultation also be considered? Although few would doubt the importance of non-verbal interpersonal skills for delivering patient-centred care, these are rarely examined (see tables 1 and 2) and may be difficult to measure objectively. Although the study by Mead et al. [26] included a measure of non-verbal 'caring' (based on observer ratings of doctors' warmth/friendliness and interest/concern), the inter-rater reliability of that measure was poor and it was highly correlated with a measure of the doctors' verbal 'caring' (e.g. expressions of reassurance).

As to the question of whether patient-centred consultations lead to better patient outcomes, results of the studies reviewed here are ambiguous. Most of those that use univariate analyses report some positive relationships, but findings in relation to the most frequently measured outcome (i.e. patient satisfaction) are equally split between significant and non-significant results (see table 3). Studies that employ more sophisticated multivariate analyses are also split in terms of relationships with satisfaction. Moreover, there are no obvious patterns in relation to other outcomes that have been studied.

As suggested above, a key problem is the lack of a clear theoretical framework linking specific dimensions of patient-centred care with specific outcomes. For example, consulting behaviours aimed at sharing power and responsibility may be more likely to predict adherence-type outcomes than the doctor's use of a biopsychosocial perspective, while attention to the 'therapeutic alliance' may be a better predictor of patient satisfaction than either of those two dimensions [26]. One way of improving the interpretability of future studies would be for authors to explicitly link their measures of the consultation to one of the two multi-dimensional models of patient-centred care that have been proposed in the literature [7,8]. Another improvement would be for studies to use the same validated measures of outcome (e.g. the MISS or CSQ to measure patient satisfaction).

How does the present review relate to that undertaken by Stewart [11]? The two reviews have important differences, for example in terms of the context of included studies (i.e. primary care vs. a wider range of clinical settings), study design (i.e. observational experimental designs) and inclusion criteria for the review (i.e. studies that include a measure of the consultation process vs. a mix of process research and intervention studies that did not incorporate process measurement). More broadly, the Stewart review was concerned with communication skills in general rather than behaviour explicitly defined as 'patient-centred'. The positive conclusions of the Stewart review and the more guarded conclusions of the present paper may relate to any or all of these differences. However, the findings of the present review do provide some support for the view that specific evidence of the benefits of patient-centredness is somewhat lacking at present [12,31].

5. Implications

In conclusion, the evidence that patient-centred consulting leads to better patient outcomes in primary care is ambiguous to date, as the methodological quality of studies is not uniformly high and the pattern of associations is inconsistent. Improved research is required if interventions in communication skills associated with the concept of 'patient-centredness' are to be appropriately targeted.

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Domains of consultation research in primary care

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Abstract

The consultation is increasingly viewed as a crucial aspect of general practice medicine, but a variety of methods of conceptualising, describing and modifying its structure and content have been described. This article describes the historical background to the current interest in the consultation, and describes four qualitatively distinct approaches (or 'domains') to understanding the consultation: the psychodynamic; clinical-observational; social-psychological; and sociological. Four key dimensions along which the domains can be differentiated are described. These concern whether the critique of medical practice inherent in the domain is *internal* or *external* to the discipline of general practice; whether the focus of the domain is on the consultation participants' *identities* or *activities*; whether the key research methodology is *quantitative* or *qualitative* in character; and the degree to which the objective of research within the domain is to *describe* current practice or *prescribe* ways of conducting the consultation. Methods of encouraging work across domains are discussed. © 2001 Elsevier Science Ireland Ltd. All rights reserved.

Keywords: Primary care; Doctor-patient relationship; Disciplinary perspectives

1. Introduction

The past four decades have seen an expansion in the literature on 'the consultation' in general practice, and this paper explores the development and content of this literature. In doing so, however, it focuses upon the ways in which this literature reflects particular ways of *conceptualising* the clinical encounter. These, in turn, have reflected powerful pressures on the profession to accommodate changing ideas about the nature and scope of general practice. While this literature is international, the paper primarily explores its relevance to general practice in UK.

1.1. Historical background

General practice has increasingly distinguished itself from other forms of medical practice through its focus on the encounter between doctor and patient. The social sciences have played an important part in this development. During the inter-war years, the relatively new academic discipline of psychology began to influence ideas about

illness, re-conceptualising it in behavioural terms — as something to do with the personality of the patient rather than defined solely in terms of organic disease [1]. In the 1950s, sociology developed the idea of illness as a form of social deviance, highlighting the motivations and societal obligations of those who choose to occupy the 'sick role', and conceiving of the doctor as agent of legitimisation and social control [2].

These ideas had particular resonance for general practitioners (GPs). The epidemiology of disorders encountered in general practice made GPs increasingly aware of the limitations of the conventional 'biomedical' model for their everyday community-based medical work. Internalised by doctors during their hospital-based training, the 'biomedical' model centres on the essentially objective procedures of diagnosing and curing organic pathology via appropriate therapeutic intervention. However, the diffuse, often vague complaints presented to GPs frequently defy conventional disease taxonomies [3,4]. Moreover, GPs' caseload was increasingly shifting away from acute illness presentations towards the management of patients with chronic, often degenerative disorders. This required an expanded perspective on the therapeutic aims of medicine: from curing disease, to include consideration of issues of patients' quality of life. Finally, it was acknowledged that individuals' propensity to

seek the attention of a GP could not be explained in solely objective terms (as directly related to the presence and severity of organic disease); social and psychological factors were equally important.

These developments turned attention to the patient as a key source of information in general practice medicine. In his seminal research, the psychiatrist Michael Balint encouraged GPs to go beyond the physical signs and symptoms reported by the patient and attend to his or her unique social and psychological context in order to understand the real reason for the consultation [5]. Balint was particularly interested in the psychotherapeutic potential of the GP consultation, proposing that the emotional relationship that develops between doctor and patient over successive encounters is itself an important element of both the diagnostic and therapeutic process. His ideas had significant influence on professional bodies like the Royal College of General Practitioners, which was, at that time, concerned to counteract the medico-political problems faced by GPs in the aftermath of the inception of the National Health Service (NHS) [6,7]. During the 1950s, it had seemed that general practice was under threat, and that the centralisation of state funded medical services in the new tier of District General Hospitals was almost inevitable. By focusing on the consultation — not simply as an episode of history taking, diagnosis and treatment — but as an encounter which had the potential to be *therapeutically* therapeutic, general practice was able to embark on a programme of professional differentiation [8,9].

The emergence of general practice as an academic discipline during the 1960s was itself rooted in the notion that the doctor-patient relationship, and its constituent clinical activities, were not self-evident outcomes of hospital clinical training, but rather components of higher professional training that needed to be *taught* in practice. Thus, the consultation became a core objective for vocational training and research. Indeed, membership assessment for the Royal College has increasingly come to focus not simply on the application of specifically medical forms of practice, but on how these are mediated in the GP consultation. The conduct of doctor-patient interaction thus became central to the doctrine of general practice, because it offered an important theoretical basis for a kind of medicine that lacked complex diagnostic and treatment technologies at a time when technological expansionism marked out the more general terrain of medicine [1].

Interest in how doctors interact with their patients in primary care has grown in importance as the nature of their work has itself undergone change in recent decades. Single-handed practitioners have given way to group practices and multi-disciplinary teams [10], and decline in list sizes has been countered by rising numbers of consultations. In part, this increased demand is attributable to changes in population age structure and patterns of morbidity. As noted previously, the focus of GP care has shifted from treating acute conditions to managing chronic illness. Preventive

health activities like cervical screening, elderly health checks and immunisation programmes have also become an important part of the role of the GP, as more and more becomes known about the risk factors for particular diseases and the relative resource-use benefits of preventive (as opposed to curative) medical intervention. Emphasis on health surveillance and chronic disease management activities has also come from sources external to the medical profession. Such activities are particularly amenable to target-setting and have thus formed a key focus of NHS management initiatives to monitor the performance and improve quality of care in general practice [11]. These changes in GP workload have presented further challenges to the 'paternalistic' style of doctor-patient relationship embodied within the traditional biomedical model of practice. GPs have been required to adopt a more egalitarian and negotiative approach to the relationship in order to convince occasionally healthy patients to take up preventive services on offer. Similarly, GPs need to engage patients with chronic illnesses as 'partners' in the process of their on-going care.

Interest in the GP consultation has not entirely derived from the profession itself: patients have also played a crucial role. During the 1970s, socio-political critiques of medical practice (in particular, feminist critiques of medical patriarchy), tapped into a growing sense of public dissatisfaction with doctors [12,13], leading to demands for service users to be treated as 'whole persons' rather than simply as the objects of medical practice; to have their views considered; to be treated as 'experts' in their own health and illness [14] and for clinicians to take a more negotiative approach to their encounters with patients [15]. Throughout the 1980s, as involvement of 'the consumer' in all spheres of life grew, this critique was translated into an advocacy of patient interests and a general expectation that all public services (including healthcare) should be oriented, first and foremost, toward meeting the needs of users.

The importance of addressing patients' social and psychological (as well as physical) needs is reflected in the emerging literature on the doctor-patient interaction. George Engel describes two fundamental needs to be met by the doctor in the consultation: the patient's *need to know* and *understand* (a cognitive desire for information and explanation about the problem), and the patient's *need to feel known and understood* (an affective desire to feel accepted, legitimised, respected and cared about by the doctor) [16], p. 124.

Paradoxically, the shift from viewing patients as passive recipients to active 'consumers' (and potential critics) of healthcare found its main expression in policy interventions made by the Conservative administration after 1979, which employed apparently 'consumerist' policies to contest the monopoly powers held by the professions and to deploy new ways of promoting the views of service users [17]. This was focused on the idea of patient 'choice'. Generally, the organisation of the NHS is such that 'choices' (e.g. of hospitals, doctors, and treatments) is limited. However,

consumerist policies may have had a more profound effect on the ideas that both professionals and patients have about the nature of their relationship [18].

