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**THE MEASUREMENT OF PATIENT SATISFACTION IN  
GENERAL PRACTICE**

Submitted for the Degree of M.D. to the University of London.

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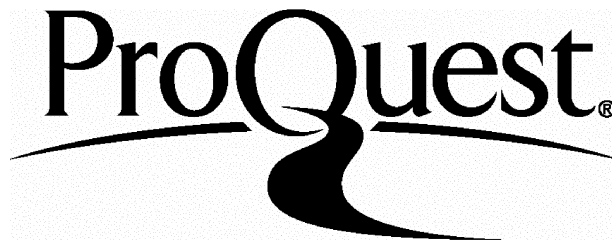
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## ABSTRACT

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### *Problems*

The problems addressed in this study were the lack of valid, reliable measures of patient satisfaction for use in British general practice, the lack of information about the characteristics of practices, general practitioners and patients that influence patient satisfaction and the lack of a theory or model of patient satisfaction.

### *Methods*

- (i) Development of two questionnaires, the surgery satisfaction questionnaire (SSQ) and the consultation satisfaction questionnaire (CSQ) following the identification of appropriate questions and pilot tests to identify the components of satisfaction and assess internal consistency. A test-retest measure of reliability was undertaken. The criterion validity of SSQ was assessed and the construct validity of both CSQ and SSQ evaluated.
- (ii) Administration of SSQ to patients in 99 practices and CSQ to patients consulting 190 general practitioners, and the collection of information about the practices, general practitioners and patients.
- (iii) Development and assessment of a pragmatic model of patient satisfaction.

### *Results*

- (i) SSQ included 26 questions concerned with general satisfaction with the practice, accessibility, availability, continuity, medical care and premises. CSQ included 18

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questions concerned with general satisfaction with the consultation, professional care, depth of relationship and perceived length of the consultation. Evidence was obtained to indicate that SSQ and CSQ were reliable and valid.

(ii) 17,799 patients completed SSQ and 11,447 completed CSQ. Levels of satisfaction varied and were not uniformly high. Patients are more satisfied if they receive care from smaller practices that have personal list systems.

(iii) The pragmatic model should be revised to take into account the importance to patients of a personal service.

### *Conclusions*

Valid and reliable measures of satisfaction can be developed and in future the use of unevaluated measures should be avoided. General practitioners need to consider how they could organise their practices to provide a personal service to their patients.

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## SUMMARY

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The aims of this thesis were to:

- (a) develop measures of patient satisfaction for use in British general practice,
- (b) identify some of those characteristics of patients, general practitioners and their practices that influence levels of patient satisfaction,
- (c) undertake a preliminary evaluation of a pragmatic model of patient satisfaction in general practice.

Three principal problems were addressed by the studies that were undertaken. First, there is no generally accepted model which indicates the factors determining patient satisfaction and its consequences. Second, no measures were available for use in British general practice which had been evaluated for reliability and validity. Third, only limited information was available about the factors that influence patient satisfaction. Therefore, a number of studies were planned in relation to these problems.

Two questionnaires were developed, the consultation satisfaction questionnaire (CSQ) and the surgery satisfaction questionnaire (SSQ). Possible questions to be included in the questionnaires were identified from responses to open questions administered to patients and from review of research into patient satisfaction. The questionnaires were refined through a series of six pilot tests. In each test they were administered to groups of patients and the responses were assessed. The patterns of non-response



were checked to identify questions that patients frequently failed to answer and those that attracted a particularly skewed response. If such problems occurred the questions were reviewed and re-worded or discarded. From the third pilot tests onwards additional analyses were undertaken including principal components analysis to identify the underlying components of satisfaction and assessment of internal consistency as a measure of reliability.

The final version of CSQ had 18 questions concerned with four components of satisfaction - general satisfaction with the consultation, professional care, depth of relationship and perceived length of the consultation. SSQ had 26 questions in six components - general satisfaction with the practice, accessibility (getting to the practice), availability (telephone service, appointments), continuity, medical care and premises. The levels of reliability were high and response rates satisfactory.

To assess validity two studies were undertaken. A study of the criterion validity of SSQ was undertaken involving eight practices. The questionnaire was administered to 100 attending patients in each practice. The criteria with which the findings of the questionnaire were compared were assessments by the participating general practitioners of the strengths of their practices and an external assessment of each practice by an assessor. The findings in general supported the validity of SSQ but the chosen criteria of validity were not ideal. The external assessor and the general practitioners both failed to report variations between the practices in their general assessments of the practice and also the quality of medical care.

The second study of validity was concerned with construct validity. Both CSQ and SSQ were included. On the basis of evidence from research, the construct indicated that patients who changed general practitioner without changing their home address would be less satisfied than those who had not changed general practitioner, and that patients who experienced a higher level of continuity of care would be more satisfied than those who experienced a higher level of continuity. The questionnaires were issued to samples of patients who had changed general practitioner without a change of home address and to patients in two general practices who had been registered with their general practitioner for at least two years. The level of continuity of these practice patients was calculated using a standard method. The level of satisfaction for all components of CSQ and SSQ were different between the practice patients and those who had changed doctor, and were different for most components between those who experienced higher and lower levels of continuity. In addition, a test-retest reliability study was undertaken which demonstrated satisfactory results.

This series of studies had led to the provision of questionnaires that had been carefully developed and had evidence of reliability and validity. In order to evaluate them when used in a large number of practices a survey was undertaken in the South Western Region. 99 practices administered SSQ to samples of their patients and 190 general practitioners administered CSQ to patients attending for consultations. Each participating general practice was provided with anonymous feedback comparing the satisfaction of their patients with the levels of satisfaction attained by other practices. For some components of satisfaction the range of scores was wide, for example levels of satisfaction with availability extended from a low of 29.7 to a high of 81.4 (out of

a possible maximum score of 100). However, the components of CSQ tended to have a narrower range of scores. Response rates were satisfactory, the component structures of the questionnaires remained largely unaltered and levels of internal consistency remained high despite the use of the questionnaires in a large number of practices.

To investigate the relationship between the characteristics of general practitioners, their practices and patients, and levels of satisfaction, questionnaires were issued to the practices and general practitioners taking part in the survey in the South Western Region. These sought information about the practice or the general practitioner. Multiple regression analyses were undertaken, the level of satisfaction being the dependent variables and the characteristics of practices, general practitioners and patients the explanatory variables. The findings indicated that a personal service is particularly important to patient satisfaction. Practices that had larger list sizes, that did not operate personal list systems and had been approved for vocational training were generally associated with lower satisfaction. These findings have important implications, particularly as general practices have been increasing in size in recent years.

A pragmatic model of patient satisfaction in general practice had developed from the evidence of previous research rather than being linked to underlying theories of satisfaction or behaviour. The model was used as a basis for developing the questionnaires and indicates that satisfaction is an attitude which varies along a continuum from completely dissatisfied to completely satisfied. Patients may take

different features into account when judging different sectors of health care such as general practice, inpatient care or nursing home care. Furthermore, different aspects of care in each setting, such as treatment, facilities or relationship with the doctor, influence satisfaction, and some aspects may have a greater impact than others. Characteristics of patients may also influence satisfaction, for example their previous experiences of health care, expectations, or age may influence levels of satisfaction. In turn, the level of satisfaction may influence subsequent patient behaviour such as compliance with treatment or return to the same doctor in the future.

The model of satisfaction was reviewed in the light of findings from other research and also from the findings of the studies undertaken using CSQ and SSQ. Whilst the model was found to be generally supported by the available evidence, it had not given sufficient emphasis to the factor that had most influence on satisfaction, the degree to which a personal service is provided. Therefore, the model was revised to take this into account.

This thesis has shown that psychometrics can be used to produce reliable and valid measures of patient satisfaction with general practice. Two measures have been developed which are suitable for wider use in research or by general practitioners to assess the opinions of their patients. Levels of satisfaction do vary, and in some cases can be low. Results from use of inadequately developed measures of satisfaction that appear to show that patients are all highly satisfied should be viewed with caution, and carefully developed measures should be chosen in future research studies.

The importance to patients of a personal service has been demonstrated. In large training practices it may be difficult to always provide this type of service but practices should, if possible, consider how they might modify practice organisation to provide a service that patients find more satisfactory.

It has not been possible to devise a comprehensive theory of patient satisfaction. A large number of factors help to determine satisfaction and a single theory would be unlikely to be able to take them all into account. However, a pragmatic model has been proposed which does acknowledge this wide range of factors and offers a potentially useful starting point for further research to determine the meaning and consequences of patient satisfaction in general practice.

## CHAPTER ONE: INTRODUCTION

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### 1.1. Introduction

This thesis describes the development of two questionnaires to assess patient satisfaction with aspects of general practice. These are the consultation satisfaction questionnaire (CSQ) and the surgery satisfaction questionnaire (SSQ), and they have both been developed to enable them to be used widely in clinical audit and research. The initial pilot tests which led to the final version of each questionnaire are reported (Chapters Two and Three). Studies of validity and further studies of reliability are reported (Chapter Four). The use of the questionnaires in a large group of practices is described, including findings about the characteristics of doctors and general practices that are related to levels of patient satisfaction (Chapter Five). A pragmatic model of patient satisfaction which underpinned the development of the questionnaires is presented later in this Chapter and findings arising from their use in a variety of settings are used in tests to evaluate the model in Chapter Six. Finally, the conclusions and implications of this work are discussed (Chapter Seven).

This chapter sets out the background to the study described in this thesis, indicating the need for robust questionnaires and introducing some of the methodological issues. The factors that have led to a growth in interest in studying patient satisfaction and its role in quality assurance are reviewed. The problems of measuring satisfaction are discussed, including the difficulties presented by the lack of an adequate theory of patient satisfaction and the limitations of many of the instruments that are presently

available. The pragmatic model of patient satisfaction is then presented. At the time this study was commenced no suitable instruments were available for use in general practice in Britain and the aims of this study - to rectify this omission - are described.

## **1.2. Why study patient satisfaction?**

### **1.2.1. Factors stimulating interest in patient satisfaction**

In the past thirty years interest has increased in assessing the views of patients about the health care they have received. Four principal factors can be identified which help to explain this development:

(i) changes in society;

(ii) the advent of quality assurance in health care;

(iii) developments arising from research including methodological advances and new findings about patient satisfaction;

(iv) the influence of new policies on the organisation of the national health service (NHS).

### **1.2.2. Changes in society**

Concern with patient satisfaction can be seen as an expression of a wider social change in which the role of the individual in relation to both public services and commercial organisations has shifted from being an uncritical recipient to a more informed and critical consumer. This process has been influenced both by changes in

the world of commerce and in social policy and thought. In the commercial sector competition between manufacturers or suppliers of goods or services has served to emphasise the importance of the choices made by consumers about how they spend their money. Attitudes of patients towards health care also appear to have become more critical. This is particularly evident in the United States of America (USA), where the number of complaints and malpractice claims has increased steeply in the last three decades (Mills and von Bolschwing, 1995), although this trend is also taking place in Britain. The annual number of complaints to Family Health Services Authorities (FHSAs) about general medical services increased from 706 in 1981/2 to 1,891 in 1992/3 and total annual payments from the NHS to victims of medical negligence rose by 56% between 1992/3 and 1994/5 to £125m (Allsop and Mulcahy, 1995).

Although the importance of understanding the requirements of customers has been widely acknowledged by business management, even greater weight is placed on this issue in a new style of management known as total quality management (TQM) or continuous quality improvement (CQI) (Oakland, 1993). This approach has three principal components, firstly the participation of all members of the work force in the identification and resolution of deficiencies in quality, second the use of continuous and systematic procedures to ensure improvement, and finally an over riding focus on the wishes of the consumer as the driving force behind quality improvement. Continuous quality improvement originated in industry in Japan, but has spread widely and has been proposed as the management method for the NHS (Berwick et al, 1992). Approaches are already being developed for introducing CQI into general



practices (Brooks and Borgardts, 1994; Woollass, 1994).

A definition of quality in health care for use in CQI has been proposed by Laffel and Blumenthal (1993 p. 43) - "a continuous effort by all members of an organisation to meet the needs and expectations of patients and other customers". Ovretveit (1992 p. 4) has identified three dimensions of health service quality. The first was client quality, defined as what patients and carers want from the service. Professional quality is concerned with whether techniques and procedures are carried out correctly to meet client needs, whilst management quality is concerned with the most efficient and productive use of resources.

In this new approach to management, therefore, particular effort should be concentrated on ascertaining what the patient does want through consumer surveys and other methods for gathering information about patients' preferences, expectations and experiences (Batalden, 1993).

### **1.2.2. Quality Assurance**

At the same time as the growth in consumerism concerns have arisen over the cost and quality of health care. In most countries in the developed world the cost of providing health care has increased more quickly than growth in national economies. Inevitably, therefore, the attention of health service managers and researchers has turned to ways of controlling the inexorable rise in expenditure whilst also maintaining or even improving quality. The combination of concerns about costs and

the rise of consumerism led to the widespread adoption of quality assurance, which as been defined as "the formal and systematic exercise of identifying problems in medical care delivery, designing activities to overcome the problems, and following up to ensure that no new problems have been introduced and that corrective actions have been effective" (Lohr and Brook, 1984 p.2).

Quality assurance in health care first arose in the USA but is now becoming a feature of most health care systems in Europe. In a survey of seventeen European countries in 1992/3 thirteen either had or were planning national policies for quality assurance in general practice (Grol et al, 1994). In two countries patient surveys were reported as being widely used, in twelve they were occasionally used and in only three countries were they reported as being virtually never used.

The theoretical basis of quality assurance is determined in large measure by the meaning of quality itself. There have been a number of attempts to define the meaning of quality in the context of health care, the most developed and influential of which was proposed by Donabedian (1980 p.5). He pointed out that quality was a property of, and a judgment upon, some definable unit of care. In developing this definition of quality, Donabedian pointed out that judgments about quality are made by three groups - professionals from their viewpoint as experts on the technical details of care, society through its concern about costs and accountability, and individual patients, including their wishes, expectations and valuations. Thus, an assessment of the quality of care that does not include the judgments of patients would be incomplete. Furthermore, patients will have particular insights into some aspects of care. For

example, they may find judgments about the technical quality of clinical investigations or treatment difficult to make but as recipients of care they are best placed to judge on interpersonal aspects such as the provision of information or the manner of staff.

Donabedian (1966) classified the constituents of care into structure, process and outcome, defining outcome as a change in a patient's current and future health status that can be attributed to antecedent health care (Donabedian, 1980 p.83). A broad definition of health was used, including social and psychological function, physical and physiological aspects of performance, and patient attitudes, satisfaction, health related knowledge acquired by the patient, and health related behaviour. Thus, in quality assurance, judgments of care by patients can be seen as one element of outcome.

Recently the view that the role of patients in quality assurance should be confined to responding to requests for their opinions has been challenged. In a re-evaluation of the patient's role in quality assurance Donabedian has identified a wider set of roles than simply asking them for their opinions (Donabedian, 1992). Patients may be asked to help define the quality of care by indicating which aspects they find more or less desirable; they can be asked to judge quality; and they can also provide information or reports about the content of the care they have received rather than judge its quality. Despite a number of problems that might arise from involving patients in choices about health care and its evaluation Donabedian supported closer collaboration between professionals and patients, who together could initiate reform

of health care. Building on these arguments Hopkins and colleagues (Hopkins et al, 1994) pointed to a variety of routes through which patients can contribute to the planning and assessment of the structure, process and outcome of care, including representation in national and local health authorities, user groups and other mechanisms. They suggested that by providing patients with more information they may be able to encourage the more rapid adoption of clinical guidelines or the findings of research.

Quality assurance in general practice in England and Wales was formally established in the guise of medical audit by the creation of medical audit advisory groups (MAAGs) in 1991 (Department of Health, 1990). The remit of MAAGs was to direct, co-ordinate and monitor audit in all general practices in their areas. Among the recommendations given to MAAGs by the Department of Health were that they should take into account the findings of patient surveys undertaken by the local FHSA. Although there is no evidence available about the proportion of MAAGs or general practices that have undertaken patient satisfaction surveys since the creation of MAAGs there are examples of such projects (Bamford and Jacoby, 1992; Liverpool MAAG, 1991). A review of the involvement of patients in clinical audit was commissioned by the Clinical Outcomes Group (Kelson, 1995). In this report it was pointed out that the patient can be involved in all stages of the audit process, from choice of topic, standard setting, design and the formulation of recommendations after data have been analysed. The use of surveys was seen as one aspect of patient involvement, although the report was unable to identify many examples of the systematic and comprehensive involvement of patients in audit.

### **1.2.3. Research into patient opinion**

Researchers have contributed to the growing interest in patient satisfaction with all sectors of the health service, but only studies in general practice are considered in this section. Several important studies of levels of patient satisfaction in general practice have been undertaken which have highlighted the implications for the organisation of services. Much of this early work was undertaken by sociologists, the work of Cartwright over several decades being particularly influential. Her early work included a survey of the factors patients considered in choosing or changing doctors (Gray and Cartwright, 1953). Two major national surveys have had a substantial impact on the development of general practice in the last two decades (Cartwright 1967; Cartwright and Anderson, 1981). In the second study, undertaken in 1977, 836 randomly selected patients in twenty parliamentary constituencies in England and Wales were interviewed and a questionnaire was sent to their general practitioners. 91% of patients were either very satisfied or satisfied with their own care but the level of patient criticisms of aspects of practice had increased in comparison with the findings in 1964.

A wide range of surveys has subsequently been undertaken by other researchers. For example, Arber and Sawyer undertook a survey of patients' views on changes in the structure of general practice such as the growth in the number of health centres and the size of practices (Arber and Sawyer, 1979; Arber and Sawyer, 1981). In addition to formal surveys, assessment of satisfaction has been included in several recent studies of aspects of general practice, for example out of hours care (Bollam et al,

1988) and length of consultations (Morrell et al, 1986). The relationship between patient satisfaction and continuity of care has been explored (Hjortdahl and Laerum, 1992) and studies have been undertaken of patients views of different methods of providing out of hours care (Allen et al, 1988). This level of interest does suggest that patient satisfaction is increasingly accepted as a factor that should be taken into account in the evaluation of health services. However, the methods used to assess satisfaction in some of these studies has been criticised (Hurwitz, 1994). In a recent review of 40 publications of research into patient opinions of general practice it was found that the quality of instruments was often inadequate, questionnaires having a median of only eight questions and levels of reliability not being reported (Wensing et al, 1994).

#### **1.2.4 Health Service Policy**

One consequence of the NHS reforms of 1990 was a further increase in the level of interest in patient satisfaction as a measure of the quality of care. The seeds had already been sown by the introduction of general management throughout the service in the 1980s and the consequent importation of the methods of market research (Ham, 1985). Indeed, the Griffiths report suggested that market research techniques be employed to enable managers "to ascertain how well the service is being delivered at a local level" (Department of Health and Social Security, 1983).

The subsequent reforms to the health service have continued to reflect this interest in

the views of patients. One of the government's explicit objectives of the revised contract for general practitioners was to make services more responsive to the needs of the "consumer" (Secretaries of State, 1987). The new contract that emerged from these initial proposals included instructions to health authorities to conduct consumer surveys (Health Departments of Great Britain, 1989). Additional impetus was injected into this process following the creation of the internal market and the emergence of FHSAs from the existing Family Practitioner Committees.

A specific programme has been created to encourage the health service to become more responsive to the requirements of patients - the Patient's Charter initiative (Department of Health, 1991). This is one component of the Citizen's Charter and includes a set of standards for FHSAs (NHS Management Executive, 1992; NHS Management Executive, 1993). Among the topics suggested as suitable for local standards set by practice teams were statements about the level of performance that people should expect in obtaining access to health care, information about arrangements for contacting services, and statements about procedures for dealing with comments, suggestions and complaints. It is implicit within the Patient's Charter that practices should consider undertaking surveys of the opinions of their patients, the findings being used to help identify and then to monitor standards included in the practice's Patient's Charter.

Thus, a combination of social trends, developments in management practice, the emergence of quality assurance, increasing interest of researchers, and wide ranging new policies in the NHS have together served to establish the necessity of collecting

information about patient satisfaction with health care. However, the measurement of satisfaction is not straight forward. There are a number of important methodological issues and these are considered in the next section.

### **1.3. Methodological problems.**

#### **1.3.1. Introduction**

In order to measure patient satisfaction a clear understanding of the nature and meaning of the concept is needed and a set of measuring instruments is required that provide detailed, reliable and valid information. Unfortunately there are difficulties in both these domains, and they are discussed below.

#### **1.3.2 What is patient satisfaction?**

In a review of the methodological difficulties of studying patient opinions, Locker and Dunt (1978) recognised the need for an adequate conceptual and theoretical basis, but of the research reports they evaluated the concept of satisfaction was rarely defined. The authors of a more recent review felt that "this failure to define the concept of patient satisfaction properly and base it on a theoretical foundation is the main reason for the unsatisfactory development in this area" (van Campen et al, 1992 p.31). In other words, there is no generally accepted theory which defines the nature of patient satisfaction or places it within a context that relates patient characteristics such as



expectations or experiences, the content of care and its delivery, with the subsequent level of satisfaction and its impact on patient behaviours such as compliance with treatment. An adequate theory would also indicate which features of care are most important in determining satisfaction and which should, therefore, be emphasised in methods of measurement. A theory would help to decide what questions should be asked in a survey and also interpret the meaning of the responses. The lack of a general theory has been seen as a major problem for research into satisfaction and the design of measurement methods.

The lack of attention to the conceptualisation of patient satisfaction was also noted by Aharony and Strasser (1993), but these authors pointed out that some conceptual work had been undertaken and reviewed several studies. Linder-Pelz (1982a) developed a definition of satisfaction from attitude theory and the findings of job satisfaction research. An attitude was defined as "a general evaluation or feeling of favourableness or unfavourableness toward the object in question ... and should be measured by a procedure which locates the subject on a bipolar affective or evaluative dimension *vis-a-vis* a given object". Linder-Pelz then hypothesised five variables which might effect satisfaction ratings: expectations about the service; value or importance of an aspect of health care; entitlement, or an individual's belief that he or she has grounds for seeking a particular outcome; occurrences, or the reported perceptions of what took place in the specific health care encounter; and interpersonal comparisons, that is comparison by the individual with all other such encounters experienced by him/her. These hypotheses were tested in a study in a primary care setting with 125 patients (Linder-Pelz, 1982b). The findings did suggest that

expectations, values and occurrences had independent effects on satisfaction whereas feelings of entitlement did not.

In an American study of how patients reach their evaluations of care Ware also viewed satisfaction as an attitude (Ware and Snyder, 1975), but one composed of a series of judgments on different aspects or dimensions of care. A series of 80 questions was administered by interviews to a sample of 433 randomly selected adults. 20 dimensions were identified through factor analysis of the responses. In a series of further studies Ware and colleagues developed and tested a satisfaction questionnaire (Ware et al, 1983). The dimensions of satisfaction were identified through a series of pilot surveys and the review of approximately 100 published studies (Ware, 1981). Table 1.1 shows the dimensions identified and the number of studies encountered that included assessment of specific dimensions (Ware et al, 1978).

In addition to suggesting that satisfaction is multi-dimensional, Ware indicated that it is a continuum, that is the level of satisfaction varies along a continuum rather than being dichotomised into "satisfied" and "dissatisfied" (Ware, 1981). Further, there may be a hierarchy to the dimensions of satisfaction, some dimensions being more important to patients than others.

Dimensions of satisfaction	Number of studies
Art of care	35
Technical quality of care	33
Accessibility/convenience	24
Finances	15
Physical environment	6
Availability	5
Continuity	8
Efficacy/outcome of care	11

Table 1.1. The dimensions of satisfaction included in 100 studies on patient satisfaction (Ware et al, 1978).

The weak conceptual foundation for the study of patient satisfaction has been criticised in the context of the use of satisfaction as a measure in quality assurance (Scott and Smith, 1994). These authors suggested that it does not necessarily follow that those aspects of care for which patients report the lowest levels of satisfaction should automatically be considered as priorities for improvement. They argued that patients may report dissatisfaction even when the aspect of care in question is not important to them. For example, patients may not place great importance on satisfaction with premises but feel that satisfaction with the quality of the consultation

is more important. If they are only moderately satisfied with the consultation and very dissatisfied with the premises it may, nevertheless, be more appropriate to improve consultation skills rather than improve the premises. In a study of patient satisfaction with primary health care in England, key dimensions were found to be communication, the quality of the doctor-patient relationship and the general practitioner's professional skills (Williams and Calnan, 1991).

Calnan (1988) has drawn attention to the need to consider the patient's reasons or motives for seeking medical care, rather than their expectations of care. Patients should not be seen in isolation from the cultural setting, because the generally accepted socio-political values or ideologies upon which the health system is based will influence the judgments that patients make. In addition, lay images of health will also shape their judgments about care. Thus, in developing a conceptual framework for patient evaluations of care, the patient's previous experience of care, the reasons for seeking help, socio-political values and lay images of health should be taken into account. Among other patient characteristics that may influence satisfaction are age, sex and other sociodemographic features, although in a meta-analysis of patient satisfaction studies these were found to be relatively weak determinants of satisfaction (Hall and Dornan, 1990). Patient age was the strongest correlate of satisfaction, increasing age being generally associated with increasing levels of satisfaction.

The nature of the patient's illness may also influence attitudes to care. In a study in general practice in Britain, patients who waited longer before they were seen were more likely to report that the doctor was in a hurry (Hopton et al, 1993). Moreover,

patients who reported higher levels of distress on the pain dimension of the Nottingham Health Profile (Hunt et al, 1986) were more likely to report that the doctor had not done anything to reduce their worries, whilst patients with higher social isolation and emotional reaction scores were more likely to report that if the doctor had more time there was something else they would have liked to talk about.

Arising from research into communication and patient compliance with medical advice, Ley has developed a model that links these factors with patient satisfaction (Ley, 1982). He presented a model in which a significant proportion of the variance in both patient satisfaction and compliance is accounted for by comprehension and memory variables. Communication that improves patient understanding leads to greater satisfaction which in turn increases the likelihood of compliance. Ley accepted that this model was incomplete and also that evidence of the effects of improved comprehension and compliance was limited, but the model does provide a starting point for further research. The same author undertook a study of health beliefs, satisfaction and compliance in a group of 174 subjects with asthma (Smith et al, 1987). Health belief variables did not predict future compliance with care, but the level of satisfaction reported after the initial consultation did predict later levels of compliance. Levels of patient satisfaction have also been shown to predict the likelihood that patients will change from one provider of health care to another (Marquis et al, 1983; Ware and Davies, 1984; Ritchie et al, 1981).

Also in the context of communication between patients and doctors, Inui and Carter (1985) have proposed a model based on that of Pendleton (1983 p.6). Both doctors

and patients act in a social and/or organisational context, and bring certain information and expectations to the encounter. These processes are repeated as the patient continues to attend for care, leading to a dynamic development of opinions. The inputs into the encounter include prior experience of care, patient objectives for the visit, patient age, type of medical problem, the number of patient concerns, prior physician knowledge of the patient's concerns, and characteristics of the physician's practice setting.

Empirical evidence is available about the impact on satisfaction of the interaction between patient and doctor in the consultation. In a meta-analysis of facets of communication that have a strong effect on outcome, Roter (1989) reviewed 80 articles published from 1962 to 1986 which included recording the consultation on audio or videotape or direct observation by a neutral observer. The overall correlations of satisfaction with information giving was 0.33, with partnership building 0.27, positive talk 0.26 and social talk 0.17. Satisfaction was more consistently related to aspects of communication than were the other outcome variables studied - compliance and recall. Kaplan and colleagues have reported three randomised controlled trials of doctor-patient interaction in patients with ulcer disease, hypertension and diabetes (Kaplan et al, 1989). The authors report that the conversational behaviour of both patient and doctor showed a relatively consistent relationship to patients' functional limitations at follow up. Patients who were more controlling, gave less information, were more effective in eliciting information from the doctor and showed more emotion at the baseline visit reported fewer functional limitations at follow up.

In a recent literature review a relationship between communication in the consultation and patient satisfaction was identified from the evidence of published studies (Ong et al, 1995). Patient satisfaction was viewed as an outcome of communication behaviour in the model proposed in this review. In a study of patients referred to a specialist because of headache, greater levels of patient satisfaction two to three weeks after the consultation were associated with better outcome one year later (Fitzpatrick and Hopkins, 1983a and b). This finding led the authors to suggest that patient satisfaction may be related to a non-specific placebo response.

In the USA attention has turned to marketing theories in an attempt to better understand patient satisfaction and so enable providers to compete more effectively. Marketing studies of consumer behaviour have often been based on psychological theories and so may offer valuable insights into the development of a theory of patient satisfaction (Aharony and Strasser, 1993; Ross et al, 1987). Other socio-psychological models have been proposed by Aharony and Strasser (1993) who also reviewed theories derived from consumer research studies. These theories relate perceptions of aspects of quality such as reliability, tangibles, responsiveness and empathy to intention to return for further medical care. Theories about satisfaction found in the marketing literature have not frequently been employed in health care settings. Tupper (1994) has described a project using such an approach, in which features of the service relevant to "customer" satisfaction were divided into three groups: "dissatisfiers" were those features that customers expected to find, and if they are omitted vociferous complaints can be anticipated; "performance features" are those which satisfy the customer through good performance; and "satisfiers" are innovative

features which exceed the customer's expectations.

The relationship between expectations and subsequent consumer satisfaction has received much attention in marketing research (Ross et al, 1987). In a review of 21 studies of expectations and satisfaction Ross et al (1987) found that marketing studies were more likely to have a strong theoretical basis than studies in medical care. The findings supported the likelihood of an interaction between expectations and satisfaction but the precise nature of that interaction was unclear. Among the issues needing further study was the role of product ambiguity in patient satisfaction. In some situations patients and even their doctors may not know what to expect from medical treatment, a feature referred to as product ambiguity in marketing research. The authors also identified the need for valid measures of satisfaction. In a survey of 353 patients of three hospitals in the USA John (1992) found that patients' past experiences of health care in general, and care they had received from the particular hospital concerned had a significant impact on satisfaction with their most recent experiences. It was concluded that health care providers should manage the development of patient expectations so that they will be more likely in the future to return to the same provider.

Whilst marketing studies undertaken in the USA may provide suggestions about factors that influence patient satisfaction, it would be unwise to accept the assumption that the consumerist attitudes of American patients towards health care, fostered by competition between providers, are equally applicable to the attitudes of patients in Britain towards general practice. The relationship between patients and providers in



general practice is different and other factors may be important in contributing to patient satisfaction. Accordingly, theories of patient satisfaction in general practice are required.

One model for patient satisfaction with general practice has been devised by a working group of Liverpool MAAG (Liverpool MAAG, 1991). This is based on a number of assumptions. Firstly, the decision to consult a general practitioner involves a patient in the investment of effort and the generation of expectations. Secondly, the service is usually only accessible through reception staff. Thirdly, the consultation is viewed as a meeting between the expert general practitioner and the patient who is an expert about him/herself. A three level model was devised from these assumptions, with the consultation playing a central role. Level one is concerned with contacting the service, during which several factors potentially act to limit access and so influence satisfaction, including availability (convenient appointments), accessibility (getting to the surgery), flexibility of response (the receptionists and appointment system take into account the different needs of different patients such as urgent requests, different patient gender, age or race), and ambience (the staff are welcoming, confidentiality is protected). The consultation is considered in level two. Both patient and doctor bring preconceptions to the consultation and also invest self esteem in their respective roles. In level three, the process of looking back on the consultation and the care received takes place. The model suggests that as a result of the consultation both patient and doctor should have gained insight into themselves, the relationship between them may have been modified and the patient's health status may have been altered. Satisfaction or dissatisfaction may originate at any of the

levels, but important factors at an earlier level may generate dissatisfaction at a later one.

There are almost no other comprehensive models or theories concerned with satisfaction of patients in British general practice but this example does have a number of weaknesses. First, it has not been related to the available literature and thus is not founded on other theoretical or observational evidence. Second, no studies have been reported that test whether the model does predict satisfaction levels. Finally, the description of the model does not fully explore the reasons why the satisfaction of the doctor should be given such importance. Therefore, this model needs further development and justification before it can contribute to an understanding of patient satisfaction.

The role of expectations in influencing patient satisfaction in general practice has been demonstrated in a recent British study (Williams et al, 1995). 504 patients attending 25 general practitioners in London were asked to complete a questionnaire about their expectations before the consultation and a satisfaction questionnaire afterwards. Patients with a greater number of their expectations met reported higher levels of satisfaction. However, a large number of other factors may influence satisfaction and so a relationship between expectations and satisfaction does not constitute a comprehensive theory.

### 1.3.2 A pragmatic model

In the present study to develop questionnaires for use in general practice, an essentially pragmatic model or theory of patient satisfaction was used. This model was contemplated at the time the development of the satisfaction questionnaires in this thesis was begun. Figure 1.1. outlines the model. First, it was accepted that satisfaction was an attitude, and therefore methodologies appropriate to the development of attitude measures would have to be used. Second, the attitude varies along a continuum from dissatisfied to satisfied, rather than being an "either/or" variable. Third, satisfaction is an attitude towards health care, but health care is composed of many different elements. Patients' attitudes may vary depending on the element of care concerned. For example, a patient may hold different sets of attitudes towards general practice, in-patient hospital care, nursing home care or community pharmacists. Consequently, measures of satisfaction should be explicitly concerned with a defined element of care. Fourth, during development of the questionnaires it was accepted that satisfaction was a multi-dimensional concept, different aspects of the particular element of care being judged separately by patients and subsequently being considered together to arrive at a statement of overall satisfaction. It was assumed that certain of these aspects might be more important to patients than others, the evidence suggesting that the interaction between doctor and patient in the consultation might be the most important. Fifth, the personal characteristics, health status, past experiences and current expectations of the patient will play a modulating role in the formation of opinions.

When a patient is asked whether or not he or she is satisfied, the patient will normally

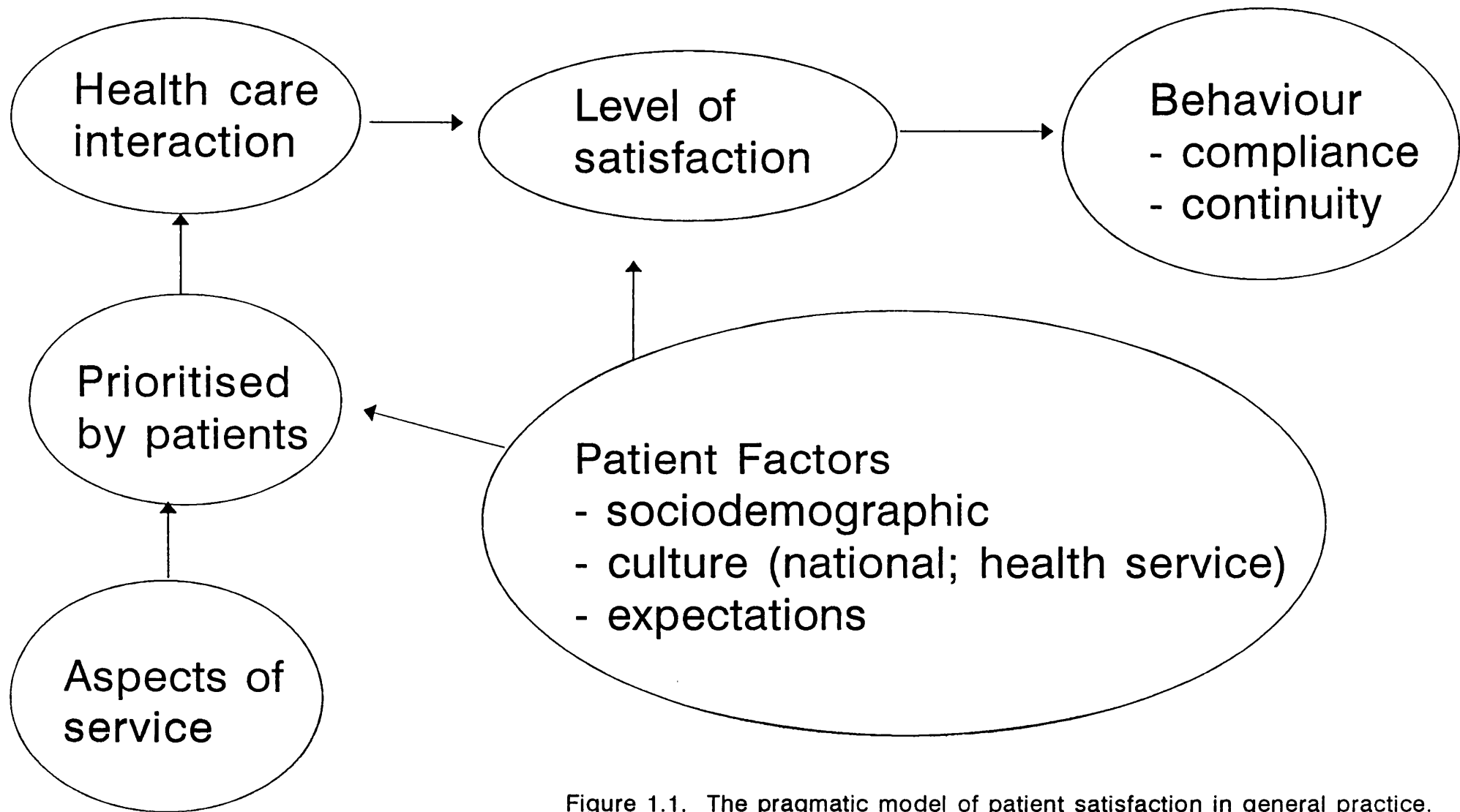


Figure 1.1. The pragmatic model of patient satisfaction in general practice.

pause for a moment and reflect on a potentially large list of events. These will include the difficulties experienced in getting an appointment, the inconvenience of taking time off work, the choice of doctors, the care given by the doctor and the effectiveness of the treatment. All these issues will be reviewed in the light of previous experience of health care, personal characteristics and expectations. The final judgment of the patient will be a summation of all these issues.

Finally, satisfaction is an outcome of care, and has an impact on the patient's future behaviour, including compliance with advice and choice of subsequent health care provider. The relationship between levels of satisfaction and the outcome of illness has not been clearly established, but there may be a relationship through the intermediary of compliance and possibly through a less understood process that may explain the placebo effect (Ernst and Resch, 1995).

### **1.3.3 Methods for measuring patient satisfaction**

The methods available for measuring patient satisfaction can be categorised into two principal groups - quantitative and qualitative. These will be discussed below.

### **1.3.4. Qualitative methods**

The relative merits of qualitative and quantitative research methods will not be discussed in detail here, but reviews have been published which demonstrate their appropriate and complementary use (Britten and Fisher, 1993; Brody, 1991; Arm-

strong et al, 1990 p. 34). The advantage of using the qualitative approach is that respondents have greater freedom to indicate issues which they find important. By avoiding closed questions it becomes possible to explore the issues and identify those of which the researcher had been unaware, leading to a deeper understanding of the subject in question. However, there are several disadvantages of qualitative techniques, for example the use of detailed interviews precludes the inclusion of large numbers of patients, and the issues of reliability and validity can be difficult to address. Alternative methods are available for assessing the trustworthiness of qualitative studies (Kuzel and Like, 1991; Hamberg et al, 1994). Data credibility, confirmability and dependability may also need to be considered (Jennett, 1994).

In the use of qualitative methods to study patient satisfaction, individuals or groups are asked to describe their opinions. The depth of questioning and the extent to which the interview follows the preoccupations of the patient rather than the interviewer can vary depending on the particular methodological approach. The comments of the interviewees are either written down or, preferably, recorded on audiotape (Miles and Huberman, 1994 p. 9). After transcription the comments can be classified or coded into specific groups related to separate themes. Questionnaires composed of open questions may also encourage patients to express their opinions more fully, although this method does not permit the use of follow up questions used to explore the reasons for individual responses as would be possible in an interview. Nevertheless, a study of open-ended questions does indicate that they do identify the attitudes of respondents (Greer, 1988). The focus group is a relatively new technique which adopts qualitative methods for interviews with groups of people. It has been used as a

marketing method in order to identify the views of consumers about a product or service. The groups are usually made up of between seven to ten people, the participants being selected because of certain characteristics relevant to the issue of concern, such as age, sex or socioeconomic variables, and the group is led by an interviewer assisted by a second person who observes the process to check that no important aspects are overlooked (Krueger, 1988; Basch, 1987).

One role for qualitative surveys in the assessment of patient satisfaction is to identify those issues that are of concern to patients. A recent survey undertaken in a hospital elderly care unit involving 50 patients and 35 carers led to insights into causes of dissatisfaction with the service and prompted remedial changes in practice (Powell et al, 1994). The authors concluded that the qualitative approach suited elderly patients and provided important information. In a study in Swedish primary care an open ended question was used in a survey of 3,870 respondents (Krakau, 1991), and the attributes of care to which greatest importance was attached were availability, continuity and quality/safety.

The findings from qualitative surveys can be used to identify the issues which should be included in quantitative questionnaires. In the development of their patient satisfaction questionnaire Ware and colleagues (Ware et al, 1978) analysed over 700 responses to open-ended questions describing sources of satisfaction and dissatisfaction with care. Eight dimensions were distinguished: art of care, technical quality, accessibility/convenience, finances, physical environment, availability, continuity and efficacy/outcomes.

### 1.3.5 Quantitative methods

Whilst qualitative methods can identify the issues of concern to patients, quantitative methods can measure the distribution of those issues in a population. Thus, the methods are complementary, quantitative measures being developed from the findings of qualitative studies. The development of quantitative survey methods is no less skilled than that for qualitative surveys, but once developed they can often be used by people with only limited expertise. Whilst a range of methods have been used, the most rigorous have been borrowed from psychometrics, a branch of psychology concerned with the measurement of traits such as personality, intelligence, or attitudes and which provides a method for measuring qualities when there is no physical scale (Cattell, 1965 p.60). In order to undertake numerical analyses of results from questions confidence is needed that they are understandable and answered reliably so that the findings do indicate the true attitudes of the respondents. If these criteria can be met, the assignment of scores to questions and the development of scales for different attitudes can be justified.

Quantitative measures of satisfaction produce a score to indicate the level or degree of satisfaction of the patients concerned. The particular advantage of a score is that it enables comparison with the minimum and maximum levels that could be attained and between different patient groups and providers of care. Comparison of performance, either against a standard or other providers, is an integral feature of quality assurance and so quantitative measures may have a role in this context. Once quantitative measures are adequately developed and evaluated, they can be widely



used, presenting standardised instruments which have been previously calibrated.

The standards of development to be expected of psychological tests have been described by the American Psychological Association (Committee to Develop Standards for Psychological Testing, 1985) but patient satisfaction questionnaires for use in the Britain that comply with these standards do not exist. In a recent review, Lewis found that most of the carefully developed instruments were of American origin, and not transferable to the NHS unless the influence of cultural and contextual factors on the meaning of individual questions and their reliability and validity were first evaluated (Lewis, 1994). Other authors have also criticised the quality of satisfaction questionnaires (van Campen et al, 1992 p. 30; Wensing et al, 1994; Ware et al, 1978; Bowling, 1992). It has been pointed out that concerns about poor design may lead health professionals to accept assumptions about the limited value of patient surveys (Fitzpatrick, 1991). If surveys are to be used in quality assurance it is particularly important that the questionnaires used are sound (Whitfield and Baker, 1992). The measures must be sufficiently robust for health professionals to have confidence in them, otherwise they are likely to resist making those changes in performance that are indicated by the results.

The survey is a method that has been used more widely than psychometrics in Britain. In studies of this nature questionnaires containing mainly closed questions are sent to relatively large samples of patients to seek their views about the health care they have received (Cartwright, 1983). In the field of general practice the method has generally been employed by medical sociologists. The sampling frames used are generally

electoral registers or postcode address files. The studies of Cartwright were of landmark importance (Cartwright, 1967; Cartwright and Anderson, 1981), but other studies have supplemented the findings of these large scale studies. Arber and Sawyer have studied the impact of changes in general practice on patients' perceptions of aspects of care such as out of hours service and relationship with the general practitioner (Arber and Sawyer, 1979). Ritchie and colleagues (Ritchie et al, 1981) have studied the difficulties patients may face in obtaining access to primary care, satisfaction with care and its impact on changing general practitioner. Cartwright herself has undertaken further studies on opinions of mothers about maternity services (Cartwright, 1986), the support received by the recently widowed from primary care services (Cartwright, 1982), and the experiences of relatives of the terminally ill of community care services (Cartwright, 1991).

Surveys of this type are too detailed and involve too many patients for routine use in the evaluation of health services. However, they may meet some of the requirements of health authorities for information about the views of local people about health services and so might be used occasionally.

## **1.4. The need for a patient satisfaction measure for use in British general practice**

### **1.4.1 Background**

The preceding discussion indicates that there is growing interest in involving patients in the assessment of the quality of care, including the use of methods to collect information about patient satisfaction. A variety of methods is available. Qualitative methods may have a valuable role in providing insight into the concerns of patients and encouraging providers to implement appropriate changes in performance. Quantitative methods can provide information in the form of numerical scores that permit comparisons between providers and with predetermined standards. Evaluated instruments of this nature could be widely used. There have been a number of attempts to develop standardised quantitative instruments suitable for wide use. Among the first of these was the questionnaire for measuring attitudes toward family physicians and primary medical care (Hulka et al, 1970). This was developed for use in the USA and the original version contained 41 questions. As a direct result of further experience of the questionnaire, several modifications were introduced, including an alternative response format and the identification of a set of scales from the individual question items (Zyzanski et al, 1974). The three scales were called "professional competence", "personal qualities" and "cost/convenience".

A questionnaire was developed by Ware, also for use in the USA, to assess patient satisfaction with health care providers (Ware et al, 1983). This used the methods of psychometrics, the final version including 68 questions or statements in seven

principal components: access to care, financial aspects, availability of resources, continuity of care, technical quality, interpersonal manner and overall satisfaction. In the light of experience with this instrument a questionnaire concerned solely with hospital care has subsequently been developed - the patient judgments of hospital quality questionnaire (PJHQ) (Nelson et al, 1990).

The medical interview satisfaction scale (MISS) was developed to measure satisfaction with a particular consultation (Wolf et al, 1978). After three field trials the final version contained 26 items in three scales: cognitive (doctor gives information, patient understanding improved), affective (patient able to express thoughts and be understood by the doctor) and behavioural (quality of the examination, length of the consultation).

However, none of these questionnaires was designed for use in general practice in Britain, although MISS has been used in at least two studies (Treadway, 1983; Williams et al, 1995). Whilst some questions in these American questionnaires might be appropriate in this country, others, for example those concerned with cost, would be inappropriate. Furthermore, the questionnaires might omit consideration of issues of concern to British patients, and so their direct transfer for use with British patients would be unwise.

When the development of the questionnaires described in this report was commenced no evaluated questionnaires were available for use in general practice in this country. However, a set of questionnaires for use by FHSAs has since been produced (Leavey

and Wilson, 1993). There are 14 questionnaires concerned with different aspects of services including telephone advice, consultations, waiting times, access, premises and others. Some limited information about the performance of the questionnaires has been provided, including some tests of reliability, but further evidence about reliability and validity is required.

Two questionnaires have been developed in Newcastle (Bamford and Jacoby, 1992). Questions were identified by the researchers and members of Newcastle medical audit advisory group, and one questionnaire was concerned with the content of the consultation and the other with aspects of the practice. Evaluation of the instruments suggested that some questions, particularly those involving "skips" (some types of respondent are asked to answer specific questions and omit others) presented difficulties to patients and were associated with relatively high non-response rates. More detailed studies of reliability and validity in larger patient samples have not been undertaken.

### **1.5. Aims of the study**

The first aim of the present study was to develop measures of patient satisfaction for use in British general practice. A number of requirements were placed on the instruments that were to be developed:

1. They should be sufficiently robust in terms of reliability and validity to justify their use by general practitioners throughout the country;

2. They should be brief and easy to complete;
3. Analysis should be simple so that only limited expertise would be needed to use them;
4. They should be suitable for use in quality assurance, producing scores of satisfaction that would permit comparison between individual practices or general practitioners;
5. The properties of the questionnaires should be adequately documented in order to support their use in research into patient satisfaction.

The second aim of the study was to identify some of those characteristics of patients, general practitioners and their practices that influence satisfaction. This information would be valuable in helping users of the questionnaires interpret the significance of the findings and also provide guidance about how practices should be organised to increase satisfaction.

The third aim of the study was to undertake a preliminary critical evaluation of the pragmatic model of patient satisfaction in general practice in order to identify issues for further research to develop a theory of patient satisfaction.

### **1.5.1. Implications for the development of the questionnaires**

In consequence of these aims it was decided that quantitative methods were the most appropriate for the development of the questionnaires. In view of the need to limit the size of the questionnaires and the potentially large number of aspects of care that might be included it was decided initially to develop two questionnaires. One was to be concerned with the services provided by the general practice as a whole. In view of the limited evidence indicating that the performance of the doctor in the consultation is the aspect of care most important to the level of patient satisfaction it was also planned to develop a questionnaire concerned specifically with the consultation. Thus, some aspects of services such as home visits, out of hours care and referral to secondary care were excluded. These may be addressed in future studies.

The following two Chapters detail the development of the two questionnaires. In the subsequent Chapter, studies undertaken to assess their validity are described, following which the findings from their use by a large sample of practices and general practitioners are described.

## **CHAPTER TWO: THE DEVELOPMENT OF THE CONSULTATION SATISFACTION QUESTIONNAIRE**

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### **2.1. Introduction**

In the previous Chapter the aims of the study and the reasons for developing two different questionnaires were described. In this Chapter the steps taken in the development of the consultation satisfaction questionnaire (CSQ) are reported. First, the methods used to identify the issues that concern patients are discussed, including not only those relevant to the consultation questionnaire but also those relevant to the surgery satisfaction questionnaire. Second, the sequence of pilot tests of CSQ are described, including the final test with patients attending a group of eight general practitioners. The development of SSQ is reported in Chapter Three, which also includes a critique of the methods used in the development of both questionnaires.

### **2.2. Method**

#### **2.2.1. The Setting**

The initial development of CSQ took place in a single suburban practice in Cheltenham, Gloucestershire. There were six general practitioner principals (five male, one female), plus a woman doctor working part time under the provisions of the retainer scheme, and at any one time a single trainee. During the period of the study the first trainee was male and the second female. The oldest doctor was aged



62 when the development of CSQ began, and the youngest (a trainee) was 26. Two of the principals and the retainer doctor were members of the Royal College of General Practitioners. Two principals were approved vocational trainers.

In 1985 the practice had moved into new premises. There was a comprehensive primary health care team, including ancillary staff (five practice nurses, one nurse manager, one practice manager, secretaries and receptionists), and attached staff (district nurses, health visitors, midwife, community psychiatric nurse, social worker, marriage counsellor and physiotherapist). There was also an active patient participation group (PPG) (Pritchard, 1981)

There were 12,000 patients registered with the practice, predominantly from social classes IIIb and upwards with a small proportion of patients in classes IV and V. 17% of the practice population were over the age of 65. There were very few patients from ethnic minority groups, with all but the isolated individual having good command of English.

### **2.2.2. Identifying the Issues**

In order to contribute to content validity the questionnaires should contain questions about each of the topics that patients take into account when judging satisfaction. Once the various issues have been identified, relevant questions about each must be developed and assessed to ensure respondent understanding and a range of opinions (Kline, 1986).

There are a number of sources of information about the issues used by patients to judge care, including previously reported health surveys, other questionnaires, and qualitative information obtained from patients. Previous research has not usually distinguished between satisfaction with different aspects of services such as the consultation and the general practice as a whole. The issues identified by these sources are concerned with many aspects of care in general practice and not only the consultation. Therefore, although this chapter is concerned with the development of the consultation questionnaire, in this section all issues encountered are discussed together to avoid duplication, as they were also used to identify questions to be included in the surgery satisfaction questionnaire (see Chapter Three).

To identify studies of patient satisfaction prior to the development of the questionnaires a literature search was requested from the Royal College of General Practitioners' library service on the topic "patient satisfaction in general practice". In addition, a hand search for relevant publications in the preceding five years (1983-88) was undertaken of the following journals: *British Medical Journal*, *British Journal of General Practice*, *Family Practice*, *the Lancet*, *Medical Care* and *Social Science and Medicine*. Appropriate references in papers identified from these sources were also checked. In the following discussion the findings from surveys of patient satisfaction and the development of other questionnaires are considered first, followed by information from qualitative sources is considered. In addition, studies that have been published since the development of the questionnaires are discussed.

### *Surveys and Other Questionnaires*

Cartwright's survey of general practice in 1977 included consideration of continuity of care, relationship with general practitioners, accessibility, problems with appointment systems, satisfaction with home visits, prescribing habits, night calls and use of deputising services (Cartwright and Anderson, 1981). Gray and Cartwright (1953) studied patients' reasons for choosing or changing general practitioners. This survey was based on 7,027 interviews with a randomly selected sample of adults in England and Wales. 97.7% of respondents were registered with a general practitioner. 15% had chosen their doctor on the basis of convenience or access, 22% accepted the successor to a practice, 14% relied on the recommendation of a friend or relative, whilst among the less frequently given reasons were registering with the husband's or wife's doctor on marriage, or the doctor being the only one available.

Arber and Sawyer sought views about changes in general practice such as the introduction of appointment systems and creation of health centres (Arber and Sawyer, 1979). Among the specific features they considered were problems with appointment systems, the role of receptionists, requests for home visits, telephone contact and emergency out of hours care. They found that patients encountered more problems in obtaining appointments in practices that were larger and in consequence had more complex systems for practice organisation (Arber and Sawyer, 1981). Ritchie and colleagues were also interested in the patient's view of getting to see the doctor, including transport difficulties, appointment and telephone systems (Ritchie et al, 1981). Socioeconomic factors such as the availability of a car or telephone that might influence the ease of access to doctors have been an issue of particular interest

in these health surveys. However, perceptions of consultation competence were, generally, not given special importance.

In a study undertaken in a single general practice 340 patients were interviewed (Kaim-Caudle and Marsh, 1975). The interview schedule included 124 questions concerned with the topics of premises, receptionists, appointments, the personal doctor system, the doctor's method of work and the use of paramedical staff. A quarter of respondents reported having had a problem with the appointment system and the same proportion felt that the doctor was "reluctant or sometimes reluctant" to visit them at home. In a general practice survey Allen et al (1988) sought patients' views on appointment availability, including urgent appointments, out of hours calls and telephone access. In another study in general practice Bollam et al (1988) investigated patients' assessment of out of hours care and found that patients under the age of 60 reported that visits from general practitioners were more acceptable than visits from deputising doctors. In general, older patients expressed greater satisfaction. 77% of older patients rated their recent visit as very worthwhile compared to 54% of younger adults and 45% of respondents who had requested visits for children.