In summary, general practice's interest in the consultation has been shaped by political pressures—to differentiate itself from other kinds of medicines, and to accommodate the demands of patients—and by epidemiological factors impacting on workload, as well as by its own internal logic.

2. Conceptualising domains of consultation research

Emphasis on the consultation has encouraged the development of a large research literature on the subject. However, despite obvious advances in understanding and practice, there is no accepted, overarching 'theory' of the consultation, i.e. a firmly established, coherent system of explanation and prediction which integrates both conceptual variables and empirical findings. Rather, researchers have utilised a number of *alternative* perspectives or 'domains'. These domains are based in part on disciplinary preoccupations and traditional analytic tools. However, they also reflect the perceived objectives of consultation analysis, which are related, in turn, to the historical developments described above.

Our approach in this paper is to identify, in broad terms, these different domains. We characterise these as: psychodynamic; clinical-observational; social-psychological and sociological domains, and their main features are described below. Following these descriptions, the paper aims to compare and contrast each of these domains, in order to make explicit similarities and differences between them, and thus provide a framework for understanding the current status and future development of literature on the doctor-patient consultation in primary care.

2.1. The psychodynamic domain

The Balints' psychodynamic approach [5] developed from group work involving spontaneous presentations of case histories by GPs, which were interpreted within a broad psychodynamic framework. A number of theoretical concepts were developed. These included the distinction between *traditional* and *deeper diagnoses* (the former based on the allocation of disease to a biomedical framework, the latter concerned with understanding patients as individuals in their wider social and psychological context); the concept of *doctor as drug* (that is, the therapeutic effect of the medical professional him or herself); the *apostolic function* (stressing the importance of the values of the doctor) and the *collusion of anonymity* (concerning the professional relationship between generalist and specialists).

This domain stresses the importance of emotions, both in patients' presentations and in the doctor's response. Empha-

sis is placed on the unique nature of general practice, consisting of brief contacts within the context of a long-term relationship. The Balints group work was known as 'Research-cum-Training' and there was never a strict distinction between the two. Training was designed to produce a 'limited though considerable change in the doctor's personality', encouraging listening and observational skills and enabling doctors to make more sense of the interpersonal aspects of their clinical work [5], p. 299. A number of different approaches were considered to be compatible with 'good medicine', depending on the personality of the doctor [19].

The focus of treatment was on various forms of psychotherapy: the 'long interview' [5]; the 'flash', or brief therapeutic breakthrough [20]; and longer term changes in understanding between doctor and patient [21].

2.2. The clinical-observational domain

The clinical-observational domain grew out of direct observation of GPs [22] and by work on GPs' diagnosis of psychiatric morbidity [23]. The main concept underlying this domain is the distinction between *doctor- and patient-centred* consultations. Although this concept shares some meaning with the *traditional* and *deeper* diagnoses described in relation to the psychodynamic model, the clinical-observational domain is concerned with the degree to which the respective needs of the consultation participants are addressed. Use of the doctor's special skill and knowledge predominates in doctor-centred consultations, driven by the doctor's need to know and control, while in patient-centred consultations the doctor actively seeks the patient's thoughts and feelings, utilising these in negotiated decision-making [22]. In this domain, the focus is on the specific *professional behaviours* that constitute doctor- and patient-centred consultation styles.

Such behaviours are conceived of as part of the doctor's *clinical method* and can, thus, be taught or changed through training. Training consists of teaching specific microskills rather than the global personality change favoured by Balints, with different training packages geared to specific issues, such as diagnosis [24], management [25], eliciting and understanding the patient's agenda [26] and treatment of somatic presentation of psychological problems [27]. Empirical work within this domain has focused on relating indices of patient-centred behaviour to quantifiable patient outcomes, such as health status, compliance, concordance and satisfaction [28-33].

2.3. Social-psychological domain

This domain shares a number of the features of the clinical-observational domain. However, in contrast to the previous domain's focus on *professional* behaviour, the social-psychological domain stresses the importance of the attitudes, beliefs and cognitions *patients* have about

health and illness—their 'health beliefs' [24] and 'illness explanatory models' [35,36]—and the relationship of these to the adoption of 'healthy lifestyles' [37].

In contrast to the pragmatic, observational basis of the previous domain, the social-psychological domain is grounded in theories concerning how patients understand illness and behave when ill, e.g. the Health Belief Model [38]. The consultation is viewed as a 'meeting between experts' [14], where each party has a unique understanding of the problem and the task faced by both is to effectively communicate these understandings and collaborate over management. While clinical-observational research tends to focus on the professional behaviours by which this communication occurs (e.g. question-asking, reflective listening, information-giving, etc.), the social-psychological perspective is concerned with the nature of participants' knowledge and understanding of illness, and the mechanisms and processes used by professionals to facilitate positive outcomes in patients, such as changes in self-efficacy [39] and matching interventions to patients' stages of change [40]. As with the clinical-observational domain, training largely involves the use of video-feedback, and the adoption of a structured approach to the consultation and specific task-related behaviours [41].

2.4. Sociological domain

Although sociological work on the medical consultation is common, there is comparatively little research in this domain in *primary care* at present. However, two themes that characterise research in the sociological domain can be identified which are of specific relevance to work in primary care. The first, exemplified by discourse and conversation analytic studies [42], concerns the crucial role of language in the consultation. Language is not viewed as a 'neutral medium for conveying information, but rather does the discursive work of constructing a particular version of the way things are' [43]. Social interaction through talk is the basis for construction of the categories of 'illness' and 'health', and for the respective identities and roles of the consultation participants.

Secondly, unlike research in the clinical-observational and social-psychological traditions, the sociological domain does not conceive of the medical consultation as part of the doctor's clinical method (i.e. primarily a skills-based interaction). Rather, it is viewed as a *social process* that can only be understood in terms of concepts like 'power' and 'knowledge' and how these operate in relation to variables, such as the participants' socio-economic status, gender or ethnicity [12]. Sociological accounts of the consultation set these variables within the context of a number of situational factors, e.g. time, site and task constraints [44]. Because these accounts are not, per se, concerned with the consultation as 'technique', they may be perceived as more detached from the everyday work of general practice than research in the other three domains.

3. Comparison of the domains

A comparative approach can highlight the key dimensions along which domains differ. For example, Neighbour [45] placed 12 consultation models along two key dimensions: (i) whether focused mainly on tasks or behaviours, and (ii) whether focused mainly on the doctor or the patient. Key dimensions along which the four domains described above differ will now be presented. The objective of these comparisons is not to demonstrate their disparate assumptions about the nature of the consultation and the changes that consultation analysis is intended to effect. It is important to note that differences between domains are not absolute in nature, but are differences in emphasis.

The first distinction concerns whether the domain reflects the 'raw material' of general practice (i.e. doctors in consultation with patients) or is determined by pre-existing theoretical and methodological issues that are *applied* to general practice. In this respect, we describe the former perspective as 'internal' and the latter as 'external' to general practice. Both the psychodynamic and clinical-observational domains may be characterised as internal. Although Balints was a psychiatrist and psychoanalyst, traditional psychodynamic concepts are rarely present in his classic work 'The doctor, his patient and the illness' [5]. Rather, the focus was very much on the experience of GPs and the use of knowledge developed from their everyday practice [46]. Similarly, the clinical-observational domain was derived from in-depth analysis of the 'raw material' of general practice, i.e. tape recordings of doctors talking to patients [22]. In contrast, work in the sociological domain is external in that theoretical frameworks and research techniques that have developed in relation to other social settings have been taken and applied to the general practice context. This is reflected in the focus on issues of power and the 'competence-gap' [13], issues which are of relevance to all professional-day relationships and not particular to general practice [47]. Equally, research in the social-psychological domain has imported models from other psychological research (for example, the Health Belief Model was developed within a public health context) and then applied these to processes within GP consultations. However, such models are generic approaches to understanding human health-related attitudes and behaviours; they have not been modified significantly to reflect the specific context of general practice.

It should be noted that the label 'internal-external' does not necessarily describe a qualitative distinction. One could view *all* the domains as external, in that they each apply some pre-existing theoretical concepts to the data of general practice consultations. For example, Balints' focus on the relationship between GP and patient undoubtedly reflected his psychodynamic background. Rather, the 'internal-external' distinction is one of degree. However, this still has important implications for the concepts used by each domain to explain

consultation phenomena of interest and the methodologies by which these are studied.

The second distinction concerns how the participants in the consultation are construed. To a degree, all four domains have developed from dissatisfaction with the conventional biomedical model. That said, both the clinical-observational and social-psychological domains are more closely tied to a 'medical' perspective in that the consultation is still viewed, fundamentally, as a task of effective diagnosis and management [48]. Psychological and social factors are no longer viewed as irrelevant (as in the traditional biomedical model), but the perspective taken on them is that they are 'modifications or explanations or illuminations of pathological processes' [49]. As such, they may profoundly influence the application of medicine. For example, within the social-psychological perspective, patients' beliefs (e.g. about medication) are perceived important to the degree that these may influence the outcomes of medical decision-making (e.g. the compliance with a prescribed treatment regimen). In other words, exploring (and, where necessary, modifying) patients' health beliefs is perceived less as a core function of the consultation than a mechanism for facilitating effective medical management. Research in the clinical-observational and social-psychological domains is thus focused on the activities of the participants within the consultation: the verbal and non-verbal activities of doctor and patient, and the way in which these facilitate or inhibit medical diagnosis or management. The objective is to define ways in which the technical efficiency of the doctor may be optimised, and how value may be added to an encounter that is already profoundly constricted by time and space.

By contrast, both the psychodynamic and sociological domains do not accept that the consultation can be wholly conceptualised as a medical task. Neither domain explicitly seeks to provide understanding of the ways in which medical management can be made more effective through changes in

the activities of the doctor within the consultation. Rather, both are concerned with the identity of the participants.

The psychodynamic domain views the doctor-patient relationship as a means by which the doctor develops an understanding of the individual patient's identity through relevant psychological theory [50]. Additionally, the identity of the doctor is also illuminated, because the interaction will be profoundly influenced by the doctor's own characteristics, i.e. what Balint called the *apologetic function* [5,21].

In the sociological domain, we have noted how the doctor-patient interaction is structured around inequalities of power and knowledge. The participants' social identities (e.g. the patient as 'lay person', 'sick', or 'malingering'; the doctor as 'professional' or 'agent of social control', etc.) are constructed through talk within the interaction. This construction involves particular forms of self-presentation and negotiation [51]. Furthermore, such construction proceeds within the restrictions imposed by the routinised nature of general medical practice [52].

Again, it should be noted that these distinctions are not meant to represent rigid categories. For example, 'activity' and 'identity' are not mutually exclusive, but represent differences in the degree to which the respective domains focus on these issues. Table 1 shows the content of the domains structured according to the 'internal-external' and 'activity-identity' dimensions.

A third distinction concerns the methodology by which participants are understood. Importantly, psychodynamic and sociological domains of consultation research take as their focus different kinds of relationship: not simply between individual actors, but also between bodies of knowledge and practice that cannot be reduced to functions of individual performance. These domains have emphasised the importance of the *subjective* meanings and values of the participants, the influence of the *context* in which care is

Table 1
The four domains of consultation research and their underlying assumptions

Internal	External	
	Psychodynamic	Sociological
Doctor-patient interaction is intrinsically therapeutic; generates insights of clinical value in organising and presenting treatment to the patient	Doctor-patient interaction is organized through inequalities of power and knowledge; generates insights about the nature of professional/patient identity and interaction as a process	Identity
Doctor-patient interaction centres on the doctor's subjective understanding of the 'patient-as-person'	Doctor-patient interaction centres on the participants' use of socially constructed forms of language and practice	Activity
Doctor-patient interaction is conceived of as a personal relationship	Doctor-patient interaction is conceived of as a social process	
Clinical-observational	Social-psychological	
The quality of doctor-patient interaction is a proxy measure of quality of care; generates insights about the optimum performance of clinical tasks	Doctor-patient interaction reveals patients' beliefs and understandings about illness and health	
Doctor-patient interaction centres on the doctor's technical competence in eliciting and deploying knowledge about the patient	Doctor-patient interaction centres on the doctor expaining an adequate understanding of the patient's belief, and the doctor's moves to modify those	
Doctor-patient interaction is conceived of in terms of (measurable) activities	Doctor-patient interaction is conceived of in terms of promoting the adoption of healthy lifestyles	

Table 2
How participants are understood and assessed in the four domains of consultation research

Internal	External	
	Psychodynamic	Sociological
Holistic view of participants' interaction. Participants' own explanations of interaction are internally interpreted 'data'	Holistic view of participants' interaction. Participants' own explanations of interaction are internally interpreted 'data'	Holistic view of participants' interaction. Participants' own explanations of interaction are externally interpreted 'data'
Qualitative judgement of 'meaning' leads to outcome	Qualitative judgement of 'meaning' leads to outcome	Qualitative assessment of activities and 'meanings' accounts for outcome
Judgement is internal and subjective	Judgement is internal and subjective	Assessment is external and subjective
Assessment is of therapeutic relationship	Assessment is of therapeutic relationship	Assessment is of social relationship
Clinical-observational	Social-psychological	
Participants' interaction viewed in terms of specific variables. Participants' own explanations of interaction are of secondary importance	Participants' interaction viewed in terms of specific variables. Participants' own explanations of interaction are of secondary importance	Participants' own explanations of interaction are of secondary importance
Quantitative assessment of activities accounts for outcome	Quantitative assessment of activities accounts for outcome	Quantitative assessment of activities and meanings accounts for outcome
Assessment is external and objective	Assessment is external and objective	Assessment is external and objective
Assessment is of professional behaviour	Assessment is of professional behaviour	Assessment is of professional behaviour

provided, and the significance of the process of care. Accordingly, they are associated with qualitative methods of investigation.

In contrast, the clinical-observational and social-psychological domains have more technical concerns and prioritise quantitative methodology. They focus on activities and behaviours (i.e. constructs that can be measured reliably and inter-subjectively) and outcomes (such as patient compliance with medical advice, satisfaction and health status). Process is of substantive relevance largely to the degree that it predicts outcome [53]. Table 2 lists the methodological assumptions inherent in the domains, compared along the 'internal-external' and 'quantitative-qualitative' dimensions.

Finally, the fourth distinction relates to the objectives of the domains. The clinical-observational and social-psychological domains are *prescriptive*, in that they aim to identify specific communication techniques to be adopted as a 'gold-standard'. Such research is an example of what Higgins has called 'science into practice' [54]. These concerns reflect underlying positivist assumptions about the role of research

[55]. For example, research from both these domains has been used to define 'clinical competence' in medical education. In UK general practice, formal vocational GP training (which became compulsory in the 1980s) has seen an increasing emphasis on the assessment of doctors' consultation behaviour, such that submission of videotaped consultations is now a requirement for the membership examination of the Royal College of General Practitioners. The psychodynamic and sociological domains are more concerned with understanding the consultation as it occurs 'in situ' — the development of a 'science of practice' [54]. Rather than prescribing change, both the psychodynamic and sociological domains are designed to enable participants to reflect critically on their actions and thus encourage developments initiated by *the researched*. Balint groups are expected to enable 'a freeing from within (the doctor's) range of personal reactions, rather than an initiative addition from without' [56]. Work in the sociological domain also includes general concerns about empowering certain social groups, the development of greater understanding between different social groups based on in-depth analysis

Table 3
Political objectives and modes of practice of the four domains of consultation research

Internal	External	
	Psychodynamic	Sociological
Seeks to change individual practice through self-understanding	Seeks to change professional practice by emphasising disparities in power and knowledge	Seeks to change professional practice by emphasising disparities in power and knowledge
Political objective: emphasising relationship as the site of quality care	Political objective: emphasising relationship as the site of quality care	Political objective: emphasising participants' view
Mode of research: contextual and descriptive	Mode of research: contextual and descriptive	Mode of research: contextual and descriptive
Clinical-observational	Social-psychological	
Seeks to change professional practice by modifying specific activities	Seeks to change patient beliefs and values by 'promoting' changes to normative behaviour	Seeks to change patient beliefs and values by 'promoting' changes to normative behaviour
Political objective: emphasising activities that provide quality care	Political objective: emphasising activities that provide quality care	Political objective: emphasising activities that 'add value' to primary care
Mode of research: technocratic and prescriptive	Mode of research: technocratic and prescriptive	Mode of research: technocratic and prescriptive

of their respective 'realities', as well as specific policy interventions [55]. Table 3 describes the objectives of the four domains, structured according to the 'internal-external' and 'prescriptive-descriptive' dimensions.

4. Discussion

As stated earlier in the paper, the purpose of mapping the domains is not to judge their comparative value. Equally, simple integration of these qualitatively different domains is problematic. Although the clinical-observational and social-psychological domains share a number of concepts and methods, generally work within each domain is distinct because of the different assumptions on which they are based. However, making explicit the source, focus, assumptions and objectives of the different domains should encourage the development of research that is not constrained uncritically within a single domain, but uses methods and insights from others. A number of preliminary methods of achieving this are described below.

4.1. The advantage of multiple perspectives

Firstly, identification of the domains provides researchers with a *countervailing* discipline — that is, another way of thinking about the consultation other than that which is routinely used [57]. Multiple perspectives should encourage critical consideration of those aspects of the consultation that are not captured by a single domain, and active consideration of alternative hypotheses and methods.

For example, researchers within the social-psychological domain have focused heavily on individual differences measured among many subjects at one point in time (e.g. cross-sectional surveys of patient attitudes); what Cattell [58] called R-technique. Quantitative measurements within one individual over time (P-technique) might allow investigation of temporal factors in the doctor-patient relationship, a key theme of work within the psychodynamic domain. Alternatively, changes in patient attitudes over time may be studied within the context of the 'competence gap' between doctor and patient (a key theme in sociological accounts of the medical consultation), as the patient becomes more knowledgeable and 'expert' in his own illness and its management. Psychodynamic researchers' traditional antipathy toward measurement (a key methodological focus of both the social-psychological and clinical-observational domains) is viewed as increasingly untenable [59] and certain psychodynamic constructs may be amenable to quantification.

4.2. Explicating common constructs

Interdisciplinary rivalry, terminology and measurement traditions may have obscured the degree to which the different domains converge on key aspects of the consultation, and it may be useful to explicate constructs that are

common across domains. For example, Tanzen and Waller [60] described linguistic 'frames' (participants' understanding of the function of the interaction) and psychological 'schemas' (prior knowledge about a specific topic area) in medical interviews. The schema construct, whereby prior knowledge influences the perception and understanding of new information, could potentially subsume the social-psychological constructs of 'health beliefs' and 'explanatory models' and the psychodynamic construct of the 'apologetic function' of the doctor, thus, bridging these two domains. The authors' preliminary work on the interaction between 'schemas' and 'frames' (a concept developed from sociolinguistics) has potential for further integration with language-based work in the sociological domain.

4.3. Methodological pluralism

Another approach to facilitate cross-domain research is *methodological pluralism*. Given the differences in values, assumptions and criteria for validity, espousing an uncritical integration of qualitative and quantitative methods is problematic. Nevertheless, both can usefully inform the other. Quantitative methods are effective in illuminating broad patterns in doctor-patient communication, but qualitative analysis is often needed to provide adequate *explanation* of observed associations [61], to explain counter-intuitive anomalies and to analyse relationships between behaviours that cannot be captured using traditional linear statistical modelling [62]. This has been one of the recent developments in psychotherapy process research (e.g. [63]). In contrast, the in-depth nature of qualitative work often leads to charges of selection and unrepresentativeness, which can be rebutted, in part, through considered use of counting procedures and statistical testing in order to relate selected extracts to the entire data corpus [65]. Weitzkin [64] discusses other issues concerning the relationship between quantitative and qualitative techniques.