Reviews of patient satisfaction studies were also consulted. The dimensions of care identified in a review of over 100 studies as contributing to patient satisfaction were (Ware et al, 1978): art of care, technical quality of care, accessibility, finances, physical environment, availability, continuity and efficacy or outcomes of care. Hall and Dornan (1988) reported a meta-analysis of 221 published studies of patient

satisfaction. All the studies were quantitative, had been published in an English language journal and the patient sample size was 10 or greater. The frequencies of studies including different aspects of care are shown in table 2.1. 107 of the studies reported levels of satisfaction for two or more aspects of care, and the authors were able to develop a ranking of levels of satisfaction. Those aspects for which patients reported the highest levels of satisfaction were overall quality, followed by humaneness then competence (table 2.2). One explanation suggested by the authors for this finding was that these aspects of care are performed better than those that were ranked low (informativeness, attention to psychosocial problems). An alternative explanation put forward was that patients feel they cannot judge technical aspects of care such as competence, and so automatically give these aspects high ratings. Ley (1982) reviewed the literature on communication, compliance and patient satisfaction and concluded that the quality of communication was an important factor influencing satisfaction and subsequent compliance with advice.

Satisfaction questionnaires developed for use in America were also consulted if detailed reports about their development were available, including the identification of possible questions using qualitative and other methods. Questionnaires in this category included Ware's patient satisfaction questionnaire (Ware et al, 1983), Hulka and colleagues' questionnaire (Hulka et al, 1970), and the medical interview satisfaction scale (Wolf et al, 1978). The dimensions of satisfaction included in these questionnaires were discussed in Chapter 1, section 1.4.1.

Table 2.1.

Aspect of care (n=221)	Percentage of studies
Humaneness (warmth, respect, kindness, willingness to listen, interpersonal skill)	65
Informativeness (explanations of treatment, procedures etc)	50
Overall quality	45
Competence	43
Overall	43
Bureaucracy	28
Access (Convenience, distance, availability)	27
Cost	18
Facilities	16
Outcome	6
Continuity	4
Attention to psychosocial problems	3

Table 2.1 Percentages and frequencies of studies in which satisfaction with different aspects of care were measured (Hall and Dornan, 1988).

**Table 2.2.**

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Aspect of care	rank
Overall quality	1
Humaneness	2
Competence	3
Outcomes	4
Facilities	5
Continuity	6
Access	7
Informativeness	8
Cost	9
Bureaucracy	10
Attention to psychosocial problems	11

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Table 2.2. The aspects of care which patients reported different levels of satisfaction, showing the rank order with most highly rated aspects first (n=107). (Hall and Dornan, 1988).

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In the development of his patient satisfaction questionnaire Ware constructed an 80 item pilot version which was completed by 433 adults from three counties in southern Illinois (Ware and Synder, 1975). Factor analysis was used as a validation procedure, the authors requiring that questions in the same grouping should load highly (correlations of 0.4 or higher) on the same factor, but have low loadings with the other question groupings. The common factors identified were labelled physician conduct, availability of services, continuity/convenience of care, and access mechanisms. The satisfaction scale developed by Hulka and colleagues (Hulka et al, 1970; Zyzanski et al, 1974; Hulka et al, 1975) was composed of 42 statements about doctors or services in general rather than a specific source of care. The dimensions of satisfaction that were identified were professional competence, personal qualities of the physician and the cost or convenience of services. This third dimension included consideration of the doctor's willingness to make home visits at night, availability of appointments for care and the costs of consultations.

### *Qualitative sources*

In identifying the issues of concern to patients, a number of supplementary informal sources of information about patients' opinions were used. The first of these was personal experience of comments made spontaneously by patients. For example, patients will sometimes tell the general practitioner about the difficulties of making an appointment, for example or that "the telephone is always engaged on Monday mornings". Similar comments are made to receptionists, nurses and other team members, who may also be the recipients of comments on what the patient thinks of the doctor or practice. Members of the practice were therefore invited to review the



questionnaires and suggest issues that had been omitted. Moreover, each version of the questionnaire was discussed with colleagues in the General Practice Unit, University of Bristol, to obtain a wider range of suggestions. Secondly, during the course of developing the questionnaires a presentation was made to the practice's patient participation group, including an outline of the project and subsequent discussion about the issues. From these sources a library of possible questions was devised. The original list contained 74 questions about the consultation (table 2.3). Thirdly, as an additional source of information, two open questions were included in the first version of the questionnaire to ask respondents whether there were any things they particularly liked or disliked about the doctor.

**Table 2.3.**

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- 1). Are there any things about your doctor that you particularly like? (Open question)
- 2). Are there any things about doctors that you don't like so much? (Open question)
- 3). My doctor lets me tell him/her everything I think is important.
- 4). The doctor was very careful to check everything when doing an examination.
- 5). My doctor would rather give me a tranquilliser than listen to my problems.
- 6). My doctor is too busy to listen to me.
- 7). My doctor is always very careful to tell me exactly how to take my tablets.
- 8). Sometimes, my doctor doesn't tell me what my tablets are for.
- 9). I don't know why I am taking some of my tablets.
- 10). My doctor doesn't know how I feel.
- 11). My doctor always looks at the records and never at me.
- 12). My doctor is very good at telling me exactly what is wrong with me.
- 13). I wish my doctor would explain a little more about my illness.

- 14). If my doctor had more time, he would tell me more about my illness.
- 15) I don't understand the instructions my doctor has given me about my treatment.
- 16). My doctor is always careful to examine the parts that are wrong with me.
- 17). I would recommend my doctor to a friend.
- 18). My doctor is interested in me, and not just my illness.
- 19). I find it difficult to tell my doctor about personal things.
- 20). My doctor is very easy to talk to.
- 21). There are some things I don't tell my doctor.
- 22). My doctor doesn't like me to ask questions.
- 23). My doctor doesn't like people.
- 24). My doctor is very friendly.
- 25). My doctor is rather old fashioned in his methods.
- 26) The doctor was right up to date.
- 27). My doctor is right up to date with his knowledge.
- 28). My doctor is very competent.
- 29). My doctor knows what he is doing.
- 30). I'm very satisfied with the care the doctor gave me.
- 31). The doctor knows all about my illness.
- 32). The doctor knows all about me and my family.
- 33). The doctor was very thorough.
- 34). The doctor examined me very carefully.
- 35). I felt very happy with this doctor.
- 36). I felt I could tell this doctor everything that was worrying me.
- 37). Doctors don't advise patients about ways to avoid illness or injury.
- 38). Doctors are too quick to give you a prescription for tablets.
- 39). My doctor is always so busy.
- 40). Doctors act like they are doing patients a favour by treating them.
- 41). Doctors always tell their patients what to expect during treatment.
- 42). Doctors always treat their patients with respect.

- 43). Most doctors let you talk out your problems.
- 44). When a doctor gets through treating you, you are likely to feel worse than before.
- 45). A lot of doctors give you medicine but do not put your mind at ease.
- 46). Doctors will not admit when they do not know what is wrong with you.
- 47). A lot of doctors do not care whether they hurt you during the examination.
- 48). Doctors should be a little more friendly than they are.
- 49). Many doctors treat the disease, but have no feeling for the patient.
- 50). Most doctors let you talk about your problems.
- 51). Doctors are devoted to their patients.
- 52). With so many patients to see, doctors cannot get to know them all.
- 53). Most doctors take a real interest in their patients.
- 54). Doctors make you feel that everything will be all right.
- 55). Doctors spend as much time as necessary with each patient.
- 56). My doctor wouldn't know me if I met him in the street.
- 57). Doctors have too much power.
- 58). You should not believe everything a doctor tells you.
- 59). I don't believe everything my doctor tells me.
- 60). My doctor is very good with children.
- 61). My doctor is very good with old people.
- 62). My doctor usually gets me better when I am ill.
- 63). I always feel better when I have seen my doctor.
- 64). I think doctors should show you what is in your notes.
- 65). Doctors keep too many things secret.
- 66). Doctors seldom explain why they order blood tests and X-rays.
- 67). Sometimes doctors miss important information their patients give them.
- 68). Doctors respect their patients feelings.
- 69). Doctors always explain the side effects of the medicine they give you.
- 70). Sometimes doctors make the patient feel foolish.
- 71). Doctors hurt many more people than they help.

- 72). Doctors hardly ever explain the patient's medical problems to him.
- 73). Doctors always do their best to keep patients from worrying.
- 74). Doctors aren't as thorough as they should be.

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Table 2.3. Possible questions or statements identified for consideration for CSQ. All questions are phrased to accompany a five point response scale, "strongly agree" to "strongly disagree".

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### *Recent studies*

A number of studies of patient views about general practice have been published since the development of the questionnaires began. Although these studies did not contribute to the identification of the questions to be included, they provide evidence that supports the importance of the issues that were originally identified.

Information about the criteria used by patients for judging general practice and general practitioners was identified in a study in one general practice (Smith and Armstrong, 1989). Ten statements were derived from the government's white paper Promoting Better Health (Department of Health, 1987). A further ten statements or criteria were identified from interviews with 24 patients. 725 patients completed a questionnaire designed to assess their prioritisation of the 20 criteria. In rank order, the most highly ranked criterion first, the first ten preferences of patients were: doctor listens; doctor sorts out problems; usually the same doctor; appointment within two days; regular screening for cancer\*; health checks for adults\*; staff friendly; tests at surgery; staff know me; doctor goes on courses\*. Those criteria marked with (\*) had been taken from the government white paper. This finding highlights the need to ascertain patients' preferences rather than rely on assumptions (Armstrong, 1991).

In a survey in four countries (UK, USSR, Greece and Yugoslavia) undertaken in 1988 the key dimensions of satisfaction were found to be the nature of the doctor-patient relationship and the general practitioner's professional skills (Calnan et al, 1994).

The factors that patients take into account in choosing a general practitioner with whom to register may also have a role in determining patient satisfaction. Salisbury (1989) undertook a survey of all patients registering with five general practices in Reading in order to discover how patients decided which doctor to attend. Patients were sent a questionnaire containing both open and closed questions developed following a series of pilot interviews. 72% of the 447 patients responded. Of these, 44% selected the practice because it was the nearest to their home, and 23% selected the practice on the recommendation of an acquaintance. Only 29% of patients asked to register with a particular doctor. In this survey only 5% of patients reported changing doctor because they were dissatisfied with their previous doctor. A survey of patients who changed their general practitioner without moving their home address was undertaken in Avon FHSA in 1990 (Billinghurst and Whitfield, 1993). Completed questionnaires were received from 1,678 patients. The most common reasons for changing a doctor were difficulties caused by the distance of the practice from the patient's home (40.5%), long waits for appointments (13.1%), loss of confidence in the doctor (21.4%) and the doctor not being interested in them (10.4%). The main reasons for choosing the new doctor were convenience (52.6%), good or better services (36.6%), recommendations (36.3%) and other members of the family being registered with the new doctor (13.6%).

In a recent review of studies of patient satisfaction with general practice 40 published research reports were identified (Wensing et al, 1994). The aspects of care that were included in the different instruments used to assess satisfaction were in three groups: professional performance (competence, safety, accuracy, outcome); attitude of the professional (humaneness, informativeness, empathy); and organisation of services (continuity, availability, facilities and others). In addition, 50% of studies included an overall or global assessment of satisfaction.

### 2.2.3 Question format

The advantages of using several questions rather than a single question to assess a specific attitude are well established and include improved reliability and reduced risk of drawing mistaken conclusions because the wording of the single item is interpreted differently by the researcher and the respondents (McKennell, 1977). There are several methods for attitude scale construction (Streiner and Norman, 1989 p. 23), but the method that was chosen was the Likert approach using questions in the form of statements followed by five or seven possible responses about the level of agreement or disagreement (Likert, 1932). The use of this method to devise scales is relatively easy, analysis is usually straight forward, and it is therefore a common choice for attitude scales (McKennell, 1977). It has been employed in other patient satisfaction surveys (Ware et al, 1983; Hulka et al, 1970), and has the additional advantage of being relatively easy for respondents to complete. Using this method, several questions concerned with the same general issue are used to form a scale or numerical score describing the respondent's attitude. Likert scales are sometimes

referred to as summative scales because they are scored by adding the response scores of the component questions (McKennell, 1977).

In his original description of this method, Likert (1932) stressed firstly the importance of selecting statements that persons with different points of view would respond to differently, in other words questions should differentiate satisfaction from dissatisfaction. Secondly, statements should be clear, concise and unambiguous (Del Greco and Walop, 1987). Thirdly, he suggested that statements be worded so that the modal response is approximately in the middle of the possible responses. Fourthly, a mixture of positive and negative statements are desirable in order to reduce the risk of stereotypical responses, for example as a result of a socially desirable response set. The original possible responses to the statements used by Likert were "strongly approve" to "strongly disapprove" in five steps. The statistical techniques of split-half reliability and correlation were then recommended by Likert to determine whether several questions were concerned with a particular attitude and could be analysed together to form a scale that measures the attitude in question (the attitude he used as an example was views about "Negroes"). Depending on the findings of these techniques, statements are either eliminated or revised.

For the satisfaction questionnaires being developed, a format of "strongly agree" to "strongly disagree" was selected, and the mid point in the scale was classified as "neutral" as some respondents will have no opinions either way on some topics. A five-point scale was chosen because whilst reliability increases with the number of steps in the scale, the increase declines sharply at seven points (Kline, 1986; Streiner

and Norman, 1989 p. 27). Moreover, the ability of respondents to make fine distinctions between closely spaced levels of satisfaction is likely to vary, and it was intended that the questionnaires should be used by a wide range of patients, including those with only limited educational attainment.

Some statements were worded positively and others negatively. Ware (1983) has pointed out that some patients have a tendency to agree with statements or questions ("acquiescence response set"), and the use of a mix of positive and negative questions may help to account for this problem. In order to derive a score from each question, for positively worded questions a score of 1 was allotted to strongly agree, 2 to agree, 3 neutral, 4 disagree and 5 strongly disagree. For negatively worded questions the order was reversed, so that low scores indicated satisfaction and high scores dissatisfaction. Therefore, using this method the resulting scores should more correctly be referred to as dissatisfaction scores.

Questions may be phrased so that they relate directly to a consultation between the responding patient and his or her general practitioner or so that they seek attitudes about general practitioners and consultations in general. In a study comparing these alternative types of question Stewart and Wanklin (1978) found that reported levels of satisfaction increased with the directness of the measure used. The questionnaire used was that developed by Hulka and colleagues (Hulka et al, 1970), but in the study, for one group of patients the questions were rephrased to refer directly to the patient's personal physician rather than physicians in general. The patients were 319 adults attending family physicians in Canada. Satisfaction with the personal physician



was greater than that for physicians in general. Thus, patients may be diffident in criticising their own doctors, or hold critical, but perhaps less well informed, opinions about doctors in general. This may be an example of socially desirable response set (SDRS), in which a possible source of bias arises from the tendency of some respondents to give answers which they feel are more socially acceptable (Lydeard, 1991; Streiner and Norman, 1989 p. 55). In a study involving 3,918 patients comparing the influence of SDRS on general satisfaction ratings for care received personally and that received by patients in general, Hays and Ware (1986) found that SDRS was about 2% greater when patients were answering questions about care received from their personal physician. However, the study did not show whether the finding would hold for dimensions of satisfaction other than general satisfaction.

In the choice of questions for CSQ and SSQ it was decided that the wording should relate to care experienced directly by the respondent. This decision was taken as the evidence about the impact of SDRS on level of satisfaction, although confirmed for general satisfaction, is small (Hays and Ware, 1986), and that by asking indirect questions the face validity of the questionnaires might be compromised. CSQ and SSQ are concerned with the views of individual patients about their recent consultation or their general practice respectively, so that questions about the attitudes of the respondents about consultations of other patients with different general practitioners or different practices would raise problems in interpreting the findings.

#### **2.2.4. Questionnaire refinement**

The questionnaire was refined through a series of pilot tests. Each version was submitted to successive patients attending the surgery for consultations (table 2.4). For the first version of CSQ (CSQ1) patients attending one doctor were included, for CSQ2 and 3 the patients of three doctors were included, for CSQ4 and 5 the patients of six doctors were included and CSQ6 was issued to the patients of eight doctors. Comparisons between scores attained by the doctors were only made using the final version (CSQ6), when the questionnaire was sufficiently developed to have confidence in the preliminary findings.

The patients asked to complete the questionnaire were those attending for consultations at the surgery. Patients were handed a questionnaire by the receptionist on arrival with a request that they complete it after the consultation but before leaving the surgery. Steps were taken to reassure patients that their comments would be anonymous, and so reduce as much as possible the tendency of patients to avoid criticism of the consultation and only express views that they believed would be acceptable. A collection box was placed in the reception lobby so that patients could return questionnaires without needing to hand them personally to the receptionist. This approach was adopted so that they would be confident that they would not be recognised. Information about the study was presented on posters prominently displayed on the practice premises. The questionnaires included instruction to the respondent not to write his or her name on the form, together with confirmation of anonymity and encouragement to express opinions freely.

Table 2.4.

Version of Consultation Satisfaction Questionnaire (CSQ)	Number of questions	Number of questionnaires:		response (%)
		issued	completed	
1	35	50	37	74.0
2	35	100	71	71.0
3	20	120	104	86.7
4	13	240	197	82.1
5	19	240	166	69.2
6	18	320	239	74.7

Table 2.4. The sequence of pilot tests of the consultation satisfaction questionnaire (CSQ) showing the number of questions included on each version, and the number of respondents.

The receptionists were instructed to include all patients consecutively attending each surgery session. However, a number of specific groups of patients were excluded.

These were:

- (i) all those aged under 16 years;
- (ii) patients who were too ill to take part;
- (iv) patients who had already completed a questionnaire in the same pilot test, to ensure that no patient would be included twice;
- (v) patients who could not read or write.

After each pilot test several methods were used to evaluate the selected questions.

Firstly, as a simple check for ambiguity, comments were obtained on the meaning of

each question from colleagues in the General Practice Unit, Department of Epidemiology and Public Health Medicine, University of Bristol, and from the doctors in the practice. Secondly, the pattern of response to questions was studied to discover whether a range of opinions were being disclosed, or whether patients answered the question in the same way, for example, always expressing satisfaction. To reveal skewness in replies, the number of responses to each scale point (1 - 5) for each question were calculated. Thirdly, wording of questions was repeatedly reviewed for ambiguity and other problems. This process was assisted by checking for any difficulty experienced by patients in answering questions as shown by additional comments they had written on questionnaires, for example stating that the question was confusing or difficult to answer in some way. Fourthly, the number of patients who failed to answer each question was also determined as an indicator of possible problems.

If one of these methods showed a problem with a question, the findings from the other selection methods were reviewed. Questions were then discarded or rewritten. This led to revised versions of the questionnaire that were subjected once again to testing by submission to a group of patients. The sequence of these field tests is shown in table 2.4.

From version three, questionnaire development was also guided by the findings of principal components analysis, making use of varimax rotation and Kaiser normalization (Maxwell, 1977; Manley, 1986 p. 59). Principal components analysis is a method that can be used to identify the underlying relationships or structure in

data composed of a large number of variables. In this way it is possible to condense a set of observed variables into a smaller number of variables that have not been directly measured (Taylor, 1977). When using data from a questionnaire, statements are picked out which tend to be answered in a similar fashion and are therefore likely to be about the same broad issue or component. Principal components analysis is similar to factor analysis, but is more suitable if the data are not normally distributed (Maxwell, 1977; Taylor, 1977).

In the first stage of principal components analysis, the correlations between the original variables are calculated to produce a correlation matrix, from which the underlying components can be identified. In the second stage the relationships between the components are described geometrically in linear space, in which the axes are the components and the loadings determine the location of the questions in relation to the axes. The correlations of each question or variable with the components are called "loadings" and they indicate the extent to which a particular question is concerned with the underlying component or issue. The aim is to draw the axes which best describe the relationships. In this case, the "best description" should be both simple and have a structure that makes sense by indicating components that might be anticipated on a theoretical basis.

There are several mathematical approaches in the second stage of principal components analysis which take advantage of the freedom to rotate axes in space (Taylor, 1977). The methods differ in the selection of criteria by which to position the axes. Rotation can be orthogonal or oblique. With orthogonal rotation the

components are uncorrelated, so that the factors are rotated at right angles to each other. With oblique rotation the components are correlated, the degree of correlation being a function of the angle between them (Manley, 1986 p. 75; Kline, 1993 p. 115). Varimax rotation is a variety of orthogonal rotation which has been developed to overcome the tendency of principal components analysis to produce a large, general component. Kaiser normalisation is a procedure which weights the loadings of each question with the component or axis to give each equal importance in determining the location of the axis (Taylor, 1977).

One role of principal components analysis in the development of the questionnaires was to highlight those questions which did not load with a particular component, either because the question was poorly worded and not understood by all patients to have the same meaning, or because there were no other questions on the specific topic included in the questionnaire.

Statements that were shown to load only weakly with a component were improved, replaced or discarded, depending on the findings of the other methods of statement assessment. Furthermore, as principal components analysis identified the issues that the questionnaire was addressing, it was possible to ensure that no important issue had been omitted. Questions about general satisfaction with the consultation were omitted from principal components analysis. Questions of a general nature would correlate with many of the other questions, and so make the principal components analysis difficult to interpret, a finding common to other patient satisfaction studies (Ware, 1983).

During the course of questionnaire development, reliability was assessed using a test of internal consistency, Cronbach's alpha (McKennell, 1979; Cronbach, 1990 p. 202). This is a split-half method of estimating reliability that offers an alternative to test-retest methods which can be impractical when assessing views about a specific event and so is frequently employed in questionnaire development. In split-half tests the group of questions is divided into two halves and treated as two questionnaires. Calculation of the correlation between the scores on the two half-tests provides the measure of internal consistency. The questionnaire could be randomly divided into halves in many different ways and alpha is the mean of all possible split-half coefficients. Alpha is strictly a measure of the homogeneity of the questions in the scale, that is, whether the questions are concerned with the same underlying issue rather than many different issues. Thus, a high alpha coefficient for a group of questions identified by principal components analysis as a component would indicate that the questions are, in fact, concerned with one principal issue. The desirable level of alpha depends on the purpose of the test. If the test is being used in a diagnostic capacity with a single individual, for example an intelligence test or other psychological measure, a high level of alpha is required and 0.90 or above is recommended (McKennell, 1979). However, if the purpose of the test is not to discriminate between individuals but between groups of people, lower levels of alpha are acceptable, the lower limit in these situations being between 0.6 and 0.7 (McKennell, 1979; Kline, 1993 p. 9). The satisfaction questionnaires are intended for use by groups of patients rather than to determine the level of satisfaction of patients individually so levels of alpha above 0.6 are required.

Although measurement of internal consistency is often used alone as a measure of reliability, this is unwise as it excludes the many sources of variation which occur between different patients and different administrations of the questionnaire (Streiner and Norman, 1989 p. 7). An assessment of test-retest reliability of the questionnaires is reported in a later Chapter.

Data from each pilot test of the questionnaires were entered onto a database (PCFile). This was followed by export as a text file for transfer to a mainframe computer and analysis using the statistical package SPSS-X.

## **2.3. The pilot tests**

### **2.3.1. Pilot Test of CSQ1**

#### The questionnaire

The questions included on CSQ1 are shown in table 2.5. The first two questions were open questions asking patients if there were any things they particularly liked or disliked about the doctor. The remaining 33 questions were in the Likert format of statements with five possible answers - strongly agree to strongly disagree. The questions were chosen to include the following issues: technical competence, the clinical examination, the provision of information about the illness and its treatment, listening, the length of the consultation and general opinions. In addition, a number of general statements were included such as "I would recommend this doctor to a



friend", "I'm very satisfied with the care the doctor gave me" and "I wouldn't like to see this doctor again". The questionnaire was issued to 50 unselected, consecutive patients attending one general practitioner.

**Table 2.5.**

---

1. Are there any things about this doctor that you particularly liked?
2. Are there any things about this doctor that you didn't like so much?
3. I'm very satisfied with the care the doctor gave me.
4. This doctor let me tell him/her everything I thought important.
5. This doctor was very careful to check everything when examining me.
6. I think this doctor would rather give you a tranquilliser than listen to your problems.
7. This doctor is a rather old fashioned doctor.
8. This doctor was very careful to tell me everything about my treatment.
9. This doctor doesn't know how I feel.
10. This doctor looked at the records and not at me.
11. I wish the doctor had explained a little more about my illness.
12. I don't understand the instructions this doctor has given me about my treatment.
13. This doctor was careful to examine the parts that were wrong with me.
14. This doctor knows what he is doing.
15. I would recommend this doctor to a friend.
16. This doctor was interested in me, and not just my illness.
17. This doctor is very competent.
18. I would find it difficult to tell this doctor about personal things.

19. This doctor was very easy to talk to.
20. This doctor didn't like me to ask questions.
21. I wouldn't like to see this doctor again.
22. This doctor doesn't like people.
23. I don't think this doctor knows what he/she is doing.
24. If this doctor had more time, he/she would tell me more about my illness.
25. This doctor is very friendly.
26. This doctor is right up to date with his knowledge.
27. This doctor knows all about my illness.
28. The doctor knows all about me and my family.
29. The doctor was very thorough.
30. The doctor examined me very carefully.
31. I felt I could tell this doctor everything that was worrying me.
32. This doctor was in a bad mood.
33. This doctor needs to brush up on his knowledge.
34. The time I could spend with the doctor was too short.
35. This doctor made me feel foolish.

---

Table 2.5. The questions included on CSQ1. Questions 1 & 2 were open questions. For all the remaining questions respondents were offered five possible answers from which to choose - strongly agree, agree, neutral, disagree, or strongly disagree.

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## Results

37 completed responses were returned (74% response rate). Replies to the open

questions "Are there any things about this doctor that you particularly liked?" and "Are there any things about this doctor that you didn't like so much?" are shown in tables 2.6 and 2.7. There were more positive than negative comments. The topics that were most frequently mentioned concerned listening (the doctor as a good listener), the duration of the consultation or the doctor appearing to be in a hurry, dealing with older patients or children, and the doctor's manner.

The scores calculated from the answers to the closed statements were skewed in the direction of satisfaction (table 2.8). The mean score was 2.0 or greater for only six questions (Qs 8, 11, 24, 26, 28 and 34), and for five questions the mean score was 1.5 or less (Qs 6, 22, 23, 32 and 35). The question with the highest mean score was "If this doctor had more time, he/she would tell me more about my illness", and the question with the lowest mean score was "I don't think this doctor knows what he/she is doing".

**Table 2.6.**

Patient	Response
1	Polite
2	Dr X was most attentive and understanding which I find very comforting as an older patient.
3	His manners and kindness but in a hurry to get one out of the surgery
4	That he takes the trouble to listen to you and isn't abrupt. He puts you at your ease so that you can talk to him.

- 5 He is interested and helpful and has a pleasant personality which inspires confidence
- 6 Easy manner and ability and time to listen
- 7 Given time to speak
- 8 My doctor listens to what I have to say always. I have every faith in him.
- 9 Understanding, sympathetic, plenty of time, prepared to listen.
- 10 Very considerate and a good listener
- 11 Very understanding
- 12 Yes, he took time to really talk to the patient - a child - and reassure him
- 13 He made me feel at ease. He welcomed my point of view.
- 14 Dr X very understanding, good with children, easy to talk to, explains anything you wish to know regarding your problems, excellent doctor (1st class).
- 15 He is particularly good with children - makes them feel at ease and gets information out of them well.
- 16 He is always very pleasant and has always come to visit me when I am unable to get to the surgery.
- 17 Very efficient and very caring.
- 18 He listens to you, examines you, told you the cause of the problem and what to do.
- 19 He is caring and prepared to listen and he is not hurried.
- 20 He is very friendly and caring and good at his job.
- 21 Easy to talk to
- 22 Dr X is very caring and one feels able to discuss problems with him.
- 23 Pleasant manner. Showed concern.

24. Quickly spoken, easy to talk to, explained everything.
25. Has a nice manner and easy to talk to.
26. Dr X is always pleasant and easy to talk to.
27. Pleasant manner, considerate and always helpful.
28. I find him very thoughtful.
29. He saw us without an appointment because we were worried about our daughter (age 7).
30. He has a very pleasant, encouraging and reassuring manner. He listens well and appears genuinely concerned. He is very thorough.
31. Approachable.
32. Polite, considerate, good listener, he took immediate action with regard to my visit. He arranged for other visits the following week.
33. Takes time and listens to problems - not anxious to prescribe in order to clear his desk. Sympathetic and reassuring.
34. No.
35. He was polite, listened carefully and was good handling the children. He didn't frighten my son (age 4) who was the patient concerned. He made him feel at ease. Also the doctor wanted to check on treatment in two weeks - good follow-up - reassuring, very human.
36. Dr X has a pleasant manner and gives one a feeling of confidence.
37. He tells you what he's doing and he's good with children.

---

Table 2.6. Responses to the open question on CSQ1: "Are there any things about this doctor that you particularly liked?"

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Table 2.7.

---

Patient	Response
1	No
2	-
3	Not at all, super.
4	-
5	No
6	No
7	-
8	-
9	No
10	Nothing
11	No
12	No, very satisfied
13	-
14	No
15	I personally find myself slightly ill at ease with him and come out not having given all the symptoms clearly; not understanding completely what is wrong and what the tablets do. I feel this is a "personality clash" between us - I'm sure he's very good with most people as he is an amiable person.
16	It is only now that I find him easier to talk to, but I don't think I should ever be able to confide or tell my troubles to him. Perhaps time is the main factor for him.
17	No
18	No

19	None
20	No, excellent
21	No
22	None
23	This is the one doctor within the practice in whom I have confidence. The others have let me down in the past.
24	No
25	No
26	No
27.	There is nothing to dislike.
28.	-
29.	-
30.	I feel a slightly impersonal relationship, though less than with the other doctors. (I do not visit the surgery often though). ie. I do not feel the doctor knows or recognises me.
31.	No.
32.	None.
33.	Sometimes there is difficulty obtaining appointments within a reasonable timescale - can take a week.
34.	No. This study concentrates on the performance of the doctor but ignores the other shortcomings of the practice.
35.	No.
36.	No.
37.	No.

---

Table 2.7. Responses to the open question on CSQ1: "Are there any things about this doctor that you didn't like so much?"

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Question	Scores					Missing	Mean	SD
	1	2	3	4	5			
3	15	18	2	0	0	2	1.63	.60
4	17	15	3	1	0	1	1.67	.76
5	13	17	4	2	0	1	1.86	.83
6	23	13	0	0	0	1	1.36	.49
7	17	19	0	0	0	1	1.53	.51
8	10	18	6	2	0	1	2.00	.83
9	12	17	5	2	0	1	1.92	.84
10	14	18	2	2	0	1	1.78	.80
11	4	23	5	3	1	1	2.28	.88
12	11	22	1	2	0	1	1.83	.74
13	15	18	3	0	0	1	1.67	.63
14	18	17	1	0	0	1	1.53	.56
15	19	13	4	0	0	1	1.58	.69
16	13	14	8	1	0	1	1.92	.84
17	16	17	4	0	0	1	1.69	.67
18	15	18	3	0	2	1	1.89	.98
19	16	18	0	1	0	2	1.60	.65
20	15	20	0	1	0	1	1.64	.64
21	18	16	1	0	1	1	1.61	.80
22	22	13	1	0	0	1	1.42	.55
23	27	9	0	0	0	1	1.25	.44
24	3	11	12	7	2	2	2.83	1.04
25	10	25	2	0	0	0	1.78	.53
26	9	18	10	0	0	0	2.03	.73
27	10	18	9	0	0	0	1.97	.73
28	6	17	9	4	1	0	2.38	.98
29	13	21	3	0	0	0	1.73	.61
30	13	20	4	0	0	0	1.76	.64
31	13	21	2	0	1	0	1.78	.79
32	24	13	0	0	0	0	1.35	.48



33	16	18	2	0	0	1	1.61	.60
34	8	21	4	3	1	0	2.14	.95
35	23	13	0	1	0	0	1.43	.65
Table 2.8: Scores for questions on CSQ1, showing means, standard deviations (SD), and number of missing responses (n=37). Alpha = .95								

## Conclusions

This pilot test confirmed that the method of issuing the questionnaire - by the practice receptionists - was practical, and the method for collecting replies did not present any difficulties. The response rate was adequate. The number of missing responses to each question was relatively low, and suggested that the five-point scale of "strongly agree" to "strongly disagree" was acceptable. The question with the lowest mean score was sharply and directly critical of the doctor concerned, and in order to express dissatisfaction patients may have needed strong feelings. However, the question with the highest mean score appeared to allow the patient to express dissatisfaction with the length of the consultation without being directly critical of the doctor as the question implied that the doctor was not responsible for the problem of limited time.

The replies to the open questions suggested that patients had thought carefully about their responses and placed great weight on having a doctor who "listens". Whilst the doctor's behaviour in dealing with subgroups of patients such as the elderly or children may be important, questions on this issue can not be answered by patients who are neither in these categories nor have observed a consultation with such a patient. For this reason, questions about the care of specific subgroups were not included. Nevertheless, it was clear from the pilot test that the wording of questions

would have to be chosen to overcome, as much as possible, the tendency for patients to prefer to express satisfaction.

### 2.3.2. Pilot Test of CSQ2

#### The questionnaire

The pilot test of CSQ1 had involved one doctor and only a small number of patients. Therefore, the elimination of a large number of questions after this limited assessment was felt to be unjustified (table 2.9). 27 questions from CSQ1 were used unchanged in CSQ2, and another question was used slightly changed (Q28 in CSQ2, Q34 in CSQ1). All the questions were statements with possible responses in the strongly agree to strongly disagree format. Eight new questions were included (Qs 19, 20, 30-35), two concerned with the patient's view of the doctor as a listener in response to the findings of the use of CSQ1. Additional questions concerned treatment and disease prevention, aspects of care which had not been addressed in CSQ1.

Table 2.9.

Number	Question	CSQ1 question number
1.	This doctor let me tell him/her everything I thought important.	4
2.	This doctor was careful to check everything when examining me.	5*
3.	I think this doctor would rather give you a tranquilliser than listen to your problems.	6

4.	This doctor is a rather old fashioned doctor.	7
5.	This doctor was careful to tell me everything about my treatment.	8*
6.	This doctor doesn't know how I feel.	9
7.	This doctor was careful to examine the parts that are wrong with me.	13
8.	This doctor knows what he is doing.	14
9.	I would recommend this doctor to a friend.	15
10.	This doctor was interested in me, and not just my illness.	16
11.	This doctor is very competent.	17
12.	I would find it difficult to tell this doctor about personal things.	18
13.	This doctor was very easy to talk to.	19
14.	This doctor didn't like me to ask questions.	20
15.	I wouldn't like to see this doctor again.	21
16.	This doctor doesn't like people.	22
17.	I don't think this doctor knows what he/she is doing.	23
18.	If this doctor had more time, he/she would tell me more about my illness.	24
19.	This doctor did not advise me how to prevent illness.	-
20.	I don't think the treatment the doctor advised is the best for me.	-
21.	This doctor is right up-to-date with his/her knowledge.	26*
22.	The doctor knows all about my illness.	27
23.	The doctor knows all about me and my family.	28

24.	The doctor was very thorough.	29
25.	The doctor examined me very carefully.	30
26.	I felt I could tell this doctor everything that was worrying me.	31
27.	This doctor needs to brush up on his/her knowledge.	33*
28.	The time I spent with the doctor was too short.	34*
29.	This doctor made me feel foolish.	35
30.	This doctor could have done a little more to help me get better.	-
31.	I wish this doctor had told me more about ways to stay healthy.	-
32.	This doctor is a good listener.	-
33.	I wish the doctor had recommended a different kind of treatment for me.	-
34.	The doctor did not listen to what I was saying.	-
35.	I don't think the treatment the doctor recommended will help me very much.	-

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Table 2.9. The questions included on CSQ2, indicating those which were included in CSQ1. \* indicates questions with changes to the wording. For all questions, the respondent was asked to indicate one of five possible answers - strongly agree, agree, neutral, disagree, or strongly disagree.

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## Results

The questionnaire was issued to 100 consecutive patients attending three doctors and 71 were returned completed (71%). The mean score was 2.0 or greater for 13 questions (Qs 2, 6, 10, 18, 19, 20, 21, 22, 23, 28, 31, 33 and 35), and over 2.5 for

three (Qs 18, 23, and 31) (See table 2.10.). Only two questions had mean scores of 1.5 or less (Qs 3 and 17). The lowest scoring questions were "I think this doctor would rather give you a tranquilliser than listen to your problems" and "I don't think this doctor knows what he/she is doing". The highest scoring questions were "If this doctor had more time, he/she would tell me more about my treatment" and "The doctor knows all about me and my family". The question with the highest number of missing responses was Q2 - "This doctor was careful to check everything when examining me". However, for the other questions the number of missing responses was low.

Table 2.10.

Question	Scores					Missing	Mean	SD
	1	2	3	4	5			
1	24	42	4	1	0	0	1.75	.63
2	16	35	12	2	0	6	2.00	.75
3	42	24	5	0	0	0	1.48	.63
4	30	33	6	1	1	0	1.73	.79
5	15	42	8	3	0	3	1.99	.72
6	16	35	13	3	4	0	2.21	1.03
7	17	40	10	1	0	3	1.93	.68
8	25	39	7	0	0	0	1.75	.63
9	29	32	8	1	1	0	1.78	.81
10	12	32	19	6	2	0	2.35	.96
11	25	37	9	0	0	0	1.78	.66
12	22	38	9	2	0	0	1.87	.74
13	26	40	4	1	0	0	1.72	.64
14	24	35	10	1	1	0	1.87	.81
15	39	20	3	4	5	0	1.82	1.20
16	39	28	4	0	0	0	1.51	.61
17	46	18	6	0	1	0	1.48	.77

18	6	21	22	16	5	1	2.90	1.08
19	10	32	18	9	0	2	2.38	.89
20	20	30	14	2	3	2	2.10	1.00
21	15	35	17	1	1	2	2.10	.81
22	13	36	19	2	0	1	2.14	.75
23	6	18	30	15	0	2	2.78	.89
24	16	45	9	1	0	0	1.93	.64
25	14	42	11	1	0	3	1.99	.66
26	19	43	8	0	1	0	1.89	.71
27	23	29	17	0	0	2	1.91	.76
28	8	37	16	9	1	0	2.41	.90
29	40	28	1	1	1	0	1.52	.73
30	22	34	8	5	1	1	1.99	.93
31	11	23	27	8	2	0	2.54	.98
32	23	41	5	1	1	0	1.82	.74
33	11	30	26	3	1	0	2.34	.84
34	35	30	2	3	1	0	1.66	.84
35	17	35	14	1	3	1	2.11	.94

Table 2.10: Scores for each question of CSQ2, showing numbers of missing responses, means and standard deviations. Alpha for entire questionnaire .95 (n = 71).

## Conclusions

The findings support the view that questions that are directly and explicitly critical do not encourage patients to express dissatisfaction. Whilst the questions were generally skewed towards satisfaction, some questions did attract a wider range of response, for example Q18, 23, 28, 31 and 33. The phrasing of these questions may have permitted more criticism to be expressed by being less direct; for example the use of the term "I wish .." (Q31 and 33) may have allowed the respondents to express

their feelings without directly criticising the doctor.

Possible explanations for the level of missing responses to Q2 are that some patients may not have required examination or that the doctors performed appropriately focused examinations but did not examine “everything”.

### **2.3.3. Pilot Test of CSQ3**

#### The questionnaire

In order to ensure that the questionnaire was concerned with satisfaction, and not merely a group of issues which may or may not have been related to satisfaction, two questions about general satisfaction were included in CSQ3 (Qs 1 and 19, table 2.11). Evidence that the questions do indeed relate to satisfaction is needed to support arguments about the validity of CSQ. A number of questions were modified from CSQ2 (Qs 10, 13, 16, 17, 20 of CSQ3), the modifications being to correct ambiguities or encourage expressions of dissatisfaction. Six questions were carried over from CSQ2 unchanged (Qs 3, 8, 9, 12, 14, 15 and 18 on CSQ3). The question about the examination was retained in order to explore the problem of non-response further. Patients’ views about the clinical examination were thought to be too important an issue to be omitted without careful consideration. Some questions were dropped if they were particularly skewed and too general in focus to permit patients to express dissatisfaction. For example, Q8 of CSQ2 - "This doctor knows what he is doing" - and Q11 - "This doctor is competent" - were both highly skewed, and

concerned with the broad, general concept of competence. Patients may find that the combination of several issues such as information giving, treatment and examination into the single issue of competence makes the encapsulation of their various attitudes into a single response difficult. Furthermore, they may feel that they have insufficient knowledge of clinical practice to criticise competence specifically.

Table 2.11.

Number	Question	CSQ1	CSQ2
1.	I am completely satisfied with the care this doctor gave me.	-	-
2.	The doctor could have recommended another kind of treatment for me.	-	-
3.	The doctor was very careful to check everything when examining me.	5	2*
4.	This doctor was careful to tell me everything about my treatment.	-	-
5.	I wish it had been possible to spend a little longer with the doctor.	-	-
6.	There are some things this doctor does not know about me.	-	-
7.	I understand my illness much better after seeing this doctor.	-	-
8.	I would recommend this doctor to a friend.	15	9
9.	This doctor was interested in me, and not just my illness.	16	10
10.	I could find it difficult to tell this doctor about personal things.	18	12*



11.	There were some extra questions I forgot to ask the doctor.	-	-
12.	This doctor was very easy to talk to.	19	13
13.	This doctor examined me very thoroughly.	30	25*
14.	If this doctor had more time, he/she would tell me more about my illness.	24	18
15.	This doctor knows all about me and my family.	28	23*
16.	This doctor did not say much about how to prevent illness.	-	19*
17.	This doctor told me everything about my treatment.	-	-
18.	I would have liked this doctor to have told me more about ways to stay healthy.	-	31*
19.	This doctor is the best I have ever seen.	-	-
20.	There may be another kind of treatment that would be better for me than the one this doctor recommended.	-	20*

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Table 2.11. The questions on CSQ3, showing questions that had been previously included on CSQ1 or 2 (\*indicates a change in question wording between CSQ2 & 3). For all questions, the respondent was asked to indicate one of five possible answers - strongly agree, agree, neutral, disagree, or strongly disagree.

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## Results

The amended questionnaire was issued to 120 patients attending three doctors and 104 were returned completed (86.7%). The number of missing responses was low, in particular the question about the examination (Q3) was answered by all respondents

(table 2.12). The question with the highest number of non-responses concerned advice about the prevention of illness (Q16). Only six questions achieved a mean score of less than 2. The question with the lowest score was "This doctor was very easy to talk to", whilst the two with the highest mean score (Q14 and 15) were those that scored most highly in CSQ2.

Principal components analysis was used to identify groups of questions that were answered similarly. Five components were identified (table 2.13). Component three appears to be concerned with the doctor's knowledge of the patient, and component four about explanation of the illness and its treatment. Component two included questions that may reflect views about the length of the consultation. However, the other components included questions about a variety of issues, and some questions loaded with more than one component.

Table 2.12.

Question	Scores					Missing	Mean	SD
	1	2	3	4	5			
1	43	50	7	1	1	2	1.70	.73
2	20	53	25	4	1	1	2.16	.81
3	27	64	8	4	1	0	1.92	.76
4	35	52	11	5	0	1	1.86	.79
5	8	33	40	18	3	2	2.76	.94
6	16	29	30	22	5	2	2.72	1.12
7	21	52	25	5	0	1	2.14	.79
8	41	51	9	2	1	0	1.76	.77
9	27	52	17	7	0	1	2.04	.84
10	30	47	16	6	3	2	2.07	.98
11	9	41	36	12	1	5	2.55	.86
12	43	51	7	2	0	1	1.69	.69
13	31	49	16	5	0	3	1.95	.82
14	6	29	40	21	4	4	2.88	.95
15	13	25	29	32	3	2	2.87	1.09
16	12	34	38	10	2	8	2.54	.92
17	28	49	18	7	1	1	2.07	.90
18	7	27	50	15	3	2	2.80	.88
19	21	23	45	12	1	2	2.50	.98
20	14	36	41	8	2	3	2.49	.90

Table 2.12: The responses to CSQ3, showing the number of each possible score (1-5) for each question, missing responses, and means and standard deviations (n=104)

Question	Component 1	Component 2	Component 3	Component 4	Component 5
8	.86	.03	.07	.14	.03
13	.77	.18	.17	.14	.02
12	.74	.04	.18	.14	.26
4	.69	.12	.10	.52	.08
9	.65	.08	.58	-.02	-.08
3	.62	.09	-.11	.42	.16
10	.46	.01	.45	.09	.37
5	.14	.80	.15	-.20	.12
18	.11	.74	.30	.27	.02
11	.12	.74	-.25	.20	.10
20	.00	.49	.26	.43	.03
6	.04	.32	.72	.16	.22
15	.19	-.01	.72	.17	.12
7	.41	.13	.09	.69	.04
17	.44	.18	.27	.64	-.04
14	-.07	.39	.04	-.04	.71
2	.36	.01	.16	.02	.63
16	.07	-.11	.31	.50	.55

Table 2.13: Rotated factor matrix (principal components analysis) of CSQ3 (n=104)

## Conclusions

The pilot test did not confirm a problem of non-response to the question "This doctor was careful to check everything when examining me". The pattern of responses to the questions appeared to be gradually becoming less skewed as poorly discriminating questions were eliminated and more discriminating ones retained or introduced. Principal components analysis had failed to produce a meaningful set of components. This may have been due to the relatively small number of completed questionnaires used in the principal components analysis or that individual questions were so skewed in response that the analysis was contaminated by the underlying tendency of patients to prefer to express satisfaction. In this case, the first component may have been no more than a reflection of the response set rather than the apparent topic of the questions. Accordingly, it was decided that the next pilot test should include a larger number of patients.

### **2.3.4. Pilot test of CSQ4**

#### The questionnaire

CSQ3 was a 20 item questionnaire but CSQ4 was reduced to 13 questions in an attempt to overcome some of the problems encountered with principal components analysis (table 2.14). In selecting a sample size for studies involving component or factor analysis, the number of items in the questionnaire should be taken into account, although there is no general agreement about the precise sample size (Comrey, 1978;

Kline, 1986; Kline 1993 p, 121). Kline recommends a sample size of at least 100 subjects, with the ratio of subjects to items being between 3 and 10 to one.

CSQ4 included two new general satisfaction questions (Qs 1 and 13) and eight questions transferred from CSQ3, some with minor modifications to the wording to deal with possible ambiguities or to attempt to produce less skewed responses. There were three additional questions concerned with length of the consultation (Q6, transferred from CSQ2), the appropriateness of the doctor's advice (Q5), and the doctor's knowledge of the patient (Q8). In this pilot test 40 forms were issued to patients of each of the six partners. The analysis again included the calculation of responses to each question and principal components analysis. As a check that the components are related to general satisfaction, Spearman correlation coefficients were calculated between the components and the general satisfaction questions combined into a scale (Altman, 1991 p. 286). Cronbach's alpha was calculated for each component identified.

Table 2.14.

Number	Question	CSQ1	CSQ2	CSQ3
1.	I am totally satisfied with my visit to this doctor.	-	-	-
2.	I wish it had been possible to spend a little longer with the doctor.	-	-	5
3.	This doctor knows all about me and my family.	28	23	15
4.	This doctor was careful to check			

	everything when examining me.	5	2	3
5.	I will follow this doctors advice because I think he/she is absolutely right.	-	-	-
6.	The time I spent with the doctor was a bit too short.	34	28*	-
7.	This doctor told me everything about my treatment.	-	-	17
8.	There are some things this doctor does not know about me.	-	-	-
9.	I understand my illness much better after seeing this doctor.	-	-	7
10.	This doctor examined me very thoroughly.	30	25	13
11.	This doctor was interested in me and not just my illness.	10	9	9
12.	I am not sure that the treatment the doctor has advised is really the best for me.	-	20	20*
13.	I am not completely satisfied with everything about my visit to the doctor.	-	-	-

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Table 2. 14. The questions included on CSQ4, showing those used on CSQ1, 2 or 3 (\* indicates changes to question wording between CSQ4 and previous version).

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## Results

The overall response rate was 82.1%, 240 forms being distributed with 197 usable forms being returned. The doctor-specific response rate varied from 70% to 92.5%.

The responses to the questions of CSQ4 are shown in table 2.15. Four questions had

mean scores below 2 (Qs 1, 4, 5 and 7), and three had mean scores of 2.5 or more (Qs 2, 3, and 8). The question with the highest mean score was "There are some things this doctor does not know about me" and the lowest scoring question was that concerned with general satisfaction - "I am totally satisfied with my visit to this doctor". CSQ4 did not include any questions that could be viewed as being directly and severely critical of the doctor. Non-response to individual questions was low, although Q9 ("I understand my illness much better after seeing this doctor") had a non-response rate of 5.1%.

Principal components analysis identified two components (2.16). Component one was made up of Qs 4, 7, 11, 10, 5, 9, 3, 8, and component 2 of Q2, Q6 and Q12, two of which were concerned with the length of the consultation. Component one concerned satisfaction with the technical aspects of the consultation, including the examination, treatment, and the doctor's knowledge of the patient. The correlation coefficients with general satisfaction were 0.62 for factor one, and 0.44 for factor 2.

Cronbach's alpha was computed for CSQ4 as a whole and was 0.87. The level of alpha for the individual factors were 0.96 for factor one and 0.92 for factor two, indicating adequate levels of internal consistency.



Table 2.15.

Question No	Scores					Missing	Mean	SD
	1	2	3	4	5			
1	87	85	18	1	0	6	1.65	.67
2	17	79	68	23	10	0	2.65	.97
3	39	66	51	32	7	2	2.50	1.10
4	64	95	29	1	1	7	1.84	.73
5	78	103	14	0	1	1	1.69	.65
6	22	86	61	22	4	2	2.49	.91
7	55	99	32	5	1	5	1.95	.78
8	12	46	63	58	10	8	3.04	1.01
9	34	92	53	8	0	10	2.19	.78
10	45	95	43	5	1	8	2.06	.79
11	52	79	49	12	1	4	2.12	.90
12	27	95	45	17	8	5	2.40	.98
13	49	74	40	18	11	5	2.31	1.12

Table 2.15: Responses to CSQ4 showing the distribution of scores for each question, the number of missing responses, and means and standard deviations (n=197)

Table 2.16.

Question	Component 1	Component 2
Q4	.78	.09
Q7	.74	.14
Q9	.72	.13
Q3	.72	-.07
Q10	.71	.21
Q5	.70	.14
Q11	.69	.25
Q8	.52	.25
Q2	-.00	.90
Q6	.23	.86
Q12	.19	.67

Table 2.16: Rotated factor matrix for CSQ4. General Satisfaction questions excluded.

### Conclusions

The response rate was again satisfactory. The principal components analysis produced a more meaningful set of components, with one set of questions clearly being concerned with the length of the consultation. The issue underlying the first component was less clear, but appeared to concern technical aspects of care such as the clinical examination and provision of information about the illness or treatment. However, some interpersonal aspects were also included such as knowledge of the patient and being interested in the patient. The failure to separate technical from

interpersonal aspects of care may have been caused by the lack of sufficient questions about interpersonal care.

### **2.3.5. Pilot Test of CSQ5**

#### The questionnaire

Since CSQ4 had failed to differentiate a set of questions about the interpersonal aspects of care, CSQ5 was modified to contain questions on this topic. Furthermore, Q3 of CSQ4 was potentially ambiguous and was revised (Q14 of CSQ5).

CSQ5 included additional statements intended to reveal views on the interpersonal aspects of the consultation, Q8 and Q16 being modified from questions included in CSQ1, whilst Qs 4, 7, 10, 11, 15 and 20 had not been used previously. One question was included on the questionnaire twice (Qs 10 and 15). If the question is understood by patients it should be answered the same way at both points in the questionnaire. Forty questionnaires were distributed as before to patients attending six doctors (N=240).

Table 2.17.

Number	Question	CSQ1	CSQ2	CSQ3	CSQ4
1.	I am totally satisfied with my visit to this doctor.	-	-	-	1
2.	This doctor was very careful to check everything when examining me.	5	2	3	4*
3.	I will follow this doctor's advice because I think he/she is absolutely right.	-	-	-	5
4.	I felt able to tell this doctor about very personal things.	-	-	-	-
5.	The time I was able to spend with the doctor was a bit too short.	34	28	-	6
6.	This doctor told me everything about my treatment.	-	-	17	7
7.	Some things about my consultation with the doctor could have been better.	-	-	-	-
8.	This doctor was not friendly.	25*	-	-	-
9.	This doctor examined me very thoroughly.	30	25	13	10
10.	I thought this doctor took notice of me as a person.	-	-	-	-
11.	The time I was allowed to spend with the doctor was not long enough to deal with everything I wanted.	-	-	-	-
12.	I understand my illness much better after seeing this doctor.	-	-	7	9
13.	This doctor was interested in me as a person, and not just my illness.	16	10	9	11*
14.	This doctor knows all about me.	28	23	15	3*

15.	I thought this doctor took notice of me as a person.	-	-	-	-
16.	I felt this doctor really knew what I was thinking.	9*	-	-	-
17.	I wish it had been possible to spend a little longer with the doctor.	-	-	5	2
18.	I am not completely satisfied with my visit to the doctor.	-	-	-	13*
19.	I would find it difficult to tell this doctor about some private things.	18	12	10	-
20.	There are some things this doctor does not know about me.	-	-	-	-

Table 2.17. The questions included on CSQ5, showing whether they had been included on CSQ1, 2, 3, or 4 (\*indicates modifications in wording). For all questions, the respondent was asked to indicate one of five possible answers - strongly agree, agree, neutral, disagree, or strongly disagree.

## Results

On this occasion a total of 166 (69.2%) were returned. The responses to CSQ5 are shown in table 2.18. The level of non-response to questions was low, the mean for all questions being 2.8%. The level of non-response for questions with a mean score of below 2.0 was 2.0%, for questions with a mean score above 2.0 the level of non-response was 3.3%. Only one question (Q20) had a mean score above 2.5.

A cross tabulation of the responses to Qs 10 and 15 is shown in table 2.19. 126 (78.3%) out of the 161 responses are the same in each question. On only four (2.5%)

occasions were the second answers different from the first by more than +/- 1 point.

Principal components analysis with Q15 excluded identified three components (table 2.20). Component one was made up of six questions concerned with medical care in general, such as the examination or the giving of information, and also being treated as a person. The second component consisted of four questions about telling the doctor about personal things or the doctor's close knowledge of the patient. Four questions loaded with the third component. Three of these were concerned with the length of the consultation, but one, Q8, was about the doctor's friendliness. Nevertheless, this question loaded only weakly with the component. Cronbach's alpha for the entire questionnaire was 0.91. Alpha for each component is shown in table 2.21.

Table 2.18.

Question	Question Scores							
	1	2	3	4	5	Missing	Mean	SD
1	68	84	6	5	0	3	1.68	.69
2	59	84	13	5	0	5	1.78	.72
3	60	93	11	1	0	1	1.72	.61
4	55	64	35	5	1	6	1.96	.86
5	22	77	40	18	4	5	2.41	.95
6	39	92	23	6	0	6	1.98	.74
7	28	83	31	16	4	4	2.29	.95
8	80	57	13	10	6	0	1.83	1.05
9	44	77	31	6	1	7	2.01	.83
10	55	87	17	3	3	1	1.86	.81
11	30	89	30	13	1	3	2.18	.85
12	29	81	39	7	3	7	2.21	.86
13	37	84	33	8	1	3	2.09	.82
14	28	65	44	20	4	5	2.42	1.00
15	38	93	26	3	1	5	1.98	.73
16	26	66	58	8	1	7	2.32	.83
17	12	79	42	23	3	7	2.54	.90
18	48	80	18	9	6	5	2.04	.99
19	39	74	26	17	3	7	2.19	.99
20	16	46	54	37	7	6	2.83	1.04

Table 2.18. Scores to questions on CSQ5. n=166

Table 2.19.