4.4. Consultation analysis in context

As indicated in the introduction, emphasis on the consultation has been shaped by trends both within and without the profession of general practice. Intensive study within any particular domain may provide the basis for significant changes in the nature of the doctor-patient interaction. Nevertheless, there are limitations to the utility of all four domains if applied too rigidly. Sufficient attention must be given to the context and values of general practice and the structural constraints that impinge on the encounter between doctor and patient. For example, specifying 'good quality' care in broad behavioural terms may have a legitimate function in providing a common core of requisite skills and a 'map' of the effective consultation, but may also lead to marginalisation of the doctor's perspective, defensive practice and a consequent loss of professional autonomy [65].

Consultation analytic tools must allow doctors to understand and improve their personal practice in ways that are responsive to research and accreditation but are not simply reducible to them. Process research in the related discipline of psychotherapy has largely failed to influence practice because the aims, methods and values of research and clinical communities are not commensurate [59], and fears have been voiced about the same situation developing in general practice [46].

Advances in consultation research have required GPs to subject themselves to critical analysis by social scientists, and future advances will require that the same critical attitude is applied to the work of the latter, in order to 'develop a more penetrating and appropriate analysis of human interaction' [46]. It is hoped that this review of the four main 'domains' utilised to describe and analyse the primary care consultation makes explicit their respective content, objectives and analytic assumptions, and provides a clear basis from which to consider the future direction of research and education about the 'essential unit of medical practice' [66].

4.5. Practice implications

There are multiple ways of understanding the consultation in primary care. The present paper characterises these in terms of four distinct 'domains'. Because each domain involves key assumptions about the nature of the consultation and how it should be described and analysed, research within a particular domain can only provide a partial view of the consultation process. Researchers studying the consultation need to be aware of the limitations of each domain, and strive to develop methods of enhancing the degree to which the different domains may be integrated.

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The impact of general practitioners' patient-centredness on patients' post-consultation satisfaction and enablement

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Abstract

The concept of patient-centredness is complex, but is generally seen as an approach that emphasises, on the part of the health professional, attention to patients' psychosocial (as well as physical) needs, the use of psychotherapeutic behaviours to convey a sense of partnership and positive regard, and active facilitation of patients' involvement in decision-making about their care. To date, there is little consistent evidence that doctors' use of a 'patient-centred' consulting style leads to better patient outcomes. However, previous studies have been limited by a lack of conceptual clarity and methodological consensus, and by the absence of a clear theoretical framework linking patient-centredness to outcomes. In this study, three specific, conceptually distinct dimensions of a patient-centred consulting style were operationalised: the 'biopsychosocial perspective', 'sharing power and responsibility' and the 'therapeutic alliance'. These dimensions were measured in terms of three 'socio-emotional' and two 'task-relevant' general practitioner (GP) behaviours using in-depth observational techniques applied to 173 videotaped GP consultations. Theoretically-derived hypotheses were tested concerning relationships between these patient-centred behaviours and two different consultation outcomes: patient satisfaction and enablement. Multivariate regression showed that GP patient-centred behaviours did not predict either outcome. The robustness of these findings is considered within the context of study strengths and weaknesses, and implications for future research are discussed. © 2002 Elsevier Science Ltd. All rights reserved.

Keywords: Patient-centred; Consulting Outcomes; Measurement; Communication; Physician-patient relations

Introduction

Lacking complex diagnostic and therapeutic technologies, primary medical care requires effective doctor-patient communication. Thousands of medical interactions have been studied to elucidate the key 'ingredients' of good consultations. Early empirical work was largely exploratory (e.g. Kornich, Gozdz, & Francis, 1968; Davis, 1968; Freeman, Negrete, Davis, & Korsch, 1971; Byrne & Long, 1976; Siles, Putnam, & Wolf, 1979; Connick, Hooper, Goodwin, & Goodwin, 1982; Bartlett et al., 1984). Reviews of this literature criticised its overall lack of methodological and theoretical cohesion (Wasserman & Inui, 1983; Hall & Dornau, 1988).

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terms, as "understanding the patient as a unique human being". McWhinney (1989) narrows the remit from understanding the patient to understanding the patient's experience of the illness: "the physician tries to enter the patient's world, to see the illness through the patient's eyes". For Byrne and Long (1976), patient-centredness is primarily a method of interacting whereby the doctor employs particular behaviours in the 'diagnostic' phase of the consultation to elicit the patient's experience, then uses that to guide the 'prescriptive' phase. Others have highlighted the importance of providing information and encouraging involvement in decision-making (e.g. Lipkin, Quill, & Nagodano, 1984; Grol, deMaesseneer, Whitfield, & Molink, 1990; Winfield et al., 1996). The complex nature of patient-centredness is reflected by Stewart and colleagues whose 'patient-centred clinical method' comprises six components involving a range of attitudes, knowledge and skills (Stewart et al., 1993a).

Although ethical arguments for patient-centredness have been advanced (e.g. McWhinney, 1989; Laune & Davidoff, 1996) the question of whether such an approach leads to better patient outcomes is of key interest. Table 1 summarises twelve studies where consultation behaviours explicitly defined as 'patient-centred' were related to patient outcomes. Patients' satisfaction with their care was the most frequently measured outcome. Positive associations are reported in six studies (Roter, Hall, & Katz, 1987; Street, 1992; Winfield et al., 1996; Cecil & Killen, 1997; Langewitz, Philipp, Kus, & Wosmer, 1998; Kinnerley et al., 1999), null findings in another six (Stewart, 1984; Henbest & Stewart, 1990; Butow, Dunn, Tattersall, & Jones, 1995; Cape, 1996; Winfield et al., 1996; Wisow et al., 1998). This inconsistency reflects the lack of an agreed definition of 'patient-centredness' and the use of different methods to measure it. In Winfield et al. (1996), two different measures applied to the same consultations yielded conflicting relationships with satisfaction. The suggestion that different instruments do not measure the same aspects of care was borne out in a recent study which found low levels of concurrent validity for three different patient-centredness measures (Mead & Bower, 2000a).

Of the studies in Table 1, only Stewart et al. (1995b) and Kinnerley et al. (1999) use the exact same method for quantifying patient-centredness. However, both studies involved one of the original developers of the instrument (Brown, Stewart, & Teasler, 1995), while independent investigators have reported problems using it reliably (Bradley et al., 2000). Although some studies employ the same broad communication coding schemes (e.g. Siles, 1978 Verbal Response Modes or Roter's, 1977 Interaction Analysis System), cross-study comparisons are confounded by the fact that different categories of verbal behaviour are selected to operationalise 'patient-centred' care. For example, Street (1992)

measures patient-centredness in terms of doctors' affective behaviours (e.g. statements of 'empathy' and 'partnership') while Roter et al. (1987) focus on information-giving and patient education.

There is clear need for conceptual and methodological clarity in this area. A recent paper by the authors identified five distinct dimensions of 'patient-centredness' from a review of the conceptual and empirical literature (Mead & Bower, 2000b). These are described briefly in Fig. 1.

The present study operationalises three of these five dimensions at the level of the general practitioner (GP) consultation, exploring relationships with patient outcomes. The 'patient-as-person' and 'doctor-as-person' dimensions were excluded because they are arguably less amenable to quantitative study (Mead & Bower, 2000b).

Relating patient-centredness to consultation outcomes

Objective measures of clinical outcome (e.g. blood pressure readings for patients on anti-hypertensive treatment), or patients' own subjective reports of their physical or emotional health status are usually viewed as the 'gold standard' for evaluating effectiveness of medical care. However, use of such outcomes in primary care is complicated by the wide range of problems presented to GPs, and by the fact that health outcomes are influenced by a host of factors which may not be amenable to change via communication. For this reason, studies have tended to focus on patient satisfaction as the main outcome of patient-centred consulting.

Satisfaction is usually conceptualised as an 'attitude', that is, an evaluation of the favourableness of an 'object' or affective reaction to it (Fishbein & Ajzen, 1975). It represents a generalised concept that can be applied to almost all patients and aspects of service delivery. Interest in patient satisfaction can be linked to critiques of medical practice which, over the past 30 years, have stressed the importance of treating patients as individuals, of attending to their needs and preferences, and have generally promoted greater 'consumer-orientation' in the delivery of healthcare (May & Mead, 1999).

Despite its appeal, the conceptual basis of satisfaction has been criticised. There is ambiguity concerning the social-psychological determinants of patients' expressions of 'satisfaction'. Are they based, for example, on fulfilment of patients' 'expectancies' about care or on perceptions of the 'value' of care received? Although a number of models have been tested, the mechanism by which constructs like 'expectancies' and 'values' interact to determine satisfaction remains unclear (Linder-Pelz, 1982; Williams, 1994). Indeed, recent qualitative work suggests that such quantitative models may not accurately reflect the decision-making processes patients undergo when evaluating care (Williams, Coyle, & Healy, 1998). Furthermore, although generally agreed

1.	<i>Biopsychosocial perspective</i> A general broadening of the doctor's explanatory perspective on health and illness to include consideration of social and psychological (as well as biomedical) factors.
2.	<i>The 'patient-as-person'</i> Understanding the personal meanings of the illness for each patient (rather than treating them as the object of a disease entity or diagnostic label).
3.	<i>Sharing power and responsibility</i> Fostering a more egalitarian relationship with patients (as opposed to the paternalistic doctor-patient relationship that characterises encounters within the conventional 'biomedical' model of practice).
4.	<i>The therapeutic alliance</i> Attending to the socio-emotional aspects of consultations in order to optimise the therapeutic potential of the doctor-patient relationship.
5.	<i>The 'doctor-as-person'</i> Self-awareness of the influence of the personal qualities of the doctor on the way that medicine is practised.

Fig. 1. Five dimensions of patient-centred care (Mead & Bower, 2000b).

to be a multi-dimensional construct, researchers differ in their identification of the appropriate 'object' of satisfaction, i.e. which aspects of healthcare can be meaningfully evaluated by patients (Ware & Snyder, 1975; Ware, Davies-Avery, & Stewart, 1978; Hall & Dorman, 1988; Wensing, Jung, Mainz, Olsen, & Groi, 1998). Satisfaction has also been criticised for failing to take account of patients' concerns about the appropriateness and effectiveness of care in relation to their individual needs (Fitzpatrick & White, 1997).

Despite these problems, patient satisfaction remains a key outcome for health services because of the ethical and political desire to ensure that patients find their care acceptable and that evaluations of service quality incorporate a user-perspective, and because of the current lack of any appreciable alternative.

In studies of patient-centredness, satisfaction would appear to be a theoretically appropriate outcome. Patients report valuing doctors' 'humaneness' (e.g. warmth, sensitivity), 'informalness', technical competence, attention to psychological problems; provision of

sufficient time; and aspects of the doctor-patient relationship such as continuity, mutual trust and respect (Hall & Dorman, 1988; Haigh Smith & Armstrong, 1989; Baker, 1990; Williams & Calman, 1991a; Wensing et al., 1998). Such attributes are commonly included in measures of satisfaction; moreover, they reflect current conceptualisations of 'patient-centredness' (Stewart et al., 1995a).

However, the empirical literature relating patient-centred consulting to satisfaction is limited in a number of ways. As well as using different definitions and measures of 'patient-centredness', only two of the 11 studies that have explored associations with satisfaction used the same outcome measure, namely the Medical Interview Satisfaction Scale (Hembsch & Stewart, 1990; Kinnersley et al., 1999—Table 1). Some investigators collected patients' views immediately post-consultation (e.g. Windfield et al., 1996; Kinnersley et al., 1999), while others measured satisfaction up to three weeks later (Ceci & Killen, 1997). Furthermore, although there is evidence that patient satisfaction is related to factors

independent of the care process (e.g. patient age; Hall & Dorman, 1988), such factors are not always controlled for in analyses (Table 1).

An alternative outcome to patient satisfaction has been proposed by Howie, Heaney, Maxwell, and Walker (1998). The Patient Enablement Instrument (PEI, Howie, Heaney, & Maxwell, 1995, 1997, 1998, 1999) is a relatively new measure for evaluating GP consultations. The questions comprising the PEI were designed to elicit patients' feelings of confidence, ability and coping following a GP consultation (Porter, 1997), and Howie et al. (1998) explicitly link the PEI with 'the themes of patient-centredness and empowerment' (p. 166).

The PEI arguably goes beyond measures of satisfaction in that it requires patients to make judgements about consultation outcomes (for example, whether they feel more able to understand and cope with their illness after seeing the doctor) rather than simply evaluating aspects of the doctor's performance. Thus, in contrast to the attitudinal (i.e. affective) basis of satisfaction, enablement would appear to have more in common with the cognitive concept of 'self-efficacy'. Self-efficacy represents a 'can do' cognition (Schwarzer & Fuchs, 1996); an individual's belief that they are able to produce certain actions (e.g. take medication correctly). Such beliefs are important determinants of health-maintenance behaviours like giving up smoking (Pandura, 1997; Schwarzer & Fuchs, 1996) and predict the success of self-management programmes among patients with chronic illness (Lorig et al., 1996).

However, the hypothesised link between 'enablement' and 'self-efficacy' is based on similarity of item content and has no specific empirical grounding at present. One difficulty in linking the two concepts is that self-efficacy is a generalised cognitive construct which can be applied to a wide range of behaviours and is usually measured with very specific item content (e.g. 'I feel confident that I can avoid smoking with friends'). Enablement, on the other hand, is explicitly concerned with outcomes of primary care consultations and has a more generic item content (e.g. 'I feel more confident about my health'). Furthermore, although there is a wealth of research supporting the predictive validity of self-efficacy, few studies using the PEI have been published to date (Howie et al., 1998) and its wider construct validity is unclear. However, there are two main advantages of linking the concepts. Firstly, theoretical developments in self-efficacy theory may be of relevance to enablement (e.g. understanding the processes by which self-efficacy may be increased). Secondly, a key advantage of self-efficacy is that it is predictive of future health-related behaviours (Schwarzer & Fuchs, 1996). By contrast, satisfaction is usually conceptualised as an outcome in and of itself.

Table 1
Summary of studies relating patient-centred consultation behaviour to patient outcomes

Study	Setting and sample	Patient-centredness measurement	Relationship with satisfaction	Control for confounders in analysis?
Stewart (1984)	Canadian family practice, 140 consultations, 24 doctors	Bales (1950) IPA (adapted)	Not significant	No
Koiter et al. (1987)	US primary care, 86 consultations, 43 doctors	Reber and Stewart (1990)	Not significant	No
Steele (1992)	US paediatrics, 115 consultations, 7 doctors	Slides (1978) VRM (adapted)	Significant	Yes
Bulow et al. (1995)	Australian hospital oncology, 142 first consultations, 39 doctors	Brown et al. (1995)	Not tested	Yes
Stewart et al. (1995b)	Canadian family practice, 315 consultations, 39 doctors	Slides (1978) VRM (adapted)	Not significant	Yes
Cape (1996)	Australian general practice, 88 consultations, 9 doctors	Byrne and Long (1976)	Significant/Not significant	Yes
Windfield et al. (1996)	UK general practice, 210 consultations, 21 doctors	5-point scale (Slides VRM (adapted)	Significant/Not significant	No
Ceci and Killen (1997)	US family practice, 50 consultations, 15 doctors	Relational Communication Control System (Rogers & Fainess, 1979)	Significant	No
Wensing et al. (1998)	US emergency medicine, 104 consultations, 94 providers	Reber system (1977) (adapted)	Not significant	No
Kinnersley et al. (1998)	UK general practice, 143 consultations (new episodes), 6-point ratings	Brown et al. (1995)	Significant	Yes

There are a number of potential mechanisms by which patient-centred consulting may lead to enablement. Doctors have been criticised for failing to regard patients as experts in their own illnesses (Tuckett, Boulton, Olson, & Williams, 1985) and for providing insufficient information (Korsch et al., 1968). Use of a 'biopsychosocial' perspective may enhance patients' confidence that their problem has been fully explored and understood by the doctor. Seeking patient opinions and providing opportunities for involvement in decision-making may increase patients' perceived responsibility for resolving their problems, promoting a sense of shared 'ownership' of the management plan and confidence that the plan can be carried out within available psychological and physical resources.

Theoretical framework for the present study

In the previous section, some hypothetical mechanisms linking patient-centredness with satisfaction and enablement were presented. However, the theoretical model developed from a meta-analysis of empirical studies by Hall, Roter, and Katz (1988) provides a useful framework linking doctors' consulting behaviours with patient outcomes. These authors distinguished two main types of doctor communication behaviour: 'instrumental' and 'socio-emotional'. Broadly speaking, instrumental behaviours are concerned with the medical 'tasks' of the consultation, i.e. problem diagnosis and management. Such behaviours include question-asking and giving the patient information and advice. Socio-emotional (or expressive) behaviours facilitate interpersonal aspects of the interaction. These may be verbal or non-verbal, for example, greetings, expressions of empathy, reassurance, partnership-building statements, eye contact, jokes or social talk.

Hall et al. (1988) propose that 'task-relevant' (i.e. instrumental) doctor behaviours predict 'task-related' patient outcomes such as information recall or compliance with treatment:

"evidence of [physician] task competence is necessary to motivate the patient to perform the task behaviours that go with the patient's role" (p.668).

In the context of the current study, enablement is conceptualised as a task-related patient outcome, based on the hypothesised link with self-efficacy described earlier.

In contrast, Hall and colleagues suggest that doctors' socio-emotional behaviours predict patient satisfaction, since such behaviours have 'affective' (as opposed to 'task-') relevance. However, they also propose an unequal reciprocity mechanism whereby doctors' task-relevant behaviours trigger affective attributions among

Doctor consulting behaviours

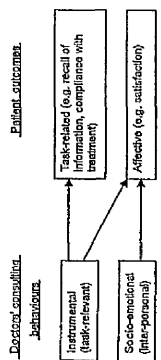


Fig. 2. Theoretical framework linking doctor consulting behaviours to patient outcomes (Hall et al., 1988).

patients, but socio-emotional behaviours do not trigger task-competence attributions:

"...merely being nice or caring, in the absence of positive or negative indications of task performance, does not supply the evidence on competence that a patient needs in order to decide whether to attend to information, stick to a regimen and generally have confidence in the quality of medical care received" (Hall et al., 1988, p. 668).

This theoretical framework, presented diagrammatically in Fig. 2, was used to derive the specific hypotheses for this study (detailed below).

Methods

Design

The study utilises an observational design. Measures of patient-centredness were derived from objective coding of videotaped GP consultations, while measures of satisfaction and enablement were completed by patients. Regression techniques were used to examine relationships between consultation 'processes' (specifically doctors' patient-centred behaviours) and 'outcomes' (i.e. satisfaction and enablement), controlling for confounding 'input' variables (e.g. patient health status).

Data collection procedure

Consultations were videotaped as part of a study of doctor-patient communication (the Euro-communication study; Brink-Mohren et al., 1999). GPs were recruited by invitation from practices around Birmingham, Exeter and Manchester via university-based research networks. Consecutive adult patients were invited to participate while waiting for appointments during routine surgeries. Written consent was obtained both before and after consultations to allow patients the opportunity to opt out once they knew the exact content of their video (though, in the event, no patients

withdrew consent). No systematic record of refusals was kept, although the researcher who collected the data estimated that 10-15% of patients who were approached declined to participate, a rate comparable with other video-based studies (Howe, 1997).