		Question 15 scores					total
		1	2	3	4	5	
Question 10 scores	1	37	16	1	-	-	54
	2	-	73	10	1	-	84
	3	-	2	15		-	17
	4	-	1	-	1	1	3
	5	1	1	-	1	-	3
	totals	38	93	26	3	1	161

Table 2.19. Cross tabulation of answers to questions 10 and 15 of CSQ5. Kappa .64, Spearman correlation coefficient .74.



Question	Component 1	Component 2	Component 3
Q2	.79	.14	.10
Q13	.69	.28	.12
Q12	.66	.25	.24
Q10	.66	.07	-.02
Q6	.63	.32	.26
Q3	.56	.26	.22
Q20	.14	.81	.04
Q4	.22	.78	.04
Q14	.37	.75	.01
Q19	.15	.70	.24
Q17	.02	.19	.85
Q11	.17	.13	.85
Q5	.13	.04	.82
Q8	.30	-.05	.41
<p>Table 2.20: Rotated factor matrix (principal components analysis) of CSQ5 (Q15 excluded). n=166.</p>			

Component	Cronbach's Alpha
One (Qs 2, 13, 12, 10, 6, 3)	.83
Two (Qs 20, 4, 14, 19)	.82
Three (Qs 17, 11, 5, 8)	.74
<p>Table 2.21: Internal consistency (Cronbach's alpha) for components of CSQ5. Alpha for entire questionnaire .91.</p>	

## Conclusions

The response rate was relatively low, and might have been due to the receptionists becoming tired of issuing questionnaires. As the non-response rate to individual questions did not increase, patient factors may not have contributed to the lower response rate. However, non-response was higher to questions that had a higher mean score, suggesting that some patients have difficulties answering questions which attract more critical responses.

The component structure of CSQ5 was an improvement on that of CSQ4. In particular the addition of questions about the interpersonal aspects of the consultation led to the emergence of a component on this issue. However, questions about the doctor treating the patient as a person still loaded with questions concerned with technical aspects such as the clinical examination. This suggested that the components had not divided into strictly technical and interpersonal aspects, but that the professional behaviours expected of a general practitioner were perceived by the respondents as including relatively superficial aspects of interpersonal care. In contrast, the second component was concerned with the level of intimacy of the interpersonal relationship, in particular the depth of knowledge of the patient and the patient feeling able to express personal thoughts.

Q8 did not load clearly with any of the three components. It is possible that the statement was too general and that patients would have to be highly dissatisfied in order to express criticism, or that it was particularly subject to socially desirable

response set. Since responses were skewed in a positive direction the question did not appear to obtain useful information.

The levels of internal consistency were satisfactory. The findings from the inclusion of a duplicate question gave some support to the reliability of the questionnaire, although a test-retest study would still be required.

### **2.3.6 Pilot Test of CSQ6**

#### **The questionnaire**

The next version of the questionnaire (CSQ6, see table 2.22) was CSQ5 with the removal of two questions (Q8, "This doctor was not friendly") and question 15, the duplicate question (Baker, 1990). In principal components analysis question 8 had loaded weakly with the component concerned with the length of the consultation and even more weakly with the component concerned with professional aspects of the consultation.

The questionnaire was submitted to the patients of eight doctors, consisting of the six principals with the addition of one vocational trainee and one doctor working under the provisions of the retainer scheme. Three of the doctors were women and five men. 40 patients attending each doctor were asked to complete a questionnaire, a total of 320 patients. The procedure for administering the questionnaires and the patients who were excluded were the same as used throughout the pilot tests.

Table 2.22.

Number	Question	CSQ1	CSQ2	CSQ3	CSQ4	CSQ5
1.	I am totally satisfied with my visit to this doctor.	-	-	-	1	1
2.	This doctor was very careful to check everything when examining me.	5	2	3	4	2
3.	I will follow this doctor's advice because I think he/she is absolutely right.	-	-	-	5	3
4.	I felt able to tell this doctor about very personal things.	-	-	-	-	4
5.	The time I was able to spend with the doctor was a bit too short.	34	28	-	6	5
6.	This doctor told me everything about my treatment.	-	-	17	7	6
7.	Some things about my consultation with the doctor could have been better.	-	-	-	-	7
8.	There are some things this doctor does not know about me.	-	-	-	-	20
9.	This doctor examined me very thoroughly.	30	25	13	10	9
10.	I thought this doctor took notice of me as a person.	-	-	-	-	15
11.	The time I was allowed to spend with the doctor was not long enough to deal with everything I wanted.	-	-	-	-	11
12.	I understand my illness much better after seeing this doctor.	-	-	7	9	12
13.	This doctor was interested in me as a person not just my illness.	16	10	9	11	13
14.	This doctor knows all about me.	-	-	-	-	14

15.	I felt this doctor really knew what I was thinking.	9	-	-	-	16
16.	I wish it had been possible to spend a little longer with the doctor.	-	-	5	2	17
17.	I am not completely satisfied with my visit to the doctor.	-	-	-	13	18
18.	I would find it difficult to tell this doctor about some private things.	18	12	10	-	19

Table 2.22. The questions included on CSQ6, showing the use of the questions on previous versions of the questionnaire.

## Results

239 completed forms were obtained, a response rate of 74.7%. The responses to the questions are shown in table 2.23. Only five questions had mean scores of less than 2.0 (Qs 1, 2, 3, 6, and 10). The questions with the highest mean score were concerned with the doctor's knowledge of the patient or the length of the consultation (Qs 8, 16, 5, 15).

The general satisfaction questions were extracted and used as a separate scale. Principal components analysis of CSQ6 disclosed three components (table 2.24). The loadings of the questions with their components were generally high, and the component structure distinct, but Q12 loaded relatively weakly with component one and Q18 had a similar loading with component two. Q4 loaded most strongly with component two but also loaded, less strongly, with component one.

Component one included questions about the clinical examination, information about treatment and understanding of the illness, and interest in the patient as a person. The second component included questions about the doctor's knowledge of the patient and what she or he was thinking, and the patient's sense of being able to give the doctor highly personal information. The third component included questions about the consultation being long enough relative to the patient's wishes.

Question	Scores					Missing	Mean	SD
	1	2	3	4	5			
1	96	120	20	3	0	0	1.71	.67
2	71	124	33	6	0	5	1.89	.73
3	90	122	25	2	0	0	1.75	.67
4	61	103	57	10	2	6	2.09	.87
5	28	115	54	32	7	3	2.47	.97
6	60	130	39	6	1	3	1.98	.75
7	38	116	53	26	3	3	2.32	.92
8	17	65	76	56	13	12	2.93	1.03
9	53	115	52	9	0	10	2.07	.78
10	75	126	24	6	3	5	1.87	.79
11	40	121	44	20	4	10	2.25	.90
12	42	94	87	5	2	9	2.27	.81
13	57	117	48	12	1	4	2.08	.83
14	24	73	82	47	7	6	2.74	.99
15	36	78	90	23	3	9	2.47	.92
16	21	95	65	45	8	5	2.68	1.00
17	60	125	17	25	8	4	2.13	1.02
18	44	112	51	22	5	5	2.28	.95

Table 2.23: Scores for questions of CSQ6, showing means, standard deviations and number of missing responses (n=239).

Question	Component 1	Component 2	Component 3
<b>Professional Care</b>			
2	.79	.15	.22
9	.79	.12	.16
6	.75	.18	.23
10	.68	.41	-.06
3	.65	.25	.19
13	.63	.43	.04
12	.45	.42	.21
<b>Depth of Relationship</b>			
8	.05	.85	.14
14	.25	.83	-.14
15	.37	.70	.07
4	.52	.57	.05
18	.30	.45	.28
<b>Perceived Length</b>			
11	.24	.09	.85
16	.09	.02	.84
5	.13	.12	.81

**Table 2.24: Rotated factor matrix for CSQ6.**

In order to identify the broad issues with which the components were concerned, their content was discussed with 17 health professionals. Most were general practitioners, but nurses and psychologists were also included. The examination, giving advice including information about the illness and its treatment, and treating the patient as a person are all tasks that would be expected of a general practitioner in a consultation. Therefore, component one was labelled "professional care". The

doctor's understanding and knowledge of the patient and the patient's level of comfort with disclosing personal information reflect the level of openness and quality of communication between doctor and patient. At first it was thought that the term "intimacy" would describe this component but the health professionals who were consulted agreed that "depth of relationship" was a more accurate description. The final component concerned the length of the consultation, but was not simply a view on its duration but also whether it had been long enough to meet the needs or wishes of the patient. As the patient's perception of the desired length of the consultation played a part in determining responses to the questions the component was called "perceived time".

CSQ6 included three questions concerned with general satisfaction, Qs 1, 7 and 17. To obtain a score for each scale, the mean score of the questions in the scale was calculated. The scores for each component for each of the eight doctors is shown in table 2.25 and figure 2.1. As for the individual questions, a low score indicates satisfaction and a high score dissatisfaction. In order to check that the components were related to general satisfaction, Spearman correlation coefficients were calculated between the score for general satisfaction and the other component scores. For professional care the correlation coefficient was 0.64, for depth of relationship and perceived time the correlation was 0.5, indicating that the components are related to, but not identical to, general satisfaction.

Alpha for the entire questionnaire was 0.91. The levels for each scale are shown in table 2.26. These results are all satisfactory for the test's purpose of discriminating



between groups of patients rather than individual patients (McKennell, 1979).

**Table 2.25.**

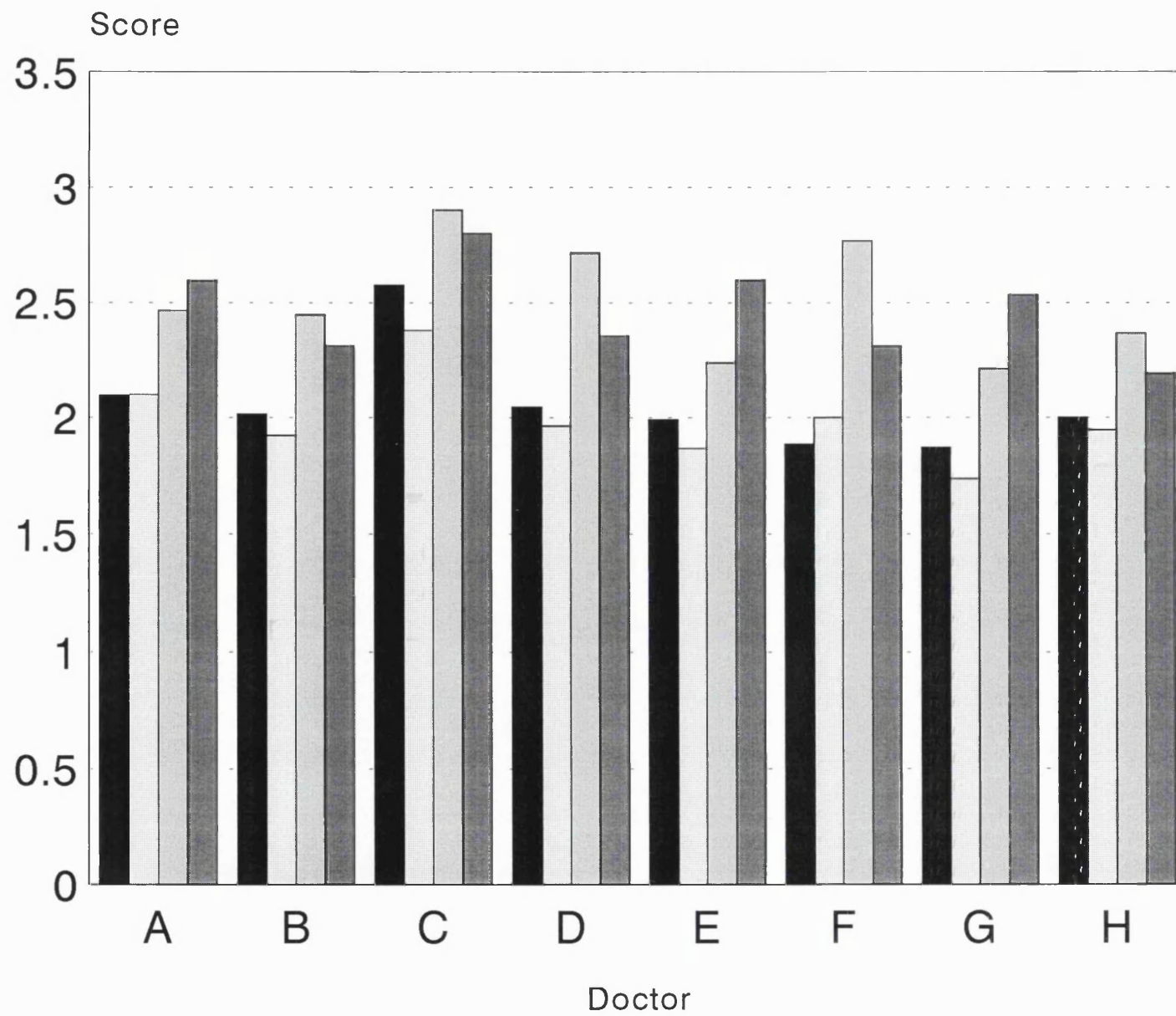
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Doctor	General Satisfaction	Professional Care	Depth of relationship	Perceived time
A	2.10	2.10	2.46	2.60
B	2.01	1.92	2.45	2.31
C	2.58	2.38	2.90	2.80
D	2.05	1.96	2.72	2.35
E	1.99	1.87	2.24	2.60
F	1.84	2.00	2.77	2.31
G	1.87	1.74	2.21	2.53
H	2.00	1.95	2.37	2.19

---

Table 2.25. The mean scores for each component of satisfaction of patients attending eight general practitioners. Low scores indicate higher levels of satisfaction.

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**Figure 2.1.**  
CSQ scores for eight  
general practitioners

Table 2.26.

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Component of satisfaction	alpha
general satisfaction	0.67
professional care	0.87
depth of relationship	0.83
perceived time	0.82

---

Table 2.26. Internal consistency (Cronbach's alpha) for the components of CSQ6. Alpha for the entire questionnaire was 0.91.

---

### Conclusions

The response rate was higher than that obtained with CSQ5, but still higher levels of response would be desirable. Experience with earlier versions of the questionnaire did suggest that higher response rates can be achieved (table 2.4).

The level of reliability as indicated by Cronbach's alpha was satisfactory, and the components were shown to relate to the general satisfaction scale. Principal components analysis identified three components which were composed of questions that could be argued to be concerned with a common underlying issue. The loadings of questions with the components were, in general, satisfactory. Thus, the structure and properties of the questionnaire appeared to be sufficiently sound to warrant wider evaluation.

The identified components of satisfaction were different from the American Medical Interview Satisfaction Scale (MISS), the only other questionnaire developed using psychometric methods to assess patient satisfaction with the consultation (Wolf et al, 1978). MISS was developed over three field trials involving a total of 150 patients. Likert type questions were used with five point response alternatives from strongly agree to strongly disagree. Most items were worded positively as the authors found that patients had difficulty in understanding negatively worded questions. Factor or principal components analysis was not reported but correlations between each question and the subscales were calculated. The scales were called "cognitive satisfaction" (questions concerned with information giving and understanding of treatment); "affective satisfaction" (questions concerned with the patient's feeling able to talk to the doctor, and the doctor as friendly and treating the patient as a person); and "behavioural satisfaction" (questions concerned with the examination and length of the consultation). Among the questions on CSQ and MISS there are issues in common, but as the component structure of MISS was not established by factor or principal components analysis direct comparison of the scales is not possible.

The aspects of satisfaction identified by Hall and Dornan (1988) included "humaneness" and "informativeness", issues which are considered in the professional care and depth of relationship scales of CSQ. The first ranked issue identified by Smith and Armstrong (1991) was "the doctor listens". In CSQ listening has a number of separate features, at the professional level including being interested in the patient and improving the patient's understanding of the illness. Within the depth of relationship component listening is reflected both in the level of the doctor's

knowledge of the patient and the patient feeling able to disclose personal information.

Thus, the components identified in CSQ concern issues that have been reported in other studies or questionnaires. Nevertheless, the development of CSQ has included exploration of how the issues are related, thus giving additional insights into how patients judge their relationship with their general practitioner. Through the use of a series of pilot tests and principal components analysis a set of factors underlying the specific issues has been identified. In particular a distinction between professional aspects of care and the depth of relationship has been made.

#### **2.4. Discussion**

Since a detailed discussion of the development of the questionnaires and their strengths and weaknesses is included in the next chapter, only a limited number of points will be made at this stage. First, before CSQ6 (henceforth referred to as CSQ) could be recommended for use by others additional testing would be needed to confirm reliability. A test-retest study would be desirable. Furthermore, evaluation of the validity of CSQ is required. This should be followed by assessment of its use by a large number of doctors to determine its applicability for wider use and the practicality of the method of administration.

Second, the responses to individual questions of CSQ confirm that patients generally report high levels of satisfaction. By modifying the wording of some questions and discarding others, it was possible to obtain a broader range of opinion, although many

questions, even in the final pilot test, received predominantly positive responses. It might be possible to obtain more negative responses by revising the wording of questions further but this raises the problem of validity. By including only questions that almost force patients to respond in a way that implies dissatisfaction there is a danger that bias will be introduced which would compromise validity. This would also occur, however, if questions are poorly worded and encourage only expressions of satisfaction. Whilst a balance must therefore be struck between bland questions that attract positive views and biased questions that lead to negative views, it can be argued that reliance only on the researcher's interpretation of the meaning of questions could lead to mistaken conclusions about reports of patient satisfaction. Tests of validity other than arguments to support content validity are essential to resolve this problem, but studies should also seek to calibrate satisfaction questionnaires so that the meaning of different scores can be more fully appreciated.

**CHAPTER THREE:**  
**THE DEVELOPMENT OF THE SURGERY SATISFACTION**  
**QUESTIONNAIRE**

---

**3.1. Introduction**

In this Chapter the development of the surgery satisfaction questionnaire (SSQ) is described. A discussion of the strengths and weaknesses of the methods used in developing CSQ and SSQ is also included, and the implications for their further use and evaluation are outlined.

SSQ was developed at the same time as CSQ and the same methods were used (see Chapter Two). Consequently, the steps taken to identify the topics of concern to patients that should be included in the questionnaire and the statistical methods employed during the pilot tests will not be described in detail in this Chapter.

**3.2. Method**

**3.2.1. The Setting**

SSQ was developed through a series of pilot tests. In order to ensure that the questionnaire did not reflect the concerns of patients of only one practice, a variety of practices was involved from the third version of the questionnaire onwards. The sequence of pilot tests and the number of practices involved are shown in table 3.1. The characteristics of the practice of the researcher (the Leckhampton surgery)

which took part in each pilot test has been described in Chapter Two (section 2.1.).

Questionnaires were issued to patients throughout the pilot tests in the same way in each general practice taking part. Patients attending for appointments were given a copy of SSQ and asked to complete it before leaving the surgery. The questionnaires instructed patients not to write their names on the form, and made clear that the confidentiality of their remarks would be maintained. Consecutive patients were included, but all those under aged 16 years, those too ill to take part and those who had previously completed a questionnaire were excluded. Patients were asked to return the completed questionnaires by placing them in a collection box, a procedure that avoided the need for them to hand the questionnaire directly to a receptionist.

**Table 3.1.**

Pilot Test	No. of practices	No. of questions	No. of questionnaires: issued	returned	response rate %
SSQ1	1	42	60	50	83.3
SSQ2	1	33	100	83	83.0
SSQ3	3	33	330	259	78.5
SSQ4*	2	19	250	186	74.4
SSQ5	8	17	800	691	86.4
SSQ6	2	26	1269	983	77.5

Table 3.1. The sequence of pilot tests of SSQ showing the number of practices taking part in each pilot test, the number of questions on the version of the questionnaire, the number of questionnaires issued and the response rates. (\*A third practice took part in the pilot of SSQ4, but the system of administering questionnaires in this practice broke down.)



### 3.2.2. Identifying the issues

First, the issues that might influence the views of patients about their surgeries were identified. The sources used to identify the issues were described in Chapter Three (section 2.2.). These included surveys of patient satisfaction in general practice, reviews of studies of patient satisfaction, other systematically developed questionnaires and also the comments of colleagues and the practice's patient participation group. In addition, the first pilot version of the questionnaire (SSQ1) including two open questions seeking information about aspects of the surgery that patients particularly liked or disliked. As aspects of the doctor-patient relationship were included in CSQ they were omitted from SSQ.

In the light of the findings from the process of identifying issues, the dimensions of care that might be considered in SSQ included the accessibility of the surgery, facilities, the quality of care and continuity. A list of questions was compiled to explore the issues and aspects of wording (table 3.2). Furthermore, in order to check that no topic of concern to patients was omitted, the first version of the questionnaire included two open questions seeking patient views on aspects of their surgery that they particularly liked or disliked.

**Table 3.2.**

---

- 1). Are there any things about this surgery that you particularly like? (open question)
- 2). Are there any things about the surgery that you don't like so much? (open question)
- 3). I'm very satisfied with the medical care my doctor gives me.

- 4). I hardly ever see the same doctor when I go to the surgery.
- 5). I think my doctors office has everything needed to provide complete medical care.
- 6). Doctors never keep their patients waiting, even for a minute.
- 7). My doctors surgery is very easy to get to.
- 8). Most people receive medical care that could be better.
- 9). Doctors do not often give you a check-up.
- 10). When I am ill, I can reach help without any problem.
- 11). In an emergency, it's hard to get to see a doctor quickly.
- 12). I see the same doctor just about every time I go to the surgery.
- 13). Most GPs work very hard all the time.
- 14). Most doctors won't visit you if you are ill in the night.
- 15). My doctor is very happy to visit you at home if you cannot get to the surgery.
- 16). I can never get through to the surgery on the telephone.
- 17). If I have a problem, it is easy to speak to the doctor on the telephone.
- 18). My doctors receptionists are very helpful.
- 19). Most doctors receptionists make it difficult for you to see the doctor.
- 20). I can never get an appointment with my doctor at the surgery.
- 21). Doctors never recommend an operation unless there is no other way to solve the problem.
- 22). It's hard to get an appointment for medical care right away.
- 23). People have to wait too long for emergency care.
- 24). At this surgery, people have to wait too long, even when they are seriously ill.
- 25). I find it difficult to see the doctor during office hours.
- 26). My doctor's surgery lacks some things needed to provide complete medical care.
- 27). The waiting room in my doctors surgery is uncomfortable.
- 28). I hate going to the doctor.
- 29). It takes me a long time to get to my doctor's surgery.
- 30). Just about all doctors make house calls.
- 31). The care I have received from doctors in the last few years has been just about perfect.
- 32). Doctors don't care if their patients worry.

- 33). Sometimes doctors take unnecessary risks in treating their patients.
- 34). In an emergency you can always get medical care.
- 35). Doctors are very thorough.
- 36). The medical problems I have had in the past are ignored when I have a new problem.
- 37). Doctors never expose their patients to unnecessary risks.
- 38). There are things about the care I receive which could be better.
- 39). Doctors never look at their patients records.
- 40). When doctors are unsure what is wrong with you they always call in a specialist.
- 41). When I seek care for a new problem, they always check on the problems I have had before.
- 42). My doctor treats everyone in the family when they need care.
- 43). Doctors cause some people to worry a lot because they don't explain medical problems to patients.
- 44). People are usually kept waiting a long time when they are at the surgery.
- 45). Doctors always stick together if something goes wrong.
- 46). I often leave the surgery and then remember lots of questions I wanted to ask, but forgot when I was with the doctor.
- 47). Doctors are paid too much.
- 48). It is very difficult to make a complaint.
- 49). Too many doctors think you cannot understand the medical explanation of your illness, so they do not bother explaining.
- 50). You cannot expect any one doctor to be perfect.
- 51). Nowadays you cannot get a doctor out in the night.
- 52). No matter how long you have to wait to see a doctor, its worth it.
- 53). Doctors can help you both in health and sickness.
- 54). When an illness is serious, it is better to go to hospital than to a doctors surgery.
- 55). There just are not enough doctors to go around.
- 56). Doctors often try new drugs on patients without knowing all the effects.
- 57). Patients receive nothing but the best of care from their doctors.
- 58). No two doctors agree what is wrong with a person.
- 59). Doctors should have evening office hours for working people.
- 60). Doctors will do everything they can to keep from making a mistake.

- 61). Doctors are put in the position of needing to know more than they possibly could.
  - 62). Doctors do not even care how long the patient has to wait.
  - 63). There are not enough doctors at this surgery.
  - 64). I can see a woman doctor at this surgery whenever I like.
  - 65). This surgery is too big and impersonal.
- 

Table 3.2. Possible questions identified for consideration for SSQ. All questions have a five point response scale, strongly agree, agree, neutral, disagree and strongly disagree, unless otherwise indicated.

---

### **3.2.3. Question format**

The format of the questions was the same as that selected for CSQ, namely a statement followed by five response options (Likert, 1932; Dunn-Rankin, 1983 p. 51) from strongly agree to strongly disagree. The answers were scored from one to five, a low score indicating satisfaction, a high score dissatisfaction. Some questions were worded negatively and during data entry the direction of scoring of the question was altered so that low scores still indicated satisfaction. The relatively simple Likert format was chosen to make the questionnaire as easy as possible to understand and complete. It was intended that the questionnaire should eventually be suitable for wide use and would therefore be completed by a wide variety of patients, with different levels of ability or educational attainment.

### **3.2.4. Questionnaire refinement**

The same procedure used for developing CSQ was used for developing SSQ, the

series of pilot tests for these questionnaires being undertaken simultaneously. Individual questions were reviewed by checking for non-response, as high levels of non-response might indicate a problem with wording. Each question was also checked for ambiguity, the presence of any comments written on the questionnaire by patients and the comments of colleagues being taken into account. The distribution of responses to each question was analysed. If a question attracted uniformly positive responses, it may have failed to discriminate between different levels of satisfaction. An alternative explanation is that the majority of patients were indeed satisfied. Questions that did attract this pattern of response were reviewed and re-worded if it appeared that they had been phrased so that patients would be prompted to report satisfaction.

From version three onwards, principal components analysis with varimax rotation and Kaiser normalization (Manley, 1986 p. 59) was used to identify the components of satisfaction that were being addressed by the questions. One benefit of identifying the underlying components in a group of questions is that it is possible to check that no important component has been omitted. If it appears that a component is missing appropriate questions can be added. Principal components analysis also identifies the relationship of individual questions to the components. If a question loads only weakly with any of the components, it may be poorly worded, or may be concerned with a component which is otherwise not addressed in the questionnaire.

In each pilot test data from the questionnaires were entered onto a database (PCFile), then transferred to a text file for analysis using the statistical package SPSS-X.

### 3.3. The Pilot Tests

#### 3.3.1. Pilot Test of SSQ1

##### The questionnaire

SSQ1 was composed of two open questions and 40 closed questions (table 3.3). The open questions asked patients whether there were any things that they particularly liked or disliked about the surgery. The closed questions sought the views of patients about their perceptions of the quality of medical care, attention given to the prevention of illness, the manner in which staff deal with children or the elderly, the adequacy of facilities, ease of access, appointments, telephone access to the doctor, the availability of a woman doctor, continuity of care, the behaviour of staff including receptionists, and also the readiness of doctors to make home visits. The questionnaire was issued to 60 unselected patients attending a single general practice (the Leckhampton surgery), described in Chapter Two, section 2.1.

Table 3.3.

- 
1. Are there any things about this surgery that you particularly like?
  2. Are there any things about this surgery that you don't like so much?
  3. I'm very satisfied with the care I receive at this surgery.
  4. I hardly ever see the same doctor when I go to the surgery.
  5. They are very good with children at this surgery.
  6. I think my doctor's surgery has everything needed to provide complete

medical care.

7. The waiting room in my doctors surgery is uncomfortable.
8. My doctor's surgery is easy to get to.
9. In an emergency, it is hard to get to see a doctor quickly.
10. I think they could do more at this surgery to check on your health to prevent you getting ill.
11. When an illness is serious, it is better to go to hospital than to the doctor's surgery.
12. Most doctors won't visit you if you are ill in the night.
13. I can see a woman doctor at this surgery whenever I like.
14. I can never get through to the surgery on the telephone.
15. They take a real interest in you at this surgery.
16. The receptionists at this surgery are very helpful.
17. The doctors at this surgery could do more to help you get better.
18. I can never get an appointment with my doctor at the surgery.
19. I find this surgery difficult to get to.
20. I find it difficult to see the doctor during office hours.
21. My doctor's surgery lacks some of the things needed to provide complete medical care.
22. This surgery building could do with some improvements.
23. If I have a problem, it is easy to speak to the doctor on the telephone.
24. It takes me a long time to get to my doctor's surgery.
25. The care I have received from this surgery in the last few years has been just about perfect.
26. When I am ill, I can reach help without any problem.
27. Most doctor's receptionists make it difficult for you to see the doctor.

28. My doctor treats everyone in the family when they need care.
  29. People are usually kept waiting a long time when they are at this surgery.
  30. I see the same doctor almost every time I go to the surgery.
  31. It is hard to get an appointment for medical care right away.
  32. They are very good with old people at this surgery.
  33. My doctor is happy to visit you at home if you cannot get to the surgery.
  34. They are very disorganised at this surgery.
  35. It is very difficult to make a complaint at this surgery.
  36. They could be a little more friendly at this surgery.
  37. Patients receive nothing but the best of care from this surgery.
  38. The doctors at this surgery are very careful not to make any mistakes.
  39. There are not enough doctors at this surgery.
  40. This surgery is too big and impersonal.
  41. I always see the same doctor at this surgery.
  42. The staff at this surgery are not very friendly.
- 

Table 3.3. The questions on SSQ1. Questions 1 & 2 were open questions. For all the remaining questions respondents were offered five possible answers from which to choose - strongly agree, agree, neutral, disagree, or strongly disagree.

---

## Results

50 completed questionnaires were returned (83.3%). The responses to the open questions are shown in tables 3.4 and 3.5. Whilst the majority of patients made a positive comment, 38 either made no critical comment or claimed that they had no



criticisms. The positive comments fell into two broad groups, those relating to the premises or facilities (a total of 19), and those relating to the service (a total of 23), including friendliness, appointments and staff. The critical comments included three about the car park, three about access (a branch surgery - called "Hester's Way" - had recently been closed which may have increased the travelling distance for some patients) and three about delays when waiting to see the doctor.

The responses to the closed Likert scale questions are shown in table 3.6. There was a tendency for patients to express satisfaction rather than dissatisfaction, with five of the forty closed questions attaining a mean score of less than 2.0. However, Q11 had a score above 3.0, and Q10 a score of 2.96. Q5 ("They are very good with children at this surgery") had a non-response rate of 28%. Q20 ("I find it difficult to see the doctor during office hours") had a non-response rate of 20%, as did Q28 ("My doctor treats everyone in the family when they need care"). The overall non-response rate to questions was 12.4%.

**Table 3.4.**

Patient number	Are there any things about this surgery that you particularly like?
1.	-
2.	The modern entrance, appointments.
3.	I like the system you have with sisters. I have phoned them on several occasions with problems which have been solved over the phone. This must save a lot of time for the doctors.
4.	It is very friendly and all the staff are wonderful.

5. The waiting room is pleasant.
6. Most aspects.
7. Spacious and warm.
8. Pleasant position.
9. It has a nice open plan and a relaxed, friendly atmosphere.
10. Warm and friendly.
11. I think my doctor's surgery is easy to get to.
12. Patients treated with respect. Friendly service at all times.
13. The doctors are great (& the sisters). The layout is brilliant. The service is good.
14. Reception area, delightful staff.
15. The excellent appointment system is not inflexible.
16. Receptionists are usually very helpful. Its in close proximity to my home.
17. Clean and tidy.
18. Light and roomy.
19. Friendliness of all staff concerned in the operation of the practice.
20. The doctors & the care during pregnancy.
21. Modern & prompt appointments.
22. The staff are very helpful.
23. Comfortable.
24. Satisfactory.
25. Its very nice and plenty of room and service is good.
26. I like the whole layout of the surgery, it seems modern compared to what it used to be.
27. The friendly staff.
28. Very satisfactory.
29. The vast improvements in the consultancy and treatment facilities and the comfort and convenience of patients and car parking since the practice was moved, is highly commended.
30. Friendly and efficient manner by all concerned

31. Friendly atmosphere and facilities for children to play
32. The reception room is very tasteful & relaxing and the staff extremely pleasant
33. Pleasant atmosphere, children have things to do while waiting. Good information booklets.
34. Not familiar enough with the surgery, but I have heard positive comments from other users
35. Personal attention of staff. Arrangements for sister.
36. Pleasant waiting room & surgery
37. It appears well organised
38. When requiring an appointment it is easily arranged
39. Very prompt appointments. Doctors and staff always helpful
40. Feels comfortable & welcoming. Access is good. Access to care for visitors is good
41. Prompt attention at reception
42. Personal greeting from the doctor. Good & courteous service from reception. Good warm waiting conditions & parking.
43. Yes. It is so lovely and bright and warm.
44. Everything (sic)
45. Clean, friendly
46. Very polite
47. It is very convenient
48. They are friendly. It's easy to get to, they are extremely helpful, they've always got time to see you.
49. The surroundings, both inside and outside
50. I like everything about the surgery because it deals not only in family health, it also has the clinics where some doctors you would have to go somewhere else and probably see a total stranger.

---

Table 3.4. Responses to the open question of SSQ1 "Are there any things about this surgery that you particularly like?".

---

Table 3.5.

Patient	Are there any things about this surgery that you don't like so much?
1.	-
2.	It is not very near my home.
3.	I don't like the way some doctors use the intercom and some come to collect you. I think a more efficient system could be used.
4.	No.
5.	No.
6.	No.
7.	No.
8.	-
9.	The entrance to the car park is a bit small.
10.	No.
11.	No.
12.	-
13.	No.
14.	No.
15.	-
16.	-
17.	None.
18.	Rather warm.
19.	No.
20.	The rocking horse (they scream when I take them off & they fight over it).
21.	No.
22.	Yes. It's in the wrong place, they should never have closed their practice at Hesters Way. Why should people change doctors, when they have been with them for years and know the history of the family.
23.	-
24.	No.
25.	-

26.	No
27.	No.
28.	Small car parking space.
29.	No.
30.	No
31.	Sometimes having to wait a little too long with young children
32.	-
33.	The waiting
34.	Not to date
35.	-
36.	-
37.	No
38.	Not really
39.	None
40.	Car parking is becoming a problem
41.	Appointment times are not kept
42.	Too far from my residence (you have recently ceased Hesters Way)
43.	No
44.	No
45.	-
46.	No
47.	No
48.	I have no complaints
49.	No
50.	I can not fault the surgery at all. It is easy to get to and the attention and care is perfect.

---

Table 3.5. Responses to the open question of SSQ1 "Are there any things about this surgery that you don't like so much?".

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Table 3.6.

Question	Scores					Missing	Mean	SD
	1	2	3	4	5			
3	11	32	0	1	0	6	1.80	.55
4	10	25	6	2	2	5	2.13	.97
5	10	11	15	0	0	14	2.14	.83
6	9	27	9	0	0	5	2.00	.64
7	12	29	3	0	1	5	1.87	.73
8	6	29	7	3	1	4	2.22	.84
9	3	19	17	3	1	7	2.54	.83
10	2	14	15	12	2	5	2.96	.98
11	0	21	9	14	4	2	3.02	1.04
12	4	21	18	1	0	6	2.36	.69
13	2	24	15	3	0	6	2.43	.70
14	4	32	6	5	1	2	2.31	.85
15	4	34	9	2	0	1	2.18	.64
16	9	35	4	1	0	1	1.94	.59
17	5	25	9	5	2	4	2.44	.98
18	13	24	5	5	1	2	2.10	.99
19	12	25	8	1	1	3	2.02	.85
20	3	23	12	2	0	10	2.33	.69
21	5	22	17	3	0	3	2.38	.77
22	7	26	7	2	1	7	2.16	.84
23	1	25	17	2	1	4	2.50	.72
24	5	27	8	3	2	5	2.33	.93
25	5	29	5	3	0	8	2.14	.72
26	3	30	9	1	0	7	2.19	.59
27	5	21	11	4	2	7	2.47	.98
28	4	31	5	0	0	10	2.03	.48
29	3	21	13	5	0	8	2.48	.80

30	8	26	3	5	0	8	2.12	.86
31	3	23	9	5	1	9	2.46	.90
32	6	18	18	0	0	8	2.86	.71
33	5	21	15	0	0	9	2.24	.66
34	13	23	4	2	0	8	1.88	.77
35	6	18	15	3	0	8	2.36	.82
36	9	25	6	3	0	7	2.07	.80
37	7	29	6	1	0	7	2.02	.64
38	4	29	11	0	0	6	2.16	.57
39	3	20	14	4	0	9	2.46	.78
40	6	31	6	1	0	6	2.05	.61
41	6	18	8	10	0	8	2.52	1.02
42	10	30	2	1	0	7	1.86	.60

Table 3.6 Scores for questions on SSQ1, showing means and standard deviations (SD). (n=50) Alpha for entire questionnaire = 0.89

### Conclusions

The method of administering SSQ1 resulted in a high response, giving some encouragement to the use of the method in subsequent pilot tests. The open questions did confirm that access and waits for appointments were issues of concern to patients.

The comments about the car park were likely to have been specific to the pilot practice.

Whilst the responses were more likely to be answered to indicate satisfaction, some questions did attract different patterns of response. The level of non-response to

individual questions was relatively high, and may have been due to the inclusion of a large number of questions (42). Some questions with high non-response rates may have been concerned with aspects of care that only a proportion of patients would have experienced, for example consultations with children or the need for appointments outside office hours. In view of the small number of patients taking part in the first pilot test substantial changes to the questionnaire in the second pilot would be unjustified.

### **3.3.2. Pilot Test of SSQ2**

#### The Questionnaire

SSQ2 was composed of 33 questions, all closed and in the Likert format (table 3.7). All the questions had been employed on SSQ1. Questions that appeared to be applicable to only a limited group of patients were dropped. Some questions were modified in an attempt to enable patients to express dissatisfaction, for example the qualification "sometimes" was added to the question about the helpfulness of receptionists (Q16 on SSQ1, Q10 on SSQ2), and to the question about the doctors helping patients to get better (Q17 on SSQ1, Q11 on SSQ2). For the same reason the qualification "very" was added to the question about the doctor visiting patients at home (Q33 on SSQ1, Q24 on SSQ2) and a question about access (Q8 on SSQ1, Q5 on SSQ2). The method of administering the questionnaire was unchanged from the first pilot test and 100 patients attending the same practice were asked to complete SSQ1.



Table 3.7.

Number	Question	SSQ1 question number
1.	I'm very satisfied with the care I receive at this surgery.	3
2.	I hardly ever see the same doctor when I go to the surgery.	4
3.	I think my doctor's surgery has everything needed to provide complete medical care.	6
4.	The waiting room in my doctor's surgery is uncomfortable.	7
5.	My doctor's surgery is very easy to get to.	8*
6.	In an emergency, it's hard to get to see a doctor quickly.	9
7.	I think they could do more at this surgery to check on your health to prevent you getting ill.	10
8.	I can never get through to the surgery on the telephone.	14
9.	They take a real interest in you at this surgery.	15
10.	Sometimes the receptionists at this surgery are not very helpful.	16*
11.	The doctors at this surgery could sometimes do more to help you get better.	17*
12.	I can never get an appointment with my doctor at this surgery.	18
13.	I find this surgery very difficult to get to.	19
14.	This surgery building could do with some improvements.	22
15.	If I have a problem, it is easy to speak to the doctor on the telephone.	23
16.	It takes me a long time to get to my doctor's surgery.	24
17.	The care I have received from this surgery in the last few years has been perfect.	25*
18.	When I am ill, I can reach help without any problem.	26

19.	Most doctor's receptionists make it difficult for you to see the doctor.	27
20.	My doctor treats everyone in the family when they need care.	28
21.	People are usually kept waiting a long time when they are at the surgery.	29
22.	I see the same doctor almost every time I go to the surgery.	30
23.	It's hard to get an appointment for medical care right away.	31*
24.	My doctor is always very happy to visit you at home if you cannot get to the surgery.	33*
25.	They are very disorganised at this surgery.	34
26.	It is very difficult to make a complaint at this surgery.	35
27.	Sometimes they could be a little more friendly at this surgery.	36
28.	Patients receive nothing but the best of care from this surgery.	37
29.	The doctors at this surgery are always very careful not to make any mistakes.	38
30.	There are not enough doctors at this surgery.	39
31.	This surgery is too big and impersonal.	40
32.	I always see the same doctor at this surgery.	41
33.	The staff at this surgery are not very friendly.	42

---

Table 3.7. The questions included on SSQ2, showing the question number of questions that were included on SSQ1 (\* indicates a change in wording). For all questions, the respondent was asked to indicate one of five possible answers - strongly agree, agree, neutral, disagree, or strongly disagree.

---

## Results

83 completed questionnaires were returned (83.0% response rate). The responses to SSQ2 are shown in table 3.8. The level of non-response to individual questions was 3.5%. Four questions had a mean score of below 2.0. For Q24 ("My doctor is always very happy to visit you at home if you cannot get to the surgery") and Q26 ("It is very difficult to make a complaint at this surgery") the most common response score was 3, categorised as "neutral" on the questionnaire. Questions that attracted higher mean scores were concerned with appointments (Qs 6, 23), continuity (Qs2, 22, 32), telephone availability (Qs 8, 15) or medical care (Q7).

**Table 3.8.**

<b>Question No.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Missing</b>	<b>Mean</b>	<b>SD</b>
1	20	45	13	4	0	1	2.01	.78
2	14	34	14	18	2	1	2.51	1.09
3	18	43	18	2	0	2	2.05	.74
4	18	49	8	4	2	2	2.05	.87
5	16	52	10	2	1	2	2.01	.73
6	7	32	27	9	4	4	2.63	.98
7	4	29	31	15	1	3	2.75	.86
8	9	40	12	15	5	2	2.59	1.10
9	8	38	30	6	0	1	2.42	.77
10	13	50	13	6	0	1	2.15	.77
11	12	35	22	11	0	3	2.40	.91
12	13	40	15	12	1	2	2.36	.97
13	19	52	5	1	2	4	1.92	.76

14	18	48	14	0	0	3	1.95	.63
15	3	24	34	16	3	3	2.90	.89
16	13	52	11	3	2	2	2.12	.81
17	12	38	21	8	1	3	2.35	.90
18	5	48	22	5	1	2	2.37	.75
19	8	48	16	8	1	2	2.33	.84
20	4	43	22	8	0	6	2.44	.75
21	4	36	23	15	1	4	2.66	.89
22	5	48	7	18	2	3	2.55	.99
23	7	36	15	21	1	3	2.66	1.01
24	4	25	45	5	0	4	2.65	.68
25	22	54	4	1	0	2	1.80	.58
26	8	20	48	1	0	6	2.55	.70
27	13	42	16	9	0	3	2.26	.87
28	11	39	26	2	1	4	2.28	.78
29	2	47	30	1	0	3	2.38	.56
30	7	38	26	6	1	5	2.44	.82
31	10	54	10	5	0	4	2.13	.71
32	5	36	11	25	3	3	2.81	1.07
33	17	52	6	4	0	4	1.96	.71

Table 3.8 Responses to SSQ2 showing the distribution of scores for each question, the number of missing responses and the mean and standard deviation (n=83).

### Conclusions

The overall response rate was again satisfactory, and higher than those obtained during the pilots of CSQ, a finding lending support to the view that the method of

administering the questionnaire was acceptable to patients. The elimination of some questions about issues that a proportion of patients may have had no experience was associated with a fall in non-response rates, although the level of non-response to all questions was lower. The high number of “neutral” replies to Q24 and 26 may be explained because many patients may not have had any relevant experience.

The challenge of enabling patients to express dissatisfaction had not been overcome in SSQ2, and further versions of the questionnaire would have to address this problem. Moreover, the questionnaire would need assessment in a number of different general practices to ensure that the final version did not reflect only the views of patients of a single practice.

### **3.3.3. Pilot Test of SSQ3**

#### **The Questionnaire**

SSQ3 contained 33 questions (table 3.9). 28 had been included in SSQ2, but the wording of 14 of these was modified. In general the changes to questions were to enable expressions of dissatisfaction by introducing qualifications, for example Q6 of SSQ2 - "In an emergency, it's hard to get to see a doctor quickly" became "In an emergency, it can be hard to get to see a doctor quickly" (Q6 on SSQ3). Four questions included on SSQ3 had not appeared on SSQ1 or SSQ2 (Qs 2, 4, 18 and 19).

The questionnaire was issued to 100 patients attending each of three practices: the

Leckhampton surgery, a health centre in Highbridge, Somerset and a group practice in Bath. The participating practices were volunteers, identified through personal contact. They were given instructions about the method of administering questions to attending patients, and the return of completed questionnaires to the researcher.

**Table 3.9.**

Number	Question	SSQ1 quest. number	SSQ2 quest. number
1.	I'm always satisfied with the care I receive at this surgery.	3	1*
2.	I don't always see the same doctor when I go to the surgery.	-	-
3.	I think my doctor's surgery has everything needed to provide modern medical care.	6	3
4.	I don't much like my doctor's waiting room.	-	-
5.	My doctor's surgery is very easy to get to.	8	5
6.	In an emergency, it can be hard to get to see a doctor quickly.	9	6*
7.	I think they could do more at this surgery to check on your health to prevent you getting ill.	10	7
8.	It can be difficult to get through to the surgery on the telephone.	14*	-
9.	They take a real interest in you at this surgery.	15	9
10.	Sometimes the receptionists at this surgery can be a little unhelpful.	16	10*
11.	The doctors at this surgery never make any mistakes.	38	29*
12.	The doctors at this surgery could sometimes do more to help you get better.	17	11

13.	It can sometimes be difficult to get an appointment with my doctor at this surgery.	18	12*
14.	I find this surgery very difficult to get to.	19	13
15.	This surgery building could do with some improvements.	22	14
16.	If I have a problem, it is easy to speak to the doctor on the telephone.	23	15
17.	It can take me a long time to get to my doctor's surgery.	24	16*
18.	I think it might be difficult to ask for a home visit at this surgery.	-	-
19.	My doctor's surgery is modern and up-to-date.	-	-
20.	Some of the receptionists can make it difficult for you to see the doctor.	27	19*
21.	My doctor treats everyone in the family when they need care.	28	20
22.	People can be kept waiting a long time when they are at the surgery.	29	21*
23.	I see the same doctor almost every time I go to the surgery.	30	22
24.	It can be hard to get an appointment for medical care right away.	31	23
25.	My doctor is always very happy to visit you at home.	33	24*
26.	They are very disorganised at this surgery.	34	25
27.	I think I would find it difficult to make a complaint at this surgery.	35	26*
28.	Sometimes the receptionists could be a little more friendly at this surgery.	36	27*
29.	I can speak to my doctor on the telephone any time I need to.	23	15*

30.	The doctors at this surgery are always careful not to make any mistakes.	38	29
31.	This surgery building is too big and impersonal.	40	31*
32.	I always see the same doctor at this surgery.	41	32
33.	The office staff at this surgery are not very friendly.	42	33*

---

Table 3.9. The questions included on SSQ3 showing the numbers of those included on SSQ2 or SSQ1 (\*indicates wording changes). For all questions, the respondent was asked to indicate one of five possible answers - strongly agree, agree, neutral, disagree, or strongly disagree.

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## Results

259 completed questionnaires were returned, 74 from Leckhampton, 77 from Bath, and 108 from Somerset, where 130 questionnaires had been issued. Thus, the response rates were 74%, 77% and 83.1% respectively. The participating practices did not report any difficulties in the administration of the questionnaires. The scores for each question obtained by each practice are shown in table 3.10. The total responses to each question are shown in table 3.11.

The overall level of non-response to questions was 6.1%. The question with the highest level of non-response was Q11 (10.0%), and the question with the lowest Q18. Ten questions had mean scores of 3.0 or higher, and only one question (Q26) a score of less than 2. For questions concerned with facilities or premises (Q3, 15, 19) the Leckhampton surgery which had the most recently built premises scored lowest, indicating greater satisfaction.



Principal components analysis identified eight factors (table 3.12), the first having eight questions concerned with clinical care and also home visits and caring for the whole family. The second component had four questions concerned with receptionists and office staff, the third component five questions concerned with facilities or premises, the fourth three questions concerned with whether the patient sees the same doctor at each consultation, the fifth component five questions concerned with appointments, the sixth component three questions concerned with getting to the surgery, the seventh two questions concerned with telephone access, and the eighth three questions about the level of organisation and the ease of making complaints. Some questions loaded relatively weakly with their components, for example Qs 6, 18, 22, 24, 26, and 31. Furthermore, some loaded with more than one component, for example Qs 7, 18, 20, 22, and 24.

**Table 3.10.**

Question	A	B	C
1. I'm always satisfied with the care I receive at this surgery.	2.03	1.99	2.24
2. I don't always see the same doctor when I go to the surgery.	3.21	3.31	3.38
3. I think my doctors surgery has everything needed to provide modern medical care.	1.92	2.43	2.90
4. I don't much like my doctors waiting room.	2.05	2.70	3.37

**Table 3.10. cont.**

5. My doctors surgery is very easy to get to.	2.20	2.19	2.14
6. In an emergency, it can be hard to get to see a doctor quickly.	2.73	2.72	3.18
7. I think they could do more at this surgery to check on your health to prevent you getting ill.	2.90	2.91	3.37
8. It can be difficult to get through to the surgery on the telephone.	3.09	3.38	3.21
9. They take a real interest in you at this surgery.	2.34	2.20	2.49
10. Sometimes the receptionists at this surgery can be a little unhelpful.	2.28	1.98	3.27
11. The doctors at this surgery never make any mistakes.	3.03	2.95	3.18
12. The doctors at this surgery could sometimes do more to help you get better.	2.54	2.65	2.71
13. It can sometimes be difficult to get an appointment with my doctor at this surgery.	3.24	3.28	3.74
14. I find this surgery very difficult to get to.	2.26	2.07	2.01

Table 3.10. cont.

15. This surgery building could do with some improvements.	1.94	2.71	3.85
16. If I have a problem it is easy to speak to the doctor on the telephone.	3.00	3.03	3.07
17. It can take me a long time to get to my doctor's surgery.	2.34	2.33	2.08
18. I think it might be difficult to ask for a home visit at this surgery.	2.55	2.46	2.53
19. My doctor's surgery is modern and up-to-date.	1.81	2.46	3.57
20. Some of the receptionists can make it difficult for you to see the doctor.	2.39	2.23	3.01
21. My doctor treats everyone in the family when they need care.	2.39	2.18	2.06
22. People can be kept waiting a long time when they are at the surgery.	3.17	3.82	4.07
23. I see the same doctor almost every time I go to the surgery.	2.55	2.74	2.76
24. It can be hard to get an appointment for medical care right away.	3.13	3.07	3.84
25. My doctor is always very happy to visit you at home.	2.62	2.43	2.38

Table 3.10. cont.

26. They are very disorganised at this surgery.	1.89	1.92	2.16
27. I think I would find it difficult to make a complaint at this surgery.	2.84	2.94	3.0
28. Sometimes the receptionists could be a little more friendly at this surgery.	2.19	1.91	3.44
29. I can speak to my doctor on the telephone any time I need to.	3.03	3.16	3.04
30. The doctors at this surgery are always very careful not to make any mistakes.	2.60	2.29	2.37
31. This surgery is too big and impersonal.	2.01	2.15	2.29
32. I always see the same doctor at this surgery.	3.07	3.14	3.09
33. The office staff at this surgery are not very friendly.	1.99	1.79	2.85

---

Table 3.10. Results of the use of SSQ3 in three surgeries (A=Leckhampton, B=a surgery in Somerset, C=a surgery in Bath).

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Table 3.11.

Question No.	1	2	3	4	5	Missing	Mean	SD
1	47	151	28	16	2	15	2.08	.80
2	9	62	30	126	14	18	3.31	1.04
3	15	137	62	25	3	17	2.44	.81
4	20	96	73	41	14	15	2.73	1.02
5	28	164	33	16	2	16	2.18	.75
6	13	99	52	58	17	20	2.86	1.07
7	9	60	93	66	12	19	3.05	.94
8	4	80	39	93	28	15	3.25	1.08
9	29	121	76	16	0	17	2.33	.77
10	26	131	39	39	6	18	2.45	.97
11	3	38	139	49	4	26	3.06	.70
12	17	107	70	45	4	16	2.64	.92
13	10	62	24	123	29	11	3.40	1.11
14	41	159	31	6	8	14	2.11	.82
15	24	89	64	49	22	11	2.82	1.13
16	5	68	91	68	9	18	3.03	.89
17	30	147	40	19	5	18	2.26	.85
18	24	119	68	32	6	10	2.51	.92
19	24	117	56	39	11	12	2.58	1.01
20	24	131	46	39	8	11	2.50	.98
21	33	138	54	14	0	20	2.21	.75
22	3	31	50	113	50	12	3.71	.97
23	29	112	21	74	10	13	2.69	1.14
24	10	68	29	107	29	16	3.32	1.23
25	24	106	89	21	2	17	2.47	.82
26	53	152	35	4	2	13	1.98	.71

27	12	86	64	73	10	14	2.93	1.00
28	43	113	38	42	10	13	2.44	1.09
29	4	60	93	70	9	23	3.09	.88
30	22	121	78	16	2	20	2.39	.78
31	33	155	44	13	0	14	2.15	.71
32	15	78	32	106	14	14	3.11	1.10
33	47	133	49	17	1	12	2.16	.82

Table 3.11. Responses to SSQ3 showing the distribution of scores for each question, the number of missing responses and the mean and standard deviation (n=259).

Table 3.12.