Information on many variables was collected for Euro-communication: details are available from the authors. Some measures were excluded from the present study because they lacked relevance; others were unreliable or redundant. Fig. 3 details the data used. A pre-consultation questionnaire collected patient demographic information and included items on emotional health (the GHQ-12; Goldberg & Williams, 1988) and functional health status (the COOP/Wonca chart; van Weel et al., 1993). Immediately after their consultation, patients completed enablement and satisfaction measures (in that order) while GPs provided additional information about each patient (Fig. 3). Further details of the enablement and satisfaction measures are given below. These were added to data collection in the last nine UK practices recruited to the Euro-communication project. Thus, the present study sample comprises 173 consultations (involving 14 GPs from nine practices) for which complete satisfaction and enablement scores are available.

Measures of the consultation process

The 173 videotaped consultations were divided between four trained observers who independently applied the same process measures. These included

Measures of consultation outcome

The 18-item Consultation Satisfaction Questionnaire (CSQ; Baker, 1990) and the 6-item Patient Enablement

Variables	Type	Measure	Source
• Patient age, sex, marital status	Input		Patient
• Patient physical health (physical activity level, change in health, pain)	Input	C OOP / Wonca	Patient
• Patient emotional health status	Input	GHQ-12	Patient
• GP acquaintance with patient	Input		GP
• No. of surgery visits in past 12 months	Input		GP
• Consultation length	Process (stopwatch)		Videotapes
• 'Patient-directed eye gaze'	Process (stopwatch)		Videotapes
• Clinical behaviours (blood pressure check, physical exam, prescribing, referral)	Process		Videotapes
• Patient-centredness measures (5)	Process	Roter	Videotape
• Enablement	Outcome	PEI	Patient
• Satisfaction	Outcome	CSQ	Patient

Fig. 3. Variables measured in the study.

Instrument (PEI; Howie et al., 1995, 1997) were used in the study.

The CSQ was developed in the UK general practice setting, its content based on previous satisfaction questionnaires and on GP- and patient-reported experiences. Initial validation work suggested acceptable internal reliability and sufficient variability in responses (which is often a problem with patient satisfaction measures). A degree of concurrent validity with the Medical Interview Satisfaction Scale (MISS) has been demonstrated (Klimeski, Stott, Peters, Harvey, & Hackett, 1996). Construct validity is suggested by associations with practice list size, the existence of personal list systems, and the number of patients seen per hour (Baker, 1996), and by the ability of the CSQ to differentiate patients who move practices without changing address, and those who tend to return to see the same doctor within a practice (Baker & Whiffeld, 1992).

The PEI was constructed on the basis of non-systematic reviews of conceptual literature on patient health and wellbeing and the patient satisfaction literature, supplemented by discussions with agencies representing patient interests, and interviews with chronically ill or physically disabled patients. The scale demonstrates high internal reliability and enablement scores are more widely distributed than satisfaction scores (Howie et al., 1998). Reported correlations between the PEI and CSQ are lower than those reported for CSQ and MISS (0.48 vs. 0.82) suggesting a degree of differentiation between the concepts of enablement and satisfaction (Howie et al., 1998). Although construct validity is suggested by associations with consultation length and with 'knowing the doctor well' (Howie et al., 1999), as yet there is no evidence of the PEI's predictive validity in respect of patient health behaviours (e.g. propensity to consult the doctor again, engage in self-help or comply with a treatment regimen).

Reliability of process measures

Reliability of process measures was assessed over 20 consultations (separate from the main sample) which were independently coded by the four observers. The intra-class correlation coefficient (R) was calculated as a measure of actual agreement between observers.

Reliability of timings of consultation length and 'eye-gaze' was $R = 0.99$ and 0.76 , respectively. Reliability of the Roter coding was variable, ranging from $R = 0.02$ to 0.84 for clusters of patient verbal behaviour, and $R = 0.11$ to 0.92 for doctor clusters. Five patient clusters with the lowest inter-rater reliabilities (i.e. $R < 0.55$) were excluded from the study, resulting in a mean intra-class coefficient for remaining patient clusters of $R = 0.61$. Six GP clusters had reliabilities of $R < 0.61$ and were also excluded, resulting in a mean reliability for remaining clusters of $R = 0.71$ (see Fig. 4 footnote for details).

Inter-observer agreement for ratings of GP affect was poor: GP 'warmth/friendliness', $R = 0.29$; GP 'interest/concern', $R = 0.37$.

Operationalising patient-centredness

We conceptualise patient-centredness as part of the doctor's clinical method (Fig. 1). The three dimensions that are the focus of this study were measured in terms of five different variables (Fig. 4). A brief theoretical rationale for the formulation of each variable is presented below.

The biopsychosocial perspective

This dimension, which concerns exploring patients' problems within a broad physical, psychological and social framework, is represented by one variable. 'Psychosocial questions' measures all GP's questions relating to psychosocial and lifestyle issues as a proportion of their total talk in the consultation. While GPs are likely to score high on this variable where there is clear psychological morbidity, it is important to explore the possible existence of psychosocial issues in all patient consultations, regardless of the presenting problem. For this reason, patients' psychological health status should be controlled for in analyses.

Sharing power and responsibility

Rather than impose their own agenda, GPs should allow patients to establish the consultation agenda and be prepared to share responsibility for decision-making. Two variables were calculated to represent this dimension of patient-centredness. The first variable ('time for the patient') is a ratio of the total number of patient 'utterances' to total GP 'utterances', indicating the degree to which the GP gives the patient space to tell their 'story'. One reliably coded RIAS cluster (namely 'agreements') was excluded from both patient and GP talk when computing this variable because it is largely comprised of 'back-channel' responses (e.g. 'Uh huh') which indicate attention to the speaker rather than 'active' talk *per se*.

The second variable ('involving the patient') focuses on GP behaviours that facilitate patient involvement in decision-making, i.e. giving information about the condition and associated treatment, and using 'clarifying' statements to elicit patient opinions and check understanding. These behaviours were again measured as a proportion of GP's total talk. It should be noted that GP information-giving about psychosocial/lifestyle issues (which represented less than 2% of total GP utterances) was excluded for reasons of unreliability.

The therapeutic alliance

Socio-emotional aspects of the doctor-patient relationship (such as communication of empathy) are

Patient-centredness dimension (variable name)	Operationalisation
Biopsychosocial perspective ('Psychosocial questions')	All GP psychosocial / lifestyle questions All GP utterance categories ¹
Sharing power and responsibility ('Time for the patient')	All patient utterance categories ² (excluding 'agreements') All GP utterance categories ¹ (excluding 'agreements')
Sharing power and responsibility ('Involving the patient')	All GP biomedical information-giving and clarifications All GP utterance categories ¹
Therapeutic alliance ('Verbal caring')	All GP social talk and expressions of reassurance All GP utterance categories ¹
Therapeutic alliance ('Non-verbal caring')	Summed ratings of GP 'warmth / friendliness' + 'interest / concern' Maximum score across the two rating scales (i.e. 12)

¹ Includes only those GP utterance categories that were reasonably reliably coded, i.e.: social talk, agreements, paraphrasing, reassurances, directions / orientations, clarifications, biomedical question-asking, psychosocial / lifestyle question-asking, biomedical information-giving, biomedical counseling. Excluded (unreliable) categories were: concern / worry, verbal attention, disagreement / disapproval, psychosocial / lifestyle information-giving, psychosocial / lifestyle counselling, 'other' utterances.

² Includes only those patient utterance categories that were reasonably reliably coded, i.e.: social talk, agreements, paraphrasing, concern / worry, directions / orientations, clarifications, biomedical question-asking, biomedical information-giving, psychosocial / lifestyle information-giving. Excluded (unreliable) categories were: verbal attention, reassurance, disagreement / disapproval, psychosocial / lifestyle questions, 'other' utterances.

Fig. 4. Operationalising patient-centredness.

integral to the 'patient-centred' therapeutic process. The first variable representing this dimension ('verbal caring') measures the proportion of total GP talk taken up with social (i.e. non-medical) utterances and expressions of reassurance and encouragement. Ideally, this variable would also have included the GP cluster termed 'verbal attention', which included statements of legitimisation, empathy and partnership. However, that cluster was not included because inter-rater reliability was relatively poor ($R = 0.41$).

The second variable ('non-verbal caring') is an indicator of the GP's affective manner and was based on the observed ratings of GP 'warmth/friendliness' and 'interest/concern'. As mentioned, reliability of these ratings was inadequate, although dividing summed ratings by the maximum achievable score will, to some extent, increase reliability of this variable. In taking account of such things as GP voice tone and facial expression, 'non-verbal caring' is an important adjunct to the first therapeutic alliance variable since it may be

possible for doctors to verbalise 'caring' an emotionally detached manner. In light of its conceptual importance but poor reliability, the main analyses were run first including, then excluding this particular variable.

Study hypotheses

Based on the theoretical framework proposed by Hall et al., 1988 (see Fig. 2) the following hypotheses were tested:

1. 'Psychosocial questions' and 'involving the patient' are primarily concerned with problem diagnosis and management and therefore conceptualised as 'task-relevant' patient-centred behaviours. These are hypothesised to predict both patient satisfaction and enablement scores.
2. 'Time for the patient', 'verbal-caring' and 'non-verbal caring' are concerned with the broader interpersonal nature of the consultation, and thus conceptualised as 'socio-emotional' (as opposed to task-relevant) behaviours. They are hypothesised to predict patient satisfaction but not enablement.

Statistical analyses

To improve completion rates, three CSQ items (concerning the doctor's examination of the patient and explanation of treatment) had been modified to allow a 'not applicable' response. The six enablement items also include 'not applicable' response options. Although the CSQ comprises four sub-scales, use of an overall satisfaction score is preferred (Kinnearley et al., 1996). Thus, for comparative purposes, both outcomes were calculated as percentages of the maximum score achievable after excluding any 'not applicable' items.

Complete satisfaction, enablement and consultation 'process' data were available for all 173 study sample consultations. Missing data across the following 'input' variables were treated by imputing mean scores: GHQ score (four cases), number of patient visits in the past year (three cases), GP-rated acquaintance with the patient (three cases).

Satisfaction scores were fairly normally distributed over the observed range (mean CSQ score: 77.6%, SD 10.45%; range: 50.0-100%). However, enablement scores were positively skewed, with a high proportion of patients (36%) reporting 'zero' enablement (mean PEI score: 25.78%, SD 29.43%; range: 0-100%; median score: 16.67%). Log transformations of the enablement data did not significantly improve skewness. Thus, it was decided to adopt a conservative approach and treat enablement as a binary variable in statistical analyses; i.e. 'not enabled' (scoring 0% on the PEI) vs. 'enabled' (to some degree) (scoring >0% on the PEI). Although

this effectively loses information in the data, the results of logistic modelling are likely to be more statistically valid than if enablement were treated as a continuous variable in multiple regression.

Identifying confounding variables

Two methods were used to identify potential confounders of outcome. First, previous empirical findings were reviewed to identify reliable predictors of patient satisfaction or enablement (i.e. factors that were consistent predictors across a number of studies and based on large, relatively representative samples). Secondly, the present data were analysed to identify any consultation 'input' and 'process' factors significantly associated with the outcome variables. For patient satisfaction, Pearson (or Spearman) correlation coefficients were used with continuous/ordinal variables while *t*-tests explored associations with binary variables. For enablement, *t*-tests, Mann-Whitney tests and Chi-square were used as appropriate. Although other process-outcome studies tend to use a significance level of $p \leq 0.10$ for identifying potential confounding variables, the more stringent level of $p \leq 0.05$ was adopted in this study to limit numbers of variables in subsequent multivariate analyses.

Relationships between patient-centredness and outcome

Bivariate associations between the five patient-centredness variables and two outcomes were first explored using Pearson correlations and *t*-tests.

Then standard ordinary least-squares multiple regression (for CSQ) and logistic regression (for enablement) were used to determine the predictive value of the patient-centred behaviours in respect of each outcome, adjusting for potential confounding variables. To facilitate interpretation of the regressions, all five patient-centredness variables were transformed into standardised scores by subtracting the mean from each observation then dividing by the standard deviation (Tabachnick & Fidell, 1996).

The unit of analysis was the consultation. However, consultations are clustered within GPs so multi-level modelling was employed (using Mvsnb) to examine whether there was any between-GP variation. No significant variation at GP level was found in respect of either outcome although between-GP variation cannot wholly be ruled out since 14 (GPs) is a relatively small number of 'level two' units for multi-level modelling, with the effect that resulting parameter estimates are likely to be imprecise. The following results pertain only to consultation-level analyses.

Results

Characteristics of the study sample

Patients had a mean age of 47.9 years (SD 17.13; range 17-90). Ninety-four patients (54%) were female, and 91 (53%) lived with a partner. Mean GHQ-12 score was 3.64 (SD 3.71; range 0-12). Patients averaged 9.6 surgery visits in the past year (SD 9.06; range 0-38).

Of 322 problems discussed in the 173 consultations, 42% related to existing physical conditions, 32% to new physical complaints, 12% to existing psychosocial problems and 5% to new psychosocial problems, and 9% to preventive care and administrative issues. Respiratory and skin conditions were the commonest new physical problems presented (46%), while circulatory and musculoskeletal conditions accounted for 41% of all existing physical problems. Excluding examinations, consultations averaged 568 s (i.e. 9 min 28 s; SD 283.3; range 84-1726 s). A physical exam was conducted in 58% of cases, blood pressure checked in 16% and a new referral to secondary care in 11%. In 55 consultations (32%) no medication was prescribed, while 51 patients (29%) received repeat prescriptions only. On average, GPs spent 57% of the consultation looking directly at the patient (SD 20.9, range 8-97%).

Patient-centredness and outcome: preliminary analyses

Table 2 shows bivariate relationships between each of the five patient-centredness variables and the two patient outcomes.

Patient-centredness and outcome: main analyses

(i) Patient enablement

Four 'input' or 'process' variables had significant associations with enablement. These were included in the multivariate analysis as potential confounders along with four other variables, namely: 'patient age', 'patient sex', 'GHQ-12 score' and 'consultation length'. GHQ score was included to control for psychological morbidity. Patient age, sex and consultation length, while having no significant relationships with the outcome in this data set, were included because previous work suggests they may be important determinants of enablement (Howie et al., 1997, 1999).

The eight confounders were forced, together with the five patient-centredness variables, into a logistic regression equation with enablement as the dependent variable. Results are presented in Table 3. An odds ratio greater than one indicates that enabled patients 'scored' higher on that particular variable than those who were not enabled (and lower where the odds ratio is less than one), adjusted for other variables in the equation. However, none of these differences was

Table 2
Bivariate relationships between the five patient-centredness variables and patients' satisfaction (CSQ score) and enablement status

	Psychosocial questions (biopsychosocial perspective)	'Time for the patient' (shifting power and responsibility 1)	'Involving the patient' (shifting power and responsibility 2)	'Verbal-caring' (therapeutic alliance 1)	'Non-verbal caring' (therapeutic alliance 2)	% CSQ score
Psychosocial questions	1.0	0.22**	-0.34***	-0.23**	-0.02	-0.15
'Time for the patient'		1.0	-0.24***	0.04	-0.03	0.09
'Involving the patient'			1.0	-0.28***	0.15*	0.19*
'Verbal-caring'				1.0	0.24***	0.24***
'Non-verbal caring'					1.0	1.0
% CSQ score						1.0
vs. 'Not enabled' (n = 63)	(0.049 vs. 0.051); <i>t</i> = -0.22	(1.064 vs. 1.116); <i>t</i> = -0.87	(0.253 vs. 0.257); <i>t</i> = -0.121	(0.145 vs. 0.142); <i>t</i> = 0.18	(0.805 vs. 0.774); <i>t</i> = 1.67	(79.00 vs. 75.61); <i>t</i> = 2.06*

* Pearson correlations (except for enablement, where group means and *t*-statistics are reported). * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

Table 3
Multivariate logistic regression of standardised patient-centredness variables^a on patient enablement status (adjusted for potential confounding factors)^b

Explanatory variable	Odds ratio Exp (B)	95% CI	p-value
Psychosocial questions ^a	0.971	0.654-1.444	0.885
Time for the patient ^a	0.874	0.612-1.247	0.456
Involving the patient ^a	0.825	0.560-1.215	0.331
Verbal caring ^a	1.080	0.732-1.591	0.699
Non-verbal caring ^a	1.362	0.930-1.954	0.093
GP acquaintance with the patient (higher score = greater acquaintance) ^b	0.853	0.639-1.118	0.257
Given a new prescription? ($y = 1, n = 0$) ^b	1.671	0.810-3.448	0.153
Consultation for new physical problem only? ($y = 1, n = 0$) ^b	2.168	0.822-5.718	0.118
Blood pressure checked? ($y = 1, n = 0$) ^b	0.459	0.179-1.178	0.105
Consultation length (seconds) ^b	1.001	0.999-1.002	0.435
Patient GHQ-12 score (higher score = greater psychological morbidity) ^b	0.997	0.997-1.006	0.949
Patient age (years) ^b	1.000	0.978-1.023	0.992
Patient sex (male = 1; female = 0) ^b	0.931	0.472-1.836	0.836
(Constant)	—	—	0.618

^a Standardised patient-centredness variable (coefficients represent change in the odds of the dependent variable for a change of 1 standard deviation in the patient-centredness variable).

^b Confounding variable.

^c Cox-Snell pseudo $R^2 = 0.100$; Chi-square = 18.23 (13 df), $p = 0.15$; $n = 173$ cases.

statistically significant, i.e. none of the five patient-centredness variables (nor any of the confounders) was a significant independent predictor of being enabled (as opposed to not being enabled). The model explained only around 10% of the variance in enablement.

(ii) Patient satisfaction

Eight variables had significant associations with CSQ score at $p \leq 0.05$. However, two of these (i.e. 'number of patient visits in the past year' and 'given a repeat prescription') were highly correlated with each other and with other confounders, so were replaced by two different variables: patient GHQ-12 score (to control for psychological morbidity) and patient sex (since there is some evidence that male patients report greater satisfaction than females—Williams & Calnan, 1991b).

The eight potential confounders were forced, along with the five patient-centredness variables, into a multiple regression equation with CSQ score as dependent variable. Table 4 shows that none of the patient-centredness variables significantly predicted satisfaction score adjusting for other factors. The best independent predictors of satisfaction (all positive) were consultation length, patient age and the GP's level of acquaintance with the patient. The model explained about 22% of the overall variance in satisfaction scores.

As previously mentioned, the measure of GPs' 'non-verbal caring' was unreliable but was included in analyses because it is regarded as an important aspect of the 'therapeutic alliance', complementing the measure of doctors' 'verbal caring'. However, since results of multiple regression are sensitive to the particular

variables included in the predictor set (Tabachnick & Fidell, 1996), analyses were re-run, this time excluding the measure of 'non-verbal caring'. This did not significantly influence any of the results presented in Tables 3 and 4.

Discussion

Two hypotheses were tested in the study. There was no support for the hypothesis that GPs' 'task-relevant' patient-centred behaviours would predict both patient enablement and satisfaction. In preliminary and main analyses, neither the measure of GPs' 'psychosocial questions', nor that of 'involving the patient' was associated with either outcome.

There was only very weak support for the hypothesis that GPs' 'socio-emotional' patient-centred behaviours would predict patients' satisfaction but not their enablement. Preliminary analyses showed significant positive associations between two of the three socio-emotional variables (namely, 'verbal' and 'non-verbal caring') and CSQ score, but not enablement (Table 2). However, these relationships with satisfaction did not hold when adjusting for confounding factors (Table 4).