Question	C1	C2	C3	C4	C5	C6	C7	C8
30	.67	-.04	-.00	-.03	.06	.07	.06	.05
9	.65	.31	.06	.18	.10	.02	.12	.07
1	.63	.21	.09	.13	.05	.06	.16	.04
11	.60	.08	.13	.05	-.09	.09	.38	-.14
7	.58	.17	.27	-.02	.23	-.04	.12	-.08
12	.56	.04	.07	.10	.29	.14	.14	-.04
25	.55	.11	-.21	.25	.15	.10	-.04	.17
21	.54	-.09	-.25	.13	.19	.10	-.14	.16
28	.05	.85	.206	.02	.17	.01	.14	.10
10	.13	.81	.22	.04	.25	.09	.05	.08
33	.18	.78	.27	.13	-.02	-.06	-.07	.11
20	.14	.61	.19	-.04	.34	.22	-.02	-.05
15	-.11	.23	.80	-.01	.04	.04	-.02	.05
19	-.05	.24	.75	-.04	.11	-.07	-.00	-.05
3	.17	.14	.71	.13	.02	.06	.04	.04
4	.10	.13	.69	-.06	.19	.09	-.08	.08

22	.06	.01	.43	.05	.43	.08	.37	.07
32	.13	.09	-.03	.89	.09	-.01	.10	-.00
23	.22	-.04	.08	.84	-.00	.02	.02	.04
2	.04	.04	.06	.80	.05	.08	.19	-.10
8	.02	.08	.10	-.05	.70	.04	.00	-.10
13	.20	.20	.13	.14	.69	.04	.13	.03
24	.26	.33	.17	-.01	.49	-.07	.20	.11
18	.28	.11	-.09	.20	.48	.24	-.02	.19
6	.28	.17	.14	.04	.46	.11	.18	.09
17	.14	.04	.01	.00	.18	.85	.06	-.10
14	.05	.10	-.02	.07	.15	.84	.04	.04
5	.12	-.01	.13	.03	-.10	.77	.03	.14
16	.23	.04	-.05	.11	.12	-.02	.76	.07
29	.17	.05	-.03	.21	.17	.13	.73	.07
27	-.13	.03	-.08	-.08	-.04	.06	.21	.72
26	.25	.32	.18	-.05	.07	.10	.02	.49
31	.32	.09	.23	.10	.10	-.05	-.19	.48
Table 3.12. Rotated factor matrix for SSQ3 (n=259)								

## Conclusions

The response rates and reported experiences of the practices suggested that the questionnaire was acceptable to patients and easy for practices to administer. The level of non-response to questions was relatively low for the majority of questions,

and although the range of responses to individual questions was less skewed towards the positive, most questions still tended to attract expressions of satisfaction. Nevertheless, the patterns of scores for each practice suggested that patients from the three practices did have different views about the services they were receiving. The finding that questions about premises were answered most positively by patients of the most recently built surgery gave some support to the view that, for this aspect of the questionnaire, the responses were valid.

The component structure did group the questions into meaningful categories, although component eight was difficult to interpret and some questions loaded weakly with their component or loaded with several components. This finding gave encouragement to the view that the questionnaire was concerned with appropriate issues, but that some questions required modification or clarification. SSQ3 included 33 questions and a shorter questionnaire might help to clarify the component structure. In principal components analysis a ratio of between three and ten subjects per question is recommended and so a shorter questionnaire issued to a relatively larger number of patients would enable a more rigorous test of the component structure to be undertaken (Comrey, 1978; Kline, 1986). Furthermore, if the final questionnaire is to be used widely, it should be as short as possible to make it acceptable to a wide range of patients.



### 3.3.4. Pilot Test of SSQ.4

#### The questionnaire

SSQ4 was composed of 19 questions (table 3.13), all but three of which had been included on SSQ3. Q7 was an addition concerned with general satisfaction, as SSQ3 had not included questions about general satisfaction with the practice. Q11 was a new question about medical treatment, and Q15 was an addition concerned with continuity of care. Questions that had been included on SSQ3 but were dropped included those of component eight on SSQ3 (Qs 26, 27, and 31), and several questions that attracted positive responses, for example Qs 3, 9 and 21.

SSQ4 was distributed to the patients of three surgeries, including the Leckhampton surgery (100 patients included), a group practice in Bristol (indefinite number of patients included) and a second group practice in Bristol, located in a health centre (150 patients included).

Table 3.13.

Number	Question	SSQ1 quest number	SSQ2 quest number	SSQ3 quest number
1.	I'm always satisfied with the care I receive at this surgery.	3	1	1
2.	I don't much like my surgery's waiting room.	7	4	4*

Table 3.13. cont.

3.	My doctor's surgery is very easy to get to.	8	5	5
4.	The doctors at this surgery never make any mistakes.	38	29	11
5.	If I have a problem it is easy to speak to the doctor on the telephone.	23	15	16
6.	I see the same doctor almost every time I go to the surgery.	30	23	6
7.	There are one or two things about this surgery that could be better.	-	-	-
8.	It can sometimes be difficult to get an appointment with my doctor at this surgery.	18	12	13
9.	My doctor's surgery is modern and up-to-date.	-	-	19
10.	It can take me a long time to get to my doctor's surgery.	24	16	17
11.	I think the medical treatment you receive at this surgery could sometimes be better.	-	-	-
12.	It can be hard to get an appointment for medical care right away.	31	23	24
13.	I find this surgery very difficult to get to.	19	13	14
14.	This surgery building could do with some improvements.	22	14	15
15.	It can be difficult to see the same doctor each time you go to the surgery.	-	-	-
16.	It can be difficult to get through to the surgery on the telephone.	-	8	8

Table 3.13. cont.

17.	The doctors at this surgery are always careful not to make any mistakes.	38	29	30
18.	Some of the receptionists can make it difficult for you to see the doctor.	27	19	20
19.	I don't always see the same doctor when I go to the surgery.	-	-	2

Table 3.13. Questions on SSQ4, showing the numbers of question previously included on SSQ1, SSQ2 or SSQ3 (\*indicates wording changes). For all questions, the respondent was asked to indicate one of five possible answers - strongly agree, agree, neutral, disagree, or strongly disagree.

## Results

A total of 205 completed forms were returned, 108 (72% from one Bristol health centre, 19 from the other Bristol practice, and 78 (78%) from the Leckhampton surgery. The combined response was 186 (74.4%) for the Leckhampton surgery and the Bristol health centre. The system for issuing the questionnaire to patients broke down in the Bristol surgery. The number of questionnaires that were issued by the receptionists in this practice could not be determined; the partner who had volunteered to undertake the survey in the practice was absent during the administration of the questionnaires.

The distribution of responses to the questions is shown in table 3.14. The mean rate of non-response to questions was 6.1%. However, this varied from 1.0% (Q3) to 9.8% (Q12). There was also a tendency for questions later in the questionnaire to

have higher non-response rates. Six questions had mean scores of 3.0 or higher, and one a score of less than 2.0 (Q1).

Principal components analysis identified five components following varimax rotation (table 3.15). These were: 1) four questions concerned with the quality of the doctors' clinical care; 2) three questions concerned with seeing the same doctor at each consultation; 3) three questions getting to the surgery; 4) five questions concerned with getting an appointment, telephone access or the receptionists; 5) three questions premises or facilities. Cronbach's alpha for the entire questionnaire was 0.81. For the individual components alpha was (1) 0.88; (2) 0.92; (3) 0.88; (4) 0.88; (5) 0.90. The scores of patients attending each of the three practices included in this pilot test are shown in table 3.16.

**Table 3.14.**

Question	Scores					Missing	Mean	SD
	1	2	3	4	5			
1	60	108	21	12	0	4	1.93	.80
2	24	81	69	23	3	5	2.50	.90
3	28	133	29	11	2	2	2.14	.75
4	1	36	115	36	3	14	3.02	.68
5	10	67	73	43	4	8	2.82	.90
6	35	93	13	46	15	3	2.57	1.23
7	6	31	90	69	1	8	3.14	.80
8	11	47	21	87	25	14	3.36	1.16
9	24	130	32	2	0	17	2.06	.58
10	23	105	27	29	6	15	2.42	.99
11	9	97	51	29	1	18	2.55	.83

Table 3.16.

Question number	Mean scores of patients of each practice (A, B, and C)		
	A	B	C
1. I'm always satisfied with the care I receive at this surgery	1.90	1.86	2.00
2. I don't much like my surgery's waiting room	2.05	2.69	2.63
3. My doctor's surgery is very easy to get to	2.00	2.12	2.11
4. The doctors at this surgery never make any mistakes	2.92	2.69	3.05
5. If I have a problem it is easy to speak to the doctor on the telephone	2.72	2.62	3.16
6. I see the same doctor almost every time I go to the surgery	2.44	2.69	2.00
7. There are one or two things about this surgery that could be better	2.87	3.06	3.37
8. It can sometimes be difficult to get an appointment with my doctor at this surgery	3.27	3.08	2.79
9. My doctor's surgery is modern and up-to-date	1.86	1.89	2.05
10. It can take me a long time to get to my doctor's surgery	2.32	2.24	1.95

Table 3.16. cont.

11. I think the medical treatment you receive at this surgery could sometimes be a little better	2.45	2.22	2.42
12. It can be hard to get an appointment for medical care right away	2.94	2.52	3.11
13. I find this surgery very difficult to get to	1.97	1.81	1.68
14. This surgery building could do with some improvements	2.08	2.52	2.47
15. It can be difficult to see the same doctor each time you go to the surgery	3.10	2.90	2.21
16. It can be difficult to get through to the surgery on the telephone	3.14	2.15	2.42
17. The doctors at this surgery are always careful not to make any mistakes	2.14	2.06	1.74
18. Some of the receptionists can make it difficult for you to see the doctor	2.40	2.22	1.89
19. I don't always see the same doctor when I go to the surgery	3.23	2.93	2.37

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Table 3.16. Mean scores for each question in pilot test of SSQ4, showing scores of patients attending three surgeries. A = Leckhampton, B = Bristol health centre, C = Bristol surgery.

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## Conclusion

The failure of the system for administering the questionnaire in one of the practices was probably due to a failure of receptionists to comply with the instructions for issuing it to patients rather than a consequence of the design or content of SSQ3 itself. Further use of the questionnaire in practices should be accompanied by more specific instructions and a greater degree of organisation. The response rates to individual questions was in general satisfactory, although the non-response rate for some questions was unacceptable at almost 10%. This problem would have to be explored in further pilot tests.

The component structure identified by principal components analysis was meaningful, and the loadings of individual questions with their components was high. No question loaded with a second component with a correlation higher than  $-.39$  (Q16). Thus, the component structure does appear to have been clarified in comparison with SSQ3. However, only one question was concerned with general satisfaction. If the questionnaire is intended to measure satisfaction it is important to have a scale specifically concerned with overall satisfaction rather than only separate issues that may, or may not, contribute to the patient's final judgment about satisfaction. Q1 appeared to be concerned with satisfaction with medical care rather than overall satisfaction, as it loaded strongly with component one rather than loading with several components. The next version of SSQ should include more questions directly seeking views about general satisfaction. The levels of alpha were satisfactory. However, the number of practices taking part was relatively small, and alpha might be lower if a

wider range of patients and practices were to take part. The component structure might also be modified by use of the questionnaire with a larger number of patients, and so in the next pilot test more practices and patients would be required.

### **3.3.5. Pilot Test of SSQ5.**

#### The questionnaire

SSQ5 consisted of 17 questions (table 3.17). Two questions about general satisfaction were included (Q1 and Q13). Questions 5, 7, 11 and 18 of SSQ4 were dropped as they loaded relatively weakly with their components, and also loaded weakly with other components. Questions that load with several components may have been answered by patients in the same way as general satisfaction questions rather than as they would answer questions about a specific component. The only changes to the wording of questions were simple grammatical corrections (Qs 8 and 16 on SSQ5).

As in the previous field tests, the questionnaire was distributed to patients attending their surgery to see a doctor. They were asked to complete the questionnaire and return it to a collection box. Eight general practices agreed to take part in this pilot test, and their characteristics are shown in table 3.18. In each practice, 100 patients were asked to complete SSQ5. Formal instructions were issued to the staff of each surgery to ensure that a standard method of issuing questionnaires was followed. An evaluation of criterion validity was also undertaken in this pilot test with SSQ5, but this will be described in Chapter Four.



Table 3.17.

Number	Question	SSQ1 quest number	SSQ2 quest number	SSQ3 quest number	SSQ4 quest number
1.	I am totally satisfied with everything about this general practice.	-	-	-	-
2.	I do not much like my surgery's waiting room.	-	-	4	-
3.	I see the same doctor almost every time I go to the surgery.	30	22	23	6
4.	It can take me a long time to get to my doctor's surgery.	24	16	17	10
5.	The doctors at this surgery are always careful not to make any mistakes.	38	29	30	17
6.	It can be difficult to get through to the surgery on the telephone.	-	-	8	16
7.	My doctor's surgery is modern and up-to-date.	-	-	19	9
8.	I am always satisfied with the medical care I receive at this surgery.	3	1	1	1
9.	It can be difficult to see the same doctor each time you go to the surgery.	-	-	-	15
10.	It can sometimes be difficult to get an appointment with my doctor at this surgery.	18	12	13	8
11.	I find this surgery very difficult to get to.	19	13	14	13

Table 3.17. cont.

12.	The doctors at this surgery never make any mistakes.	-	-	11	4
13.	I am not completely satisfied with one or two things about this general practice.	-	-	-	-
14.	It can be hard to get an appointment for medical care right away.	31	23	24	12
15.	My doctor's surgery is very easy to get to.	8	5	5	3
16.	I do not always see the same doctor when I go to the surgery.	-	-	-	19
17.	This building could do with some improvements.	22	14	15	14

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Table 3.17. Questions included on SSQ5, showing the numbers of the questions included on previous versions of the questionnaire (\*indicates wording changes). For all questions, the respondent was asked to indicate one of five possible answers - strongly agree, agree, neutral, disagree, or strongly disagree.

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Table 3.18.

Practice	group or single handed	premises	training	town
A	group	modern cost-rent	y	Cheltenham
B	group	health centre	y	Bristol
C	group	modern cost-rent	y	Gloucester
D	group	modern cost-rent	y	Gloucester
E	group	health centre	y	Highbridge
F	single handed	converted first floor	y	Tewkesbury
G	single handed	old shop	n	Bolton
H	single handed	"Porta-Kabin"	n	Stratford upon Avon

Table 3.18. Characteristics of the eight surgeries taking part in the test of SSQ5.

## Results

A total of 691 questionnaires were returned completed and the mean response rate was 86.4%, with a range between surgeries from 67% to 96%. The patterns of responses to the questions are shown in table 3.19. The mean non-response rate to individual questions was only 1.8%. The highest non-response rate was for Q12

(4.6%). The responses to questions were generally positively skewed, no question having a mean score above 3.00, and three having mean scores below 2.0.

Question	Scores					Missing	Mean	SD
	1	2	3	4	5			
1	176	332	101	67	4	11	2.10	.92
2	77	303	215	75	14	7	2.48	.91
3	174	298	59	128	28	4	2.33	1.16
4	124	337	114	79	21	16	2.31	1.00
5	202	343	104	24	3	15	1.94	.80
6	97	317	112	123	39	3	2.55	1.11
7	130	359	133	63	3	3	2.2	.87
8	238	361	52	34	4	2	1.85	.81
9	93	253	95	194	41	15	2.76	1.18
10	81	261	94	194	49	12	2.81	1.18
11	171	404	72	19	7	18	1.94	.75
12	56	143	336	114	10	32	2.82	.87
13	62	289	181	123	18	18	2.62	.97
14	87	277	116	167	33	11	2.68	1.12
15	122	401	108	42	7	11	2.13	.81
16	72	230	79	255	36	19	2.93	1.17
17	48	190	230	166	45	12	2.96	1.04

Table 3.19. Scores for questions of SSQ5, including means and standard deviations (n=691)

Table 3.20.

Question	Component 1	Component 2	Component 3	Component 4	Component 5
Q16	.85	.08	.13	-.00	.12
Q3	.83	-.03	.23	-.04	-.09
Q9	.79	.13	.12	-.08	.32
Q10	.62	.09	.10	.05	.54
Q11	.06	.85	.03	-.01	.11
Q15	.10	.83	.15	.09	-.05
Q4	.02	.76	-.04	.09	.23
Q5	.14	.03	.82	.02	.08
Q8	.18	.05	.77	.02	.19
Q12	.11	.05	.70	.07	-.03
Q17	-.02	.04	-.06	.84	.00
Q7	.02	-.02	.16	.81	-.06
Q2	-.06	.15	.02	.66	.21
Q6	.05	.13	.00	.06	.82
Q14	.30	.11	.24	.07	.65

Table 3.20. Rotated factor matrix for SSQ5. General satisfaction questions excluded.

Table 3.21.

Components	Alpha
F1	0.85
F2	0.76
F3	0.70
F4	0.69
F5	0.51
General Satisfaction	0.67

Table 3.21 Internal consistency reliability coefficients (Cronbach's alpha) for the five components and general satisfaction of SSQ5 (n=582). Alpha for entire questionnaire 0.82.

Table 3.22.

Component	Correlation
1	0.44
2	0.22
3	0.56
4	0.27
5	0.41

Table 3.22 Spearman correlation coefficients between factors of SSQ5 and the general satisfaction questions.

The general satisfaction questions were omitted from the principal components analysis (Ware et al 1983; MacKeigan and Larson, 1989) and five components of satisfaction were identified (table 3.20). The first component included five questions concerned with seeing the same doctor at consultations; the second component included three questions concerned with getting to the surgery; the third component included three questions concerned with aspects of clinical care; the fourth component also included three questions, in this case concerned with the premises or facilities; and the fifth component had two questions concerned with appointments and telephone access. The component loadings were satisfactory, the lowest being 0.65 (Q14). The majority of questions loaded clearly with a single component, although Q10 which loaded with the first component also loaded to a lesser extent with the fifth component. In order to clarify the issues addressed by each component the question content of each was discussed with 17 colleagues including other general practitioners, psychologists and nurses. There was agreement that the components were separately concerned with continuity of care, accessibility of the surgery, the

quality of medical care, the premises, and the availability of doctors.

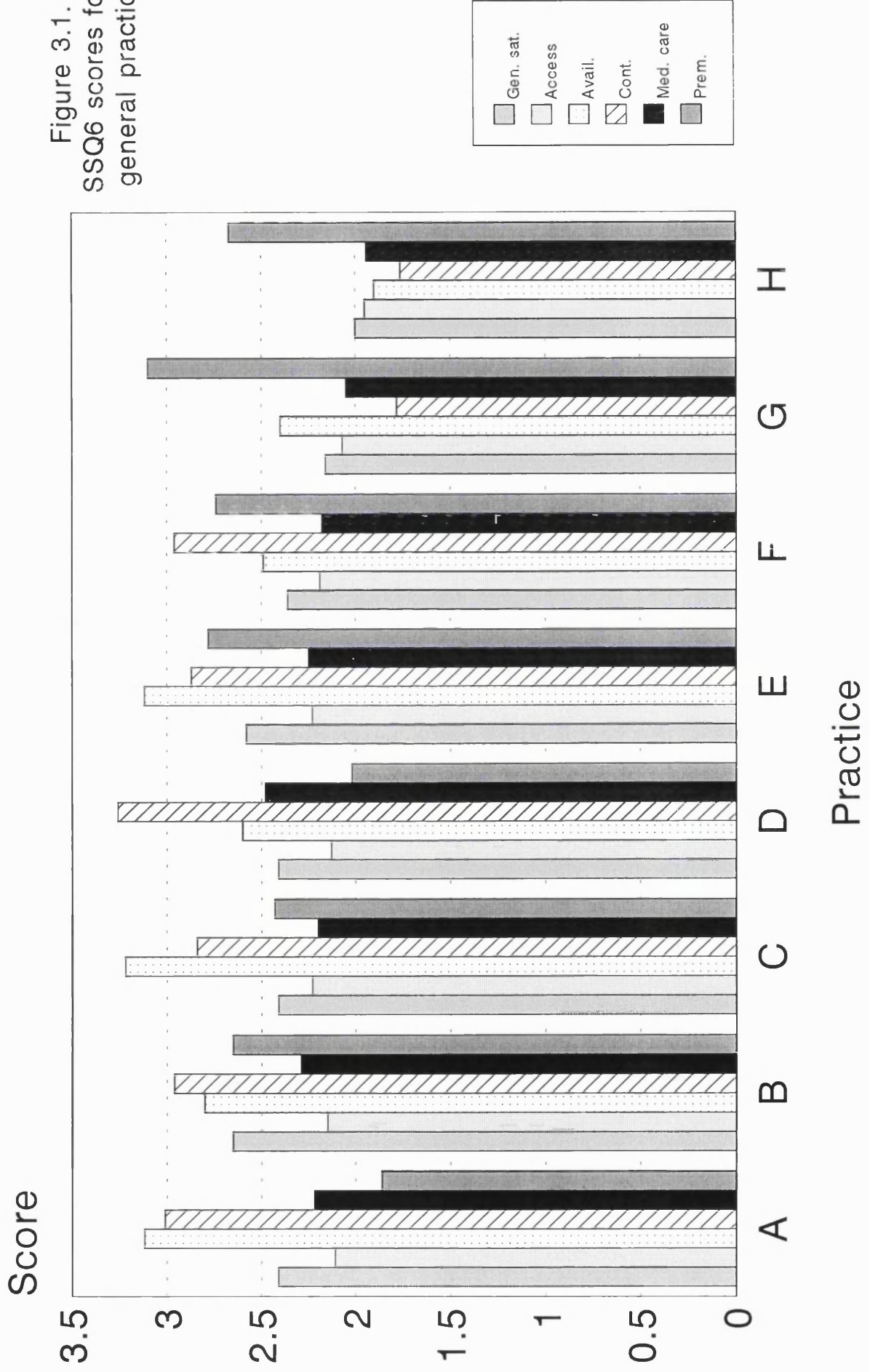
Internal consistency of SSQ5 and its components was determined using Cronbach's alpha (Cronbach, 1990 p. 202). Alpha for the entire questionnaire was 0.82. The scores for the separate components are shown in table 3.21. In order to determine whether the components were concerned with aspects of general satisfaction Spearman correlation coefficients between the component scores and general satisfaction were calculated. The results are shown in table 3.22. The scores for each practice are shown in table 3.23 and figure 3.1.

Table 3.23.

Practice	General satisfaction	Access	Avail.	Continuity	Medical Premises Care	
A	2.41	2.11	3.12	3.01	2.22	1.86
B	2.65	2.15	2.80	2.96	2.29	2.65
C	2.41	2.23	3.22	2.84	2.20	2.43
D	2.41	2.13	2.60	3.26	2.48	2.02
E	2.58	2.23	3.12	2.87	2.25	2.78
F	2.36	2.19	2.49	2.96	2.18	2.74
G	2.16	2.07	2.40	1.78	2.05	3.10
H	2.00	1.95	1.90	1.76	1.94	2.67

Table 3.23. Satisfaction scores of samples of patients attending eight surgeries. 1=satisfied, 5=dissatisfied.

Figure 3.1.  
SSQ6 scores for 8  
general practices





## Conclusion

This pilot study was not able to address fully the issue of transferability of SSQ, although the questionnaire was used in a range of surgeries with different characteristics and patient populations. SSQ5 did produce different portraits of each surgery (table 3.23 and figure 3.1). For example, both practices number seven and eight were single handed, scoring better than larger practices for continuity and availability. However, they scored less well than the other practices for premises, one of them being sited in a temporary cabin and the other in a substantially unmodified old terraced shop. These findings suggest that the questionnaire was sensitive to different levels of patient satisfaction, although a test of validity would be needed before interpreting the different scores.

The overall response rate was reasonable, reaching 92% in the practice with the most disadvantaged population. It was not clear what the range of scores would be for a large random sample of surgeries, so what score indicated a "good" or "bad" surgery had yet to be established.

The correlation coefficients between the components of satisfaction and general satisfaction indicated moderate levels of positive correlation. This provided some reassurance that the components were concerned with aspects of satisfaction, whilst not being merely expressions of general satisfaction itself. SSQ5 showed evidence of reasonable reliability. Levels of alpha for the whole questionnaire and most of the separate components of satisfaction were adequate, but a score of only 0.51 for

availability was unsatisfactory.

### 3.3.6. Pilot Test of SSQ6

#### The questionnaire

SSQ6 consisted of 26 questions (table 3.24). Q17 was modified from Q10 of SSQ5 ("It can sometimes be difficult to get an appointment with my doctor at this surgery") as it had loaded with two components, availability and continuity. All the remaining questions of SSQ5 were included unchanged, and nine new questions were added to increase the number of questions in each component and to improve reliability (Streiner and Norman, 1989 p. 91). Questions were also included to seek the respondent's age and sex.

Table 3.24.

Number	Question	SSQ1	SSQ2	SSQ3	SSQ4	SSQ5
1.	I am totally satisfied with everything about this general practice.	-	-	-	-	1
2.	I do not much like my surgery's waiting room.	-	-	4	-	2
3.	I see the same doctor almost every time I go to the surgery.	30	22	23	6	3
4.	It can take me a long time to get to my doctor's surgery.	24	16	17	10	4

Table 3.24. cont.

5.	The doctors at this surgery are always careful not to make any mistakes.	38	29	30	17	5
6.	It can be difficult to get through to the surgery on the telephone.	-	-	8	16	6
7.	My doctor's surgery is modern and up to date.	-	-	19	9	7
8.	I am always satisfied with the medical care I receive at this surgery.	3	1	1	1	8
9.	It can be difficult to see the same doctor each time you go to the surgery.	-	-	-	15	9
10.	I find this surgery very difficult to get to.	19	13	14	13	10
11.	The doctors at this surgery never make mistakes.	-	-	11	4	12
12.	I am not completely satisfied with one or two things about this general practice.	-	-	-	-	13
13.	It can be hard to get an appointment for medical care right away.	31	23	24	12	14
14.	My doctor's surgery is very easy to get to.	8	5	5	3	15
15.	I do not always see the same doctor when I go to the surgery.	-	-	-	19	16
16.	This surgery building could do with some improvements.	22	14	15	14	17

Table 3.24. cont.

17.	It can sometimes be difficult to get an appointment at this surgery.	18	12	13	8	10*
18.	They always answer the telephone straightaway at this surgery.	-	-	-	-	-
19.	I think this surgery building could be a little better.	-	-	-	-	-
20.	I wish it was easier to see my own doctor every time I go to the surgery.	-	-	-	-	-
21.	Travelling to the surgery can be a problem to me.	-	-	-	-	-
22.	Getting an appointment when you want one can sometimes be a little difficult.	-	-	-	-	-
23.	I think the medical care at this surgery could sometimes be better.	-	-	-	-	-
24.	I am satisfied with most things about this general practice.	-	-	-	-	-
25.	This surgery building should be improved to make it more pleasant inside.	-	-	-	-	-
26.	There are never any problems in seeing the same doctor each time you go to the surgery.	-	-	-	-	-

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Table 3.24. The questions on SSQ6. For all questions, the respondent was asked to indicate one of five possible answers - strongly agree, agree, neutral, disagree, or strongly disagree. \*indicates questions that have been re-worded for inclusion on SSQ6.

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### The sample of patients

In previous pilot tests the patients asked to complete SSQ had been selected from those attending for consultations. In the test of SSQ6 different samples of patients were included in order to permit a test of construct validity to be undertaken (see Chapter Four).

Two groups of patients were identified. One consisted of 400 patients who had changed the general practitioner with whom they were registered, without a change of their home address or a change in the provision of services such as the retirement of their doctor or the closure of a branch surgery. These patients were identified by Avon Family Health Services Authority (FHSA) through receipt of registration notifications from general practitioners. These patients were invited by post to complete SSQ6 and CSQ6 with reference to the surgery they had just left. Patients were also asked for their age and sex, and the time since their last consultation at the old surgery. When more than one qualifying adult were living at the same address the questionnaires were sent to only one, alternately males and females. Patients aged 16 or less were excluded. A covering letter was enclosed with the questionnaires, with a reply paid envelope for their return to the General Practice Unit, University of Bristol. Non-responders were sent a second letter, and a further copy of the questionnaire, and those who still failed to respond were sent a second reminder. Patients in this sample will be referred to as "patient exits".

The second group of patients were random samples from two practices. The

samples were identified using a table random numbers matched to the patient's unique number on each practice computer. One surgery was in Bristol (practice B in table 3.19) and the other was the Leckhampton surgery. SSQ6 was posted to 221 patients from the Bristol and 648 from the Leckhampton practices. Non-responders were sent a reminder letter and further questionnaire. Patients in this sample will be referred to as "practice patients".

## Results

Only the findings of the pilot evaluation of SSQ6 are reported here. After three mailings, 272 patients who had changed their addresses without changing their general practitioners returned completed questionnaires, a response rate of 68.0%. 178 patients (response rate 80.5%) from the Bristol practice and 533 from the Leckhampton surgery (response rate 82.3%) also returned questionnaires. Non-responding patient exits were younger than responders, median 38 years compared to a median of 40.5 years for responders ( $p < 0.05$ ). There was no significant difference in sex between responders and non-responders. Non-responding practice patients were also younger than responders, median age 47 years compared to 51 years ( $p < 0.001$ ).

The total number of completed questionnaires was 983, and in the findings that follow these have been combined for analysis (differences in satisfaction scores between the two samples are examined in the next Chapter). The distributions of responses to each question are shown in table 3.25. The rate of non-response to questions was low, the

mean being 1.3%. The highest non-response rate was 3.4% for Q11 ("The doctors at this surgery never make mistakes"), and the lowest non-response rate was 0.4%, for Qs 2, 7 and 9. Whilst positive responses predominated, a relatively wide range of response was obtained, particularly for certain questions. No question had a mean score below 2.04, and nine questions had a mean score of 3.0 or higher.

Principal components analysis identified the same factors that were encountered with SSQ5 (table 3.26). The first component had five questions, concerned with aspects of the practice premises. The second component also had five questions, each concerned with whether or not the patient is able to see the same doctor at each consultation. The third component had four questions, each concerned with aspects of travelling to the surgery. The fourth component had five questions, concerned with making appointments or telephone contact with the surgery. The fifth component had four questions, concerned with medical care and whether the doctors make mistakes. Therefore, titles of the components suggested after the pilot test of SSQ5 were retained. The majority of questions loading strongly with their component, and only weakly if at all with any other component. The internal consistency of the components was also satisfactory, and better than had been achieved with SSQ5 (table 3.27).

Question	Scores					Missing	Mean	SD
	1	2	3	4	5			
1	121	379	195	224	44	20	2.68	1.10
2	185	422	232	96	44	4	2.38	1.04
3	159	439	76	230	74	5	2.61	1.22
4	191	442	133	146	61	10	2.43	1.15
5	132	428	303	76	32	12	2.43	.95
6	78	332	169	279	116	9	3.02	1.19
7	274	500	121	60	24	4	2.04	0.89
8	190	452	130	151	55	5	2.42	1.13
9	86	335	123	339	96	4	3.03	1.20
10	264	469	116	89	35	10	2.14	1.03
11	36	155	533	180	46	33	3.05	.83
12	76	284	237	315	62	9	3	1.09
13	89	320	140	299	130	5	3.06	1.24
14	158	494	159	124	30	18	2.35	1.00
15	68	285	88	454	74	14	3.19	1.15
16	184	398	248	105	29	19	2.37	1.01
17	85	386	127	279	87	19	2.89	1.18
18	52	358	209	282	68	14	2.96	1.08
19	158	391	272	120	27	15	2.45	1.00
20	69	235	251	287	125	16	3.17	1.15
21	200	458	134	137	41	13	2.34	1.08
22	47	259	126	423	110	18	3.30	1.13
23	0	0	257	0	52	13	2.68	1.06
24	172	548	107	115	31	10	2.27	.99
25	179	415	239	102	33	15	2.38	1.01
26	72	229	176	376	117	13	3.24	1.16

Table 3.25. Scores for questions of SSQ6, showing the number of missing responses, means and standard deviations for each question (n=983).



Question	Component 1	Component 2	Component 3	Component 4	Component 5
16	.90	.11	.06	.09	.13
25	.89	.10	.11	.11	.14
19	.88	.08	.07	.11	.14
7	.78	.03	.08	.05	.25
2	.73	.08	.15	.13	.12
15	.04	.84	-.02	.10	.12
9	.08	.82	.07	.25	.13
3	.04	.77	-.00	.24	.18
26	.12	.77	.04	-.03	.21
20	.13	.73	.08	.30	.09
21	.09	.03	.89	.04	.03
10	.15	.05	.88	.06	.00
4	.09	.00	.87	.09	.00
14	.07	.05	.86	.05	.09
18	.07	.04	-.01	.75	.11
6	.01	.04	.05	.74	.04
22	.09	.38	.08	.72	.11
17	.18	.34	.12	.72	.15
13	.21	.26	.10	.72	.13
5	.15	.15	.06	.11	.81
8	.31	.17	.07	.15	.78
11	.07	.21	-.04	.09	.76
23	.35	.18	.06	.18	.73

Table 3.26 Rotated factor matrix of SSQ6. n=983

Table 3.27.

Components	Alpha
General Satisfaction	.87
Accessibility	.91
Availability	.83
Continuity	.89
Premises	.92
Medical Care	.87

Table 3.27: Reliability coefficients (internal consistency, Cronbach's alpha) for SSQ6. n=983

## Discussion

The satisfactory response rates indicated that postal administration is a reasonable alternative to administration directly to attending patients. Indeed, the response rate by postal administration was lower than would be expected from administration in the practice for one group of patients only, those who had changed their doctor without notifying the FHSA of a change in their home address. Some patients in this group only responded after three mailings although the eventual response rate was higher than the 54.5% achieved in another survey of patients of this type (Billinghurst and Whitfield, 1993). It is possible that these patients were particularly reluctant to respond because they had criticisms of their previous surgery which they did not wish to express. It is also possible that some of these patients had, in fact, changed their address but had not informed the FHSA. The patient exits were younger than the practice patients, a finding that may reflect the association between levels of satisfaction and patient age, satisfaction usually increasing with age (Hall and Dornan, 1990).

The level of non-response to individual questions was low. This gives some support to the view that the questions are generally acceptable and comprehensible to patients. Administering the questionnaire by post does not appear to have increased the non-response rate, indeed, by allowing patients to complete SSQ6 at home rather than before leaving the surgery they may have had more time to consider and respond to each question. These findings taken together do suggest that SSQ is equally suitable for administration by post and on the practice premises.

The tendency of patients to express only positive views has, to some extent, been overcome, as most questions have attracted a reasonable distribution of response. However, this may in part be explained by the inclusion of a group of patients in this pilot test who were likely to be particularly dissatisfied, as a result of which they have changed their general practitioner. This pilot test also included patients from two general practices in addition those who had been registered with many different practices in Avon FHSA area. Nevertheless, the varieties of patients and practices represented in the sample is still relatively narrow. Before the sensitivity of the questionnaire to different levels of satisfaction and different practices is confirmed it would need to be used in a wider range of settings.

The component structure was relatively robust, with questions clearly loading with their principal component. The addition of nine questions to those included on SSQ5 did not alter the component structure; indeed the loadings were more clear cut. The levels of reliability as indicated by Cronbach's alpha were higher than those achieved with SSQ5. Therefore, SSQ6 was judged suitable for further evaluation without modifications.

### **3.4. Discussion of the development of CSQ and SSQ**

#### **Introduction**

Since the same methods were used for the development of CSQ and SSQ this discussion will consider both together. The process of development began with the identification of issues which should be addressed by the inclusion of specific

questions in the questionnaires. Questions were then constructed to address each issue and evaluated in a series of tests which involved administration to samples of patients, the responses to each question being assessed for range of response and non-response, and the questionnaires as a whole being assessed by principal components analysis and a measure of internal consistency. The number of questionnaires for the assessment of patient satisfaction that have subjected to this degree of evaluation is limited. A small number have been developed in the USA, but these have not been evaluated for use in this country. The aim of the development of CSQ and SSQ was to provide measures of patient satisfaction for use in routine evaluation and in research studies, the questionnaires being suitable for wide use and their properties adequately documented. In this section consideration will be given to the question: "to what extent has the early development of the questionnaires enabled this aim to be fulfilled?"

### The identification of the issues

The published sources used to identify the issues of concern to patients were varied and extensive. Literature about patient satisfaction with general practice in the UK was consulted, a substantial body of research being encountered. In particular, a relatively large number of surveys have been reported by sociologists. Information from north America was also consulted, including reviews of research studies, surveys, and questionnaires developed using psychometric techniques. A weakness shared by many of these studies is the relative neglect paid to exploring the concerns of patients using qualitative methods. The most common method that has been chosen for developing satisfaction questionnaires has been to consult other questionnaires,

questions being selected that appear relevant to the researcher with the consequent danger that some issues of concern to patients will be omitted.

CSQ and SSQ may, to some extent, share this weakness. No formal qualitative survey was undertaken by use of detailed interviews of individual patients or group interviews employing focus group techniques. However, the first pilot test of each questionnaire did include open questions to elicit comments about topics that had not been considered elsewhere in the questionnaires. Other attempts made to ensure that patient comments were acknowledged included discussion with members of the patient participation group at the Leckhampton surgery and by paying attention to comments made informally by patients to members of the practice team. This is an approach which has been developed further as a system for practices to monitor and respond to patients views about services (French et al, 1994). Furthermore, more recent studies which have used qualitative methods, including open questions, have confirmed that the views of patients about general practice can, generally, be categorised into the components of CSQ and SSQ. For example, this is demonstrated by the extensive study of patients who changed doctors but not their home address undertaken by Billingham and Whitfield (1994). In a comparison between CSQ and SSQ and patient interviews using the critical incident interview technique the issues identified were generally included in the scales of the questionnaires (Lewis and Williamson, 1995). Nevertheless, there must be some reservations about the limited preliminary qualitative investigation and any future attempts to develop measures of satisfaction should address this issue.

## The Pilot Tests

An extensive series of pilot tests were undertaken, to a degree relatively unusual in studies to devise methods of assessing satisfaction. Both CSQ and SSQ were developed through six versions, each being carefully assessed using a variety of techniques from simple perusal of responses and comments of responders written on the questionnaires, checking for ambiguity supported by the reviews of colleagues, to more complex psychometric tests such as principal components analysis. Once familiarity with the methods had been attained, the analyses and their interpretation were generally straight forward, and the repeated pilot tests, often in several different practices, proved easy to organise, although on one occasion the procedure for the administration of SSQ broke down in one practice. Thus, clear, standardised instructions for the administration of the questionnaires would be required if they are to be widely used, and the instructions should include information for practice receptionists and managers who are likely to have an important role in the organisation of surveys in the practice. As the methods can be applied relatively easily, there are implications for the development of questionnaires in the future, particularly those that are intended to be suitable for wide use or as measurements of patient opinion in research studies. If quantitative instruments are used in research, the researchers should attempt to assess at least some of their properties such as validity and reliability.

The component structure of the questionnaires became clearer through the process of pilot tests. This was in part, due to the improvement of questions and the elimination of ambiguous questions. It may also have been due to the re-wording of questions to

enable a wider range of opinion to be obtained. Often this was achieved by introducing qualifying words or phrases which made criticisms more acceptable, for example "sometimes ... ", or "I wish .." or "it can ...". These changes may have made it easier for patients to express some dissatisfaction without feeling that they were being directly or strongly, critical of their general practitioner.

Despite these wording changes, there was still a tendency for questions to most commonly attract positive responses for two possible reasons. The first is that if questions are still poorly worded negative opinions would be deterred, and the second that if patients are generally satisfied, the responses accurately reflect their opinions. It might have been possible to modify the wording of questions even further, but there was a risk that questions would become so bland that content validity would be compromised. For example, a question worded "On very rare occasions, it can be a little difficult to get an appointment immediately" might attract a substantial level of agreement, but the interpretation of the responses as critical or as evidence of dissatisfaction could be difficult to justify. It could be argued that the question "The doctors at this surgery never make any mistakes" (Q12 on SSQ6) could only be answered in the negative, and therefore might lack validity as a measure of satisfaction. However, a wide range of opinion was expressed in response to the question, 36.6% of respondents either strongly agreeing or agreeing that the doctors never make mistakes, and 38.4% either disagreeing or strongly disagreeing. In the light of these considerations no further changes to question wording were made, but it was clear that assessments of the validity of the questionnaires would be required. This issue will be considered in the next chapter.

During the development of SSQ questions about receptionists and delays in waiting to see the doctor were discarded. These questions appeared to be less discriminating, and may have been largely measuring general satisfaction or were simply poorly worded. However, SSQ does not address this aspect of service delivery, which has attracted some interest as part of the Patient's Charter for primary health care (Department of Health, 1992). Should further development of SSQ be undertaken, the re-introduction of questions on this topic might be considered.

The response rates of patients during the pilot tests were generally satisfactory. Patients did appear to be pleased that their opinions were being sought. However, the response rate to CSQ may have been lower than that achieved by SSQ, although firm conclusions about response rates must await wider use of the questionnaires. It is possible that patients found questions about their personal general practitioner relatively intrusive and were more reluctant to answer them than questions about the practice in general. Alternatively, as they were asked to complete CSQ after their consultation they may have preferred to leave the surgery without further delay.

The sensitivity of CSQ and SSQ to range of levels of satisfaction cannot be confirmed from their use in a limited number of practices during the pilot studies, although differences in scores were obtained. The scoring system was confusing, a low score indicating satisfaction. This scoring method is more appropriately considered a dissatisfaction scale, and some of the participating doctors found the system unclear. Furthermore, a scale from one to five also could be confusing, making interpretation of numerically small differences in scores difficult to those not familiar with CSQ or SSQ. Therefore, a more easily understood scoring system is required.



## Conclusions

The construction of CSQ and SSQ has shown that the systematic development of measures of patient opinion is feasible, and suggests that future questionnaire developers should attempt to use at least some of the appropriate techniques to assess the merits of their instruments. CSQ and SSQ appear to be reliable, and to obtain a range of opinion, although further study would be required for confirmation. A clear set of instructions is needed to guide the administration of the questionnaires by staff in different practices, along with a more easily understood scoring system.

In view of the limited use of qualitative survey techniques at the outset, and the modification of question wording to encourage the expression of critical opinion, tests of validity would be required before CSQ and SSQ could be recommended for wider use. Furthermore, information about scores obtained by a larger sample of practices or general practitioners would be helpful to future users. Further studies to address these issues are described in the following chapters.

## CHAPTER FOUR: STUDIES OF VALIDITY

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### 4.1. Introduction

To determine that a test is measuring what it is intended to measure requires some evidence of validity (Streiner and Norman, 1989 p. 106). The Standards for Educational and Psychological Testing of the American Psychological Society (Committee to Develop Standards for Psychological Testing, 1985 p. 9) suggest that validity is the most important consideration in test evaluation, defining it as a concept referring to the appropriateness, meaningfulness and usefulness of the specific inferences made from test scores. Cronbach (1990 p. 185) has emphasised that if a test is wrongly interpreted it is worthless in the time and place in which it has been used, arguing that it is legitimate to speak of the validity of a test only as an abbreviation. Validity should be related to the specific use of the test, the more correct question being "how valid is this test in these circumstances?", or "how valid are the interpretations I am making from the test scores?"

There are a number of additional reasons why the assessment of the validity of measures of patient satisfaction is particularly important. First, satisfaction is an attitude, as defined in the model of patient satisfaction (Chapter One), and is not a concrete entity that might be selected for assessing other aspects of health care, for example the level of equipment of a general practice, or the medical qualifications of a doctor. Second, there is no widely accepted or evaluated theory of satisfaction.

Therefore, the level of satisfaction is not a manifestation of a well understood process with clearly defined outcomes, as, for example, HbA1c in insulin dependent diabetes mellitus, which has been shown to be related both the degree of control of the diabetes over a specific period of time and the risk of long term complications (Diabetes Control and Complications Trial, 1993). As a result of this lack of a clear understanding or theory of satisfaction it is particularly important to establish what an individual test of satisfaction purports to measure.

Third, if the results of satisfaction measures are to be of value in the evaluation and planning of services the users of questionnaires must have confidence in the findings. There is only limited evidence of the use of patients' opinions in clinical audit (Kelson, 1995) and this may be partly explained by scepticism about the merits of measures that invariably show that the majority of patients are "satisfied". If clinicians have doubts about the validity of the findings of satisfaction surveys they are unlikely to be motivated to respond to them. The inferences likely to be drawn from SSQ and CSQ are whether the patients of one practice or general practitioner are more or less satisfied than the patients of other practices or general practitioners. Since the results may be difficult for some doctors to accept, particularly those who appear to have the least satisfied patients, they may prefer to reject the findings as not valid. In the absence of firm evidence about validity this response could be difficult to refute.

Fourth, as discussed in Chapter One, information about patient opinions is increasingly being sought by NHS staff and used to guide changes in the provision

of services (NHS Management Executive, 1992; Dixon and Carr-Hill, 1989). It is important, therefore, that the chosen measures do provide sound evidence so that policy decisions are appropriate. The widespread use of inadequately evaluated measures could lead to poor decisions being made and so make NHS staff suspicious of patient surveys, delaying the emergence of a health service fully attuned to the needs and wishes of patients, carers and other users.

Because of these considerations the validity of CSQ and SSQ has been assessed. Validity cannot be confirmed by the findings of a single study, but depends on repeated tests which are interpreted in the light of a defined theory underlying the contents of the questionnaire (Cronbach and Meehl, 1979). Therefore, in this chapter, the different types of validity are described, CSQ and SSQ are reviewed in relation to each type, and two studies are described, one concerned with the criterion validity of SSQ and the other concerned with the construct validity of both CSQ and SSQ.

#### **4.2. Types of validity.**

Although the main principles for the classification of the types of validity are widely accepted, there are differences in the terminology used by different authors. In the discussion that follows, the classification proposed by Streiner and Norman (1989) will be used. This classification was related to the development of health measurement scales, but is suitable for applying to the assessment of the validity of measures of patients' opinions. Streiner and Norman (1989 p. 107) divide validity into three types; content, criterion and construct. The same classification is used by Cronbach (1990

p. 144) and Kline (1993 p. 15).

### 1. Content validity

In assessing content validity, the test is examined to make sure it contains questions on each factor that is important to the patient's decision about satisfaction. The questionnaire should include a representative sample of the universe of all possible questions relevant to patient satisfaction (Committee to Develop Standards for Psychological Testing, 1985). A measure that includes a more representative sample lends itself to more accurate inferences being drawn from the results or scores. If there are issues relevant to patient satisfaction omitted from the questionnaires inferences may be less accurate. One approach to assessing content validity is to ask a group of judges who are familiar with the topic to assess the measure (Kline, 1993 p. 21).

Face validity is related to content validity, and is an indication of whether the measure appears to be assessing the desired issues. It may be judged by review of the measure by one or more experts, with empirical methods of assessment rarely being used (Streiner and Norman, 1989 p. 5).

### 2. Criterion validity

In assessing criterion validity a measure or criterion is chosen that is accepted as being concerned with what the test is supposed to measure. The test or questionnaire

is then compared with this accepted "criterion" or "gold standard" (Cronbach, 1990 p. 152). The test of validity is then the correlation of the measure with the "gold standard". Criterion validity is divided into two types, concurrent or predictive. With concurrent validity, the new questionnaire and the "gold standard" are administered at the same time, and the findings of the two scales compared. In predictive validity, the criterion is information which becomes available some time in the future. One illustration of predictive validity is in the ability of an examination such as the advanced general certificate of education (A' level) to predict a person's performance on graduation in three or four years time. In this case, the criterion is the person's eventual performance, and such criteria are sometimes referred to as outcome criteria (Committee to Develop Standards for Psychological Testing, 1985 p. 11).

### 3. Construct validity.

Constructs can be thought of as theories to explain the relationships among various behaviours and attitudes (Streiner and Norman, 1989 p. 113). Construct validity seeks to place the theory on which the test is based into a network of laws, at least some of which must involve observables that can be subjected to measurement (Cronbach and Meehl, 1979). The network of laws arises from available research evidence, and explains the relationship between presence of the attitude being measured by the test and a particular change in behaviour of the subject. In order to test the construct validity of a measure studies are undertaken to determine whether inferences drawn from the results of the measure are in accordance with the construct. For example, if a theory or construct about X categorises people into groups according to certain

attributes A, B, and C, where A, B, and C are other instruments, behaviours or diagnoses which can be observed, then a test of X should categorise people into the predicted groups. Thus, an assessment of construct validity assesses not only the measure's validity but also tests the theory at the same time (Streiner and Norman, 1989 p. 115).

There are several approaches to establishing construct validity. The most straightforward is comparison of extreme groups. In this case, two groups of subjects are compared, one group of which has the attribute or behaviour in question, and the other group does not. The groups are referred to as extreme groups, and a measure intended to distinguish subjects on the basis of the presence or absence of the attribute should score one group significantly differently from the other. One weakness of extreme group comparisons is that differentiating between two very different groups of subjects may not present a very demanding assessment of the measure.

An alternative method is to assess how closely the new scale is related to other variables or other measures of the same construct to which it should or should not be related. The Standards for Educational and Psychological Testing (Committee to Develop Standards for Psychological Testing, 1985 p. 15) recommend that "Construct-related evidence of validity should demonstrate that the test scores are more closely associated with variables of theoretical interest than they are with variables not included in the theoretical network". In testing convergent validity, the degree of correlation expected between the new scale and the other measures will depend on the extent to which they are both concerned with the same attribute or trait

(Cronbach 1990 p. 182). If the two measures agree, despite superficially appearing to be dissimilar, the proposed theoretical interpretation (or construct) is supported.

However, if the new scale covers aspects of an attribute not covered by existing scales, the correlation should be relatively low. Thus, the scale should not only correlate with related measures or variables, it should also not correlate with unrelated variables. This is referred to as discriminant validity or divergence. For example, if the construct of patient satisfaction indicates that there is no relationship between the patient's intelligence and reported satisfaction, finding a relationship may indicate that the questionnaire is complex and demands a minimum level of intelligence to understand it. There may also be other explanations for finding a relationship, for example the construct itself may be incorrect (Streiner and Norman, 1989 p. 118).

Convergent and discriminant validity can be assessed simultaneously in a more complex procedure known as the multitrait-multimatrix method. Two or more unrelated traits or attributes are measured at the same time by two or more methods. The pattern of correlations enables an assessment of construct validity to be made. For example, low correlations would be expected between the measurement of different traits using the same method, but correlations between measures of the same trait using the same method but on separate occasions should be high.



#### 4. Summary

Assessment of the validity of CSQ and SSQ is essential if these questionnaires are to be used widely. The purpose of tests or measures, including those assessing patient satisfaction, is to enable inferences to be drawn from the results concerning an attribute or attributes of the subjects. The most important property of measures is the extent to which confidence can be placed in the inferences that are drawn, that is the validity of the measure. In this section three principal types of validity have been outlined - content, criterion and construct validity - each of which are assessed using different methods. In assessing validity of a measure, the results of several tests are more useful than the results of a single test. The following sections of this chapter will describe the steps taken to assess the validity of CSQ and SSQ. Each form of validity will be considered in turn.

#### **4.3. Content validity**

A number of arguments can be put forward to support the validity of inferences drawn from the results of SSQ and CSQ. The first is that the generation of statements followed careful review of studies of the factors that influence patients' views about general practice (see Chapter Two, section 2.2.2.). The purpose of reviewing available evidence about patient opinion was to ensure that all the relevant issues were identified.

Secondly, the literature on patient satisfaction was supplemented by open questions

issued directly to a small number of patients to check that no important issues had been overlooked. These open questions were included on the first versions of the questionnaires, and although the use of open questions or other qualitative methods was limited, no major omissions were identified.

Thirdly, in order to check that all issues had been addressed, the questionnaires were submitted to two groups with particular insight into the views of patients. The first group was composed of 17 health professionals or researchers, including general practitioners, nurses and psychologists. The second group consisted of representatives of the Leckhampton surgery patient participation group. Neither group identified major omissions from the questionnaires.

Supporting evidence for these findings can be obtained from other studies of patient opinion and from other questionnaires. Among this type of evidence concerning doctor/patient consultation is a recent survey of 454 adults in the south east of England, which identified communication, the nature and quality of the doctor/patient relationship and general practitioners' professional skills as key criteria most strongly associated with general satisfaction (Williams and Calnan, 1991). These issues are all addressed by CSQ. In a questionnaire survey of 1,423 patients who changed their general practitioner without changing their home address, distance to the practice was given as the reason by 41% of patients, dissatisfaction with personal care given by the general practitioner was mentioned by 35% and 36% mentioned dissatisfaction with practice organisation (Billinghurst and Whitfield, 1993). These issues are addressed by either CSQ or SSQ.

A recent American questionnaire has categorised patient concerns into technical and interpersonal aspects of care (Ware and Hays, 1988), components that are similar to professional care and depth of relationship in CSQ. The cognitive and behavioural factors of the Medical Interview Satisfaction Scale (MISS) (Wolf et al, 1978) have similar content to the professional scale of CSQ, whilst the MISS affective scale can be compared to the depth of relationship scale. However, the steps taken to identify the issues to be considered in MISS are not clearly reported, and formal psychometric techniques may not have been employed.

The patient satisfaction questionnaire (PSQ) (Ware et al, 1983) has seven scales, access to care, financial aspects, availability of resources, continuity of care, technical quality, interpersonal manner and overall satisfaction. Another questionnaire developed in north America included 26 questions divided into two scales, general satisfaction and satisfaction with specific aspects of care (Roghamann et al, 1979). This questionnaire was subsequently used in a survey in primary medical care (Weiss, 1988). The specific questions considered a variety of issues including getting an appointment, getting to the service, the doctor's behaviour such as spending enough time and being careful, and giving enough information. These issues are covered by either SSQ or CSQ.

Another American scale revealed professional and personal factors (Zysanski et al, 1974), though concern about the financial cost of care is often included in questionnaires from the USA. This is clearly less important to British patients, but another factor, perceived time, was found during the development of CSQ to be

important in this country. The content validity of this component is supported by a study showing that patients were more likely to complain of shortage of time in consulting sessions booked at shorter intervals (Morrell et al, 1986).

Although there are similarities between CSQ and these questionnaires, CSQ appears to have developed the understanding of patients' opinions. The separation of opinions into those concerning professional aspects of care and the depth of the relationship reflects the technical and interpersonal components of other questionnaires, but expands the concept of technical to include the behaviour of the doctor in his or her professional capacity. Patients appear to expect general practitioners to treat them as people. They also value the relationship they have with their doctor, in particular a relationship that permits them to disclose personal information and feel that they have been understood. These concerns may be specific to the doctor/patient relationship in general practice. Patients may expect a different form of relationship with hospital specialists, and so use of the questionnaire outside the context of general practice should not be undertaken without validation for use in such settings.

In developing a new questionnaire for use in general practice in Britain, Bamford and Jacoby (1992) asked a group of doctors and practice managers to identify suitable questions. Draft questionnaires were used to interview samples of patients of three general practices in order to identify any issues which had been omitted. A second sample of patients were asked to complete the questionnaire, their responses being discussed with them by the researchers. Two questionnaires were devised, one was concerned with accessibility and the other with interpersonal aspects of care at a

recent consultation. The accessibility questionnaire considered the patient's knowledge of the practice including surgery times and the appointments system, the role of reception staff, the ease of getting the most recent consultation, and overall accessibility. The second questionnaire included questions on the listening skills of the doctor, information given by the doctor, and overall satisfaction.

A number of reviews of patient satisfaction measurement have included the collection of information about the factors patients take into account in judging satisfaction. These include the review by Hall and Dornan (1988), a recent review by Lewis (1994), and an early review by Ware (1981). The content of SSQ and CSQ include questions identified in the development of these reviews, but it should be acknowledged that many of the studies on which the reviews are based were undertaken in other countries, and not in general practice. Furthermore, the developers of questionnaires may have been unduly influenced by the content of other questionnaires. In this case, a new questionnaire may only reflect already established prejudices rather than the issues of most concern to patients.

In summary, consideration of the content validity of CSQ and SSQ has produced reassuring findings. Issues identified in other surveys of patient opinion or during the systematic development of other questionnaires are addressed by either CSQ or SSQ. Informal reviews by a limited number of professionals and patients have supported this conclusion. Furthermore, CSQ in particular has increased the level of understanding of how patients judge consultations. However, whilst these findings are reassuring, this cannot be viewed as definitive evidence. Other tests of validity are

required.