Previous studies have not presented a clear theoretical framework linking patient-centredness to outcomes, nor considered that different patient-centred processes may impact on different patient outcomes. The present study operationalised three dimensions of patient-centred care in terms of five variables, two of which

Table 4
Multivariate linear regression of standardised patient-centredness variables^a on % patient satisfaction score (adjusted for potential confounding factors)^b

Explanatory variable	Regression Coefficient (B)	95% CI	p-value
Psychosocial questions ^a	-0.883	-2.579-0.864	0.327
Time for the patient ^a	0.447	-1.120-2.013	0.574
Involving the patient ^a	-0.732	-2.405-0.942	0.389
Verbal caring ^a	1.145	-0.512-2.803	0.174
Non-verbal caring ^a	0.909	-0.606-2.423	0.238
Physical activity level (higher score = worse health) ^b	0.730	-0.599-2.060	0.279
Change in health in past two weeks (higher score = worse health) ^b	-1.130	-2.860-0.601	0.199
GP acquaintance with the patient (higher score = greater acquaintance) ^b	1.329	0.257-2.401	0.015
Blood pressure checked ($y = 1, n = 0$) ^b	0.509	-3.578-4.597	0.806
Consultation length (seconds) ^b	0.008	0.009-0.014	0.604
Patient GHQ score (higher score = greater psychological morbidity) ^b	-0.132	-0.560-0.296	0.544
Patient age (years) ^b	0.110	0.008-0.212	0.034
Patient sex (male = 1; female = 0) ^b	-1.482	-4.379-1.410	0.313
(Constant)	58.352	43.84-72.87	0.000

^a Standardised patient-centredness variable (coefficients represent change in the dependent variable for a change of 1 standard deviation in the patient-centredness variable).

^b Confounding variable.

^c $R^2 = 0.279$ (adjusted $R^2 = 0.220$); $F = 4.730$ (13 df), $p < 0.001$; $n = 173$ cases.

were conceptualised as 'task-relevant' and three as 'socio-emotional' behaviours. A theoretical model was used to generate hypotheses linking these to two different outcomes: satisfaction and enablement. However, despite these advantages over previous work, no significant relationships were found in the main multivariate analyses. Theoretical and methodological limitations of the study are discussed below.

Construct validity of the measures of patient-centredness

Lack of evidence in support of the hypothesised relationships may reflect a lack of construct validity in the operationalisation of patient-centredness. Problems with construct validity could occur at a number of levels. Firstly, the five dimensions originally identified (Mead & Bower, 2000b) may be incorrect or incomplete. For example, Table 2 shows that the two variables representing the dimension 'sharing power and responsibility' were negatively correlated (i.e. 'time for the patient' and 'involving the patient'; $r = -0.24$, $p \leq 0.001$). In other words, GPs gave significantly less information in consultations where patients were allowed more 'space' to determine the agenda. Furthermore, doctors' information-giving was significantly negatively correlated with 'verbal caring' behaviour ($r = -0.28$) and with 'psychosocial questions' ($r = -0.34$). This appears to support the finding reported by Hall et al. (1987) that GPs employ only two distinct styles of consulting: a 'task-oriented' style (characterised by information-provision), and an 'affective' style (characterised by socio-

emotional behaviours). Although the present study conceptualised GPs' use of a biopsychosocial perspective as 'task-relevant', it is possible that asking patients questions of a psychosocial nature (as opposed to biomedical questions) carries affective attributions, conveying a sense of interest and concern in the patient as an individual.

Secondly, only three of the five dimensions of patient-centred care listed in Fig. 1 were operationalised in the present study, and it may be that the two omitted dimensions are important predictors of patient outcomes.

A third problem might relate to the specific way in which patient-centredness variables were operationalised. For example, certain utterance categories should perhaps have been included (or excluded) from the variable 'formulae' detailed in Fig. 4. However, it is not immediately apparent how the transition from 'concept' to 'variable' could have been improved in each case, given the data available. A more fundamental problem might be the fact that four of the patient-centredness variables were calculated as linear functions of the frequency of particular utterances. However, some patient-centred behaviours may be more important at the beginning of a consultation than at the end, to the degree that early exchanges set the context for the later interaction. Thus, it might be reasonable to weight the data to take account of this. The possibility that such weighted data (or more complex operationalisations) might show statistically significant relationships with outcomes cannot be ruled out.

Patient outcomes: theoretical and methodological issues

Statistical issues

Enableness is conceptualised as an indicator of the self-efficacy benefits of consulting a GP, and is expected to be associated with behaviours like treatment adherence and self-care. This is in contrast to satisfaction, which is conceived as a consultation outcome in and of itself. Although both instruments have received empirical validation in UK primary care settings (Baker, 1990, 1996; Poulton, 1996; Kinnearley et al., 1995; Howie et al., 1995, 1997, 1999) neither the CSQ nor PEI have previously been related to specific doctor communication behaviours. However, the CSQ compares well with the Medical Interview Satisfaction Scale (e.g. Kinnearley et al., 1996) which has been used in two other studies of patient-centredness (Hendrick & Stewart, 1990; Kinnearley et al., 1999).

The present study confirms a consistent finding in the literature that older patients are more satisfied than younger patients, irrespective of the process of care (Hall & Dorman, 1988; Williams & Cahan, 1991a, b; Rees Lewis, 1994; Kinnearley et al., 1996). Consultation length was the only process factor to predict CSQ score independent of other variables (including GPs' patient-centred behaviours). Moreover, the fact that GP-patient acquaintance also predicts satisfaction suggests that the CSQ may be prone to 'halo effects': that is, patients' evaluations may be based more on familiarity and overall liking for the doctor than on specific consultation processes. This echoes concerns that about the validity of 'satisfaction' as an indicator of the quality of care delivered (Williams, 1994; Fitzpatrick & White, 1997; Williams et al., 1998).

To date, the PEI has not been validated outside work by its developers (Howie et al., 1993, 1997, 1998, 1999). Although this study theoretically links enableness with self-efficacy, no studies have explored that association or assessed the PEI's predictive validity in terms of subsequent patient health behaviours. It is likely that the instrument requires more psychometric development as an outcome measure for GP consultations, for example, the relatively high proportion of 'zero' PEI scores found in this and other studies (Howie et al., 1997) presents problems for multivariate statistical analyses. Furthermore, enableness and satisfaction may not be clearly distinct outcomes as a significant association between the two was also found in the present study (Table 2).

In summary, neither of the outcome measures used in this study was unproblematic and alternative measures may have demonstrated significant results. However, in respect of the CSQ, there is no *qualitatively* superior consultation satisfaction instrument known to the authors, while the PEI is one of few available alternatives to 'satisfaction' for measuring generic consultation outcomes in primary care.

'effectiveness' of particular behaviours is context-dependent: more may not always be better for all patients at all times. There is evidence, for example, that patients with simple physical health problems are significantly more satisfied when GPs use a 'directing' style as opposed to a 'sharing' consulting style (Savage & Armstrong, 1998). As Winfield et al. (1996) suggest, the true therapeutic essence of 'patient-centredness' may have less to do with the relative quantity of specific behaviours than with the doctor's ability to successfully match communication style to the particular needs of the patient.

"Sometimes this might mean power-sharing, sometimes directiveness, and sometimes deference" (Winfield et al., 1996).

Such issues could be examined using sub-group analyses or by exploring interaction effects, although there is a lack of theory to inform such analyses at present.

If the effects of patient-centredness are indeed context-dependent, full understanding may not be achieved within a quantitative paradigm: qualitative techniques may also be required. However, this may reduce the utility of the 'patient-centredness' construct for use in research, evaluating training interventions, and for monitoring and improving quality of care.

External validity

There are two potential problems with the study sample. First, consenting patients may not be representative of all eligible patients, although the estimated refusal rate was not high and biases associated with video recording are relatively well known (Martin & Martin, 1984; Howe, 1997; Coleman & Manzi-Scott, 1998). Mean satisfaction and enableness scores were similar to those found in previous studies (e.g. Kinnearley et al., 1996; Howie et al., 1997, 1999) although it is possible that the patients in this study differ in other ways. For example, UK adults average approximately six GP consultations per year (ONS, 1998) and, although the average of 9.4 surgery visits recorded for patients in the present study includes both nurse and GP consultations, it may be that frequent attenders were over-represented in this sample.

Of greater concern is the use of a volunteer sample of GPs, which is always a problem for observational studies of in-depth consultation processes. It is likely that participating GPs were more confident of their consulting skills and probably more patient-centred. The restricted range in patient-centredness associated with such bias might reduce associations with outcome, so the null findings reported here may not generalise to more representative GP samples. However, given the time

requirements of research of this type and the intrusive nature of video recording, recruiting such samples remains a key challenge for all research in this field.

Comparisons with previous studies of patient-centred consulting

No previous studies have related patient-centredness to enableness at the level of the consultation. However, some have measured outcomes that may be relevant to the enableness concept. Two studies found significant associations with patients' self-reported compliance with treatment (Stewart, 1984; Cecil & Killeen, 1997) and one reported a relationship between patient-centred consulting and information recall (Roter et al., 1987). However, Stewart (1984) found no relationship with an *objective* measure of compliance and, notably, none of these studies adjusted for confounders in analyses. Two further studies did control for confounders, but Brown et al. (1995) found no association with information recall while Stewart et al. (1995b) report null findings in respect of patients' subsequent use of medical care.

Of the six studies reporting significant associations with patient satisfaction (Table 1) only two controlled for possible confounding variables (i.e. Street, 1992; Kinnearley et al., 1999). The remainder report bivariate relationships only, which may not remain significant in multivariate analyses.

Thus, despite limitations of the present study and problems with cross-study comparisons, the weight of empirical evidence would appear to suggest that patient-centred consulting does not significantly improve patient satisfaction or other outcomes related to the concept of 'enableness'. However, issues concerning the construct validity both of measures of patient-centredness and measures of patient outcome remain to be fully addressed.

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