#### **4.4. A study of the criterion Validity of SSQ5**

##### **Introduction**

Some evidence of criterion validity is provided by a study comparing CSQ and SSQ with patient interviews (Lewis and Williamson, 1995). Three practices in east Sussex took part, 100 patients in each practice completing the questionnaires and 30 being interviewed. The interviews employed the critical incident technique (Bradley, 1992) with the aim of establishing which particular aspects of a clinical encounter determine the patient's impression of it. The issues identified by the critical incident technique were generally those that were included on the questionnaires and were felt by the authors to support questionnaire validity.

The interpretation of this finding does depend, however, on the extent to which the critical incident technique can be considered an adequate criterion or "gold standard". Since the method has not been used frequently in assessments of patient opinion, this should not be accepted as sufficient evidence of criterion validity, although the study does suggest that the questionnaires were valid in the setting in which they were used. Nevertheless, the findings are valuable as the study was undertaken by researchers independent of the developer of the questionnaires.

A study with the aim to test the criterion validity of the fifth pilot version of SSQ

(SSQ5) will now be discussed (Baker, 1991). CSQ was not included in this study.

### Method

Those aspects of the study which involved the basic assessment of the questionnaire have already been described in Chapter Three (section 3.3.5.). SSQ5 consisted of 17 questions, and had six principal components, general satisfaction, accessibility, availability, continuity, medical care and premises. There were between two and four questions in each component.

### *The Criteria*

Two criteria were chosen against which the findings from SSQ could be compared. These were (a) the views of the general practitioner principals working in a practice about their own practice, and (b) the views of a general practitioner external assessor about the practice. Both these criteria were measures of aspects of the practices, rather than alternative measures of patient satisfaction. No measure of patient satisfaction with general practices was then available which could be considered to be a "gold standard" or acceptable criterion. Therefore, the study was an assessment not only of the validity of SSQ5 as a measure of patient satisfaction but also of the validity of patients' judgments about their practices. The demonstration of high levels of correlation between patient satisfaction and external assessments of the practices would indicate that SSQ5 was identifying patients' views which were themselves valid judgments about the practices. Low levels of correlation might arise if patients' opinions were being identified by SSQ5 but those opinions were themselves invalid,

or if SSQ5 was not validly identifying patient satisfaction.

In order to have confidence in a test of criterion validity it is necessary to use criteria which can be accepted as valid. The doctors working in a surgery will have a detailed knowledge of the practice and its activities. However, they will be unlikely to be able to compare themselves with other practices as their knowledge of others will be limited and relatively superficial. Furthermore, they may be generally content with their own practice and be unlikely to adopt a critical stance. Whilst they may have some appreciation of patients' opinions about the practice as a result of spontaneous remarks made by patients they may not be able to fully understand patients' points of view. Therefore, the doctors' views alone should not be used as the acceptable criterion. An independent assessment is also needed, in particular one that is able to compare one practice with another.

External practice assessment can be undertaken using different methods of variable complexity (Baker, 1988). External assessment by peers has been most widely used in the approval and re-approval of trainers in general practice, where the principal method is a visit to the surgery and a simple inspection of facilities and protocols of organisation. There is evidence that the assessment procedure does distinguish between practices (Baker, 1985; Baker, 1992), supporting the contention that external assessment of practices by peers is a valid criterion. Therefore, an external assessment which follows the general approach used in training practice visits was chosen as the second criterion for the study. Other external assessment schemes include the "What Sort of Doctor?" scheme (Royal College of General Practitioners,



1985) and the system of fellowship by assessment (Royal College of General Practitioners, 1993), both of which are principally concerned with assessment of individual general practitioners and only to a lesser extent the practice itself.

#### *Administration of SSQ5*

The eight practices included in the study were invited to participate because one or more doctors in each surgery were acquainted with the investigator. Nine were approached but the doctors in one practice did not wish to take part. The characteristics of the practices have been described in Chapter Three (table 3. 18).

Comprehensive instructions were given to each participating practice. At each practice 100 consecutive patients attending for an appointment with a general practitioner were asked to complete a copy of SSQ5. Patients under age 16, those unable to complete the answers because of their illness and those unable to read or write were excluded. Patients were instructed to complete the questionnaire before leaving the practice. As no method of identifying patients was included on the questionnaire patients could be sure that comments would be anonymous. It was also labelled to show its origin as being the General Practice Unit, University of Bristol, not the practice. The scores for components of satisfaction for each practice were the means of the answers of all questions in each component.

#### *Assessment of the practices*

Before questionnaires were distributed, one member of each participating practice was asked to assess the features of their practice being considered by SSQ. They were

given a form, and requested to indicate a self-assessed score for each component on a scale of one to five. A score of one was used to indicate the best assessment, three indicated an average assessment and five indicated the worst assessment. An assessment of the practice was requested rather than a prediction of what might be the patients' views.

In addition, a general practitioner external assessor made a short practice visit before the questionnaires were issued to make a similar assessment. The assessment procedure included an inspection of the premises, recording of list size and number of doctors, observation of the reception of patients, the booking of appointments, the work of receptionists, and discussion with the staff and at least one doctor. These are all elements of routine training practice inspection visits in the South Western Region (Regional General Practice Education Committee, 1986). One external assessor visited each surgery. Overall, two assessors were used. They both had extensive experience of practice assessment, being established general practice trainers who had participated in training practice inspections. They had both been subjects and assessors in "What Sort of Doctor?" (Royal College of General Practitioners, 1985) visits, and participated in pilot visits to test the new scheme of fellowship by assessment of the Royal College of General Practitioners (Royal College of General Practitioners, 1993).

The scores awarded by the external assessors or the general practitioners themselves were in a 1 to 5 format, 1 indicating good performance and 5 poor performance. This type of scale was chosen for its simplicity and also to permit direct comparisons with

the patients' satisfaction scores. The scores for each practice awarded by patients, doctors and external assessors were compared by means of Spearman correlation coefficients (Altman, 1991 p. 286).

## Results

The response rate of patients asked to complete SSQ5 was 86.4%, ranging from 67% in one practice to 96% in another (see section 3.3.5.). The mean patient satisfaction scores for each practice are shown in table 4.1, together with the scores assigned to the same features of practice performance by the general practitioners themselves and by the external assessors.

The correlation coefficients between the patients' satisfaction scores and the scores assigned by the doctors themselves and the external assessors are shown in table 4.2. The correlations were higher between the patients' and assessors' scores rather than between the patients' and doctors' own scores. The levels of correlation were high between the patients' scores and the doctors' scores for continuity and premises, and moderate for availability. Levels of correlation were also high between the patients' scores and the external assessors scores for continuity and premises, and moderate for accessibility, availability and medical care.

Table 4.1.

Assessments	A	B	C	practices				H
				D	E	F	G	
<i>General satisfaction</i>								
patients' score	2.4	2.7	2.4	2.4	2.6	2.4	2.2	2.0
GPs' assessment	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.0
ext. assessment	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
<i>Accessibility</i>								
patients' score	2.1	2.2	2.2	2.1	2.2	2.2	2.1	2.0
GPs' assessment	3.0	2.0	4.0	1.0	2.0	2.0	2.5	3.0
ext. assessment	1.0	2.0	3.0	2.0	3.0	3.0	1.0	3.0
<i>Availability</i>								
patients' score	3.1	2.8	3.2	2.6	3.1	2.5	2.4	1.9
GPs' assessment	2.0	1.0	3.0	3.0	4.0	1.0	2.0	2.0
ext. assessment	3.0	2.0	3.0	3.0	2.0	1.0	2.0	1.0
<i>Continuity</i>								
patients' score	3.0	3.0	2.8	3.3	2.9	3.0	1.8	1.8
GPs' assessment	2.0	3.0	2.0	4.0	3.0	2.0	1.5	1.0
ext. assessment	2.0	2.0	3.0	4.0	2.0	1.0	1.0	1.0
<i>Medical Care</i>								
patients' score	2.2	2.3	2.2	2.5	2.3	2.2	2.1	2.0
GPs' assessment	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0
ext. assessment	1.0	2.0	2.0	3.0	2.0	2.0	2.0	2.0
<i>Premises</i>								
patients' score	1.9	2.7	2.4	2.0	2.8	2.7	3.1	2.7
GPs' assessment	2.0	3.0	2.0	1.0	4.0	3.0	3.0	4.0
ext. assessment	1.0	2.0	2.0	1.0	3.0	3.0	3.0	4.0

Table 4.1. Mean patient satisfaction scores, general practitioners' scores for their own practices, and the scores of external assessors for aspects of practice performance. For each score 1=satisfaction or good performance and 5=dissatisfaction or poor performance.

Table 4.2.

components of satisfaction	validity coefficients	
	patients' score with doctors' score	patients' score with assessors' score
general satisfaction	-0.41	-
accessibility	-0.22	0.51
availability	0.39	0.64
continuity	0.85	0.80
medical care	0.00	0.44
premises	0.76	0.82

Table 4.2. Spearman correlation coefficients (validity coefficients) between patients' scores and the scores of doctors working in the practices and the external assessors.

## Discussion

This study has attempted to test SSQ5 for criterion validity. SSQ5 had the same components as SSQ6, although SSQ6 included more questions and had higher levels of reliability. Thus, the findings about criterion validity of SSQ5 are relevant to SSQ6. However, it is possible that the lower levels of internal consistency of SSQ5 would impair validity, and that the additional questions of SSQ6 might be interpreted by patients in a different way to questions of SSQ5, so findings about the validity of SSQ5 should not be assumed to be directly applicable to SSQ6.

Cronbach (1990 p. 166) reports that it is unusual for a validity coefficient to rise above 0.6, and so the findings of this validity study are generally reassuring. Whilst the correlation coefficients between patients' scores and external assessors' score are acceptable and do support criterion validity, the levels of correlation between the patients' scores and the doctors' own scores for the components of accessibility, medical care and general satisfaction are low. The external assessor was found to have a closer understanding of the difficulties experienced by patients getting to the practice than the doctors themselves. The doctors may have exaggerated the difficulties patients experience because they see the consequences of poor access caused by limited transport facilities in requests for home visits. An alternative explanation is that they were less sensitive to patients' difficulties than the external assessor. This is unlikely as the external assessors had less local knowledge and had no reason to be more attuned to this particular issue.

The external assessors appeared to find difficulty in differentiating between practices for the score for general satisfaction. They rated all practices with the same score of 2 from the scale of 5, so it was not possible to perform a validity coefficient for this component. The doctors in the practices faced the same problem, and seven indicated a score of 2, the eighth indicating 2.5. The findings for general satisfaction must therefore be viewed with caution. There are also difficulties in assessing the quality of medical care. The external assessor was not able to make a thorough assessment of the process and outcome of care given to patients and so the findings for this component of satisfaction should also be treated with caution.

However, the findings from the comparison with the external assessment in particular do suggest that the components for continuity, premises, accessibility and availability are valid. In addition, the external assessors scores correlated reasonably well with patients' scores for medical care, but there is clearly a need to provide further evidence about the validity of patients' views of medical care.

This study has shown that tests of the criterion validity of patient satisfaction questionnaires in general, and SSQ and CSQ in particular, are possible. However, some qualifications should be made. It could be argued that patients and general practitioners would take different things into account in judging the services offered by a practice. In this case assessment of the attitudes of doctors would be measuring something not measured in an assessment of patient satisfaction with the surgery. If this were the case and the issues of importance to both patients and doctors were fully understood, that is there is an accepted construct about doctors' and patients' different attitudes, an assessment of doctors' attitudes could be included in a test of construct validity. However, in the absence of such a construct the use of doctors' attitudes in a test of construct validity would not be appropriate. If the validity of patients' attitudes assessed by SSQ were supported by other measures of validity a study to compare the attitudes of patients and doctors would be desirable.

An alternative, already validated measure of patient satisfaction is not available. For example, the Medical Interview Satisfaction Scale (MISS) (Wolf et al, 1978) and other questionnaires have not been evaluated for use in this country. Qualitative methods might be used to assess patients' views for comparison with findings from

SSQ and CSQ, and such a study has been reported (Lewis and Williamson, 1995). However, in a formal test of validity the validity of the qualitative method would have to be established. Because of the absence of other measures two indirect measures were used in this study, neither being measures of patient opinion but instead were assessments of the participating practices. This approach, although pragmatic, was less than ideal, and a fully acceptable criterion for testing the validity of general satisfaction remains to be found. Nevertheless, this study has provided reassuring evidence about the validity of SSQ5, but further studies would be required before the questionnaire could be recommended for wide use.

#### **4.5. A study of the construct validity of SSQ and CSQ**

##### **Introduction**

Assessments of the validity of CSQ and SSQ discussed in the preceding sections have suggested that they possess content validity and provided some evidence of the criterion validity of SSQ5. However, direct assessment of criterion validity proved difficult because of the absence of suitable criteria or "gold standards". Therefore, a study of construct validity was undertaken.

A construct is a theory about the characteristic with which the test is concerned and which is supported by evidence from other research (Cronbach and Meehl, 1979). The research evidence predicts what the test should disclose in certain circumstances. If the test performs as predicted it has construct validity, if it fails to perform as



predicted it does not have construct validity.

One problem in testing construct validity is that the theory of patient satisfaction is not fully developed (see Chapter One). However, one element of the theory has been established. This concerns the relationship between levels of satisfaction and the patient's decision to return to, or change, general practitioners or practices, and the relationship between satisfaction and continuity. The construct predicts that dissatisfied patients will be more likely than satisfied patients to change doctors. This is both a logical proposition and a theory supported by many other studies. Reviews by Ware et al (1978) and Pascoe (1983) report that findings consistently indicate that dissatisfaction is associated with either the patient's intention to switch provider or an effected switch. Ware and Davies (1983) have reported on the association between levels of satisfaction and disenrollments from prepaid health plans in the USA over the following ten months. Disenrollment rates ranged from 3% to 30% of patients in different plans, the correlation between satisfaction scores and disenrollment rates being -0.66.

In a study of 1,897 individuals in 576 families in Utah 43% were classified as exhibiting "doctor shopping" behaviour, that is they had changed doctors at some time in the past without referral (Kasteler et al, 1976). Dissatisfaction with aspects of the service was a major factor in the decision to change doctors. The relationship with the physician may be an important factor that patients take into account in deciding whether to change doctors (DiMatteo et al, 1979). In a longitudinal study consumer dissatisfaction was found to predict subsequent changes in the provider (Marquis et

al, 1983). This study was undertaken in Dayton, Ohio with a sample of 279 adults who completed a patient satisfaction scale and were followed up for one year. It was found that a one point decrease in general satisfaction was associated with a 3.4 percentage point increase in the probability of a subsequent change in provider.

Much of the evidence comes from the USA, and it could be argued that patients in Britain and some other countries do not behave in a "consumerist" fashion by changing doctors to seek a better standard of service (Leavey et al, 1989; Lupton et al, 1991). However, even if it is unusual for patients to change doctors, this does not mean that at least some of those patients who do change doctors without changing their home address do so because of dissatisfaction with their original doctor or practice. For example, a study as long ago as 1953 confirmed this association in general practice in Britain (Gray and Cartwright, 1953), and a more recent survey showed that small numbers of patients do indeed change doctors because of dissatisfaction (Ritchie et al, 1979). FHSAs record the numbers of patients who change doctors without changing their address, and Billingham and Whitfield (1993) report that in Avon FHSA in the eight months from March to October 1990 3,080 patients (12.1% of all patients in the FHSA changing doctors in the same period) acted in this way. When asked about their reasons for changing doctor 35% of these mentioned dissatisfaction with the personal care given by the doctor and 36% mentioned dissatisfaction with practice organisation.

In group practice it is usually possible to change doctors without changing to another practice. Patients who are dissatisfied with their general practitioner can usually

consult another within the same practice, depending on practice policy. On the other hand, patients who wish to see their usual doctor will be less satisfied if circumstances such as an over-burdened appointment system force them to see a stranger. Therefore, continuity of care within a practice may also be related to satisfaction, and there is evidence that this is the case (Ware et al, 1978; Pascoe, 1983; Hulka et al, 1975; Linn et al, 1985).

Continuity of care was defined by Hjortdahl (1989) as "medical care over time provided for the patient by one health care worker regardless of the presence of specific pathology or not". Continuity has been seen as an important characteristic of general practice (Gray, 1979; Hjortdahl, 1990). In a survey of 297 general practitioners in Wessex, patients being able to see the same doctor was ranked second out of six options in importance after minimal delay for patients' appointments (Freeman, 1985). In this study the definitions of continuity used by doctors varied, and it was recommended that the concept be defined before it is used in research studies. In a study in four practices of the influence of receptionists on personal continuity, Freeman reported that the effect was small, the more important factor being the policies of the practice doctors (Freeman, 1989). The three practice policies that appeared to have most impact were the reservation of appointments for emergency cases to be seen the same day, the distribution of doctors between main and branch surgeries, and the presence of a personal list system.

Continuity of care may lead to the accumulation of knowledge held by the doctor about the patient, which may influence patterns of care such as prescribing, the use

of investigations and referrals (Hjortdahl and Borchgrevink, 1991; Hjortdahl, 1992). A study in British general practice showed that better drug compliance was achieved when the patient knew the doctor well (Ettlinger and Freeman, 1981). A study in Norwegian general practice has confirmed a link between continuity of care and satisfaction (Hjortdahl and Laerum, 1992). In this study, a sample of 3,918 patients were asked to complete a six point satisfaction scale about their consultation. If the doctor was reported as being the patient's personal doctor for all his or her health problems, the odds of the patient being satisfied with the consultation increased seven-fold.

Therefore, the construct predicts that SSQ and CSQ should classify patients who change doctors without changing their home address as less satisfied than those who do not change doctors. Furthermore, patients who repeatedly return to see the same doctor within a practice should score as being more satisfied than those who move from one doctor to another. A study was therefore designed in which patients in these categories were asked to complete the two questionnaires. The aim of the study was to determine whether CSQ and SSQ do identify these categories of patients according to the construct of satisfaction.

## Method

### *The patient samples*

The study was funded by the South Western Regional Health Authority Regional Research Committee, and ethical approval was granted by the Cheltenham and

District Ethical Committee and the Bristol and Weston District Ethics Research Committee. Two groups of patients were identified. The first (group 1) was composed of 400 patients aged 16 years and over who had changed doctor but had neither changed their address nor experienced a change in the services provided. Those patients were identified by Avon FHSA from the registration notifications of doctors. They were sent both questionnaires and asked to complete SSQ by giving answers for the practice they had just left and CSQ by referring to their last consultation at the previous practice. Patients were also asked for their age, sex, and the time since their last consultation at the previous practice. When more than one adult who had changed doctor was living at the same address the questionnaires were sent to the man or woman alternately. Patients aged below 16 were excluded.

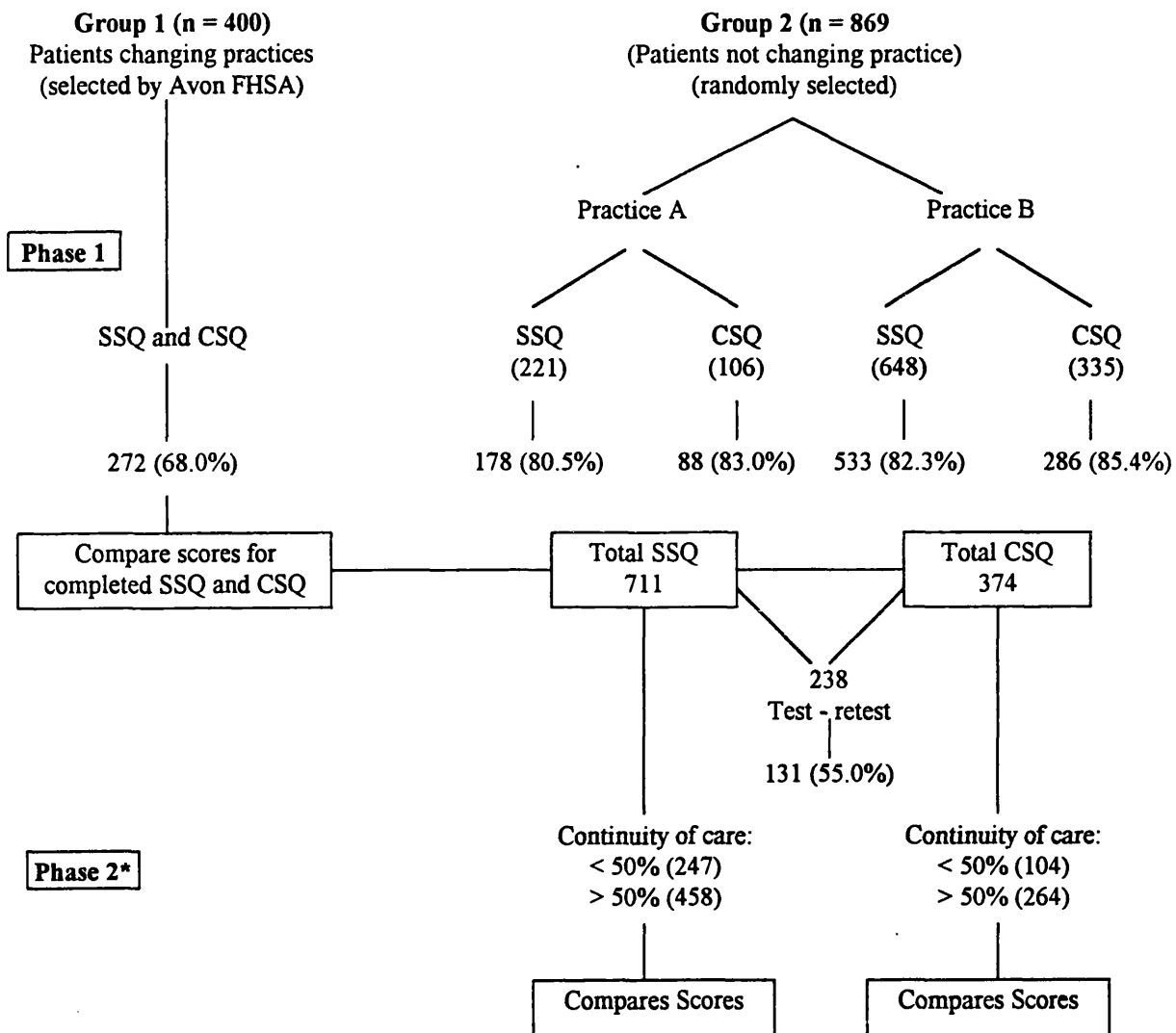
The second group of patients (group 2) comprised samples of patients chosen from the practice registers of two surgeries, using random numbers and the patient's unique number from each practice computer. One practice was in Bristol with 9,800 registered patients (classified as surgery B in this study, and also practice B in the pilot test of SSQ5) and the other was in Cheltenham (surgery A, the Leckhampton surgery) with 12,500 registered patients. A total of 869 patients from these practice was asked to complete both questionnaires. The questionnaires were posted to patients who had changed doctors (group 1) or those identified in the practices (group 2), together with a covering letter and reply paid envelope. The letters and questionnaires were labelled to indicate they had been sent from the General Practice Unit, University of Bristol. A reminder was sent to non-responders after three weeks and a second reminder was sent to patients in group 1 who still failed to respond. Copies

of the questionnaires and covering letters are included as an appendix at the end of this chapter. In both groups 1 and 2 only patients who had consulted in the previous four months were asked to complete CSQ

### *Assessment of continuity*

The study design (see figure 4.1) was therefore a comparison of extreme groups (Streiner and Norman, 1989) in phase 1. However, extreme groups tests are not necessarily a sufficiently stringent test of validity as such groups are likely to be very different. In order to test the validity of inferences made from minor differences in satisfaction scores comparison of less extreme groups is required. Patients who experience different levels of continuity but do not change doctors provide a group for a test of this nature (phase 2 of the study).

The level of continuity of care for the patients in group 2 was defined as and calculated from the proportion of consultations out of the last 12 that had been with their usual doctor. The definition and method adopted was that used by Freeman and Richards (1990). The date of birth, sex, and address of the patient and the name of the doctor who had been consulted in each of the most recent consultations were extracted from the patients' records. Patients registered with the practice for fewer than two years were excluded from group 2. Patients aged under 16 and any judged to be too ill to participate were also excluded. A small pilot study was undertaken to determine the proportion of patients who would have to be excluded because they had not been registered for two years or had not experienced 12 consultations at the practice.



\* Comprises 705 patients completing SSQ and 368 patients completing CSQ, as continuity of care could not be assessed for six patients

SSQ = surgery satisfaction questionnaire  
CSQ = consultation satisfaction questionnaire

Figure 4.1 Study design

### *Analysis*

Previous assessments of the reliability of CSQ and SSQ had relied on testing internal consistency. This is inadequate alone (Streiner and Norman, 1989 p. 47) and therefore a test-retest study of reliability was undertaken by asking a one in three sample of responding patients in group 2 to complete a second set of questionnaires between two and three weeks after the first. This interval between administrations of the test was chosen to enable sufficient time to elapse so that patients might not clearly remember how they answered last time, but not so long an interval that their experiences of their practice and their levels of satisfaction might have changed. Streiner and Norman (1989 p. 86) suggest that an interval of 2 to 14 days is usual.

Satisfaction scores from completed questionnaires were compared between groups 1 and 2 (phase 1 of the study) and according to level of continuity of care for patients in group 2 (phase 2). Statistical analysis was undertaken with SPSS-X, release 3.0. Non-parametric statistical methods were used as the scores did not follow a normal distribution (see table 3.25). First, Mann-Whitney tests (Armitage, 1971 p. 398) were used to compare the satisfaction scores of (a) practice patients with those who changed doctors and (b) those practice patients with levels of continuity above 50% with those with levels of 50% or less. However, the Mann-Whitney test is a rank order test and a more rigorous approach would be to compare the score of each patient in one group with all the scores of each patient in the other group. Therefore, the median score for each group was calculated and then the median of all differences between all possible pairs of scores in each group was calculated, together with 95% confidence intervals of the median of the differences. For example, in comparing



scores of the general satisfaction scale of SSQ of patients in group 1 and group 2, there were 193,392 possible pairs of scores to compare.

Previous scores were reported on a 1-5 scale, with low scores indicating satisfaction and high scores dissatisfaction. As this method was found to be confusing the scoring system was revised. Simple multiplication was used to transform the scale scores so that they had a maximum of 100, high scores indicating satisfaction. Reliability for both SSQ and CSQ was determined by calculation of Pearson product moment correlation coefficients and the analysis of variance for the test-retest sample, and Cronbach's alpha was also calculated for all questionnaires returned (Cronbach, 1990 p. 202).

## Results

Avon FHSA sent SSQ and CSQ to 400 patients. After three postings 272 (68.0%) patients returned completed questionnaires, 241 (88.6%) of whom had consulted their previous doctor in the preceding 12 months and 200 (73.5%) in the past six months. After two postings a total of 711 patients in group 2, 178/221 from practice B (response rate 82.3%) and 533/648 from practice A (response rate 85.4%) completed SSQ. A total of 374 patients, 88 from practice B (response rate 83.0%) and 286 from practice A (response rate 85.4%), completed CSQ. The mean proportion of consultations with the usual doctor for patients in this group was 59.6%. The continuity scores for each practice compared with the four practices studied by Freeman and Richards are shown in table 4.3. When the patients from both practices

in the study were combined for analysis, the levels of continuity did not vary with patient's sex. However, there was a trend for continuity to increase as patients' ages increased. The median continuity scores for patients in different age groups are shown in table 4.4. As there was no trend for satisfaction scores to change with length of time since the last consultation all replies were included in the analysis that follows. Table 4.5 shows the demographic information about the patient samples. The mean age of the two patient groups was significantly different ( $p < 0.01$ ), being lower in group 1. Non-responders in group 1 were also significantly younger than responders ( $p < 0.05$ ). However, there were no significant differences between the groups in the proportion that were female. In this study the mean percentage of occasions on which a question was unanswered was 0.9%.

The results of principal components analysis of the revised version of SSQ (SSQ6) confirmed that the components of satisfaction were the same as in SSQ version 5 (see table 3.20, Chapter Three). Of the sample of patients in group 2 selected for the test-retest assessment of reliability 131 (55%) returned completed questionnaires on the second occasion. Analysis of reliability for both questionnaires showed high coefficients by Pearson product moment correlation and analysis of variance, indicating satisfactory reliability (table 4.6).

Table 4.3.

Practices	Continuity score (% of consultations with usual doctor)	SD
validity study		
practice A	60.7	23.8
practice B	56.5	26.7
Freeman and Richards (1990)		
Practice 1	52	
Practice 2	49	
Practice 3	58	
Practice 4	83 (this practice operated a personal list system)	

Table 4.3. The mean continuity scores (% of consultations with the usual doctor) of patients of the two practices in the study of construct validity compared with four practices in the study of Freeman and Richards (1990).

**Table 4.4.**

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<b>Age group (yrs)</b>	<b>Median continuity score (% of consultations with the usual doctor)</b>	<b>Number of patients</b>
10 -19	33.3	21
20 - 29	41.7	69
30 - 39	50.0	105
40 - 49	58.3	144
50 - 59	66.7	113
60 - 69	66.7	126
70 - 79	75.0	102
80 - 89	75.0	24

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**Table 4.4. Median levels of continuity (% of consultations with the usual doctor) for patients in different age groups. n = 705.**

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Table 4.5.

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	Group 1 (n=400)		Group 2 (n=869)	
	responders	non-responders	responders	non-responders
No (%)	272 (68)	128	711 (81.2)	158
mean age (yrs)	40.5	38	51	50
% female	62.4	60.6	61.4	53.8

---

Table 4.5 The age and sex of patients sent questionnaires.

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**Table 4.6.**

Component of satisfaction	Pearson product moment n = 131	Analysis of variance n = 131	Coefficient alpha n= SSQ 983, CSQ 645
<b>SSQ:</b>			
General satisfaction	0.87	0.93	0.87
Accessibility	0.90	0.95	0.91
Availability	0.83	0.90	0.83
Continuity	0.89	0.94	0.89
Medical care	0.91	0.95	0.87
Premises	0.85	0.92	0.92
<b>CSQ:</b>			
General satisfaction	0.82	0.89	0.91
Professional care	0.93	0.95	0.95
Relationship	0.88	0.92	0.88
Perceived time	0.87	0.92	0.90

**Table 4.6. Reliability coefficients for each component of SSQ and CSQ.**

Whether or not SSQ and CSQ are valid measures of patient opinions depends on whether they classify patients according to the construct of satisfaction. Mann-Whitney tests of the differences between the groups were highly significant ( $p < 0.001$  for all components of SSQ and CSQ). Table 4.7 shows the comparison of median satisfaction scores for patients in both groups of patients (phase 1 of this

study). For every component of satisfaction the median difference in scores was in the predicted direction.

If SSQ and CSQ are to show different levels of satisfaction in patients with different degrees of continuity they must also be reasonably sensitive. In testing the differences between patients experiencing less than 50% continuity with patient experiencing 50% or greater continuity Mann-Whitney tests were significant ( $p < 0.005$ ) for all components of satisfaction except for accessibility and availability of SSQ, which did not reach statistical significance. Table 4.8 shows a comparison of median satisfaction scores for patients with levels of continuity of care below 50% with those for patients with levels of 50% or greater (phase 2 of study).

Given the ordinal nature of the data and with only 12 possible levels of continuity of care some median scores were the same, although the distribution of scores was different between the two groups for most of the components of satisfaction, as shown by the scores on the 20th and 80th centiles. The differences were all in the predicted direction, although the confidence intervals for accessibility and availability of SSQ and perceived length of consultation of CSQ included zero. Appropriately, the widest difference in scores was for the patients' opinions about continuity of care. Continuity may be influenced by factors other than satisfaction with the doctor, such as the availability of convenient appointments and practice policy on personal care (Freeman and Richards, 1990). Despite this SSQ and CSQ classified patients in group 2 into separate groups, as predicted by the construct, further supporting the questionnaires' validity and sensitivity. The satisfaction scores of patients experiencing different

levels of continuity and of patients who changed doctors are shown in table 4.9. There was a decline in satisfaction as continuity decreased with the group of patients who changed doctors having the lowest scores.



Table 4.7.

Component of satisfaction	Group 1	Group 2	Median difference (95% con. int.)
<b><u>SSQ</u></b>	<i>n = 272</i>	<i>n = 711</i>	
General satisfaction	53.3 (40.0, 73.3)	73.3 (53.3, 86.7)	20.0 (19.9 to 20.0)
Accessibility	65.0 (40.0, 80.0)	85.0 (65.0, 90.0)	15.0 (10.0 to 15.0)
Availability	52.0 (36.0, 72.0)	60.0 (44.0, 76.0)	8.0 (4.0 to 8.0)
Continuity	56.0 (36.0, 72.0)	60.0 (40.0, 80.0)	4.0 (4.0 to 8.0)
Medical care	55.0 (40.0, 75.0)	75.0 (60.0, 80.0)	20.0 (15.0 to 20.0)
Premises	60.0 (44.0, 76.0)	80.0 (68.0, 88.0)	20.0 (16.0 to 20.0)
<b><u>CSQ</u></b>	<i>n = 272</i>	<i>n = 374</i>	
General satisfaction	46.7 (33.3, 73.3)	80.0 (60.0, 86.7)	26.7 (20.0 to 26.7)
Professional care	54.3 (40.0, 77.1)	77.1 (65.7, 85.7)	20.0 (17.1 to 22.8)
Depth of relationship	56.0 (36.0, 72.0)	68.0 (52.0, 80.0)	12.0 (12.0 to 16.0)
Perceived time	53.3 (36.0, 73.3)	73.3 (53.3, 80.0)	20.0 (13.3 to 20.0)

Table 4.7. Median (20th and 80th centiles) satisfaction scores and median difference in scores for SSQ and CSQ for patients in group 1 who changed doctors and patients in group 2 who had not changed doctors (median difference is median of differences between all possible pairs of scores in both groups).

Table 4.8.

Component of satisfaction	Continuity of care <50%	Continuity of care >50%	Med. difference (95% con. int.)
<u>SSQ</u>	<i>n</i> = 24	<i>n</i> = 458	
General satisfaction	66.7 (53.3, 80.0)	73.3 (60.0, 86.7)	6.7 (6.6 to 6.7)
Accessibility	80.0 (65.0, 90.0)	80.0 (65.0, 95.0)	0
Availability	60.0 (40.0, 76.0)	60.0 (44.0, 76.0)	0 (0.0 to 4.0)
Continuity	48.0 (40.0, 64.0)	64.0 (48.0, 80.0)	16.0 (12.0 to 16.0)
Medical care	70.0 (55.0, 80.0)	75.0 (60.0, 85.0)	5.0 (5.0 to 10.0)
Premises	80.0 (64.0, 88.0)	80.0 (68.0, 92.0)	4.0 (0.0 to 4.0)
<u>CSQ</u>	<i>n</i> = 104	<i>n</i> = 264	
General satisfaction	66.7 (53.3, 66.7)	80.0 (66.7, 93.3)	6.7 (6.7 to 13.3)
Professional care	71.4 (60.0, 80.1)	77.1 (68.6, 88.6)	8.5 (5.7 to 11.4)
Depth of relationship	60.0 (44.0, 72.0)	72.0 (60.0, 88.0)	12.0 (8.0 to 16.0)
Perceived time	66.7 (46.7, 80.0)	80.0 (60.0, 80.0)	6.7 (0.0 to 13.3)

Table 4.8. Median (20th and 80th centiles) satisfaction scores and median difference in scores for SSQ and CSQ for patients in two practices, with levels of continuity of less than or more than 50% of consultations with the usual doctor (median difference is median of differences between all possible pairs of scores in both groups).

Component of satisfaction	Levels of continuity				Patients changing doctors
	100%	75%	50%	25%	
<b><u>SSQ</u></b>					
<i>No. patients</i>	57	77	62	44	272
General satis.	81.5	79.6	67.5	67.3	52.9
Accessibility	79.4	80.1	76.7	77.5	62.4
Availability	66.4	65.5	53.5	58.4	53.9
Continuity	80.2	69.9	56.1	49.4	54.3
Medical care	80.1	77.7	66.1	65.3	54.3
Premises	82.9	79.4	76.3	73.6	59.2
<b><u>CSQ</u></b>					
<i>No. patients</i>	43	47	38	20	272
General satis.	78.3	81.7	73.5	71.3	52.1
Professional care	79.9	80.3	73.4	70.3	56.2
Depth of relationship	72.3	74.8	62.3	60.4	53.8
Perceived length of consultation	71.3	76.4	72.3	68.0	54.6

Table 4.9. The satisfaction scores of patients remaining in the same practice but experiencing different levels (quartiles) of continuity of care, and patients who changed doctors without changing their home address.

## Discussion

This study was conducted with two groups of patients carefully selected because, according to a construct of patient satisfaction, their behaviour in using their doctors would indicate particular levels of satisfaction. Since random samples of all types of patients have not been studied it would be inappropriate to draw conclusions about the distribution of different levels of satisfaction of patients in general. The reliability of the questionnaires was confirmed as satisfactory as shown by both the tests of internal consistency and test-retest reliability. The response rate in the test-retest study was rather low, but only one posting could be undertaken to comply with the time scale of the reliability study; also patients who have already completed one questionnaire will inevitably be reluctant to complete another.

The significant difference in the median age of the two groups of patients, those changing doctors and those remaining with a practice for at least two years and experiencing 12 consultations, was an expected consequence of selecting patients in these categories. Studies of satisfaction have confirmed that the age of patients is related to expressed satisfaction (Hall and Dornan, 1990); it would be reasonable to predict that as younger patients are more likely to express dissatisfaction patients changing doctors without moving home would be younger. This finding has no effect on the construct being used to test validity, indeed it might be argued that a relationship between age or continuity and levels of satisfaction should form part of the construct of patient satisfaction and could be used to further assess the validity of the questionnaires. However, studies reported in later chapters of this thesis indicate

that relationships between patient age, level of continuity and levels of satisfaction are not simple. Before these additional studies had been undertaken no adequate construct for these three variables was available.

The construct predicted that patients who changed to different doctors without changing their home address (group 1) should score as less satisfied compared with patients who stayed with a doctor for at least two years (group 2). SSQ and CSQ passed this test. In the event all components of satisfaction scored significantly differently and in the predicted direction in both questionnaires completed by patients in group 1 and 2. This is firm evidence of the validity of the questionnaires.

Changing doctors is an emphatic statement of dissatisfaction with the doctor or practice. Low levels of continuity of care within a practice may be less definite statements of dissatisfaction. There are alternative explanations for attending different doctors within a practice. For example, one doctor might specialise in a particular aspect of care such as diabetes or minor surgical procedures, to whom patients may be specifically directed by other doctors in the practice or members of the primary health care team. Female patients who usually consult a male doctor may choose to see a female doctor for gynaecological problems (Preston-Whyte et al, 1983). Both practices in the study are training practices and therefore there would have been regular changes in the choice of doctors. Both practices had experienced changes in partnership in the preceding three years. Even under ideal circumstances doctors are sometimes on holiday or attending courses and may be unavailable. Nevertheless, there is evidence that continuity is related to patient satisfaction, though the relation

is less consistent than for change in provider (Pascoe 1983). Given these reasons why continuity is a less clear expression of dissatisfaction, it would not have been surprising if some components of satisfaction had failed to score patients according to continuity of care.

Both questionnaires did manage to score differently on most components despite the difficulties of this test of validity. The confidence intervals of the median of the differences in scores of accessibility, availability and premises of SSQ and perceived length of consultation of CSQ included zero. The interpretation of this finding depends on whether the construct would predict that these components of satisfaction would be likely to be related to continuity.

However, arguments can be put forward that might explain this finding. Firstly, it should be remembered that this group of patients excluded those who were so dissatisfied that they had changed doctors, and those who had not attended on at least 12 occasions. Thus, the patients were all sufficiently satisfied to remain with their practice and continue to make relatively frequent use of its services. Secondly, continuity of care may be more important in determining some components of satisfaction rather than others but the studies that have investigated the link between satisfaction and continuity have considered only general satisfaction rather than several separate components of satisfaction. For example, continuity may be a factor in influencing the development of the relationship between patient and doctor, and the behaviour of the doctor in the consultation may influence the patient's future choice of doctor within the same practice (Hjortdahl, 1992). However, aspects of practice

organisation will not be influenced by the choice of doctor, for example practice premises, accessibility, the performance of the appointment system and practice policies on the length allowed for consultations. The degree of continuity experienced by patients is therefore unlikely to influence patient opinions on these aspects of care. This factor is likely to be particularly important as this part of the study was undertaken in two practices only. Therefore, the construct relating continuity to satisfaction can be argued as applicable to most, although not all, components of satisfaction. Thus, the satisfaction scores for accessibility, availability, premises and perceived length of consultation can be explained, and the validity of the questionnaires supported.

The findings also indicate that the questionnaires are sufficiently sensitive to detect different levels of satisfaction in patients in the same practice who have experienced different levels of continuity of care. This may reflect the development of the questionnaires through a series of pilot studies in which questions were modified to encourage a range of replies. A common criticism of satisfaction surveys is that patients appear reluctant to express dissatisfaction. Often surveys report that between 80% and 90% of patients are satisfied. By reiterating the clear difference for all components of satisfaction between patients who did and did not change doctors, and for most components in those who experienced high and low continuity of care within two practices, the questionnaires seem to have overcome this problem to some extent. Reports of high levels of satisfaction should no longer be accepted at face value.

## 4.6 Conclusions

In this chapter the validity of CSQ and SSQ have been discussed, and two studies have been described, one being a test of criterion validity of SSQ5 and another a test of construct validity of CSQ and SSQ. Arguments were presented to support the content validity of the questionnaires. The test of criterion validity produced reassuring findings, although an ideal criterion or "gold standard" was not available. The study of construct validity provided firm evidence of both questionnaires validity. Thus, this evidence combined does indicate that the questionnaires are valid.

However, the concept of validity more correctly relates to the inferences that are drawn from the test rather than the test itself. The inferences made about the opinions of patients in these studies have validity, as indicated by the findings. The inferences that would be made about the opinions of different types of patients may not be valid. For example, the use of the questionnaires with patients from ethnic subgroups could not be recommended without their assessment in these circumstances, neither would it be appropriate to use the questionnaires without further evaluation in other English speaking countries. Nevertheless, general practitioners working in most British practices that do not have a predominance of severely deprived or ethnic subgroup patients can have confidence in the inferences arising from the questionnaires.

Before the questionnaires are used more widely, some additional information is desirable. The norms or scores for a large sample of practices and doctors are required for calibration. Users will want to know how to interpret the scores in terms



of how satisfied or dissatisfied patients are. If scores from a large number of other practices or doctors are available it would be possible to compare findings not only in terms of satisfaction scores but also whether the practice or doctor concerned obtains a score above or below the mean score of others. In interpreting individual scores it would also be helpful to have information about the factors that influence satisfaction scores. It may be possible for general practitioners to modify some factors that cause reduced satisfaction, but other factors may not be amenable to change.

This study has provided some information about the relationship between patient age and reported satisfaction. Younger patients are thought generally to express lower levels of satisfaction (Hall and Dornan, 1990). However, this could merely be due to the finding that as patients become older they experience higher levels of continuity (table 4.4). This suggests that in order to discover how different factors such as patient age or characteristics of the service they receive influence satisfaction, several variables should be studied simultaneously.

Experience of the use of these questionnaires in a wider range of social groups is needed. The practices that have taken part in the pilot tests and evaluations of CSQ and SSQ have been relatively well developed, although two single handed, less well developed practices did take part in the pilot test of SSQ5, one of these practices being in Bolton with a relatively disadvantaged patient population. Nevertheless, assessment in a wider variety of practices would be desirable. The next Chapter reports the use of the questionnaires in a large sample of practices and so addresses some of these issues. However, the pilot and subsequent tests of the questionnaires

do provide reassuring evidence of their reliability and validity and give encouragement to their further assessment and use.

## **APPENDIX TO CHAPTER FOUR.**

1. The questionnaires sent to patients in groups 1 and 2.
2. The letters sent with the questionnaires.

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On this form there is a list of questions. They ask you what you think of the surgery **YOU HAVE JUST LEFT** and the care you received there. Please answer every question on each page of the form. Your answers will be kept entirely confidential so do not write your name on the form.

The questions are set out in the same way. **For each one draw a circle round the answer that is closest to what you think.** "Neutral" means you have no feelings either way.

For example:

"This surgery is too big."

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

1. I am totally satisfied with everything about this general practice  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
2. I do not much like my surgery's waiting room  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
3. I see the same doctor almost every time I go to the surgery  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
4. It can take me a long time to get to my doctor's surgery  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
5. The doctors at this surgery are always careful not to make any mistakes  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
6. It can be difficult to get through to the surgery on the telephone  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
7. My doctor's surgery is modern and up to date  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
8. I am always satisfied with the medical care I receive at this surgery  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
9. It can be difficult to see the same doctor each time you go to the surgery  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
10. I find this surgery very difficult to get to  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
11. The doctors at this surgery never make mistakes  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
12. I am not completely satisfied with one or two things about this general practice  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
13. It can be hard to get an appointment for medical care right away  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

Please turn over



- |  |   |
|--|---|
| 14. My doctor's surgery is very easy to get to   | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 15. I do not always see the same doctor when I go to the surgery                           | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 16. This surgery building could do with some improvements                                  | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 17. It can sometimes be difficult to get an appointment at this surgery                    | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 18. They always answer the telephone straightaway at this surgery                          | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 19. I think this surgery building could be a little better                                 | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 20. I wish it was easier to see my own doctor every time I go to the surgery               | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 21. Travelling to the surgery can be a problem to me                                       | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 22. Getting an appointment when you want one can sometimes be a little difficult           | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 23. I think the medical care at this surgery could sometimes be better                     | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 24. I am satisfied with most things about this general practice                            | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 25. This surgery building should be improved to make it more pleasant inside               | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 26. There are never any problems in seeing the same doctor each time you go to the surgery | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |

**Now some questions about your last visit to the doctor at your old surgery.** Please answer all the questions. Your answers will be kept entirely confidential and will not be shown to the doctor so feel free to say what you wish.

**For each question circle the answer that is closest to what you think.** "Neutral" means you have no feelings either way.

For example:

"This doctor did not listen"      Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

- |  |   |
|--|---|
| 27. I am totally satisfied with my visit to this doctor                | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 28. This doctor was very careful to check everything when examining me | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |

**Please turn over**



29. I will follow this doctor's advice because I think he/she is absolutely right Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
30. I felt able to tell this doctor about very personal things Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
31. The time I was able to spend with the doctor was a bit too short Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
32. This doctor told me everything about my treatment Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
33. Some things about my consultation with the doctor could have been better Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
34. There are some things this doctor does not know about me Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
35. This doctor examined me very thoroughly Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
36. I thought this doctor took notice of me as a person Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
37. 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
38. I understand my illness much better after seeing this doctor Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
39. This doctor was interested in me as a person not just my illness Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
40. This doctor knows all about me Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
41. I felt this doctor really knew what I was thinking Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
42. I wish it had been possible to spend a little longer with the doctor Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
43. I am not completely satisfied with my visit to the doctor Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
44. I would find it difficult to tell this doctor about some private things Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
- 

When was your last visit to any doctors at your old practice. Place a tick [ ] next to your answer.

- |        |                          |     |
|--------|--------------------------|-----|
| Was it | in the last three months | [ ] |
|        | in the last six months   | [ ] |
|        | in the last year         | [ ] |
|        | longer than one year     | [ ] |

Now please answer the two questions below. Do not write your name on this form.

- (a) What is your age \_\_\_\_\_ (b) Are you male \_\_\_\_\_ or female \_\_\_\_\_  
(for this question, please place a tick next to your answer)

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On this form there is a list of questions. They ask you what you think of your surgery and the care you have received. Please answer every question on each page of the form. Your answers will be kept entirely confidential so do not write your name on the form.

The questions are set out in the same way. **For each one draw a circle round the answer that is closest to what you think.** "Neutral" means you have no feelings either way.

For example:

"This surgery is too big."

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

1. I am totally satisfied with everything about this general practice Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
2. I do not much like my surgery's waiting room Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
3. I see the same doctor almost every time I go to the surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
4. It can take me a long time to get to my doctor's surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
5. The doctors at this surgery are always careful not to make any mistakes Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
6. It can be difficult to get through to the surgery on the telephone Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
7. My doctor's surgery is modern and up to date Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
8. I am always satisfied with the medical care I receive at this surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
9. It can be difficult to see the same doctor each time you go to the surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
10. I find this surgery very difficult to get to Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
11. The doctors at this surgery never make mistakes Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
12. I am not completely satisfied with one or two things about this general practice Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
13. It can be hard to get an appointment for medical care right away Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

Please turn over



- |  |   |
|--|---|
| 14. My doctor's surgery is very easy to get to   | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 15. I do not always see the same doctor when I go to the surgery                           | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 16. This surgery building could do with some improvements                                  | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 17. It can sometimes be difficult to get an appointment at this surgery                    | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 18. They always answer the telephone straightaway at this surgery                          | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 19. I think this surgery building could be a little better                                 | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 20. I wish it was easier to see my own doctor every time I go to the surgery               | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 21. Travelling to the surgery can be a problem to me                                       | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 22. Getting an appointment when you want one can sometimes be a little difficult           | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 23. I think the medical care at this surgery could sometimes be better                     | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 24. I am satisfied with most things about this general practice                            | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 25. This surgery building should be improved to make it more pleasant inside               | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 26. There are never any problems in seeing the same doctor each time you go to the surgery | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |

**Now some questions about your last visit to the doctor.** Please answer all the questions. Your answers will be kept entirely confidential and will not be shown to the doctor so feel free to say what you wish.

**For each question circle the answer that is closest to what you think.** "Neutral" means you have no feelings either way.

For example:

"This doctor did not listen"      Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

- |  |   |
|--|---|
| 27. I am totally satisfied with my visit to this doctor                | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 28. This doctor was very careful to check everything when examining me | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |

**Please turn over**



- |  |   |
|--|---|
| 29. I will follow this doctor's advice because I think he/she is absolutely right                        | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 30. I felt able to tell this doctor about very personal things   | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 31. The time I was able to spend with the doctor was a bit too short                                     | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 32. This doctor told me everything about my treatment  | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 33. Some things about my consultation with the doctor could have been better                             | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 34. There are some things this doctor does not know about me   | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 35. This doctor examined me very thoroughly  | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 36. I thought this doctor took notice of me as a person  | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 37. 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 |
| 38. I understand my illness much better after seeing this doctor   | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 39. This doctor was interested in me as a person not just my illness                                     | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 40. This doctor knows all about me   | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 41. I felt this doctor really knew what I was thinking   | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 42. I wish it had been possible to spend a little longer with the doctor                                 | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 43. I am not completely satisfied with my visit to the doctor  | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 44. I would find it difficult to tell this doctor about some private things                              | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |

SSQ6

CONFIDENTIAL

**UNIVERSITY OF BRISTOL  
GENERAL PRACTICE UNIT  
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**SURGERY SATISFACTION QUESTIONNAIRE**

On this form there is a list of questions. They ask you what you think of the surgery you attend and the care you have received. Please answer every question on each page of the form. Your answers will be kept entirely confidential so do not write your name on the form.

The questions are set out in the same way. **For each one draw a circle round the answer that is closest to what you think.** "Neutral" means you have no feelings either way.

For example:

"This surgery is too big."                      Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

- 
- |  |   |
|--|---|
| 1. I am totally satisfied with everything about this general practice                | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 2. I do not much like my surgery's waiting room                                      | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 3. I see the same doctor almost every time I go to the surgery                       | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 4. It can take me a long time to get to my doctor's surgery                          | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 5. The doctors at this surgery are always careful not to make any mistakes           | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 6. It can be difficult to get through to the surgery on the telephone                | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 7. My doctor's surgery is modern and up to date                                      | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 8. I am always satisfied with the medical care I receive at this surgery             | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 9. It can be difficult to see the same doctor each time you go to the surgery        | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 10. I find this surgery very difficult to get to                                     | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 11. The doctors at this surgery never make mistakes                                  | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |
| 12. I am not completely satisfied with one or two things about this general practice | Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree |

**Please turn over**



13. It can be hard to get an appointment for medical care right away Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
14. My doctor's surgery is very easy to get to Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
15. I do not always see the same doctor when I go to the surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
16. This surgery building could do with some improvements Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
17. It can sometimes be difficult to get an appointment at this surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
18. They always answer the telephone straightaway at this surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
19. I think this surgery building could be a little better Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
20. I wish it was easier to see my own doctor every time I go to the surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
21. Travelling to the surgery can be a problem to me Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
22. Getting an appointment when you want one can sometimes be a little difficult Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
23. I think the medical care at this surgery could sometimes be better Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
24. I am satisfied with most things about this general practice Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
25. This surgery building should be improved to make it more pleasant inside Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
26. There are never any problems in seeing the same doctor each time you go to the surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree



# UNIVERSITY OF BRISTOL

From: The General Practice Unit  
Tel. Direct Line: (0272) 731003

DEPARTMENT OF EPIDEMIOLOGY AND  
PUBLIC HEALTH MEDICINE  
Carynge Hall, Whiteladies Road, Bristol, BS8 2PR  
Telephone: (0272) 303030  
Fax: (0272) 238568

*J. R. T. Colley, M.D., B.Sc., F.R.C.P., F.F.C.M.  
Professor of Public Health Medicine, Head of Department*

Dear Patient,

We are undertaking a survey to find out what patients think of their family doctors and would be very grateful to receive your help in completing the enclosed questionnaire.

You have been chosen because Avon Family Health Service Authority has told us that you have recently changed family doctors and we would like to ask you about the general practice you have just left. The questions are in two groups; the first group is general questions about your last practice and the second group is about the last consultation you had with any of the doctors. Please answer them all because it is important to us to know what you think of the service provided.

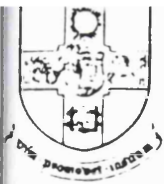
The survey has the approval of Avon Family Health Services Authority and of local doctors' organisations. Your replies will be kept in the strictest confidence by the researchers within the General Practice Unit of the University and your doctor will not know that you are being asked to complete a questionnaire nor the answers you give.

The questionnaire should take no more than a few minutes to complete. When you have answered each question, please return the form to the General Practice Unit in the Freepost envelope provided (no stamp is required).

With many thanks for your help,

Yours sincerely

Richard Baker  
Research Fellow in General Practice



# UNIVERSITY OF BRISTOL

From: The General Practice Unit  
Tel. Direct Line: (0272) 731003

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*J. R. T. Colley, M.D., B.Sc., F.R.C.P., F.F.C.M.  
Professor of Public Health Medicine, Head of Department*

Dear Patient,

## Your Views of General Practice

A short while ago I sent you a questionnaire about your views of your old general practice. I am now writing to ask if you could reply. This is a very important project. It is essential to know what people think of general practice if the service is to meet your requirements.

It is especially important to know your views because you were identified by Avon Family Health Service Authority as having recently changed doctors. The questionnaire is asking for your views on the practice you have just left, not your new practice.

The survey has the approval of the Family Health Service Authority and of local doctors organisations. Your reply will be kept in the strictest confidence by the researchers at the General Practice Unit of the University. Neither your previous or present doctors will know you are being asked to complete a questionnaire nor the answers you give.

Enclosed is another copy of the questionnaire and a freepost envelope for your convenience. Please do reply as your views are particularly valuable. I would like to thank you for giving a little of your valuable time to this important project.

Yours sincerely,

Richard Baker  
Research Fellow in General Practice

Enc.



# UNIVERSITY OF BRISTOL

From: The General Practice Unit  
Tel. Direct Line: (0272) 731003

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*J. R. T. Colby, M.D., B.Sc., F.R.C.P., F.F.C.M.  
Professor of Public Health Medicine, Head of Department*

Dear Patient,

A short while ago I sent you a questionnaire about your views of your old general practice. I am now writing to ask if you could reply. It is most important to hear your views so that we will know what people feel about the services that are provided.

You were identified by Avon Family Health Service Authority as having recently changed doctors. The questionnaire is asking for your views on the practice you have just left, not your new practice.

The survey has the approval of the Family Health Service Authority and of local doctors organisations. Your reply will be kept in the strictest confidence by the researchers at the General Practice Unit of the University. Neither your previous or present doctors will know you are being asked to complete a questionnaire nor the answers you give.

Enclosed is another copy of the questionnaire and a freepost envelope for your convenience. I would like to thank you for giving a little of your valuable time to this important project.

Yours sincerely,

Richard Baker  
Research Fellow in General Practice

Enc.



«DATA B:PRACT1.WS»

6th March, 1991

«surname»  
«address1»  
«address2»  
«address3»  
«address4»

Dear «salutation»,

We are undertaking a survey to find out what patients think of the service offered by their family doctors and would be very grateful to receive your help in completing the enclosed questionnaire. Whilst the survey has been approved by the doctors at your surgery, I can assure you that the answers you give will be kept in the strictest confidence by the researchers within the General Practice Unit of the University. Your doctor will not know that you have been selected to complete a questionnaire nor what your answers have been.

The questionnaire will only take a few minutes to complete and you are asked to say how much you agree or disagree with each statement. The first group of questions is about the practice in general and the second group is about the last consultation you had with any of the doctors (this could have taken place at the surgery or at home). Please answer each question and then return the questionnaire to the General Practice Unit in the freepost envelope provided (no stamp is needed).

With many thanks for your help

Yours sincerely

Richard Baker  
Research Fellow in General Practice

25th March, 1991

D:RELIAB.DOC  
«DATA B:PRACT4.WS »

«surname»  
«address1»  
«address2»  
«address3»  
«address4»

Dear «salutation»,

A short while ago you were kind enough to complete a questionnaire on your opinions of your general practice. Thank you very much.

I wonder if I could impose on you a little further. It is essential to know that the questionnaire is reliable. To test this it is necessary to ask you to complete the questionnaire once more. I have enclosed a questionnaire and reply paid envelope as before. Your replies will naturally remain completely confidential, and the study has the approval of your doctors.

I would like to thank you very much for giving a little of your valuable time to this important project.

Yours sincerely,

Richard Baker  
Research Fellow in General Practice



25th March, 1991

D:NONRESPTS.DOC  
«DATA B:PRACT3.WS»

«surname»  
«address1»  
«address2»  
«address3»  
«address4»

Dear «salutation»,

A short while ago I sent you a questionnaire about your views of your general practice. I am writing to ask you to reply. It is most important to hear your views so that we will know what patients think of the practice.

In the first letter I explained that this survey has the approval of the doctors at the practice, but that your reply will be kept entirely confidential so you can feel free to say exactly what you like.

I have enclosed a second copy of the questionnaire and a reply paid envelope for your convenience. The questionnaire will only take a few moments to complete. I would like to thank you for giving a little of your valuable time to this important project.

Yours sincerely,

Richard Baker  
Research Fellow in General Practice

**CHAPTER FIVE:**  
**THE USE OF SSQ AND CSQ IN PRACTICES**  
**IN THE SOUTH WESTERN REGION**

---

**5.1 Introduction**

The steps taken to develop and evaluate SSQ and CSQ have provided evidence about the reliability and validity of the questionnaires, and their acceptability to the patients of the practices in which they were used. However, their use was confined to a limited number of practices. In this chapter, the use of the questionnaires to undertake patient surveys in over 100 practices in the South Western Region is described. The practices that took part were self-selected, and had volunteered to take part in the context of an audit. The findings provide additional information about the properties of the questionnaires, including the range of scores in a large sample of practices. Information was also collected about the characteristics of the practices and general practitioners who were involved. Following analysis, it was possible to relate characteristics of practices and general practitioners to levels of patient satisfaction, thus increasing the potential utility of the questionnaires.

## 5.2. The survey in the South Western Region (*Dialogue*)

### 5.2.1. The project

#### Aims

The aims of this project were to:

- (1) enable a group of practices to assess the levels of satisfaction of their patients and compare their findings with the other participating practice;
- (2) to determine the range of scores obtained with SSQ and CSQ when they are used by a large number of practices and general practitioners.

#### Methodology

In September 1991 all practices in the South Western Region (the FHSAs of Avon, Cornwall, Devon, Gloucestershire and Somerset) were offered a survey (referred to as *Dialogue*) of patient opinions. Each practice could choose to administer either SSQ or CSQ, or both, to samples of their patients. The addresses of the practices in the region were obtained from the FHSAs, together with the support of each FHSA general manager for the survey to be undertaken. The invitation letter was in the form of a leaflet (see Appendix to Chapter Five) with a tear-off section to be returned to the General Practice Unit at Bristol by practices wishing to take part. It was made clear to practices the confidentiality of any findings would be strictly safeguarded and that only the first 100 practices that wished to take part could be included because of funding restrictions.

The questionnaires were to be issued to patients attending the practice and returned for analysis. Each practice would then receive satisfaction scores (for the practice if using SSQ, for the general practitioners' consultations if using CSQ) together with the anonymous scores from the other participants to enable them to identify their comparative strengths and weaknesses. Thus, the project did not involve a complete audit cycle, and the implementation of changes and further evaluation of care would be left to the practices themselves.

To ensure that the questionnaires were administered in a standard way in all the practices, each participating practice was issued with a comprehensive set of instructions, including sections for the doctors, the practice manager and the receptionists (see Appendix to Chapter Five). Posters were also provided so that practices could inform their patients about the survey. Practices were instructed to provide a discreetly placed collection box for patients to return their completed questionnaires to avoid the need to hand them personally to a receptionist. Consecutive patients were asked to complete their questionnaire before leaving the practice, and the instructions to practices included advice to make sufficient pencils or ball point pens available. Patients aged under 16 were excluded, on the grounds that during development the questionnaires had been evaluated only in patients aged 16 or older and the factors used by young patients to judge care might be different to those used by adults. Practices were also advised to exclude patients who were unable to take part because of the severity of their illnesses. In order to ensure that a range of patients was asked to take part, practices were instructed to ensure that patients attending surgery sessions at different times of the day and different days of the week should be issued

questionnaires and in addition, for SSQ, patients attending all the doctors of the practice should be included.

In practices using SSQ, 220 patients attending for appointments were asked to complete SSQ. For those practices choosing to use CSQ, 75 patients attending each participating general practitioner were asked to complete the questionnaire. It was accepted that in some practices some general practitioners would not wish to take part in a survey using CSQ and so the participation of all the partners of a practice was not made a condition of participation.

In order to calculate the sample sizes required information is needed about the means and standard deviations of the satisfaction scales when used in a large population (Armitage, 1971 p. 185). This information was not available from the evaluation studies and for the survey an alternative procedure was adopted. In the test of construct validity (Chapter Four) a sample of 533 patients completed SSQ and 286 completed CSQ. These were the highest numbers of patients from a single practice completing the questionnaires. Random samples of responding patients were drawn, each sample being of different size from 10% to 100% of the total number of patients available. The point was sought at which the deviation of scores from the 100% sample scores became unacceptable (tables 5.1 and 5.2). The scores for SSQ became relatively stable when 160 or more questionnaires were completed. The scores for CSQ were relatively stable when a greater than 20% sample (58 patients) was used. Therefore, to allow for non-response, sample sizes of 220 for SSQ and 75 for CSQ were selected.

**Table 5.1.**

---

Sample (% of total)	GS	Access	Availa.	Contin	Prem.	Med Care
100%	74.4	74.8	59.2	63.5	81.0	73.7
90%	74.2	74.8	59.0	63.0	80.7	73.7
80%	74.6	75.1	60.3	63.8	81.3	73.7
70%	74.7	75.7	60.8	63.7	80.9	73.9
60%	74.2	76.0	58.0	62.6	81.0	73.3
50%	72.6	75.0	59.3	63.8	80.1	72.5
40%	73.7	74.5	58.4	63.4	81.6	72.6
30%	74.7	71.9	58.4	64.8	81.1	73.3
20%	74.4	74.3	52.8	59.9	79.6	71.8
10%	74.6	78.5	57.2	60.8	79.9	75.8

---

**Table 5.1. Scores for different random samples of replies from 533 patients completing SSQ.**

---

**Table 5.2.**

---

Sample (% of total)	GS	Prof	Depth	Time
100%	74.9	75.1	67.1	70.4
90%	75.2	75.3	67.7	71.1
80%	75.7	75.5	67.3	71.0
70%	76.4	75.9	67.2	70.7
60%	75.5	75.4	67.0	71.4
50%	75.1	74.6	66.2	71.2
40%	75.5	76.2	67.9	73.3
30%	75.6	74.4	67.7	70.4
20%	72.3	73.4	65.2	72.3
10%	75.7	73.7	67.0	75.5

---

**Table 5.2. Scores for different samples of patients completing CSQ. Total patients 286.**

---

The sample sizes were checked using the proportions method after data collection (Armitage, 1971 p. 185) and both were sufficient to ensure a 95% confidence interval of not more than +/-2 points for each of the satisfaction scales.

Each practice was asked to nominate a particular member of staff (a named partner or the practice manager) through whom all communications about the project could be channelled. Each participating practice was also allocated a confidential code

number and the master list of code numbers was kept separately. No satisfaction scores or other information were presented that allowed the risk of identification of any of the participants. Doctors who were administering CSQ to their patients were asked not to disclose their identity to the survey team. They were asked to select a code number for themselves, and use this number to identify their completed questionnaires. The name of each doctor with each code number was not released to the survey team, but kept within the practice.

The mean scores of all responding patients in each practice (SSQ), or for each general practitioner (CSQ), were calculated to produce satisfaction scores. The method of transforming scores from 1-5 scales was modified so that each scale would include a lower limit of zero. The methods of calculation are shown in tables 5.3 and 4.

**Table 5.3.**

---

General satisfaction	$= (Q1 + Q12 + Q24 - 3) * 100 / 12$
Accessibility	$= (Q4 + Q10 + Q14 + Q21 - 4) * 100 / 16$
Availability	$= (Q6 + Q13 + Q17 + Q18 + Q22 - 5) * 100 / 20$
Continuity	$= (Q3 + Q9 + Q15 + Q20 + Q26 - 5) * 100 / 20$
Medical care	$= (Q5 + Q8 + Q11 + Q23 - 4) * 100 / 16$
Premises	$= (Q2 + Q7 + Q16 + Q19 + Q25 - 5) * 100 / 20$

---

Table 5.3. The method for calculating the scale scores from SSQ raw data. All questions are assumed to have been coded as 1=strongly dissatisfied, 5=strongly satisfied. The data transformation for negatively worded questions was undertaken during data entry.

---



Table 5.4.

---

General satisfaction	$=(Q1 + Q7 + Q17 - 3) * 100 / 12$
Professional care	$=(Q2 + Q3 + Q6 + Q9 + Q10 + Q12 + Q13 - 7) * 100 / 28$
Depth of relationship	$=(Q4 + Q8 + Q14 + Q15 + Q18 - 5) * 100 / 20$
Perceived time	$=(Q5 + Q11 + Q16 - 3) * 100 / 12$

---

Table 5.4. The method for calculating scale scores from the raw question scores. For all questions, strong dissatisfaction is coded 1 and strong satisfaction coded 5. For negatively worded questions, the direction of scores was amended during data entry.

---

The practices returned the completed questionnaires for analysis. Data were entered onto a database (PCFile). Feedback was returned to practices showing their individual scores and also scores in comparison with others taking part. The feedback charts were prepared using the Reflex and Harvard Graphics software packages. An example of the feedback documentation is included in the Appendix to this Chapter. The data from all questionnaires were transferred to SPSS-PC version 4 for analysis.

## Results

Of the 591 practices in the region at the time of the survey, 130 (22%) expressed an interest in taking part and the first 103 were accepted. Eventually 99 practices completed a survey using SSQ and returned questionnaires for analysis. 190 general practitioners issued CSQ to their own patients and doctors in a further four practices administered CSQ to patients without distinguishing which patient attended which

general practitioner. These practices requested a practice level analysis of satisfaction with consultations. 17,799 completed SSQs (overall response rate 81.7%) and 11,499 CSQs (overall response rate 77%) were returned. Initial analysis was completed and feedback returned to all participants within the time scale of the project. The findings concerning SSQ will be presented first, followed by the findings concerning CSQ.

## SSQ

In this section, information about the respondents will be considered first, followed by information about the performance of the questionnaire, and finally the satisfaction scores of the practices will be presented.

### *The respondents*

The overall response rate was 81.7%. However, the response rate varied between practices, the lowest response rates being 45.5% from one practice and 31.2% from another. Four other practices had response below 55%. The highest response rate from a practice was 97.7%. No information is available about patients who did not respond. The numbers of patients of different ages and sexes are shown in tables 5.5 and 5.6 respectively.

age (yrs)	respondents	age (yrs)	respondents
16	109	56	243
17	142	57	208
18	187	58	186
19	167	59	215
20	216	60	304
21	249	61	225
22	212	62	253
23	272	63	233
24	277	64	258
25	334	65	269
26	313	66	232
27	328	67	242
28	392	68	246
29	356	69	242
30	389	70	300
31	372	71	277
32	374	72	260
33	360	73	147
34	378	74	125
35	379	75	166
36	320	76	172
37	292	77	156
38	357	78	106
39	330	79	110
40	394	80	81
41	292	81	60
42	377	82	63
43	308	83	42
44	336	84	35
45	381	85	26
46	318	86	17
47	313	87	18
48	277	88	6
49	242	89	6
50	267	90	4
51	214	91	2
52	244	92	2
53	235	93	2
54	224	94	3
55	245	95	0
		96	0
		97	1
		98	0
		99	2

Table 5.5. The number of patients by age completing SSQ. N=17,799. Missing responses 482. Mean age of all respondents 46.1 years (SD 17.5).

Table 5.6.

---

Sex	Number of respondents
Male	5,578 (31.3%)
Female	11,814 (66.4%)

---

Table 5.6. The sex of patients responding to SSQ. N=17,799. 407 (2.3%) patients did not respond to the question about their sex.

---

*The performance of SSQ*

This survey was the first occasion SSQ had been used with such a large number of patients and practices. In such circumstances it might be expected that problems would be identified that had not been encountered when it had been used with a smaller, less diverse group of patients. The scores obtained by the individual questions are shown in table 5.7. The majority of questions attracted positive responses, although only four questions had a mean of 4.0 or greater. Questions 15, 20 and 22 had a mean score of close to 3.0, the mid point of the scale. The proportion of questions left unanswered by respondents was low (2.2%).

Question	1	2	3	4	5	missing	mean	SD
1	135	1598	2969	7870	4679	548	3.89	.93
2	784	2114	4133	6751	3651	366	3.60	1.08
3	486	2855	1960	7634	4640	224	3.75	1.10
4	689	1968	2989	8038	3760	355	3.70	1.05
5	200	709	3530	8265	4782	313	3.96	.86
6	1490	3190	2664	7321	2984	150	3.40	1.20
7	183	846	2696	8651	5291	132	4.02	.86
8	158	1053	1857	8698	5888	145	4.08	.87
9	1064	4123	2885	6930	2630	167	3.34	1.16
10	285	537	1825	9122	5811	219	4.12	.83
11	416	2808	8807	3646	1410	712	3.17	.88
12	497	3387	4865	6489	2237	324	3.38	1.02
13	1750	4456	2802	6234	2263	294	3.16	1.23
14	241	1014	2424	10059	3771	290	3.92	.84
15	753	6768	2261	5600	1783	634	3.05	1.14
16	700	2440	4431	6494	3214	520	3.53	1.07
17	1232	4507	2321	6944	2349	446	3.27	1.19
18	777	3123	3461	7894	2125	419	3.43	1.06
19	511	2891	4887	6410	2597	503	3.45	1.03
20	1414	4056	5134	5034	1595	566	3.08	1.11
21	430	1341	2346	9265	3984	433	3.87	.94
22	1609	6132	2499	5428	1680	451	2.97	1.19
23	366	2061	4209	7805	2908	450	3.62	.97
24	84	346	1400	11210	4423	336	4.12	.67
25	583	2191	4716	6763	3083	463	3.55	1.03
26	933	4691	3659	5793	2227	496	3.21	1.14

Table 5.7. The responses of patients to SSQ. N=17,799. 1=strongly dissatisfied, 5=strongly satisfied.

The results of principal components analysis using varimax rotation and Kaiser normalisation are shown in table 5.8. If different types of patients interpret the questions differently when the questionnaire is administered to a large sample the component structure might be altered. However, the same structure was identified. Whilst some of the questions for availability and continuity loaded to a minor degree with the other component, none of these loadings was substantial.

Cronbach's alpha for each scale is shown in table 5.9. Some further information about the validity of SSQ is provided by the level of correlation between the scales (table 5.10). It can be argued that if the components are measuring aspects of satisfaction they should correlate with the general satisfaction scale, but the level of correlation should not be too high, as a high correlation would suggest that the two components are measuring the same thing. The levels of correlation between general satisfaction and individual components are reassuring in this respect, all showing some moderate correlation. Furthermore, the levels of correlation between the different components should not be high as each scale should be measuring a different aspect of satisfaction with the practice. This concept is referred to as discriminant validity (Streiner and Norman, 1989 p. 118). The correlations between components are all lower than the correlations between each component and general satisfaction. The highest levels of correlation are between availability and continuity.

Table 5.8.

	Components				
	1	2	3	4	5
<b>Components</b>					
<b>Premises</b>					
Q2	.56	.14	.05	.15	.01
Q7	.72	.04	.08	.07	.27
Q16	.87	.14	.08	.08	.08
Q19	.86	.16	.08	.09	.10
Q25	.85	.16	.09	.09	.10
<b>Availability</b>					
Q6	.16	.71	.03	.13	.03
Q13	.11	.74	.25	.11	.17
Q17	.14	.76	.29	.11	.15
Q18	.15	.66	.02	.05	.19
Q22	.10	.74	.33	.13	.15
<b>Continuity</b>					
Q3	.05	-.04	.76	.01	.21
Q9	.10	.31	.77	.12	.08
Q15	.06	.09	.82	.05	.09
Q20	.18	.40	.62	.11	.05
Q26	.05	.32	.68	.04	.21
<b>Accessibility</b>					
Q4	.09	.16	.04	.75	-.01
Q10	.14	.10	.07	.80	.07
Q14	.09	.05	.07	.75	.16
Q21	.11	.10	.05	.82	.04
<b>Medical care</b>					
Q5	.09	.10	.13	.08	.79
Q8	.14	.15	.19	.10	.77
Q11	.07	.13	.10	.01	.71
Q23	.27	.33	.19	.13	.61

Table 5.8. Principal components analysis with varimax rotation of SSQ. N=17,799. General satisfaction questions excluded.

**Table 5.9.**

---

Scale	Cronbach's alpha
General satisfaction	.73
Accessibility	.81
Availability	.84
Continuity	.84
Medical care	.79
Premises	.86

---

**Table 5.9.** Internal consistency (Cronbach's alpha) for SSQ. N=17,799. Alpha for entire questionnaire = .91.

---



Table 5.10.

	G. sat.	Acc.	Ava.	Cnt.	MC.	Prm.
G. sat -		.289	.547	.465	.689	.457
Acc. .289		-	.304	.215	.237	.280
Ava. .547		.304	-	.529	.451	.375
Cnt. .465		.215	.529	-	.426	.276
MC. .689		.237	.451	.426	-	.369
Prm. .457		.280	.375	.276	.369	-

Table 5.10. Pearson product moment correlation coefficients of each scale of SSQ with each of the other scales. N=17,799.

*Practice satisfaction scores*

The mean satisfaction scores from all questionnaires for each of the six components of SSQ are shown in table 5.11. The range of scores for each component is shown in figures 5.1 to 5.6, and the scores obtained by each participating practice are shown in table 5.12. The range of scores is widest for the components availability, continuity and premises, (figures 5.3, 5.4 and 5.6). Indeed the mean scores for availability and continuity are only just greater than the mid point of the scale. There were also variations in the pattern of scores of different practices. For example, practice 4 scored poorly on almost all components except accessibility, practice 7 scored relatively well on all components, and practice 42 scored well on all components except premises.

**Table 5.11.**

---

Scale	Mean score	SD
General satisfaction	69.7	17.8
Accessibility	73.1	17.8
Availability	56.2	22.8
Continuity	57.0	22.0
Medical care	67.5	17.3
Premises	66.0	20.1

---

Table 5.11. The mean scores and standard deviations (SD) of scales for SSQ. N=17,799.

---

Table 5.12.

Pract code	GS	Acc.	Ava.	Cnt.	MC.	Prm.
2	64.1	70.3	46.9	67.3	62.7	51.3
3	69.9	78.7	57.8	55.3	65.0	74.2
4	59.4	72.3	37.2	43.4	61.6	58.5
5	78.7	75.6	72.7	60.1	74.1	78.6
6	65.3	70.4	38.2	47.3	70.7	59.5
7	81.8	79.2	78.3	69.4	76.0	87.4
9	69.9	66.8	50.4	46.0	66.3	55.4
10	64.2	73.9	48.1	61.2	65.7	36.5
11	66.3	73.1	51.6	40.4	64.5	72.9
17	79.3	77.5	73.8	65.0	74.8	85.8
18	68.6	69.4	57.6	56.8	67.3	61.6
20	62.6	71.0	55.0	62.5	62.5	58.7
21	70.5	77.2	61.0	63.7	69.6	67.3
22	73.4	76.9	64.4	60.3	68.6	77.9
23	62.6	65.4	42.5	50.4	61.2	49.0
24	68.3	69.3	47.9	49.1	68.0	51.7
25	76.9	75.9	70.7	70.9	74.2	68.0
27	64.0	70.7	32.6	45.0	61.2	49.6
28	76.6	75.0	73.5	69.5	74.8	73.4
29	73.8	72.2	61.8	59.9	70.3	65.4
30	70.5	67.7	45.4	52.2	70.7	62.9
32	67.2	71.3	49.0	48.7	65.2	49.1
33	65.6	65.0	47.2	47.0	62.9	48.6
37	67.7	65.1	66.0	54.2	69.2	62.7

39	74.4	78.0	55.9	62.1	71.6	81.8
40	70.3	69.4	59.6	62.9	67.9	48.9
42	67.4	71.6	69.2	59.7	72.5	43.0
43	74.3	76.8	57.9	58.4	70.1	82.1
44	75.3	80.0	71.0	59.6	72.6	77.7
47	71.9	71.1	57.4	55.5	67.0	61.8
48	68.1	72.1	52.5	44.9	64.7	69.0
49	67.1	68.5	53.4	50.0	64.8	51.2
52	72.3	75.8	74.0	64.1	66.7	64.5
56	59.8	71.0	39.7	49.6	60.8	55.9
58	77.2	77.8	65.7	55.3	71.9	85.1
60	72.6	75.7	58.3	50.5	68.4	74.1
62	68.5	67.2	51.0	65.7	66.6	64.9
66	60.5	75.6	41.4	46.9	60.7	71.9
67	71.6	70.4	56.0	55.1	66.9	76.9
68	61.4	64.4	32.7	46.5	61.1	44.2
69	64.1	69.8	51.2	43.1	60.7	42.4
71	67.4	72.0	46.4	63.7	65.6	62.9
72	66.4	65.2	53.5	43.6	65.2	72.4
74	65.6	68.7	38.1	52.7	65.6	57.9
77	63.1	67.4	46.0	60.7	63.0	69.5
78	77.8	78.0	80.0	80.4	76.5	72.8
80	76.3	75.4	73.2	55.0	73.9	62.3
81	67.2	69.5	52.2	58.3	64.6	67.8
82	73.0	79.1	61.3	72.5	72.7	63.1
83	78.4	73.4	69.8	75.4	74.6	77.4
84	71.4	75.1	55.1	49.6	68.5	68.3
85	64.8	68.8	36.8	49.5	63.2	50.2
87	61.9	69.1	29.7	48.6	65.9	51.8

88	74.6	83.7	81.4	83.7	71.3	47.6
93	76.8	77.0	68.6	61.0	73.6	72.7
95	60.7	74.2	47.3	44.4	56.5	57.5
98	74.3	82.1	69.3	66.6	69.2	76.4
106	64.4	71.7	60.9	59.2	61.5	53.1
107	73.0	66.7	61.5	57.2	69.4	73.6
110	67.6	69.3	50.3	48.2	63.1	77.2
116	76.6	75.0	63.7	65.5	74.3	72.8
118	71.5	74.6	46.0	53.9	72.4	71.4
119	62.4	70.0	40.2	50.1	61.6	59.0
122	75.4	77.9	58.6	57.2	68.2	77.7
124	76.8	77.1	67.0	68.6	71.7	79.7
127	71.0	68.1	60.1	55.5	69.7	71.7
131	67.3	66.1	47.2	60.7	65.3	66.4
134	75.7	78.5	70.4	63.9	71.1	78.7
138	57.0	59.0	33.0	51.4	63.6	28.2
140	68.7	71.7	45.1	59.4	67.0	77.9
141	74.3	74.7	59.0	71.4	68.6	78.2
142	68.4	75.4	64.7	69.9	61.9	59.7
147	74.7	77.1	48.7	52.8	69.9	83.6
149	65.3	78.6	57.3	49.7	62.3	55.7
150	69.1	68.5	56.7	56.3	64.8	78.0
151	81.5	80.4	82.6	77.1	80.1	65.4
152	67.2	75.0	51.1	58.3	67.2	67.8
154	77.5	78.0	64.8	69.5	74.7	78.1
157	76.2	77.6	64.1	63.6	70.5	83.6
160	68.7	75.4	43.4	44.4	66.1	76.1
162	69.9	65.73	55.4	53.9	68.7	65.5
163	72.5	70.9	56.1	63.0	69.1	78.2

165	70.8	74.1	62.8	53.9	66.3	50.1
168	68.8	71.9	63.8	49.4	65.7	68.9
170	75.1	78.5	58.7	57.3	68.5	76.0
173	83.0	78.7	80.8	82.2	78.0	81.6
177	72.2	74.8	60.7	64.0	67.2	75.1
178	65.2	70.9	54.5	52.0	62.5	52.0
184	82.1	82.7	81.3	68.8	78.1	84.7
185	71.9	68.6	57.8	60.5	67.6	82.4
188	64.4	69.3	51.7	45.3	60.4	58.1
189	70.5	75.4	59.0	51.1	66.8	68.8
190	72.3	74.0	54.1	55.4	69.9	78.8
192	72.7	73.4	62.7	60.5	68.4	71.9
193	66.8	65.1	49.4	55.3	66.2	44.9
199	66.2	72.7	50.1	51.9	62.4	64.2
210	70.1	72.3	43.8	49.4	66.6	72.1
213	62.9	69.6	40.1	40.9	63.4	59.6

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Table 5.12. The satisfaction scale scores for each practice. N=99.

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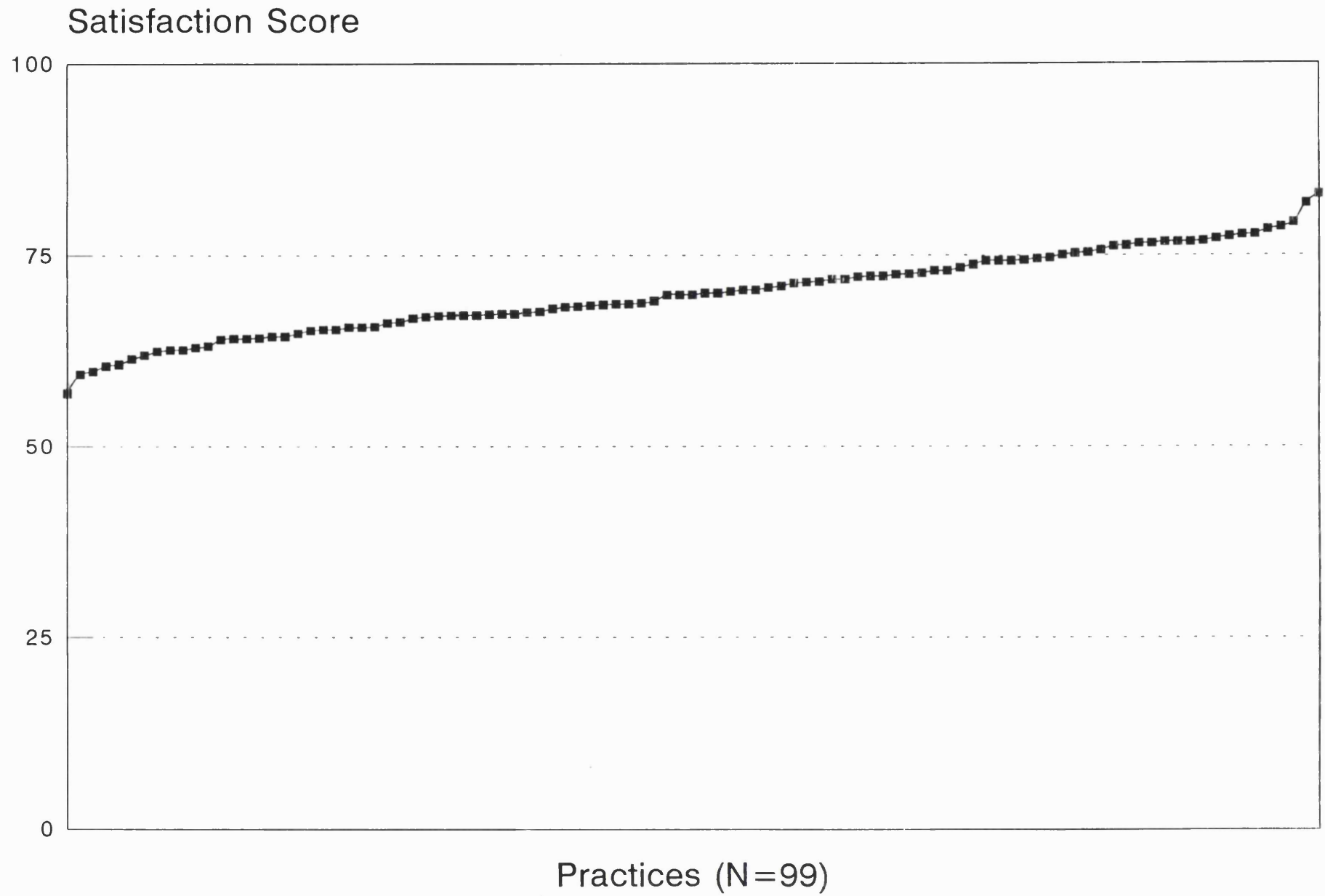


Figure 5.1. SSQ General Satisfaction Scores

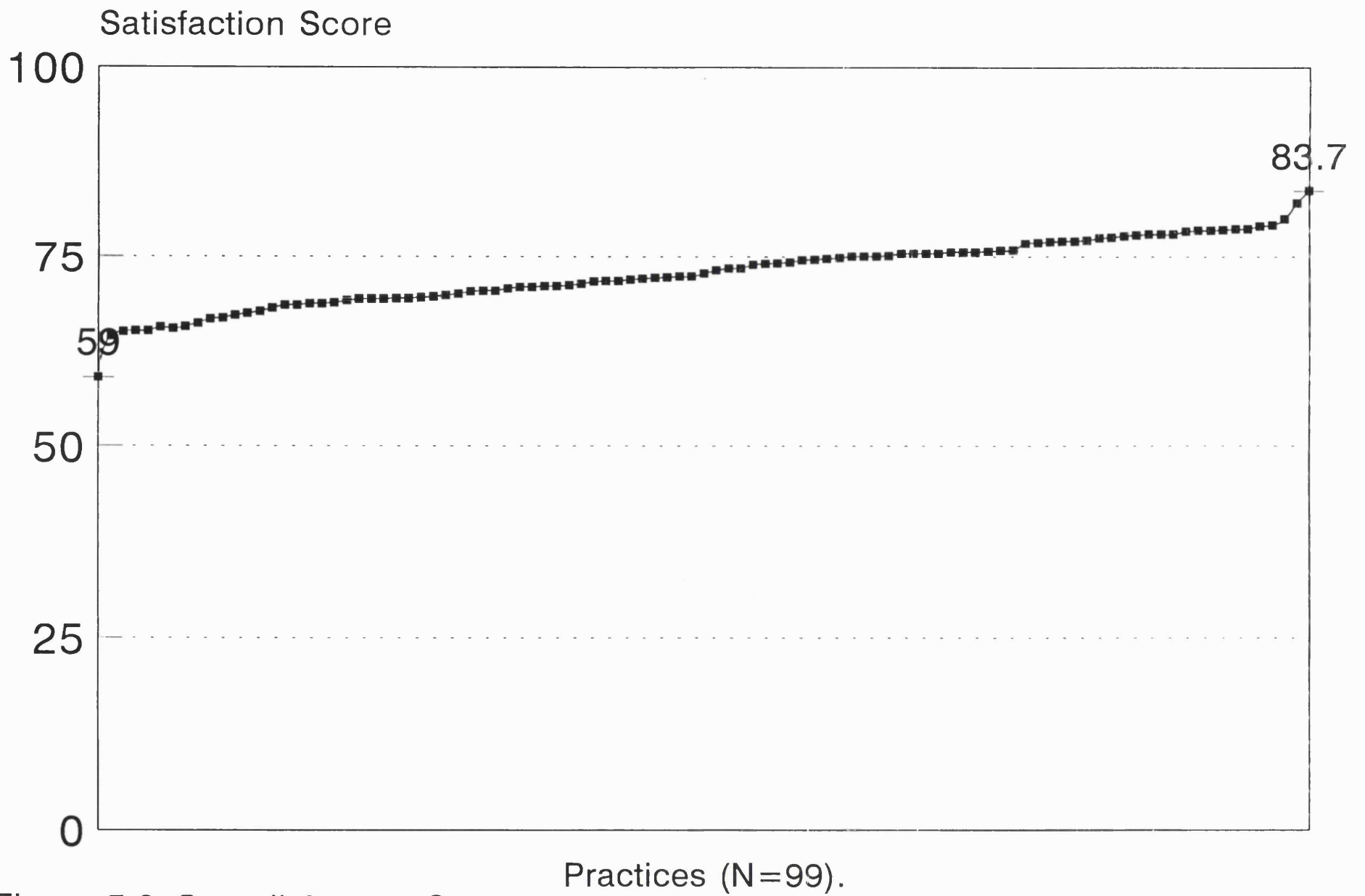


Figure 5.2. Overall Access Scores



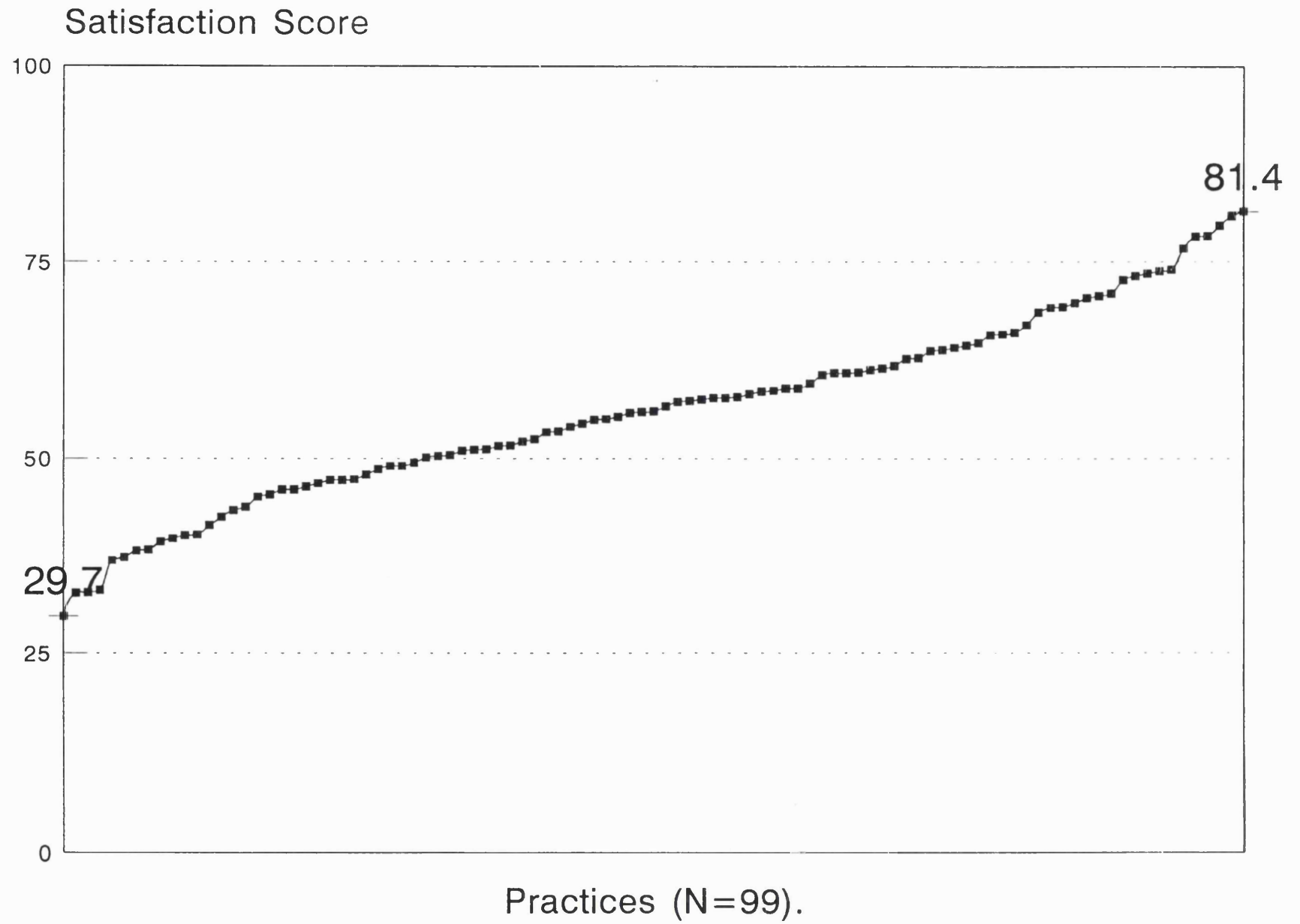


Figure 5.3. Overall Availability Scores

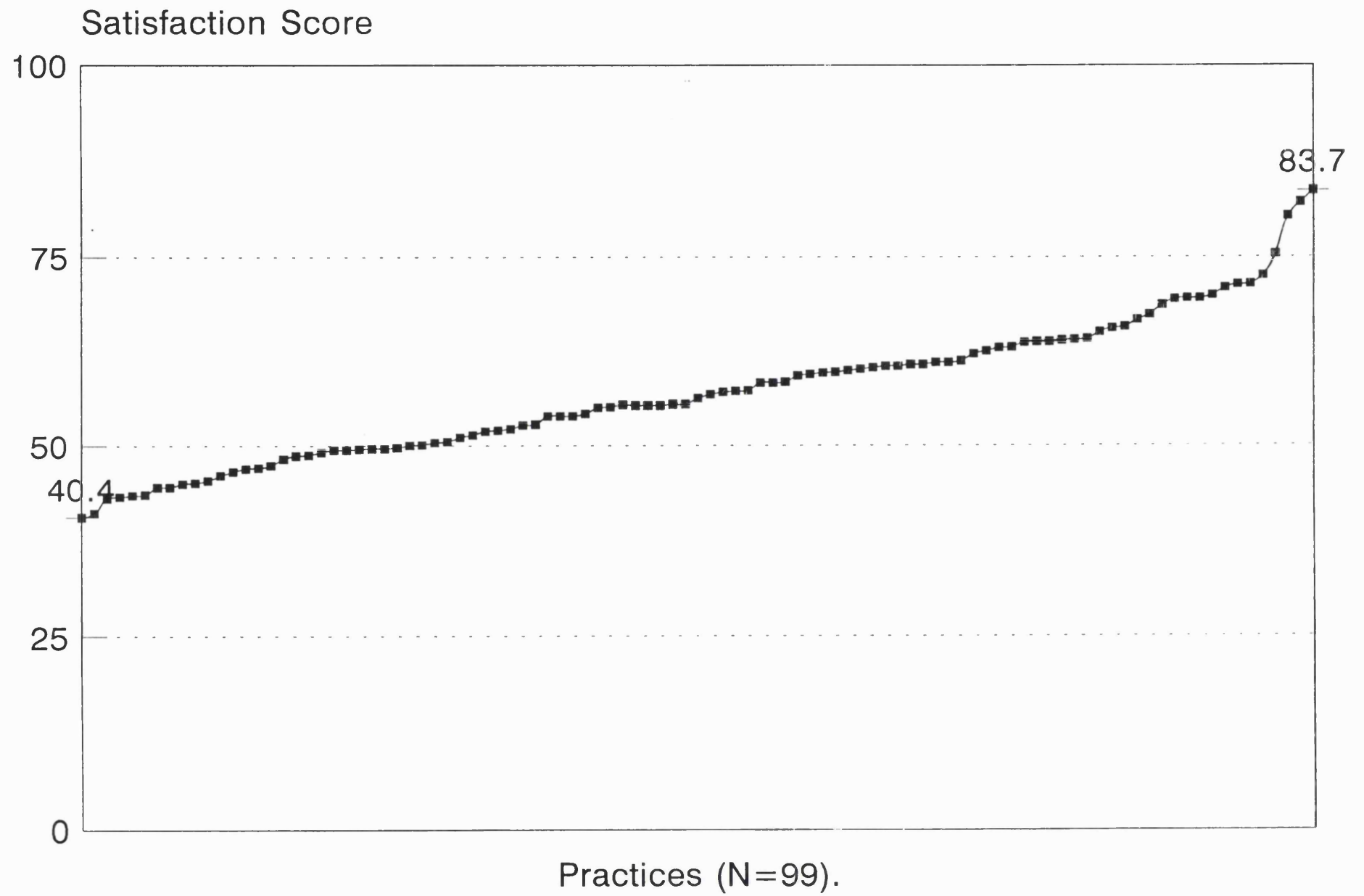


Figure 5.4. Overall Continuity Scores

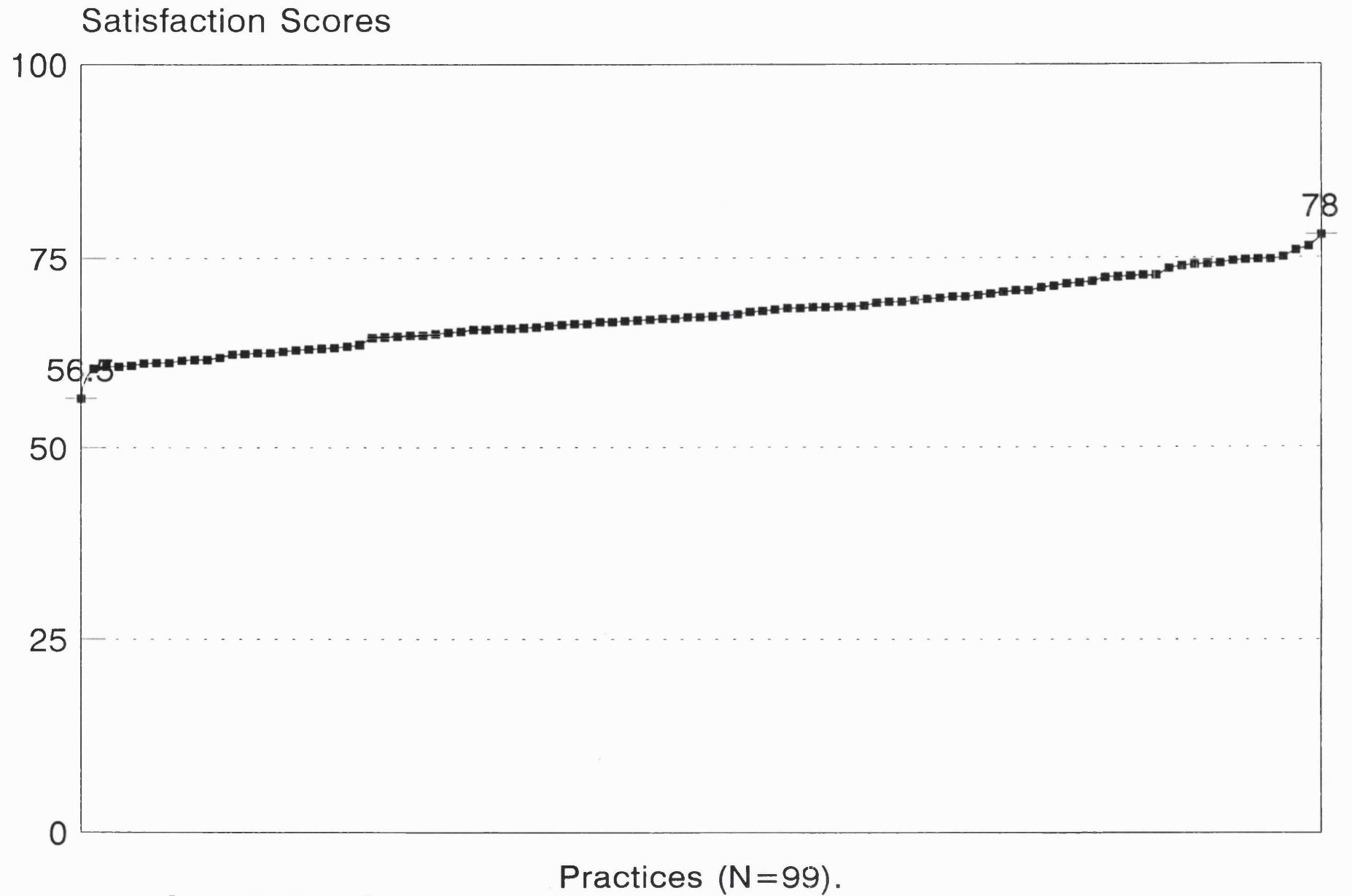


Figure 5.5. Overall MedCare Scores

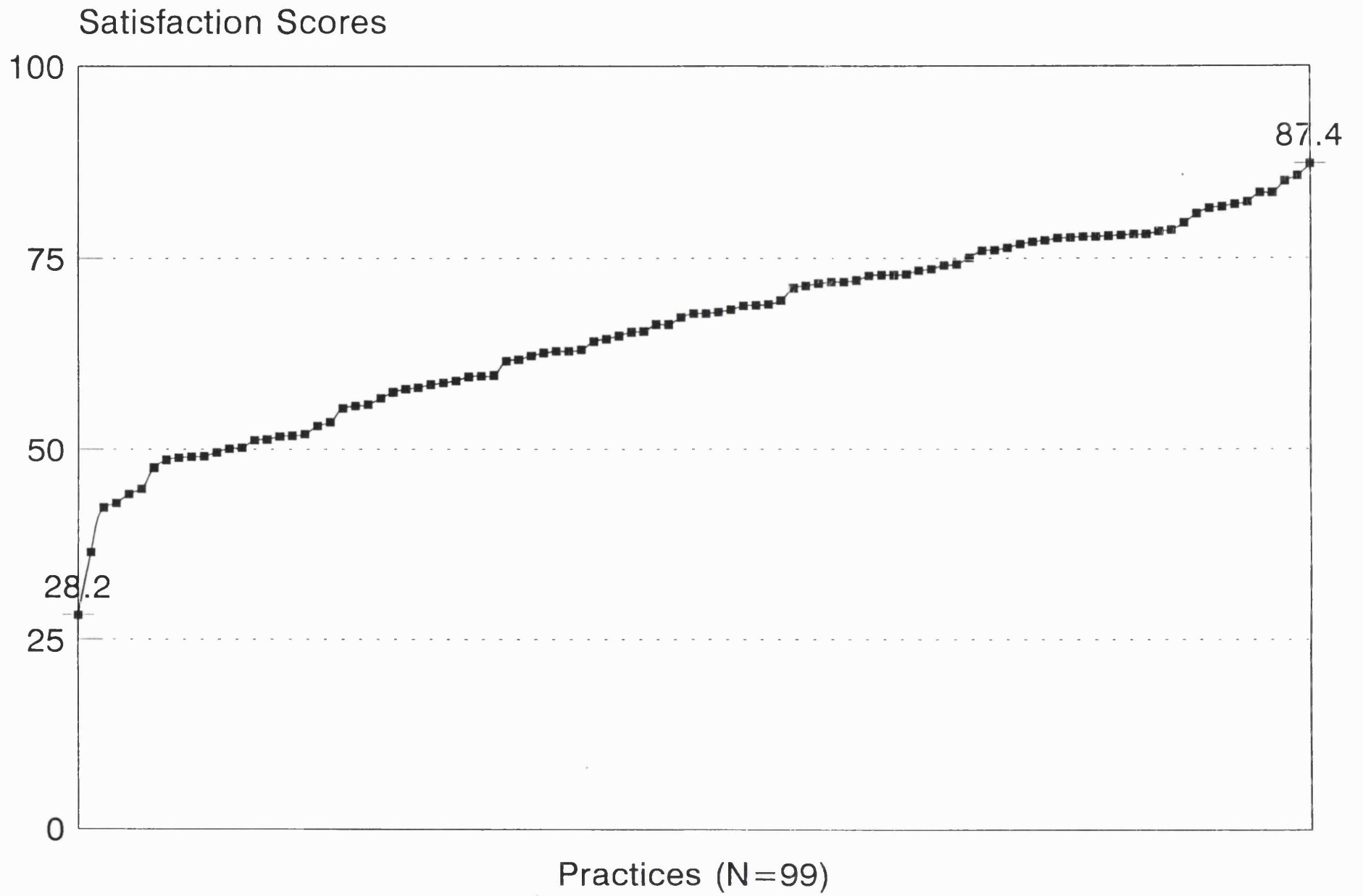


Figure 5.6 Overall Premises Scores

## CSQ

### *The respondents*

CSQ was administered to patients in 63 practices. In four of these practices the general practitioners requested an analysis of results by practice rather than by practitioner. Thus, information was available about patient satisfaction with consultations for 190 general practitioners individually.

11,447 questionnaires were returned for analysis, a response of 77.0% (range 24.0% to 97.3%). Information about non-responders is not available. For nine general practitioners the response rate was below 40% and for 35 the rate was 93% or above. The mean age of responders was 47.1 years. The distribution of patients by age is shown in table 5.13 and the sex distribution in table 5.14. Two thirds of respondents were female (table 5.14).

Table 5.13.

Age (yrs)	Number of respondents	Age (yrs)	Number of respondents
16	146	56	194
17	109	57	158
18	141	58	170
19	122	59	142
20	121	60	199
21	155	61	169
22	157	62	172
23	185	63	181
24	202	64	192
25	192	65	193
26	214	66	183
27	230	67	183
28	236	68	181
29	227	69	160
30	224	70	172
31	209	71	183
32	236	72	176
33	185	73	94
34	185	74	102
35	199	75	117
36	190	76	131
37	169	77	98
38	172	78	104
39	157	79	71
40	202	80	61
41	183	81	49
42	209	82	53
43	182	83	33
44	179	84	38
45	207	85	27
46	178	86	16
47	203	87	8
48	189	88	9
49	175	89	2
50	176	90	2
51	112	91	3
52	185	92	3
53	149	93	0
54	144	94	1
55	168		missing 209

Table 5.13. The number of patients by age completing CSQ. N=11,447. Mean age of all respondents 47.1 years (SD 18.2).

Table 5.14.

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Sex	Number of respondents
Male	3,716 (32.5%)
Female	7,566 (66.1%)

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Table 5.14. The sex of patients completing CSQ. N=11,293. 154 (1.3%) did not indicate their sex.

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### *The performance of CSQ*

The scores of the questions on CSQ were generally answered positively (table 5.15). No question had a mean score below 3.29 (Q8), and the highest mean score was 4.44 (Q1). The responses were more positive than those obtained with SSQ. The percentage of questions not answered was 1.98%.

The results of principal components analysis with varimax rotation and Kaiser normalisation are shown in table 5.16. The component structure was unchanged except for two questions in the depth of relationship scale, Q4 ("I felt able to tell this doctor about very personal things") and Q15 ("I felt this doctor really knew what I was thinking"). Both these questions loaded with the depth of relationship scale, but their loadings with the professional care scale were slightly higher. The explanation for this change is not clear, and evidently there is some overlap in patients' views about these questions, both of which are concerned with the consequences of the

quality of communication between doctor and patient. Communication is also addressed in the professional care scale, although the emphasis is on communication about the illness and its treatment. It may be that the shift in question loadings took place because communication is an underlying aspect of care in both the professional care and depth of relationship scales.

The levels of internal consistency of the scales of CSQ were satisfactory, Cronbach's alpha being 0.65 or better for each scale (table 5.17). The correlations between each scale of CSQ are shown in table 5.18. Correlations between each scale and general satisfaction are moderate, indicating that they are related to, but not identical with, general satisfaction. The level of correlations between depth of relationship and professional care with perceived time was low, indicating that these scales do not overlap with patients' perceptions of the length of consultations. However, the level of correlation between the depth of relationship scale and professional care scale is higher. This may reflect the same issue that led to the shift in loadings of Qs 4 and 15 in principal components analysis.



Table 5.15.

Question	1	2	3	4	5	missing	mean	SD
1	33	169	665	4436	6050	94	4.44	.67
2	42	208	1201	4730	4930	336	4.29	.76
3	18	110	1051	4876	5332	60	4.35	.70
4	81	299	1640	4295	4954	178	4.22	.84
5	515	1102	2294	4975	2394	167	3.68	1.06
6	64	339	1414	5373	4092	165	4.16	.80
7	464	1199	2173	4832	2622	157	3.70	1.06
8	702	2442	2747	3507	1799	250	3.29	1.16
9	68	415	1923	4931	3120	490	4.06	.84
10	85	238	1006	5038	4973	107	4.29	.77
11	509	1059	1677	5297	2708	197	3.77	1.06
12	132	437	2734	845	2949	350	3.91	.88
13	209	510	2022	4816	3670	220	4.00	.93
14	308	1799	3085	3526	2469	260	3.54	1.09
15	173	1068	3558	4144	2156	348	3.63	.95
16	584	1461	3013	4538	1585	266	3.45	1.05
17	570	751	1156	4562	4196	212	3.99	1.10
18	486	1036	1704	4416	3577	228	3.85	1.10

Table 5.15. The responses of patients to the questions of CSQ. 1=dissatisfaction, 5=satisfaction. N=11,447.

Table 5.16.

Components	Component 1	Component 2	Component 3
<b>Professional care</b>			
Q2	.78	.06	.19
Q3	.71	.18	.12
Q6	.72	.15	.18
Q9	.76	.10	.16
Q10	.70	.27	.13
Q12	.68	.22	.09
Q13	.59	.34	.07
<b>Depth of relationship</b>			
Q4	.56	.48	.06
Q8	.07	.79	.29
Q14	.39	.76	-.02
Q15	.56	.53	.03
Q18	.20	.56	.36
<b>Perceived time</b>			
Q5	.15	.12	.82
Q11	.17	.15	.82
Q16	.13	.11	.81

Table 5.16. Principal components analysis of CSQ. N=11,447. The general satisfaction questions were excluded from the analysis.

**Table 5.17.**

Scale	Alpha
General satisfaction	.66
Professional care	.87
Depth of relationship	.79
Perceived time	.80

Table 5.17. Cronbach's alpha for the four scales of CSQ. N=11,447. Alpha for the entire questionnaire=.91.

**Table 5.18.**

	General satisfaction	Professional care	Depth of relationship	Perc. time
General satisfaction	-	.617	.560	.597
Professional care	.617	-	.668	.370
Depth of relationship	.560	.668	-	.400
Perceived time	.597	.370	.400	-

Table 5.18. Pearson product-moment correlation coefficients of each scale of CSQ with each of the other scales. N=11,447.

*Satisfaction scores obtained with CSQ*

The mean scores of all respondents for each scale of CSQ are shown in table 5.19. The range of scores for different general practitioners are shown for each component in figures 5.7 to 5.10. The scores of each general practitioner are shown in table 5.20.

The ranges of scores obtained with CSQ were less than those of SSQ, but nevertheless differences between general practitioners were identifiable. For example, doctor 1 from practice 32 scored relatively badly on all scales, doctor 1 from practice 5 scored relatively well on all scales, and doctor 6 from practice 60 scored well on all scales except depth of relationship. The scores for depth of relationship were lower than for professional care, a finding that suggests that there are differences in the issues being addressed by these two components.

**Table 5.19.**

Scale	Mean score	SD
General satisfaction	76.1	18.5
Professional care	78.7	15.1
Depth of relationship	67.6	19.0
Perceived time	66.0	22.2

Table 5.19. Means and standard deviations (SD) of CSQ scales. N=11,447.

Table 5.20.

Practice code no.	Doctor	Gen. sat	Prof. care	D. of rel.	time
5	1	86.3	87.5	78.5	80.9
	2	84.4	88.3	78.0	78.5
6	1	84.4	86.2	78.6	71.3
	2	77.5	80.2	68.5	63.5
	3	81.7	83.6	74.4	76.1
	4	83.0	87.3	76.9	68.5
7	1	86.3	85.8	76.1	79.2
	2	85.9	85.0	78.3	81.1
9	1	82.8	83.3	79.1	72.4
10	1	82.1	83.3	74.3	73.9
	2	83.0	81.9	75.5	75.9
	3	87.1	85.3	78.0	73.5
	4	80.3	84.9	73.2	72.7
	5	82.4	82.8	72.8	72.0
	6	78.5	78.9	67.2	73.2
11	1	78.7	83.6	77.1	71.3
	2	83.8	85.9	75.9	75.2
	3	84.0	83.7	75.4	75.1
15	1	89.3	89.6	79.3	78.3
	2	83.0	81.8	71.7	75.9
20	1	78.7	80.8	72.9	71.6
21	1	76.2	80.5	71.8	72.3
22	1	76.9	79.3	70.4	73.1
	2	78.8	85.0	77.0	67.5
	3	83.4	85.8	77.7	75.3
	4	73.3	79.0	61.4	68.4
23	1	79.7	82.0	75.1	71.3
	2	81.0	82.3	73.4	68.7
	3	74.0	76.8	66.0	67.8
27	1	74.0	81.1	71.3	62.2
	2	77.1	80.0	71.4	76.0
	3	85.4	85.4	76.4	71.5
	4	82.4	84.2	77.3	71.5
	5	80.6	81.7	73.0	70.5
	6	84.4	85.2	74.7	76.6
29	1	86.3	87.8	83.0	79.9
	2	83.6	84.5	77.9	77.8

	3	84.0	84.0	73.3	74.5
	4	84.9	84.9	78.9	77.5
30	1	83.0	81.0	73.5	73.5
	2	82.7	82.8	74.9	75.4
	3	83.6	85.3	77.6	75.5
	4	82.7	83.5	77.8	72.5
32	1	75.0	74.0	63.8	69.2
	2	80.3	84.2	74.6	73.3
	3	83.0	84.1	75.1	69.9
	4	78.8	79.5	70.8	69.3
	5	77.5	82.0	71.6	68.3
33	1	78.6	87.1	78.0	67.4
	2	79.1	81.7	73.3	67.6
	3	77.2	78.2	71.0	67.8
37	1	76.8	77.4	72.1	71.5
	2	77.1	84.5	74.5	71.0
	3	80.2	81.6	70.7	72.4
39	1	82.4	83.9	73.3	74.4
	2	84.6	84.5	74.1	71.6
	3	85.0	83.6	75.8	79.6
	4	81.7	82.9	72.3	74.0
	5	83.3	85.2	75.1	75.1
40	1	76.6	80.3	68.7	69.8
	2	82.7	84.5	76.1	70.1
	3	85.8	87.5	81.2	77.2
	4	81.7	82.1	74.1	71.6
43	1	80.2	88.2	81.9	78.8
	2	89.0	86.7	79.0	79.4
	3	82.8	84.0	70.6	75.6
	4	84.2	81.7	74.4	78.8
	5	86.3	85.0	78.1	77.5
44	1	78.4	80.9	69.5	70.2
47	1	81.5	86.4	78.4	76.2
	2	73.7	73.5	67.6	72.3
	3	86.2	90.0	80.5	79.2
49	1	77.3	80.0	73.2	63.7
	2	83.7	83.5	72.3	77.4
	3	81.0	86.3	75.0	69.8
	4	80.9	79.3	71.3	69.5
	5	83.4	85.7	77.2	74.4
	6	82.6	84.0	76.6	72.8
58	1	81.8	83.5	72.7	74.9
	2	84.7	81.5	74.8	75.3
60	1	84.4	85.2	77.4	75.4
	2	86.5	88.1	81.5	76.7

	3	82.6	82.1	77.6	74.6
	4	85.9	85.0	74.1	76.9
	5	81.2	83.3	74.9	70.1
	6	81.9	80.9	67.7	75.1
61	1	79.1	83.6	77.3	76.6
68	1	81.1	82.6	75.3	70.1
	2	84.2	89.3	80.1	75.7
	3	79.6	80.0	76.5	71.6
	4	80.0	82.9	68.8	76.2
	5	82.3	91.9	85.9	74.9
	6	84.9	88.9	76.6	77.2
69	1	78.4	80.1	68.2	70.8
	2	86.7	85.7	74.0	78.2
	3	78.0	77.5	67.4	70.3
72	1	82.7	82.3	72.2	70.9
	2	79.9	83.2	73.6	70.6
	3	81.6	83.3	74.9	71.8
	4	78.3	82.0	68.2	74.8
74	1	78.2	81.4	74.8	71.5
	2	80.0	80.6	71.5	71.9
	3	84.9	83.3	77.0	76.6
	4	80.8	86.4	73.5	77.1
76	1	85.2	83.8	76.0	76.9
	2	79.7	82.9	75.4	70.1
	3	82.2	86.3	77.7	74.7
	4	86.0	83.5	73.8	72.2
77	1	83.4	85.0	74.5	73.3
	2	82.9	86.6	78.5	77.0
	3	79.7	82.5	77.4	70.0
	4	85.2	86.0	76.9	70.0
	5	81.8	86.2	75.7	72.7
80	1	80.5	81.2	72.4	75.4
	2	71.4	76.7	68.9	66.9
82	1	79.8	82.0	73.4	69.5
	2	71.4	76.7	68.9	66.9
83	1	84.3	84.7	77.0	71.9
	2	79.3	80.9	71.0	69.9
84	1	85.3	85.8	76.7	77.5
	2	78.0	82.9	69.0	65.9
	3	81.8	84.6	75.7	74.8
	4	78.3	82.0	71.1	67.7
	5	73.7	78.9	70.2	69.8
87	1	78.1	80.4	70.2	71.4
	2	80.8	82.9	72.8	71.5
	3	77.6	82.5	75.0	69.8

	4	80.4	82.9	77.9	69.7
	5	80.8	83.2	74.9	70.3
93	1	86.4	89.4	84.4	84.0
	2	82.8	83.3	79.1	72.4
	3	81.4	81.1	72.5	73.2
95	1	85.0	85.6	77.3	79.2
	2	86.0	89.9	82.2	76.9
	3	83.8	82.4	74.1	76.4
	4	90.0	91.1	86.2	78.4
98	1	81.2	82.2	75.7	71.2
	2	81.3	81.6	69.4	71.0
110	1	81.5	84.8	77.1	69.7
	2	80.2	80.2	69.5	72.1
	3	82.0	84.5	75.2	68.9
118	1	78.5	83.7	74.2	67.6
119	1	78.6	80.4	69.3	72.6
	2	79.6	83.4	71.3	76.8
	3	83.4	79.4	69.3	75.2
	4	85.3	87.7	76.4	76.2
122	1	77.6	82.4	73.1	69.3
	2	76.2	82.6	67.0	66.0
	3	78.3	84.9	73.1	67.9
127	1	79.4	81.3	73.0	72.7
	2	82.8	84.0	81.1	75.1
	3	74.8	76.5	71.0	72.4
	4	74.1	80.0	70.0	66.4
	5	85.0	83.9	77.4	75.5
132	1	79.4	81.3	73.0	72.7
	2	82.8	84.0	81.1	75.1
	3	74.8	76.5	71.0	72.4
	4	74.1	80.0	70.1	66.4
	5	85.0	83.9	77.4	75.5
138	1	70.9	76.4	69.3	64.4
	2	79.4	80.0	75.4	75.2
	3	73.5	76.0	67.6	67.7
	4	79.4	81.4	71.4	69.9
	5	71.1	76.1	68.4	64.7
	6	82.6	82.5	76.5	67.9
141	1	75.7	78.9	71.7	71.8
	2	75.9	79.8	72.1	67.8
150	1	77.7	80.9	74.0	74.0
	2	82.2	86.4	76.8	73.7
	3	87.3	90.0	83.1	78.8
	4	78.1	78.9	69.5	73.8



151	1	74.6	78.2	68.8	71.3
157	1	79.0	80.3	72.7	73.7
	2	80.5	84.6	75.4	76.3
	3	81.1	83.9	73.7	75.6
165	1	83.9	83.3	78.3	78.3
	2	85.0	90.9	82.5	77.2
	3	78.6	82.2	70.8	73.2
170	1	74.7	77.1	67.9	65.7
	2	72.6	74.5	64.8	64.8
	3	76.2	76.8	69.1	68.0
	4	78.1	78.7	65.9	72.2
177	1	81.9	84.9	76.3	74.8
	2	79.4	79.4	73.6	73.3
	3	81.9	86.0	74.8	74.7
184	1	81.7	81.3	73.9	75.8
	2	79.6	80.1	76.6	75.7
206	1	81.3	85.1	80.0	75.9

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Table 5.20. The satisfaction scores for each doctor taking part in the Dialogue survey using CSQ. N=194.

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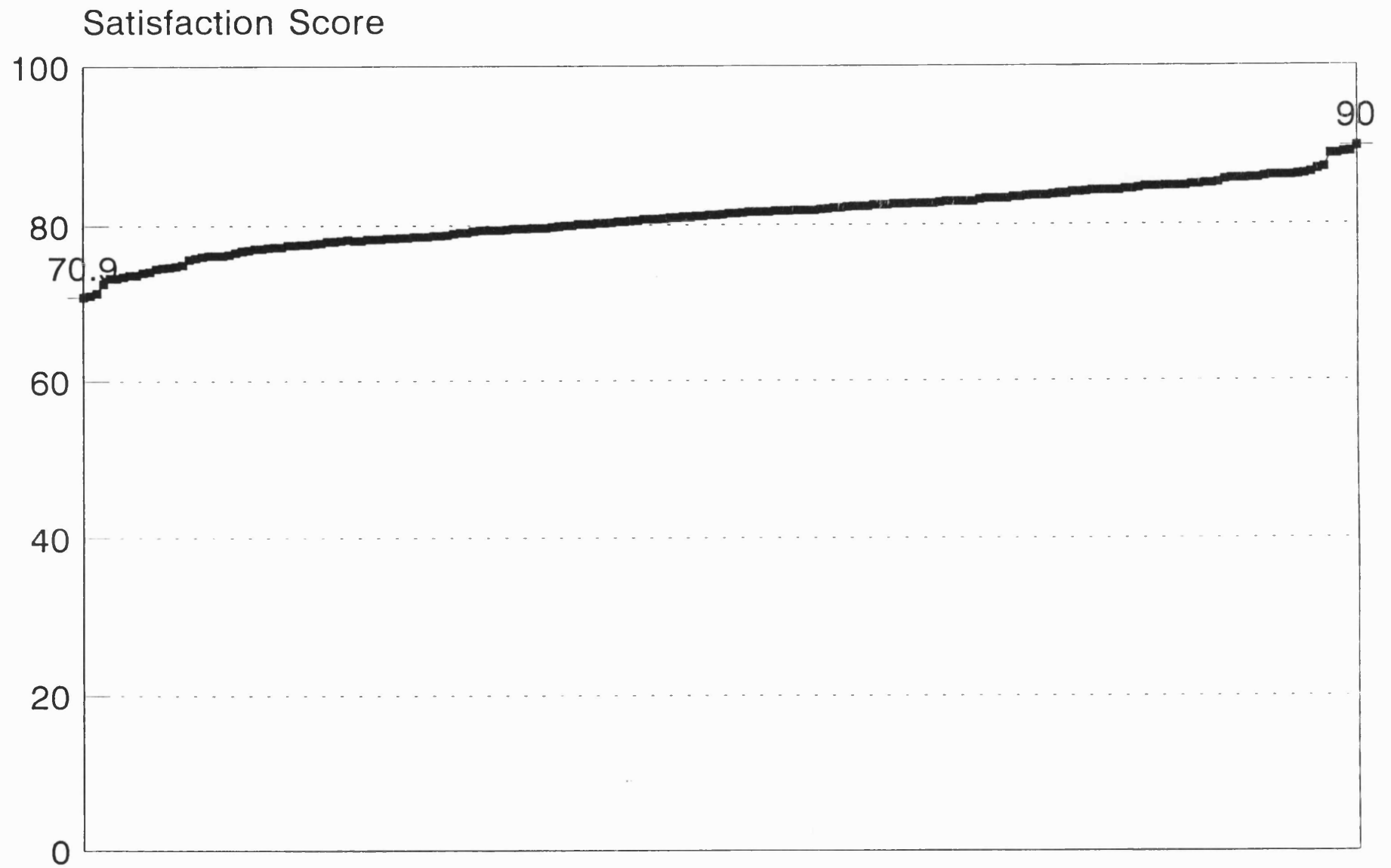


Figure 5.7. General Satisfaction (CSQ) GPs (n=194)

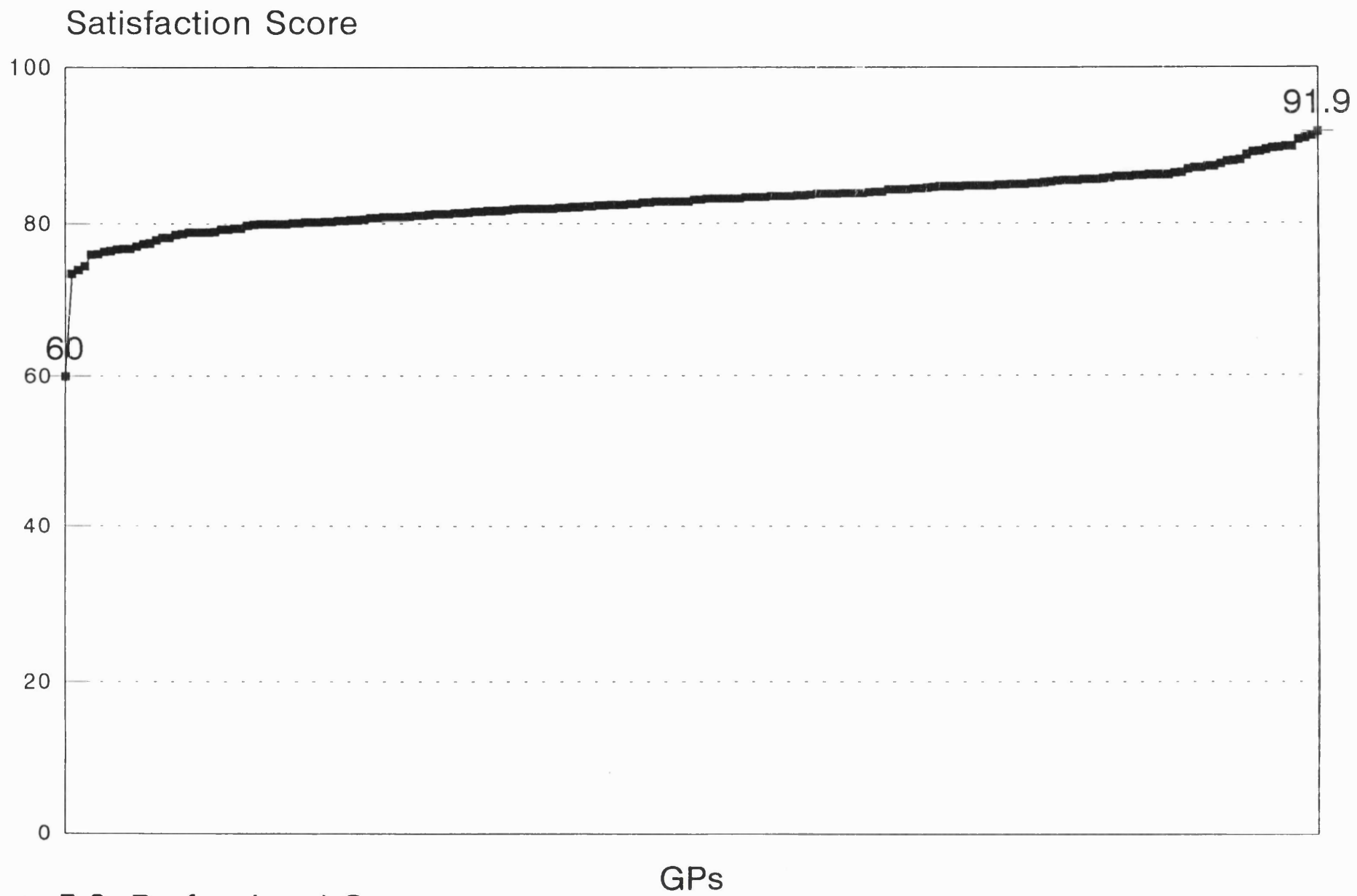


Figure 5.8. Professional Care

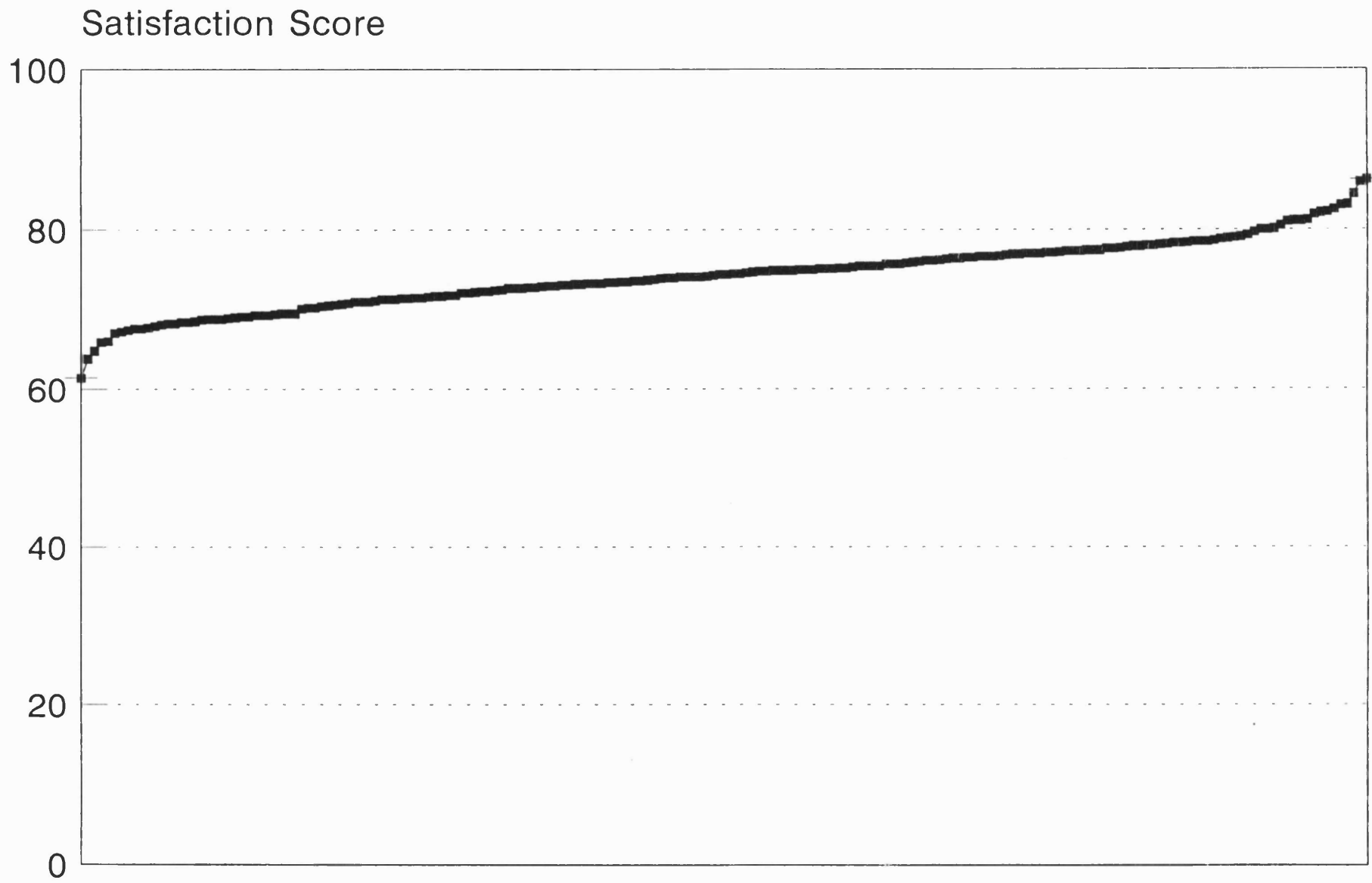


Figure 5.9. Depth of Relationship

Subjects (n=194)

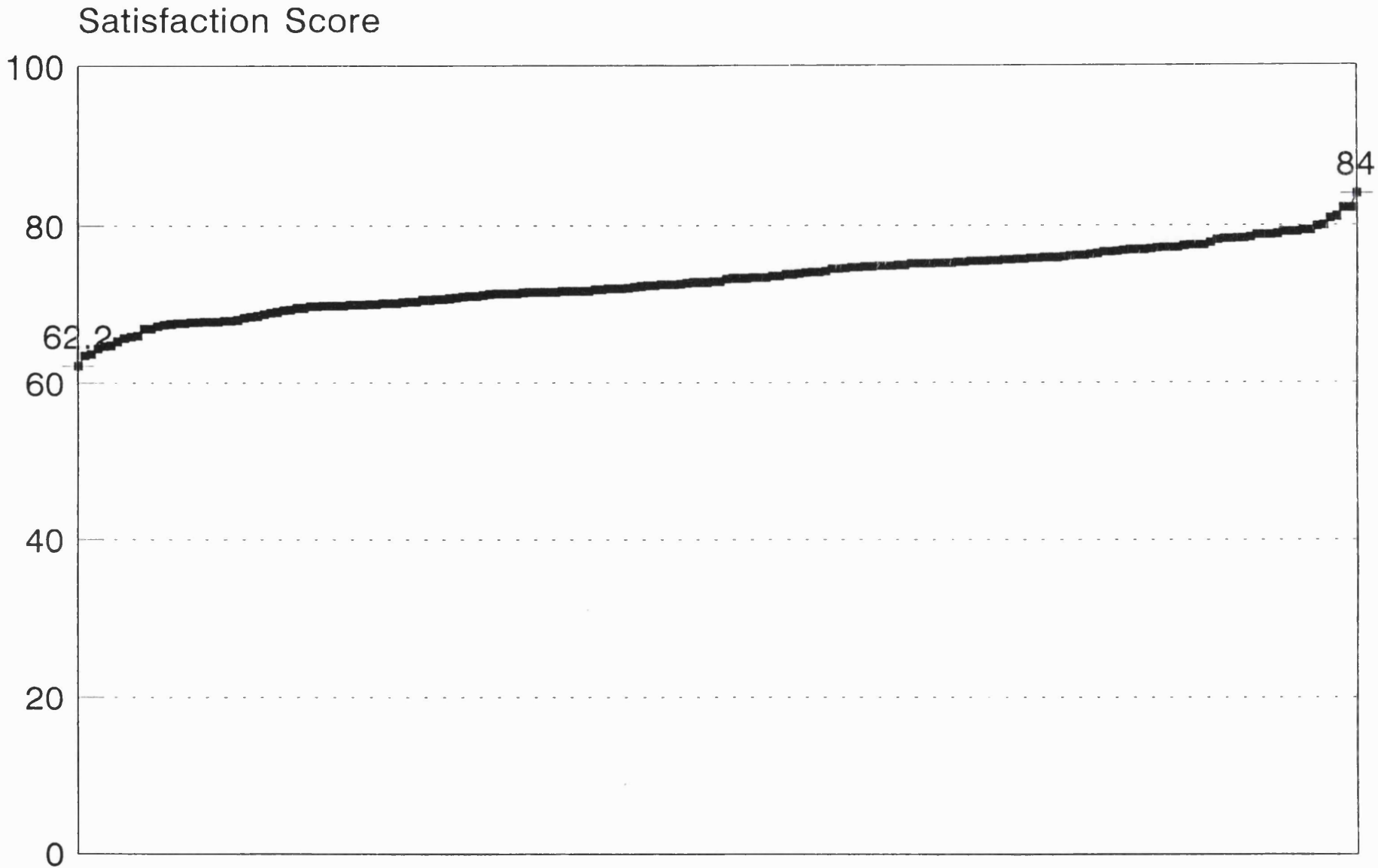


Figure 5.10. Perceived Time Subjects (n=194)

## Discussion

In this survey both SSQ and CSQ were administered to a large number of patients in a sample of practices in the South Western Region. The project was undertaken as an audit and the practices that took part were all volunteers. Thus, the sample may not be representative of general practices throughout the country. Some information about the characteristics of most of these practices is reported in the next section of this chapter, and this confirms that training practices were over represented, and single handed practices under represented. Furthermore, in the South Western Region there is no major area of social deprivation apart from a small sector of Bristol, and so caution should be exercised in generalising from the findings of this survey to the levels of satisfaction of deprived patients served by general practices in inner cities. Nevertheless, the survey has provided information about the characteristics of the questionnaires when used widely, and the findings are generally encouraging.

The patients who were asked to complete questionnaires were all attending for appointments. This approach was adopted because this group of patients would be more likely to have experience of the practice. For the survey using CSQ administration to patients who have recently consulted was necessary. Patients who have not consulted would be unable to complete the questionnaire, and those who had consulted in the past may not recall their experience sufficiently clearly. However, for SSQ posting questionnaires to a random sample of patients identified from the practice register would have been an option. The disadvantages of this approach include the possibility that among these patients would be some who have not

attended the practice at all, or not within a reasonable period of time. The views of these patients might then be opinions on the practice as it used to be in the past, rather than opinions on its current performance. Nevertheless, the opinions of some patients who are not attending may be particularly important because they may be strongly dissatisfied because of their past experiences of the practice. Another factor that was taken into account was that the identification of random samples of patients and the postage of questionnaires would be costly. Further study is required to determine the impact of administering questionnaires to either attenders or to random samples by post on the reported levels of patient satisfaction. As many practices are now undertaking patient surveys this information is needed to guide decisions about the most appropriate method of administration.

Two thirds of the respondents were female. This probably reflects the sex distribution of patients attending the general practitioners taking part in the survey, although information about the sex of non-responders is not available. In the fourth national morbidity study (RCGP et al, 1995) the average contact rate for females was twice as high as males in the 16-44 year age groups, and also higher in females for all other age groups except 0-4 and 75 and over. A mix of subjects of both genders is required in satisfaction surveys as male patients may have different opinions, or have different requirements for the provision of health care services. A review of studies of the socio-demographic factors including sex which influence the level of patient satisfaction concluded that patient sex did not have an appreciable or consistent effect (Hall and Dornan, 1990). However, further comparison of the opinions of male and female patients of British general practice is required before it is possible to conclude

that stratification of patient samples for surveys is required to ensure equal proportions of male and female patients. In the *Dialogue* survey patients below the age of 16 years were excluded. Children and adolescents may have specific views about health services available to them and it is not possible to generalise from the findings of this survey to patients in these age groups.

One aim of the development of the questionnaires was the provision of measures that could be easily and conveniently used in practices. The administration of both questionnaires was acceptable to the practices involved, and their completion was acceptable to the majority of patients. The pattern of responses and low percentage of questions not answered indicate that patients were able to understand the questions. Furthermore, data analysis and the reporting of findings to the participant practices were readily undertaken on schedule. The revised method of scoring the satisfaction scales was easy to use and the participating general practitioners did not report any problems in understanding the feedback information. Thus, the questionnaires do appear to have met the requirement for a practical measure of patient opinions that can be easily used by the types of practices which participated in this study.

Another aim was that the questionnaires should be robust in wide use, and in particular be reliable and valid. Evaluation of the questionnaires during their development has provided evidence about their reliability and validity, and their extensive use in the *Dialogue* survey has provided further evidence. The levels of internal consistency remained high, and component structures remained unaltered apart from some change in loadings of two questions in the depth of relationship scale of CSQ.



The levels of correlation between the components of satisfaction also supported the validity of the questionnaires. These tests therefore indicate that the questionnaires can be recommended for wider use.

The responses to the individual questions of SSQ and CSQ were skewed towards expressions of satisfaction. This tendency was greater than had been encountered in the pilot tests of the sixth versions of the questionnaires. It is not possible to determine whether this finding arises from patients' preferences to avoid criticism and express opinions that they feel are most likely to be acceptable, or whether patients are generally satisfied. However, the findings about the validity of the questionnaires do suggest that the degree of satisfaction should not be dismissed as a manifestation of a socially desirable response set. The scale scores for both SSQ and CSQ did reveal differences in the opinions of patients of different practices or general practitioners. Some practices and general practitioners had a disproportionately high share of dissatisfied patients. The questionnaires were useful in identifying practices or general practitioners that needed to review their care. In some cases scores were remarkably low, for example below 40 or even 30 on the 0-100 scale for some practices for availability, continuity or premises. The assumption that all patients are satisfied is clearly incorrect, and surveys may have an important role in the future to guide changes to services so that they meet the wishes of patients.

However, evidence is required about the costs and benefits of surveys before they are widely recommended, and information is needed about how surveys should be integrated with other aspects of practice management such as practice development

plans in order to ensure that the findings are followed by appropriate remedial actions. Questionnaires such as CSQ or SSQ could be used by practices themselves, or practices could be assisted in undertaking surveys by health authorities or audit groups. In the conduct of surveys, the reluctance of some practices to analyse consultation satisfaction scores by general practitioner should be borne in mind. The opinion of patients about their general practitioner can be sensitive information and the discovery of low scores for a particular doctor could be difficult for that doctor, or the practice partnership, to accept and deal with. Support for individuals in this situation will be essential if patient surveys are to have a positive impact on care.

The lower scores for certain scales should not be assumed to indicate that these aspects of care are more important to patients. The pattern of scores might also be due to the wording of the questions in each scale. Other tests are required to determine which components are most important to patients. The differences in scores between different practices or general practitioners raises a number of questions about why one practice or doctor appears to be performing better than others. Among the possible explanations are that the patients of different practices are different, those of one practice being less critical than others, or the characteristics of the practice or general practitioners may be different and more suited to patients' preferences. In the next section two studies are described which begin to address these issues.

### **5.3. Patients' satisfaction with their practice: the influence of practice characteristics**

#### **5.3.1. Introduction**

In this section the findings of a study relating the levels of patients' satisfaction with their general practices with the characteristics of those practices is reported. The practices in the study are those that took part in the *Dialogue* survey reported in section 5.2. The findings are important because there have been few other studies that have related characteristics of practices to levels of patient satisfaction and also because general practice is undergoing a period of rapid change and development. If these changes are to be beneficial they should be guided by an understanding of the factors that influence patient satisfaction.

Surveys of patient opinion about general practice are not new, for example the influential studies of Cartwright were undertaken as long ago as 1964 (Cartwright, 1967) and 1977 (Cartwright and Anderson, 1981). However, there have been many changes in general practice in the intervening period and the views of patients may also have changed. Studies of specific aspects of care have investigated patients' views on the difficulties they may encounter in gaining access to care (Ritchie et al, 1981) or satisfaction with consultation length (Morrell et al, 1986), out of hours care (Bollam et al, 1988) or continuity (Hjortdahl and Laerum, 1992). Studies of this nature are valuable in identifying features of care that patients would like improved, but in order to ensure that general practice as a whole meets the requirements of

patients it is necessary to identify those characteristics of practices which have most impact on patient satisfaction.

The pace of development and change in general practices has accelerated since the new contract for general practice (Health Departments of Great Britain, 1989) and the introduction of fundholding as part of the NHS reforms (Department of Health, 1989). For example, there is evidence to show that general practitioners have experienced an increase in workload (Chambers and Belcher, 1993) and that practices are now more likely to employ nurses and offer more clinics (Hannay et al, 1992). General practitioners who are responding to these developments by introducing changes to their practices need information about the preferences of patients. If changes are implemented in ignorance of patient requirements there is a risk that patient satisfaction will decrease rather than increase (Judge et al, 1992). Therefore, the aims of this study were to identify the characteristics of general practices that influence patient satisfaction.

### **5.3.2. Method**

In order to relate characteristics of the participating practices to the satisfaction scores a questionnaire was sent to the contact person in each practice that undertook a patient survey using SSQ as part of the *Dialogue* project. The study was approved by Cheltenham and District Ethical Committee. The questionnaire sought information about the practice including total list size, whether the practice was approved for vocational training or was a fund holder, whether the practice had a personal, partly

personal or pooled list system, the total number of principals, the age and sex of each principal and whether they worked full time or part time as defined in the NHS contract.

All data collected was entered onto SPSS-PC for analysis. For each component of satisfaction a multiple regression analysis was undertaken (Armitage, 1971 p. 302) with the practice scores for each component of satisfaction being the dependent variable and the practice characteristics the explanatory variables (table 5.21). Thus, in the analysis each practice was one case. Practice size, having a practice manager and being a training practice were chosen as explanatory variables because they have been shown to be related to the level of development of general practices, more developed practices being defined as those that provided a wider range of preventive care and clinics, had more staff and undertook more educational and organisational activities (Baker, 1992). Approval for training, having more patients and having a practice manager were all related to higher levels of practice development.

In a practice with a personal list system, patients are encouraged to attend the same doctor rather than any doctor with the earliest convenient appointment. Therefore, the type of list system was included because it may have an influence on the continuity of care. This variable was categorical and was included in the regression analysis as a series of binary indicators. Factors related to the responding patients may also influence the level of reported satisfaction. Therefore, for each practice the mean age of the group of patients returning completed questionnaires and the proportion male or female were calculated and used as explanatory variables. The response rate was

also included as an explanatory variable.

Correlations were sought between the explanatory variables and if two variables were correlated one was omitted from the analysis. For example, since total list size and the number of principals proved to be highly correlated, both being measures of the size of the practice, the number of principals was omitted. Forward stepwise regression was used to identify the main effects. In order to check for the influence of interactions between variables, selection of interaction effects to include in the model was made using a forward stepwise model with all possible interactions being individually tested (together with their main effects) for inclusion in the model. For example respondents of different ages may have different views on the importance of continuity, with the presence of a personal list system being more important to elderly patients. Therefore, binary indicators were included, computed from the interactions between two variables such as the type of list system and mean age of respondents.

Table 5.21.

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Explanatory variables
● total list size
● mean age of partners
● proportion of partners who were female
● proportion of partners working part time
● whether training practice
● whether fundholding practice
● personal, partly personal or pooled list system
● practice response rate to SSQ
● mean age of each group of patients responding in each practice
● proportion of respondents who were female

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Table 5.21. The explanatory variables entered in the multiple regression analysis.

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### 5.3.3. Results

Of the 99 practices that completed a patient survey using SSQ 89 (89.9% s) returned completed questionnaires about the practice. The following results are about these 89 practices. The mean of the different response rates of patients to SSQ achieved in each practice was 81.8% (SD 12.4), the total number of completed SSQs returned from these practices being 16,015. The characteristics of the 89 practices are shown

in table 5.22. Larger practices and training practices were over represented among those taking part, 26.2% of all practices in the region in 1992 being training, 14.6% being single handed, and 30.3% having five or more principals (Department of Health, 1993a). However, the mean age of the principals taking part was close to the national mean of 42.9 years (Department of Health, 1993a).



Table 5.22.

Practice attribute	<i>number of practices</i>	<i>(%)</i>		
fund holder	12	(13.5)		
training	48	(53.9)		
practice manager	84	(94.4)		
pooled list system	40	(44.9)		
partly personal list system	22	(24.7)		
personal list system	26	(29.2)		
number of principals				
1	4	(4.5)		
2	9	(10.1)		
3 - 4	40	(44.9)		
5 / +	36	(40.4)		
	<i>mean of all practices</i>		<i>range</i>	
mean age of GPs in each practice	42.4		35.0 -	59.0
mean of mean ages of respondents in each practice	46.4		35.9 -	56.4
%s of responders who are female	68.0		52.5 -	78.8
total list size (1,000's)	7.19		1.50 -	16.0
proportion of GPs working part-time	16.4%		0% -	66.7%
proportion of GPs who are female	25.3%		0% -	66.7%

Table 5.22. The attributes of the practices using SSQ to survey patient opinion (n=89).

The mean scores for each component of satisfaction are shown in table 5.23. Tables 5.24 and 5.25 show the findings of the multiple regression analyses. The regression coefficient is the amount by which the dependent variable (the component of satisfaction) changes when the explanatory variable changes by one unit. Cumulative  $r^2$  is the cumulative multiple correlation coefficient and indicates the amount of variance between practices that is explained by the explanatory variables included in the regression equation.

The first variable to influence general satisfaction was total list size, satisfaction falling by 0.78 points as the number of patients registered with the practice increased by one thousand. This variable explained 28% of the variation between practices. The second variable was a personal list system, the presence of a personal list system being associated with a rise in satisfaction. A list system classified as partly personal by the responding practices was not associated with an increase in satisfaction. As the mean age of respondents increased satisfaction fell slightly, and also fell with an interaction between increasing list size and being a training practice, the consequences of increasing list size for satisfaction being greater in training practices. The final variable was an interaction between the mean age of the respondents and the presence in the practice of a personal list system, satisfaction increasing as mean age of respondents increased if there was a personal list system. These variables accounted for 52% of the variation in scores between practices.

Table 5.23.

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component of satisfaction	mean score	SD	centiles	
			10th	90th
general satisfaction	70.1	5.6	62.6	77.5
accessibility	72.7	4.6	66.7	78.6
availability	55.9	12.0	40.1	72.7
continuity	57.0	9.1	45.0	69.5
medical care	67.7	4.6	61.6	74.2
premises	66.4	12.7	49.0	81.6

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Table 5.23. Mean scores of each component of satisfaction of 89 practices. (SD=standard deviation).

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Explanatory variable (in order of selection)	Regression coefficient (SE)	Cumulative $r^2$	Additional % of variance explained	P value
<u>General satisfaction</u>				
total list size (1000's)	-0.78 (0.18)	.28	28	<0.001
personal list system	36.81 (13.3)	.36	8	<0.005
patients' mean age	-.25 (.25)	.40	4	<.05
training status/interaction between list size (1000's) and training status	-0.77 (0.30)	.48	8	<0.005
interaction between patients' mean age and personal list system	.71 (.28)	.52	4	<0.025
constant	56.73 (6.5)			
<u>Accessibility</u>				
total list size (1000's)	-0.67 (0.13)	.22	22	<0.001
personal list system	2.12 (.99)	.26	4	<0.05
constant	76.82 (1.06)			
<u>Availability</u>				
total list size (1000's)	-1.90 (0.33)	.43	43	<0.001
personal list system	55.78 (24.3)	.52	9	<0.001
patients mean age	-.31 (.46)	.54	2	<0.05
training status/interaction between list size (1000's) and training status	-1.80 (0.54)	.61	7	<0.005
interaction between patients' mean age and personal list system	1.04 (.52)	.63	2	<0.05
constant	43.89 (12.0)			

Table 5.24. The multiple regression models for general satisfaction, accessibility and availability.

Satisfaction with accessibility fell as the total list size increased, but was higher if the practice operated a completely personal list system, these variables accounting for 26% of the variance. Satisfaction with availability was influenced by the same variables as general satisfaction, with 63% of the variance being accounted for. The two most important variables influencing satisfaction with continuity were the presence of a personal list system, associated with an increase, and increasing total list size, associated with a fall in satisfaction. Being a training practice was associated with a fall in satisfaction, and as the proportion of patients who were female increased satisfaction fell. There was an interaction between increasing list size and training practice status, satisfaction increasing in training practices. However, this variable accounted for only 3% of the variance in scores, the separate variables of increasing list size and training status being more important in influencing satisfaction. Finally, there was an interaction between the proportion of female respondents and the presence of a personal list system, with satisfaction increasing as the proportion of female respondents increased in practices with a personal list system. These variables accounted for 61% of the variation in scores between practices.

The first variable influencing satisfaction with medical care was increasing total list size, associated with a fall in satisfaction. A personal list system was associated with an increase in satisfaction, but satisfaction fell slightly as the mean age of the respondents increased. However, there was an interaction between increasing mean age of respondents and the presence of a personal list system, with satisfaction increasing as the mean age increased provided there was a personal list system. It also

increased as the mean age of the general practitioners increased. These variables accounted for 46% of the variation in satisfaction with medical care. The variables were able to account for only 7% of the variation in the scores for premises with the total list size being the only variable of influence, increasing list size leading to a decline in satisfaction.

Explanatory variable (in order of selection)	Regression coefficient (SE)	Cumulative $r^2$	Additional % of variance explained	P value
<u>Continuity</u>				
personal list system	54.97 (21.17)	.25	25	<0.001
total list size (1000's)	-1.5 (0.35)	.48	23	<0.001
training practice	-10.83 (3.25)	.52	4	<0.025
proportion of respondents who are female	-.87 (.28)	.56	4	<0.025
interaction between list size (1000's) and training status	10.0 (0.43)	.59	3	<0.025
interaction between proportion of respondents who are female and personal list system	.67 (.31)	.61	2	<0.05
constant	79.71 (10.1)			
<u>Medical care</u>				
total list size (1000's)	-0.70 (0.12)	.24	24	<0.001
personal list system	34.06 (11.38)	.31	7	<0.01
mean age of respondents	-.29 (.21)	.36	5	<0.025
interaction between mean age of respondents and personal list system	.67 (.24)	.42	6	<0.01
mean age of GPs	.24 (.11)	.46	4	<0.025
constant	43.61 (6.5)			
<u>Premises</u>				
total list size (1000's)	-0.99 (0.40)	.07	7	<0.025
constant	73.56 (3.2)			

Table 5.25. Multiple regression models for continuity, medical care and premises.

#### 5.3.4. Discussion

The practices included in this study were volunteers and from one health service region, and although the number of practices taking part is relatively large single handed practices are under represented and larger, training practices over represented. This suggests that the participant practices were a relatively developed group and it should be acknowledged that in less developed practices other factors may also influence patient satisfaction. Moreover, the respondents were all patients attending practices and it is possible patients who do not attend have different views. Nevertheless, the response rates to the patient satisfaction and practice questionnaires were high. No previous study has reported the use of a robust measure of patient satisfaction in a large number of practices to identify the effect of different practice characteristics on patient satisfaction. A distinct pattern of patient preferences emerged from the findings, and, therefore the study provides important information about patients' opinions and has implications for the ways in which practices should be organised.

The variables were able to account for between 26% and 63% of the variation in scores for all the components of satisfaction other than satisfaction with premises. This latter finding is not surprising as perceptions of premises are unlikely to be influenced by factors such as the age of the general practitioners, the proportion of partners who are female or the type of list system.

The most important variables influencing satisfaction were total list size and the



presence of a personal list system. Total list size was the most important variable for general satisfaction, accessibility, availability, medical care and premises. A personal list system was the most important variable for continuity and the second most important variable for general satisfaction, accessibility, availability, and medical care. Increasing list size was associated with falls in satisfaction scores but the presence of a personal list system was associated with increasing satisfaction. A partly personal list system was not associated with an increase in satisfaction. Both the list size and type of list system may influence the availability of care from a familiar and usual family doctor. In larger practices doctors have greater opportunity to set time aside from routine consultations to provide specific sessions such as clinics for defined patient groups, to undertake activities outside the practice or to work on a part time basis, and so may reduce their availability. Moreover, the number of staff such as receptionists and practice nurses will be greater in larger practices so that patients may be less likely to encounter familiar staff.

The importance to patients of personal care is re-emphasised by the relationship of satisfaction to the presence of a personal list system. The information about the list system sought from practices was categorised into three levels, either a pooled list without any personal system, or a partly personal system or a personal system. Systems which were only partly personal were not sufficient to benefit satisfaction. Certain patient groups appear to place increased importance on a personal list system, a higher mean age of respondent being associated with higher levels of general satisfaction, and satisfaction with availability and medical care in practices with personal list systems. Other surveys of patient satisfaction have shown that older

patients are more likely to express satisfaction (Hall and Dornan, 1990), but the findings of this study suggest that the relationship between age and reported satisfaction is more complex and is mediated by the preferences of older patients and the type of service that they receive. The increase in levels of satisfaction with increasing age in the presence of a personal list system was greater than the overall decline in satisfaction with age, and this might explain the increase in satisfaction with age found in other studies. The level of continuity experienced by patients of different ages may be the factor that influences the increase of patient satisfaction with age (see table 4.4). The finding emphasises that in order to understand the relationship between satisfaction and characteristics of practices and respondents it is necessary to undertake multivariate analyses rather than rely on simple measures of association between only a few variables.

Previous studies have not shown a clear relationship of gender of respondent to satisfaction (Hall and Dornan, 1990) and this study in general supports this finding although in a specific component of care - continuity - a higher proportion of female patients was associated with greater dissatisfaction in the absence of a personal list. Among the factors that may explain this finding are that adult female patients are more likely to attend the practice more frequently than men and are also more likely to accompany relatives or children who attend. Regular consultations may both increase the perceived value of personal care and also permit increased experience of the policy of the practice towards continuity and the appointment system. The relatively greater importance of continuity to women is supported by the findings of a study undertaken in the USA (Hsieh and Kagle, 1991). A modified version of

Ware's patient satisfaction scale (Ware et al, 1976) was administered to 613 adults, seeking information about the relative importance to the respondents of different aspects of care, and women rated continuity as more important than men.

Levels of satisfaction with medical care increased as the mean age of the general practitioners increased. The particular characteristic of older general practitioners which explains this finding is not clear. It may be that older doctors convey more experience and confidence, or that the longer the general practitioner has been with the practice the relationship between doctor and patients is likely to be longer and mutual understanding may increase, in which case this finding may be a further example of the importance placed by patients on personal care. The finding is in contrast to the evidence that the performance of at least some doctors declines with increasing age (Clute, 1963; Peterson et al, 1956; Payne et al, 1984; Evans et al, 1986). However, these studies have been concerned with the technical aspects of performance rather than the relationship between patient and doctor. Efforts to improve the performance of doctors that concentrate only on technical aspects of care may not lead to improvements in patient satisfaction.

Satisfaction with continuity and availability declined in training practices, and being a training practice exacerbated declines in general satisfaction and availability as list size increased, although this interaction ameliorated the effect of increasing list size on satisfaction with continuity. The presence of a succession of trainees in the practice for limited periods of time will reduce continuity of care, and the commitment of the trainer to teaching sessions will reduce availability. Training

practices are selected and regularly reviewed on the basis of a set of criteria concerned with teaching and the qualities of the trainer, but characteristics of the practice are also assessed, such as the quality of medical records, clinical activities and facilities, and practice organisation. Therefore, the training practice selection criteria encapsulate many of those features that could be viewed as best practice. Indeed, training practices and larger practices have been shown to be more developed in terms of the provision of a wider range of clinical services, more staff and more organisational features such as computers and recall schemes (Baker, 1992). The views of patients and general practitioners about the best type of general practice evidently differ. In recent years general practitioners have been seeking to develop practices to provide comprehensive and effective clinical services from well-equipped premises staffed by multidisciplinary teams (Baker and Thompson, 1995). In contrast, this study shows that patients prefer a personal service. Given the present approach to practice organisation patients are more likely to obtain a service that meets their requirements if they attend small, non-training practices that operate personal list systems.

However, personal care and effective, modern general practice must not be seen as alternatives. It is important that practices are organised in such a way as to provide effective technical care in a manner that is acceptable to patients. Many general practitioners wish to provide a wider range of clinical services, some of which may arise from a transfer of activities from secondary to primary care. The risk is that by ignoring the effect on personal aspects of care caused by introducing necessary technical improvements patients will become disenchanted with modern general

practice and resort to practices that are less well developed, or even alternative forms of primary health care. Furthermore, an increasingly dissatisfied patient population will lead to more complaints and deteriorating relationships between patients and their doctors.

The most important immediate step that practices can introduce to meet the requirements of patients is a well organised personal list system, although there should be provision for those patients who wish to see another doctor in the practice (Freeman and Richards, 1993). A partial personal list system had much less benefit in terms of patient satisfaction and is not an adequate alternative to an open list system. Large practices and those approved for training face particular problems. They should consider not only personal lists, but also personal teams, in which the practice is divided into a number of smaller units. Patients will then become familiar with a smaller number of receptionists, practice nurses and other team members. Practitioners who wish to undertake work outside the consulting room or to work part time should take steps to ensure that this has the minimum of impact on continuity and availability. They should also consider monitoring the views of their patients using valid and reliable measures. Indeed, this study emphasises the importance of taking into account the views of patients when services are planned or changed. The growing role of patient surveys in clinical audit is to be encouraged in order to ensure that changing patterns of practice lead to increased rather than decreased patient satisfaction.

## **5.4. The characteristics of practices and general practitioners related to levels of patients' satisfaction with consultations.**

### **5.4.1. Introduction**

In this section a study is described which related levels of patients' satisfaction with consultations as determined by CSQ with some characteristics of general practitioners and the practices in which they worked. The general practitioners in the study were those who took part in the *Dialogue* project and administered the CSQ to their patients (see section 5.2 of this Chapter).

Although there is growing evidence about how the performance of doctors in the consultation influences the outcome of care, including patient satisfaction, there is less information about how structural factors such as practice organisation or doctor characteristics influence satisfaction with consultations. In patients with chronic headaches but who did not have a specific disease, referral and consultation with a neurologist was associated with improved recovery (Fitzpatrick et al, 1983; Fitzpatrick and Hopkins, 1983). Improvement was associated with previously expressed satisfaction with the clinic consultation and a non-specific "placebo" response was postulated. The authors suggested that "the intimate connections of patient satisfaction, treatment received and subsequent outcomes need more careful consideration in Western medicine".

In an Australian study of the management of 174 children with asthma referred to a

specialist compliance at follow up was associated with the level of satisfaction after the first consultation (Smith et al, 1987). In a study of 272 patients with headache attending family physicians in Ontario the factors independently associated with a good outcome at one year were the patient's assessment at six weeks that he/she had had the opportunity to discuss his/her problem fully at the first visit, an organic diagnosis and no report of visual symptoms (Headache Study Group, 1986). In a study in general practice in Scotland the detection of emotional disturbance was associated with greater patient satisfaction than if the disturbance was not detected (Wilson et al, 1995). In a meta-analysis of which aspects of communication in consultations have an effect on outcome, Roter (1989) identified 61 studies and found that information giving, partnership building, positive talk and social talk all correlated with subsequent patient satisfaction. In a review of studies on the impact of the doctor-patient relationship on the outcomes of chronic disease Kaplan and colleagues (1989) found that patients who were more controlling, gave less information, were more effective in eliciting information from the doctor and showed more emotion during the baseline visit reported fewer functional limitations at follow up. In one randomised controlled trial one group of patients was given advice and training on how to seek information more effectively from their doctor (Greenfield et al, 1985). Subsequently, those patients in the intervention group had fewer functional limitations. Satisfaction with the consultation may also influence compliance with recommended treatment, increased satisfaction being followed by improved compliance (Ley et al, 1976; Kincey et al, 1975; Bartlett et al, 1984; Roter et al, 1987).

In the previous section (5.3.) levels of patient satisfaction with general practices were shown to be higher in those practices which were able to offer a more personal service through lower list sizes and personal list systems. It is possible that these features of practice organisation or structure might influence patients' attitudes towards their consultations. For example, the appointment system will limit the time available for each consultation, shorter consultations being associated with lower satisfaction (Morrell et al, 1986). Continuity of care in general practice is also linked to patient satisfaction (Hjortdahl and Laerum, 1992), so the practice policy on continuity may influence satisfaction with consultations. Moreover, in small practices patients may have the opportunity to develop a more personal relationship with their doctor and therefore report higher satisfaction.

Gender is one of the characteristics of doctors that might influence satisfaction. Studies in general practice have shown that women doctors see a higher proportion of female patients than male doctors (Graffy, 1990; Preston-Whyte et al, 1983). Some of this difference may be due to the preference of patients with gender related health problems to consult a doctor of the same sex (Ackerman-Ross and Sochat, 1980; Preston-Whyte et al, 1983; Fennema et al, 1990) and in response to this issue it has been suggested that policies for general practitioner training should be directed towards increasing the number of women completing training and that women general practitioners should be encouraged to work more days a week (den Brink-Muinen et al, 1994).

There may be factors other than the type of health problem that influence patients'



attitudes towards doctors of different sex, for example female doctors might be seen as more empathic or male doctors as more professional in their approach. In one study from North America the levels of satisfaction were investigated of patients attending 68 doctors enrolled in two postgraduate residency training programmes (Linn et al, 1984). Those patients attending female residents reported higher levels of satisfaction with interpersonal aspects of care.

Other characteristics of doctors that might influence satisfaction with consultations has received even less attention. Factors such as the age of doctors or whether they have been vocationally trained might, by influencing consultation performance, have an impact on patient satisfaction. The influence of patient variables such as age and sex has been closely studied (Hall and Dorman, 1990; Lewis, 1994) with age being the variable having the most consistent effect.

From the studies that have been undertaken, it is not clear which characteristics of practices and general practitioners are the most important influences on satisfaction with consultations. As a large number of variables might have an influence, multivariate analyses should be preferred to simple studies that correlate one variable with the level of satisfaction. Therefore, the aim of this study was to identify those structural and organisational characteristics of practices and general practitioners and characteristics of patients that do have an impact on satisfaction with consultations.

#### 5.4.2. Methods

The general practitioners who took part in this study were those who administered CSQ to their patients as part of the *Dialogue* survey (section 5.2). In the *Dialogue* survey four practices chose to request a practice level analysis of patient satisfaction with consultations, rather than an analysis by individual doctor. In these practices the calculation of satisfaction scores for each doctor was not possible and so they were excluded from this study. Each participating general practitioner was sent a questionnaire to seek information about his/her age, sex, whether he or she had been vocationally trained, or was a trainee or trainer, and the number of patients that were booked in the appointment system per hour. A separate questionnaire was sent to practices taking part in the *Dialogue* survey, and has been described in the previous section (5.3). This questionnaire sought information about the practice, including presence of a practice manager, total list size, number of partners, approval for vocational training, fundholding status, and whether the practice had a personal, partially personal or pooled list system.

All data were entered onto SPSS-PC for analysis. For each component of satisfaction a multiple regression analysis was undertaken, the components of satisfaction being the dependent variables, the characteristics of general practitioners, practices and patients the explanatory variables (table 5.26). The type of list system was included as a series of dummy variables. The procedure for the regression analysis was the same as that followed in the study of practice characteristics and SSQ scores (section 5.3). Correlations were sought between the explanatory variables and if two variables

were correlated one was omitted from the regression analysis. In order to check for the influence of interactions between variables, possible interactions were entered into the regression with their main effects. For example, the presence of a personal list system may be more important to elderly patients. Therefore, dummy variables were included, computed from the interactions between two such variables.

Table 5.26.

---

Variable
<u>The Doctor</u>
trainer
trainee
vocationally trained
age
sex
number of patients booked in appointment system per hour
<u>The Practice</u>
list size
training practice
fundholding
practice manager
personal list system
<u>The Patients</u>
mean age
proportion female

---

Table 5.26. Variables entered into the regression analysis of patient satisfaction with consultations.

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### 5.4.3. Results

190 general practitioners in 59 practices administered CSQ to their patients. 142 (74.7%) general practitioners from 49 practices returned the doctor characteristics questionnaire. 126 of these (66.3% of all the participating general practitioners) from 39 practices returned practices questionnaires. A total of 7,273 satisfaction

questionnaires were completed by patients of these 126 doctors, an overall response rate of 77.6%.

The scores (range, mean and standard deviation) for each component of satisfaction are shown in table 5.27, general satisfaction and professional aspects of care being scored more highly than the depth of the relationship or the perceived length of the consultation.

Table 5.27

	Mean	SD	Range	Centiles	
				10th	90th
General satisfaction	80.5	3.8	70.9 - 89.3	74.9	85.3
Professional care	82.6	3.5	73.5 - 91.9	78.0	87.2
Depth of relationship	73.6	4.3	61.4 - 85.9	67.8	78.4
Perceived time	72.4	4.0	62.2 - 84.0	67.5	77.5

Table 5.27. Means and standard deviations of satisfaction scores (CSQ) for 126 general practitioners in the study of patient satisfaction and characteristics of general practitioners and their practices.

Trainers are over represented amongst the doctors in this study, although only three vocational trainees took part. The characteristics of the general practitioners, their

practices and the responding patients are shown in table 5.28.

Table 5.28

---

<u>Characteristics of the GPs</u>		
males		93
females		32
trainers		39
vocationally trained		94
trainees		3
number of patients booked/hour		
4 - 5		7
6 - 7		75
8 - 9		36
10/+		6
age	mean	41.1 years (SD 7.3)
	range	28 - 60
 <u>Characteristics of the practices for each GP</u>		
training practices		84
fundholding		11
practice manager		112
list system: none		63
partial		35
complete		22
number of GPs/practice		
range		1-9
mean		4.4 (SD 1.7)
total list size/practice		
range		1,878-13,100
mean		7,460 (SD 3,435)
 <u>Characteristics of respondents</u>		
mean ages of each doctor's patient sample		
range		32-56
mean		45.5 (SD 5.1)
mean age of male respondents		48.7 (SD 8.4)
range		29-62
mean age of female respondents		43.8 (SD 5.1)
range		32-55
% respondents who are female/GP		
mean		66.4 % (SD 11.0%)
range		44.3 - 94.7%

---

Table 5.28. Characteristics of the general practitioners (n=126) in the study, their practices (n=39) and their patients who completed the consultation satisfaction questionnaire.

Table 5.29 shows the findings of the multiple regression analyses for general satisfaction and professional care, and table 5.30 shows the same information for the depth of relationship and perceived time scales. For general satisfaction, scores fell as the mean age of female patients increased, fell as the doctor's age increased, but was higher in fundholding practices, and fell as the total list size increased. The next variable was an interaction between the mean age of responding female patients and whether the practice was a training practice. This interaction was entered into the regression equation together with its main effect (training status). Training practices were associated with a substantial fall in general satisfaction with consultations but this was ameliorated to some extent by the interaction with the mean age of the responding female patients, there being an increase in satisfaction of .49 points with each increase of one year in mean age. These six variables together explained 52% of the variation in general satisfaction.

Satisfaction with professional care fell slightly as the mean age of female patients increased, and decreased as the proportion of patients who were male increased. It fell in practices which operated partial personal list systems rather than personal list systems. There was an interaction between the mean age of female patients and training practice status, there being a substantial fall in satisfaction in training practices but an increase in satisfaction in training practices as the mean age of female patients increased.

Satisfaction with the depth of relationship fell as the mean age of female respondents



increased, fell if the practice had a partial personal list system rather than a completely personal list system, fell as the proportion of respondents who were male increased but increased with the mean age of female respondents as long as the practice was a training practice. However, as with general satisfaction, there was a substantial fall in training practices. As before, the interaction was entered into the regression equation together with training status.

Satisfaction with perceived time fell as total list size increased, increased as the mean age of male respondents increased, was higher in fundholding practices, but fell as the number of patients in the appointment system per hour increased. These four variables explained 46% of the variation between practices.

Table 5.29.

explanatory variable	Regression coefficient (SE)	Cumulative $r^2$	Additional % of variance explained	P value
<u>General Satisfaction</u>				
mean age of female patients	-.16 (.15)	.23	5	<0.025
doctor's age	-.16 (.05)	.35	7	<0.005
fundholding	2.5 (1.1)	.39	4	<0.05
total list size (1,000s)	-0.26 (.09)	.44	4	<0.05
mean age of female patients if a training practice & training practice	.49 (.17) -20.66 (7.62)	.52	8	<0.01
constant	95.28			
<u>Professional care</u>				
mean age of female respondents	-.05 (.14)	.30	9	<0.005
proportion of responders who are male	-10.6 (2.9)	.41	8	<0.005
partial personal list system	-1.1 (.72)	.48	6	<0.01
mean age of female patients if a training practice & training practice	.46 (.16) -19.32 (7.04)	.55	7	<0.025
constant	88.07			

Table 5.29. Results of multiple regressions analyses for the scales of general satisfaction and professional care of CSQ. N=126.

Table 5.30.

explanatory variable	Regression coefficient (SE)	Cumulative $r^2$	Additional % of variance explained	P value
<u>Depth of relationship</u>				
mean age of female respondents	-.03 (.17)	.38	14	<0.001
partial personal list system	-1.8 (.86)	.45	6	<0.005
proportion of responders who are male	-8.3 (3.5)	.50	4	<0.025
mean age of female respondents if a training practice & training practice	.53 (.19) -23.32 (8.33)	.55	5	<0.05
constant	78.13			
<u>Perceived time</u>				
total list size (1,000s)	-.28 (.11)	.26	7	<0.005
mean age of male respondents	.17 (.06)	.36	6	<0.01
fundholding	3.1 (1.23)	.41	4	<0.025
patients seen per hour	-1.3 (.60)	.46	4	<0.025
constant	70.17			

Table 5.30. The multiple regression models for depth of relationship and perceived scales of CSQ. N=126.

#### 5.4.4. Discussion

The general practitioners who took part in the study were all volunteers and this is reflected in the relatively high proportion who were approved as trainers. Thus, general practitioners who work in relatively undeveloped practices were under-represented. However, a large number of general practitioners took part and information was collected from a substantial number of patients. The response rates were satisfactory. CSQ had demonstrated reliability and validity and no previous study has reported the use of such a robust measure to determine the characteristics of general practitioners and their practices that influence patient satisfaction with consultations in general practice. Therefore, the findings are an important contribution to an understanding of patient opinions on the organisation of practices.

The variables were able to explain approximately 50% of the variation in satisfaction scores for each component of satisfaction. It should be pointed out that within the context of regression analysis "explain" does not imply a causative relationship but does indicate an association. A more complex pattern of variables explained satisfaction than was identified in the study of satisfaction with the practice as a whole (see section 5.3.). Both practice variables (list size, list system, fundholding status, training status), patient variables (mean age of female respondents, proportion who were male) and a doctor variable (age) were all associated with satisfaction. Nevertheless, a distinct picture of patients' preferences emerges from the analysis.

Characteristics of practices do have an impact on patient satisfaction with consul-

tations. The characteristics concerned are similar to those that influenced satisfaction with the practice in general and that involve the provision of a personal service. Practices which are smaller, operate personal list systems and experience fewer changes of doctors are more likely to be able to offer a personal service.

An increasing list size led to a fall in general satisfaction and satisfaction with perceived time. The operation of a partial personal list system rather than a completely personal list system led to falls in satisfaction with professional care and the depth of the relationship between doctor and patient. Training practices were associated with a substantial fall in satisfaction with all components except perceived time. It may be that consultations with relatively inexperienced trainees lead to reduced patient satisfaction or that a more general impact on continuity of care caused by the presence of a new trainee at regular intervals leads to the fall in satisfaction. An alternative explanation is that general practitioners in training practices have a style of consultation that is less flexible to patients' wishes. However, the finding reflects those concerning training practices in the study of satisfaction with the practice as a whole (section 5.3). This is an issue that training practices and the authorities that supervise vocational training should seek to address.

Not unexpectedly, the number of patients seen per hour was associated with satisfaction with perceived time, but in fundholding practices there was an increase in satisfaction with perceived time and general satisfaction. The interpretation of the finding about fundholding practices is unclear. The study was undertaken in the first year of fundholding and so these practices were a very selected group. Generalisation

to all present day fundholding practices would be inappropriate. It may be that these particularly innovative practices possessed a characteristic not assessed in this study which influenced satisfaction.

The patient factors that influenced satisfaction were age and sex. However, the associations were not simple. As the mean age of female respondents increased satisfaction with professional care, depth of relationship and general satisfaction fell. In training practices, however, there was an increase in satisfaction as the mean age of female respondents increased. The explanation for this finding is unclear. It may be that training practices are less unsatisfactory to older female rather than male patients. Patients with chronic disease may, over a period of time, establish continuing care from a particular general practitioner and by making regular appointments in advance of the consultation would be less likely to have to see a trainee rather than their own general practitioner. An increasing proportion of responding patients who were male was associated with falls in satisfaction with professional care and depth of relationship. It may be that male patients are more critical of these aspects of the service, or that a higher proportion of male than female patients attend infrequently with acute conditions, and so do not develop a close relationship with their general practitioner.

The only characteristic of doctors investigated in this study and found to be associated with satisfaction was age, increasing age leading to a fall in satisfaction with consultations, a finding in contrast to that of the medical care scale of SSQ in which increasing age of doctors was associated with an increase in satisfaction. These two

studies suggest that patients perceptions of doctors' ages, their relationship with their doctor and the doctors' competence are relatively complex. There may be factors that are taken into account by patients other than those addressed by either SSQ or CSQ. The doctor's sex did not explain differences in levels of satisfaction.

This study has not taken into account the role of the doctor's consultation performance in determining patient satisfaction. Other studies have confirmed the importance of such activities as information giving or positive talk (Roter, 1989). In order to explore the relative importance of consultation behaviour and structural factors further studies are required. These should include observation of consultations, assessment of practice organisation and doctor characteristics and measurement of patient satisfaction and perhaps also compliance and technical outcome. Additional information about patient characteristics such as types of illness might also be included. However, the present study does make clear that different factors influence patient satisfaction to different extents. In the absence of studies which include many of the relevant factors or variables and which use multivariate analysis our understanding of the impact of consultation behaviour on patient outcome will remain superficial.

#### **5.4. Conclusions**

In this chapter a large scale survey of patient satisfaction undertaken in the South Western Region has been described. In addition, two studies which related

characteristics of general practitioners and their practices to aspects of patient satisfaction have been reported. A number of conclusions other than those already discussed can be drawn about the use of CSQ and SSQ and also about the organisation of general practices.

The *Dialogue* survey showed that the questionnaires could be used by practices and their patients without much difficulty. No other questionnaires have been developed for wide use in general practice in Britain or have been evaluated to such an extent. CSQ and SSQ, therefore, are the instruments of choice for the standardised measurement of patient satisfaction in general practice. They should be subjected to further evaluation by other researchers to identify their strengths and weaknesses, and depending on the findings may have a role in future research into patient satisfaction. Although the development of the questionnaires was a long and detailed process, the methods were straightforward and general practitioners and patients were willing to assist. The use of unevaluated questionnaires in research should no longer be acceptable.

The studies of the relationship between characteristics of general practitioners and their practices and components of satisfaction has identified an important issue for general practice. Patients in general prefer a personal service from their general practitioners, but the trend in the development of practices is towards larger practices that offer a wider range of services. Training practices are often viewed as a model of good practice, but patients appear to reject this assumption. The divergence of opinion between doctors and patients on the future development of general practice



must be resolved, otherwise increasing patient dissatisfaction will arise with a risk of an increased number of complaints and greater stress for general practitioners. This finding underlines the value patient surveys using evaluated instruments, and emphasises the need to take patient opinions into account in plans to develop general practice.

## APPENDIX TO CHAPTER FIVE.

1. The invitation leaflet sent to general practitioners in the South Western Region.
2. Instructions issued to practice managers.
3. Instructions issued to receptionists.
4. Instructions issued to general practitioners.
5. The questionnaires used in the *Dialogue* project.
6. An example of the feedback sent to participants in the *Dialogue* project.

## Why ask patients what they think of the surgery?

It is now widely accepted that both care and practice arrangements should take patient's wishes into account. This philosophy has become incorporated into the new style of management ushered in with the new contract. Family Health Service Authorities (FHSAs) have themselves been encouraged to undertake patient surveys. FHSAs in turn are suggesting that practices should undertake surveys of their own. It has been recommended that the findings should be included in the annual report and that practice management should consider them when making plans for the future.

Patients' opinions also form an important part of medical audit. With the creation of Medical Audit Advisory Groups all general practitioners are being encouraged to participate in audit. A patient satisfaction survey can be one of the best forms of audit. It can reveal what patients think is important. Dialogue is intended to help practices respond to all these new ideas.

## What does a Dialogue Survey tell you?

The survey will show you how your patients rate your practice compared with the range of scores for other practices. You will be given easily understood information about aspects of the practice such as:

- \* continuity of care
- \* availability of doctors
- \* quality of medical care
- \* getting to the surgery
- \* quality of the premises
- \* general satisfaction with the surgery.

In addition you may request a survey of patients' views of consultations. This will give you information about patient perceptions of:

- \* length of consultations
- \* quality of professional performance
- \* depth of relationship with the doctor
- \* general satisfaction with the consultation

The feed back will be in the form of scores and a graphical display that can be directly included in an annual report.

## Confidentiality

This service should not be made available unless we can guarantee confidentiality. We can. Rigorous office procedures will be followed to make sure that identifiable practice scores cannot be disclosed to anyone other than the practice itself, and the three staff running the service (one GP, one psychologist and one secretary).

## The Method

The method of conducting the survey in the practice is simple. It involves minimal work for the staff. Patients who attend for appointments are given questionnaires to complete whilst waiting to see the doctor or after their consultations. This method has been shown to be satisfactory. The questionnaires are sufficiently developed so that only a relatively small number of patients need be surveyed. For most practices between only 100 and 200 patients will be needed. The completed questionnaires are returned to the General Practice Unit for calculation of scores and comparative feed back.

## The Questionnaires

These have been developed using the science of psychometrics. This is the method used to devise measures such as IQ tests. In medicine the most familiar example is the General Health Questionnaire. Psychometrics uses a series of tests, some of which are statistical, before questionnaires can be accepted for use. These tests show how much reliance can be placed on the findings. The early phases of the development of the Dialogue questionnaires have been published and you may wish to check these reports (British Journal of General Practice 1990;40:487-90 and Family Practice 1991;8:171-7). Additional development work has taken place which we hope will be published in due course.



## How to apply or ask for more information

If you would like a survey of your patients, or further information, please contact Dialogue at the General Practice Unit by completing and returning the reply slip below.

An early application is recommended.

To: Dialogue  
The General Practice Unit, Department of  
Epidemiology & Public Health Medicine  
University of Bristol  
Canyng Hall, Whiteladies Road, Bristol, BS8 2PR

\* Delete as applicable

\* I would like a survey of my patients

\* Please send me details of the Patient Survey Service

(Please print)

NAME:

ADDRESS:

Postcode:

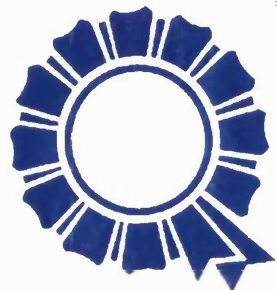
TEL:

PRACTICE TITLE

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# **DIALOGUE**

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## **A PATIENT SURVEY SERVICE FOR GENERAL PRACTICE**

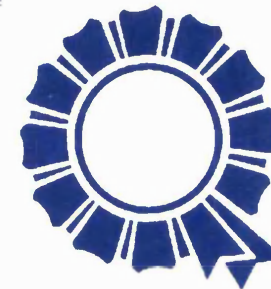
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# **DIALOGUE**

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## **A PATIENT SURVEY SERVICE FOR GENERAL PRACTICE**

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The University of Bristol's General Practice Unit is making a new service available to general practitioners in the South Western Region. If you would like to discover what your patients think of your practice the Unit can offer you a free survey. This uses the only patient questionnaires at present available that have been developed for British general practice using the principles of psychometrics. This leaflet provides information about the service and how to request a survey.

---

Dialogue  
General Practice Unit  
Department of Epidemiology and Public Health Medicine,  
University of Bristol  
Canyng Hall  
Whiteladies Road  
Bristol BS8 2PR

Date .....

0272-731003

Practice Code Number .....

#### NOTES FOR THE PRACTICE MANAGER.

Dear Practice Manager,

A few suggestions follow and these are intended to assist you in supervising the survey. If there are any additional problems or questions please contact the Dialogue office, address and telephone number as above. Your practice will already have received the document "Information about the Survey Procedure", and enclosed with this letter are the materials you will need. Follow the sequence of instructions set out below:

- 1) Check that you have received all materials - (a) 220 SSQ questionnaires; (b) return address label and stamps  
(preserve the envelope so that you can use it for returning the completed questionnaires); (c) a return information sheet that indicates your practice code number; (d) this information letter plus a second for the receptionists and a third for the doctors; (e) some simple posters to inform patients.
- 2) Re-read the "Information about the Survey Procedure" sent previously.
- 3) Prepare a receptacle in which patients can return completed questionnaires and pens. The simplest is a cardboard box with a "letter box" opening cut into the top. A small poster is provided to be attached to this box.
- 4) Decide on the best position for the box - close to reception and exit is a good idea. Patients should not have to hand the forms in to a receptionist as this might inhibit their comments. Locate the posters at suitable positions.
- 5) Familiarise yourself with SSQ. It is very simple and usually presents few problems to patients.
- 6) It is essential that as many of the 220 questionnaires as possible are returned completed. The highest response rates are obtained if patients complete them before they leave the surgery. Work out with the receptionists how you are going to ensure

a high response rate.

7) Read the advice to the receptionists and doctors. Review the procedure with the receptionists and make sure everyone is clear about the plan. For example, check with them that they know who to exclude and that they are happy about encouraging patients to complete the questionnaires.

8) Choose convenient times for the survey. Start by issuing SSQ to a small number of patients only, such as one doctor's surgery. This will help everyone get used to the procedure. Complete the survey according to your own time table and keep checking that the receptionists are able to keep it.

9) Make sure the box is emptied at regular intervals.

10) Collect all the questionnaires together at the end of the survey. Please count them, and complete the return information form. Send them back to Dialogue, but do not include the practice name on the correspondence - as long as the code number is clearly stated on the return information sheet.

11) Retain all other documents about the survey so that you can refer to them if necessary later, for example when the feedback arrives.

We hope your survey goes smoothly. Get in touch if there are problems. If we do not have an solution for you immediately we will work one out. Do not continue with the survey if you are not clear about the procedure or if a problem arises.

Yours sincerely

Dialogue.

Dialogue  
General Practice Unit  
Department of Epidemiology and Public Health Medicine,  
University of Bristol  
Canyng Hall  
Whiteladies Road  
Bristol BS8 2PR

Date .....

0272-731003

Practice Code Number .....

#### NOTES FOR RECEPTIONIST STAFF.

Dear Receptionists,

Notes about the survey have been given to your practice manager and doctors. A document called "Information about the Survey Procedure" has already been sent to the practice and you may like to read this. This note contains some advice about the survey in your surgery.

- 1) Read the questionnaire (SSQ). By all means take a photocopy of one and answer the questions yourself (do not send your copy back to Dialogue). This will help you become familiar with the questionnaire.
- 2) It is most important not to influence how patients might answer.
- 3) It is most important that as many questionnaires as possible of those you have been sent are fully completed by patients.
- 4) Patients must be asked to complete SSQ in a way that makes them feel it is worth while. Use gentle encouragement and express thanks to patients for their agreement.
- 5) They must be sure that they cannot be identified so that they feel they can say whatever they wish. Do not try to identify which patient has completed which questionnaire.
- 6) They must be encouraged to complete SSQ before they leave the surgery - it is best if they can answer whilst waiting to see the doctor. This means that patients should be given the questionnaires when they arrive, and it helps if the doctors are running a few minutes behind schedule - perhaps in your surgery they usually do anyway.
- 7) Tell patients to answer what they think, not what some one else suggests.
- 8) Make sure you get all the pens back!

- 9) Some patients will have to be excluded. They are:
- a) those under age 16;
  - b) those who cannot read or write;
  - c) those who because of their illness cannot complete the questionnaire;
  - d) patients excluded by one of the doctors on medical grounds;
  - e) patients who have never attended the surgery before;
  - f) patients who have completed SSQ at a previous surgery attendance.
- 10) Be sure you are clear about the procedure and have discussed the plan with the practice manager.

Thank you very much for doing the most difficult part of this survey - getting patients to participate. Your role is the key to obtaining a high response rate and a useful survey. If there are any problems that cannot be sorted out by your practice manager the Dialogue office should be called. We hope the survey precedes smoothly.

Dialogue



Dialogue  
General Practice Unit  
Department of Epidemiology and Public Health Medicine  
University of Bristol

Canynge Hall  
Whiteladies Road  
Bristol BS8 2PR  
0272-731003

Date .....

Practice Code .....

## NOTES FOR DOCTORS

Dear Doctors,

These notes have been sent with the questionnaires for your survey and separate notes for your practice manager and receptionists. You now need to undertake the survey. The document sent previously, "Information about the Survey Procedure", together with the notes for your practice team detail how to undertake the survey. It should be possible with the provided information to hand the survey over to the practice manager.

When all the questionnaires have been given to patients attending for appointments at the surgery, and they have been returned completed, please return them to Dialogue. An address label and stamps have been provided. To ensure confidentiality to you and your patients, the questionnaires will eventually be destroyed. Please do not return the questionnaires with any form of practice identification except the practice code number as written above.

If you run into any problems please contact the Dialogue office at the above address.

Use of the questionnaires is usually met with some patient interest and approval. If a patient who has been given a questionnaire does ask you about the survey please encourage them to answer the questions. A high response rate is important. But remember not to influence the replies.

If your practice is undertaking the survey early on in the year there may not be many other practices with which you can compare your scores. You will therefore receive an interim report of your scores with as much information as we have available at the time. In addition you will receive further information when data from all the practices that we can afford to survey is available. We intend to process the information as quickly as possible. By all means contact the Dialogue office if there is any delay, but to be sure of confidentiality no results will be reported over the telephone.

Yours sincerely

Dialogue.

**GENERAL PRACTICE UNIT  
UNIVERSITY OF BRISTOL  
DEPARTMENT OF EPIDEMIOLOGY & PUBLIC HEALTH MEDICINE**

**CONSULTATION SATISFACTION QUESTIONNAIRE**

This form contains a list of questions. They ask you what you think of your last visit to the doctor. Please answer all the questions. Your answers will be kept entirely confidential and will not be shown to the doctor so feel free to say what you wish. Please do not write your name on the form and be sure to place this form in the box provided before you leave today.

For each question circle the answer that is closest to what you think. "Neutral" means you have no feelings either way.

For example:

"This doctor was bored"                      Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

- |    |   |   |
|----|---|---|
| 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. | This 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 |

Please turn over



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

How old are you? \_\_\_\_\_ years

Are you male \_\_\_\_\_ or female \_\_\_\_\_ (Tick which applies)

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

SSQ

CONFIDENTIAL

UNIVERSITY OF BRISTOL  
GENERAL PRACTICE UNIT  
DEPARTMENT OF EPIDEMIOLOGY & PUBLIC HEALTH MEDICINE

**SURGERY SATISFACTION QUESTIONNAIRE**

The questions on this form ask you what you think of your surgery and the care you receive. Please answer every question on each page of the form. Your answers will be kept entirely confidential so do not write your name on the form. Please be sure to place this form in the box provided before you leave today.

The questions are set out in the same way. **For each one draw a circle round the answer that is closest to what you think.** "Neutral" means you have no feelings either way.

For example:

"This surgery is too big."

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

- 
1. I am totally satisfied with everything about this general practice  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  2. I do not much like my surgery's waiting room  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  3. I see the same doctor almost every time I go to the surgery  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  4. It can take me a long time to get to my doctor's surgery  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  5. The doctors at this surgery are always careful not to make any mistakes  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  6. It can be difficult to get through to the surgery on the telephone  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  7. My doctor's surgery is modern and up to date  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  8. I am always satisfied with the medical care I receive at this surgery  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  9. It can be difficult to see the same doctor each time you go to the surgery  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  10. I find this surgery very difficult to get to  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  11. The doctors at this surgery never make mistakes  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
  12. I am not completely satisfied with one or two things about this general practice  
Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

**Please turn over**

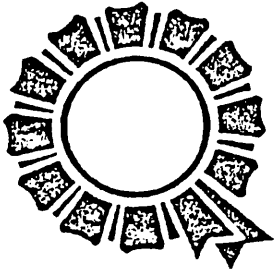


13. It can be hard to get an appointment for medical care right away Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
14. My doctor's surgery is very easy to get to Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
15. I do not always see the same doctor when I go to the surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
16. This surgery building could do with some improvements Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
17. It can sometimes be difficult to get an appointment at this surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
18. They always answer the telephone straightaway at this surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
19. I think this surgery building could be a little better Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
20. I wish it was easier to see my own doctor every time I go to the surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
21. Travelling to the surgery can be a problem to me Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
22. Getting an appointment when you want one can sometimes be a little difficult Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
23. I think the medical care at this surgery could sometimes be better Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
24. I am satisfied with most things about this general practice Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
25. This surgery building should be improved to make it more pleasant inside Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree
26. There are never any problems in seeing the same doctor each time you go to the surgery Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

How old are you? \_\_\_\_\_ years

Are you male \_\_\_\_\_ or female \_\_\_\_\_ (Tick which applies)

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE



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# *DIALOGUE*

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# **INTERIM FEEDBACK**

*Confidential to Practice No 000*

## **CONTENTS**

- 1 Important Advice on Feedback**
- 2 About the Interim Report**
- 3 The Patients**
- 4 The Findings**

## **IMPORTANT ADVICE ON FEEDBACK**

### **The Most Important Message:**

When faced with the results that compare you or your surgery with others it is essential to start with the right attitude. You already know that you provide a satisfactory service. You have done so for some years and the patients continue to come back for more. You are so sympathetic to the views of your patients that you have undertaken a formal survey of their opinions. You have a "good" practice.

You should not use the Dialogue survey to tell you whether you have a "good" or a "bad" practice; you already know you are doing a good job. The survey is not a practice "beauty contest" but a means of highlighting areas of care that you might like to improve. Even the surgery with the highest score in one area of care will discover another area where they could do better. The question to be asked of a Dialogue survey is not "how good are we?" but "what aspects of the surgery are of most concern to our patients?".

### **The Second Most Important Message:**

Having accepted that the survey is not a contest you should consider how to respond to the findings. The survey will identify some of the strengths and weaknesses of the surgery as perceived by your patients. What are you going to do about the weaknesses? You cannot change the surgery over night. It could take some years to introduce some changes, such as improved premises or more partners. The way you respond to the weaknesses will depend on other priorities, for example you may be in the throes of becoming a fund holding practice and be unable to deal with additional commitments. However the findings should not be filed in a drawer and quietly forgotten. Here are some suggestions:

- 1) Report the findings in the annual report. Please use and copy the contents of this report in any way you wish.
- 2) Agree a long term practice management plan which takes account of the findings. Include this in the annual report.
- 3) Make the results known to patients, for example display some results in the waiting room.



## **ABOUT THE INTERIM REPORT**

A total of 100 practices in the South West Region will be undertaking Dialogue surveys. There has been a large and rapid response to the publicity sent to practices and it is likely that more than 100 practices will request a survey. Whether we can provide a survey for them all will depend on funding arrangements.

Practices wish to undertake the survey at times convenient to themselves, and the processing of information in the office inevitably takes a little time. It is therefore not possible immediately to provide scores that compare each practice with all the others. The full comparison will be very informative, including a variety of practices, but as it will be some time before this is available we have compiled the interim report for the first few practices that have undertaken a survey. We have included as much comparative information as possible in the interim report.

The interim report includes some information about the patients who completed the questionnaires and the total scores in each component of satisfaction. As a means of comparison, the scores of some extremely dissatisfied patients have been included (labelled PEXITS on the bar charts). These are a group of patients who were identified by an FHSA as changing practices but not changing their home addresses. They have therefore made a deliberate decision to change doctors and research studies have shown that this group does express a range of dissatisfactions with the practice they have left. We have also included the scores from other practices who have used the questionnaires.

The full report will be sent to you in due course. This will include a complete comparison, an overview of the findings from all practices, and some comments on individual questions in the questionnaires. If there are specific questions you would like to ask or you would like us to expand any section of the feedback, please contact Dialogue.

### **Standards**

The findings will be most useful to you if you have some frame of reference to use such as a set of standards. In this survey there are no explicit standards but instead you can compare your satisfaction scores with those of a few other practices. The feedback will be most useful if you have some idea of how you would like to score relative to these other practices. How did you expect to score? Which components did you expect would score highly and which not so well? Were your expectations supported by the results?

## THE PATIENTS

### Response Rate

Your practice returned 202 completed questionnaires that could be used in the analysis. 220 SSQ's were issued so the response rate was 92%. Use of SSQ's in other surgeries has produced response rates between 95% and 66%. The number of questionnaires returned is adequate as the sample size was selected to allow for variable response rates.

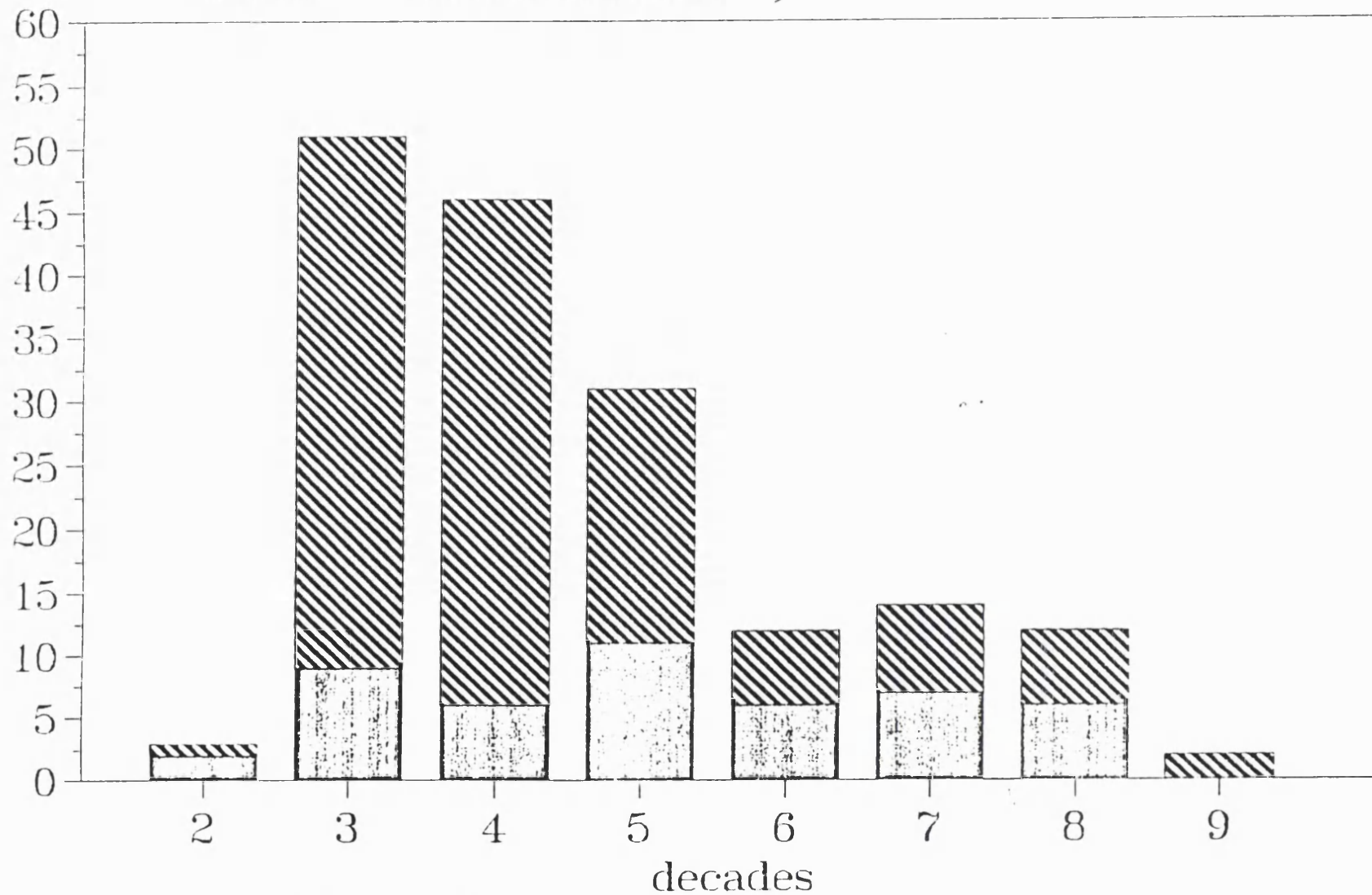
### Patient Age and Sex

Previous use of SSQ and CSQ indicate that the sex of the patients has no influence on the reported levels of satisfaction. There is some evidence that satisfaction scores do increase with age of patients though the relationship is not strictly linear. It is not known whether this is due to a reluctance of older patients to express dissatisfaction or whether they are truly more satisfied because, perhaps, the service is more attuned to their requirements. In this interim report no attempt has been made to weight the satisfaction scores according to the age distribution of respondents. In the final report a weighting system may be used, depending on the evidence that accumulates from wide use of SSQ and CSQ.

The age-sex distribution of respondents from your practice is shown in figure 1. It would be sensible to compare this with the overall practice list. Remember that the questionnaires are not given to patients under 16 years old.

Number of males	78
Number of females	118
Average age of males	61.9
Average age of females	48.6
Combined average age	52.6

# Age/sex, practice 184 for "decades", 2= $<20$ etc



@CONF

For Each SEX:  1  2

## THE FINDINGS

SSQ is divided into six components of satisfaction. These have been shown by statistical techniques to be separate measures. They have been tested for reliability and validity and have passed with flying colours. *General satisfaction* tells you what patients think about the overall service offered by the surgery. *Accessibility* is about whether patients can get to the surgery easily. *Availability* is about whether they find getting an appointment difficult and whether the telephone service offered by the surgery is satisfactory. *Continuity* reports patients' views on whether they find it difficult to arrange appointments with the same doctor each time. *Medical care* reports what patients think of the clinical care, whether the doctors make mistakes or could sometimes do better. *Premises* obviously indicates what patients thought of the practice premises. The six components cover most aspects of the service revealed in other research. The data that follows should be used to identify your strengths and weaknesses within these aspects of care.

The scores are set out in the following bar charts. The first chart (figure 2) shows the scores for each component and includes some comparative information - other practices and the extreme low scores referred to above. The next six charts (figures 3 - 8) show comparisons for each component of satisfaction, ordered according to score. Please contact Dialogue if there are any doubts about the interpretation of these charts.

# SSQ Results

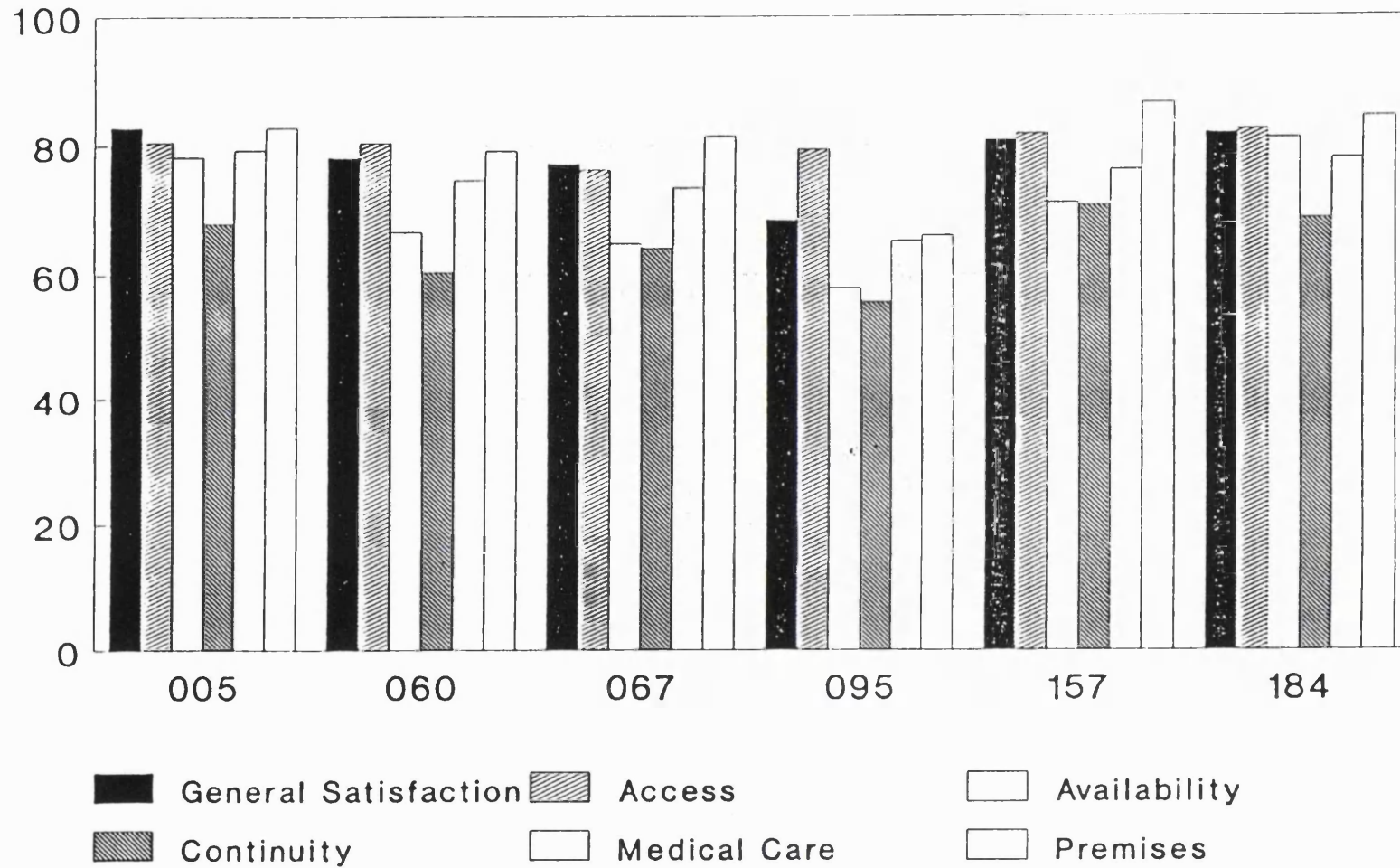


Fig 2

# General Satisfaction

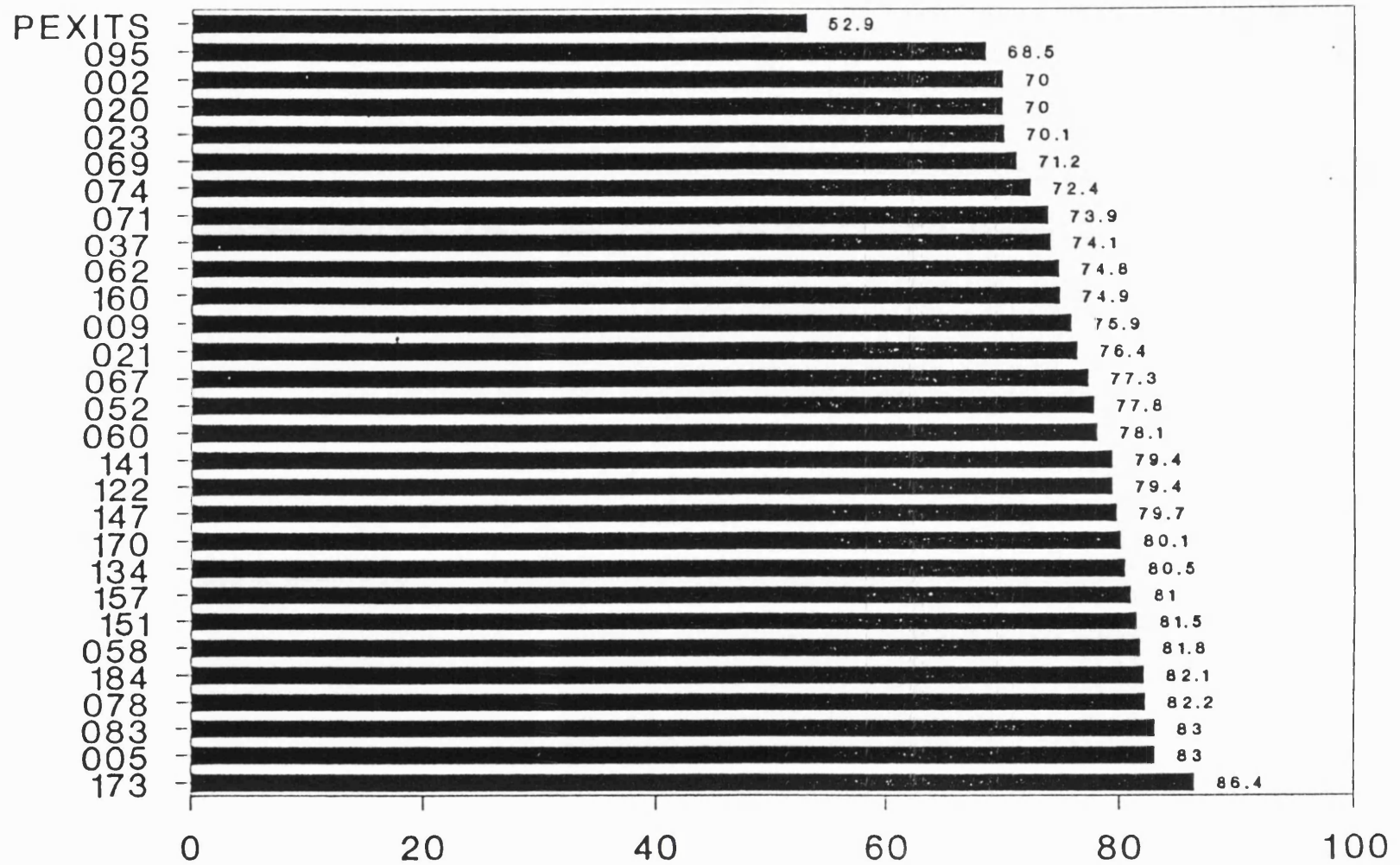


Fig 3



# Accessibility

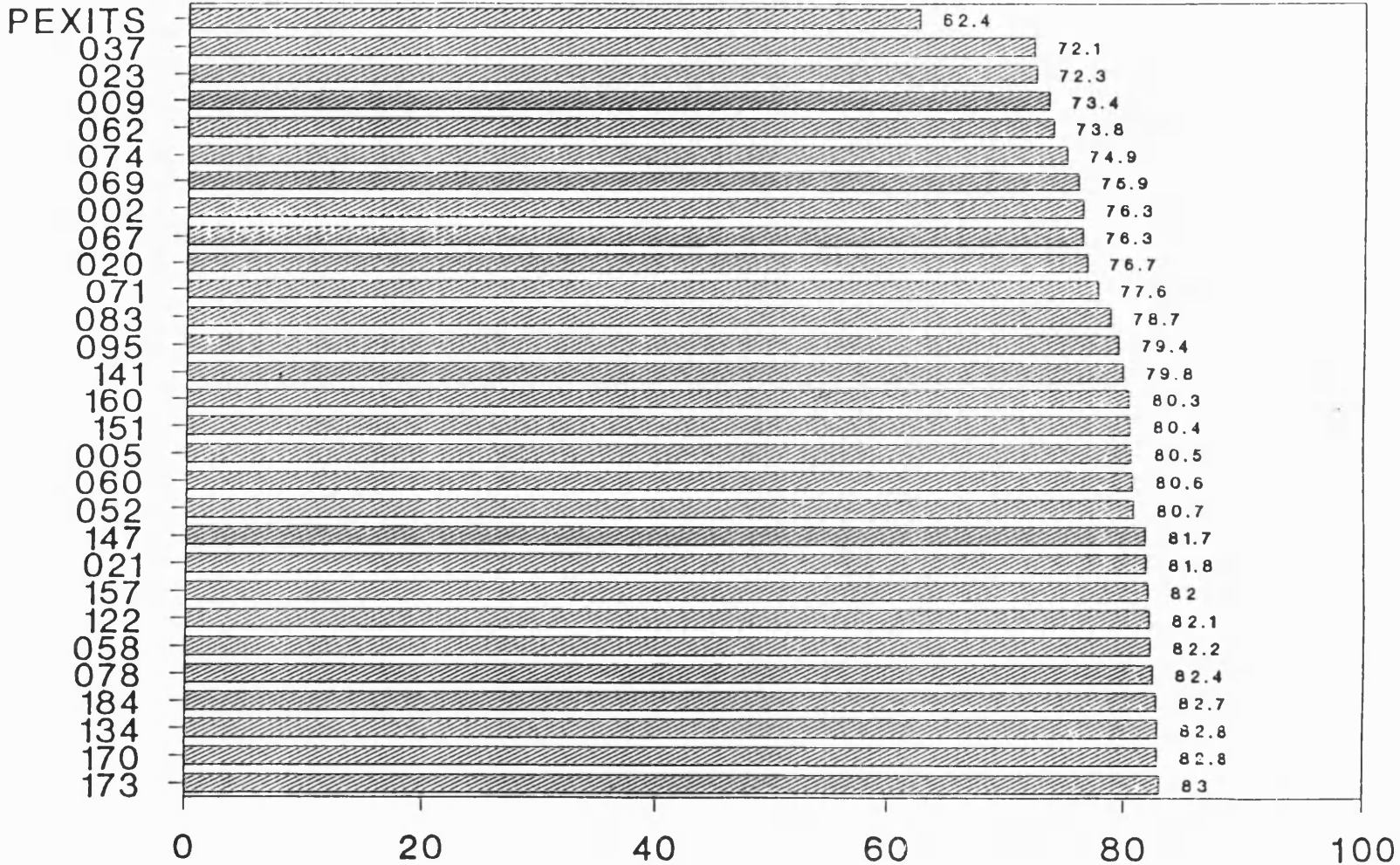


Fig 4

# Availability

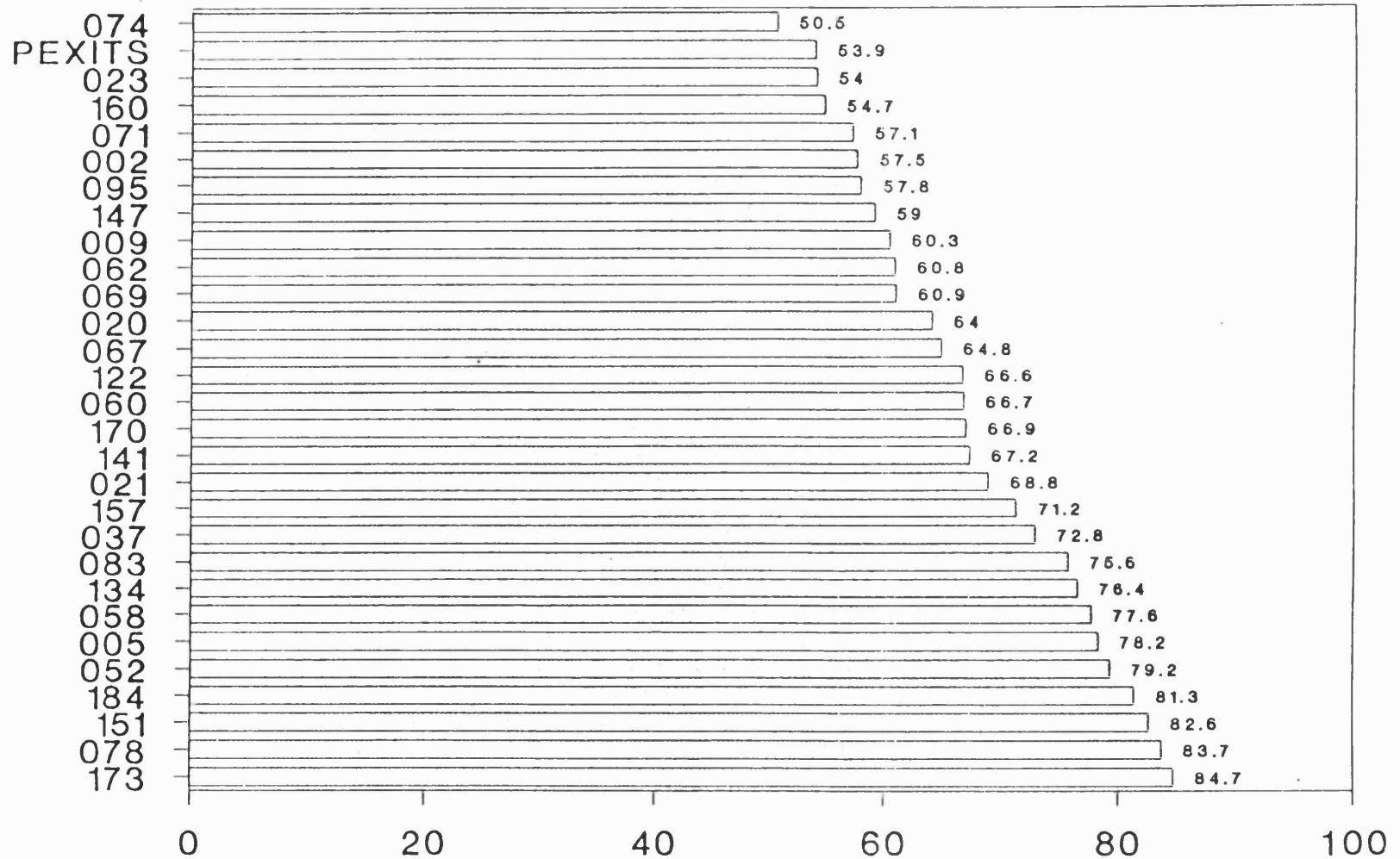


Fig 5



# Continuity

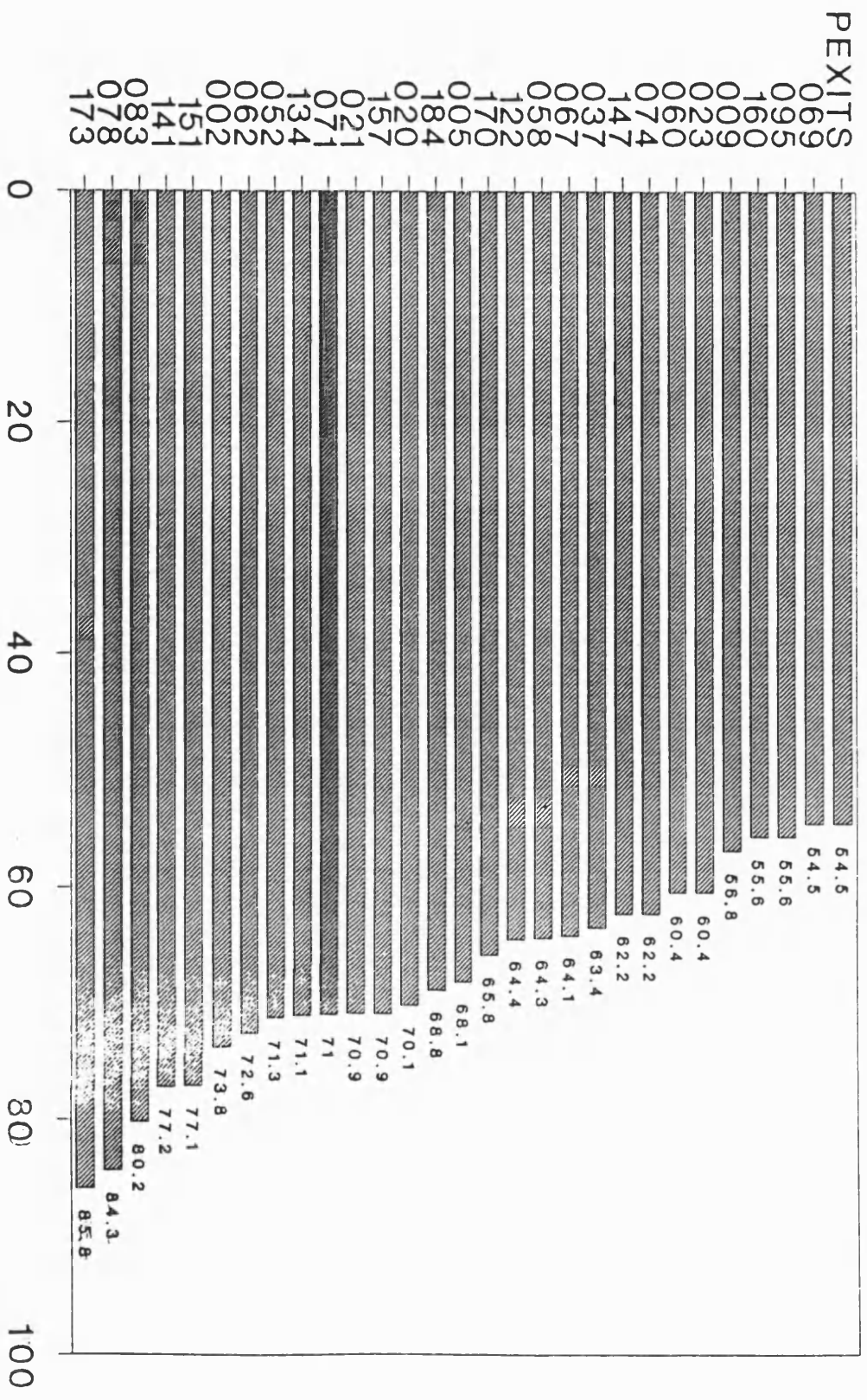


Fig 6

# Medical Care

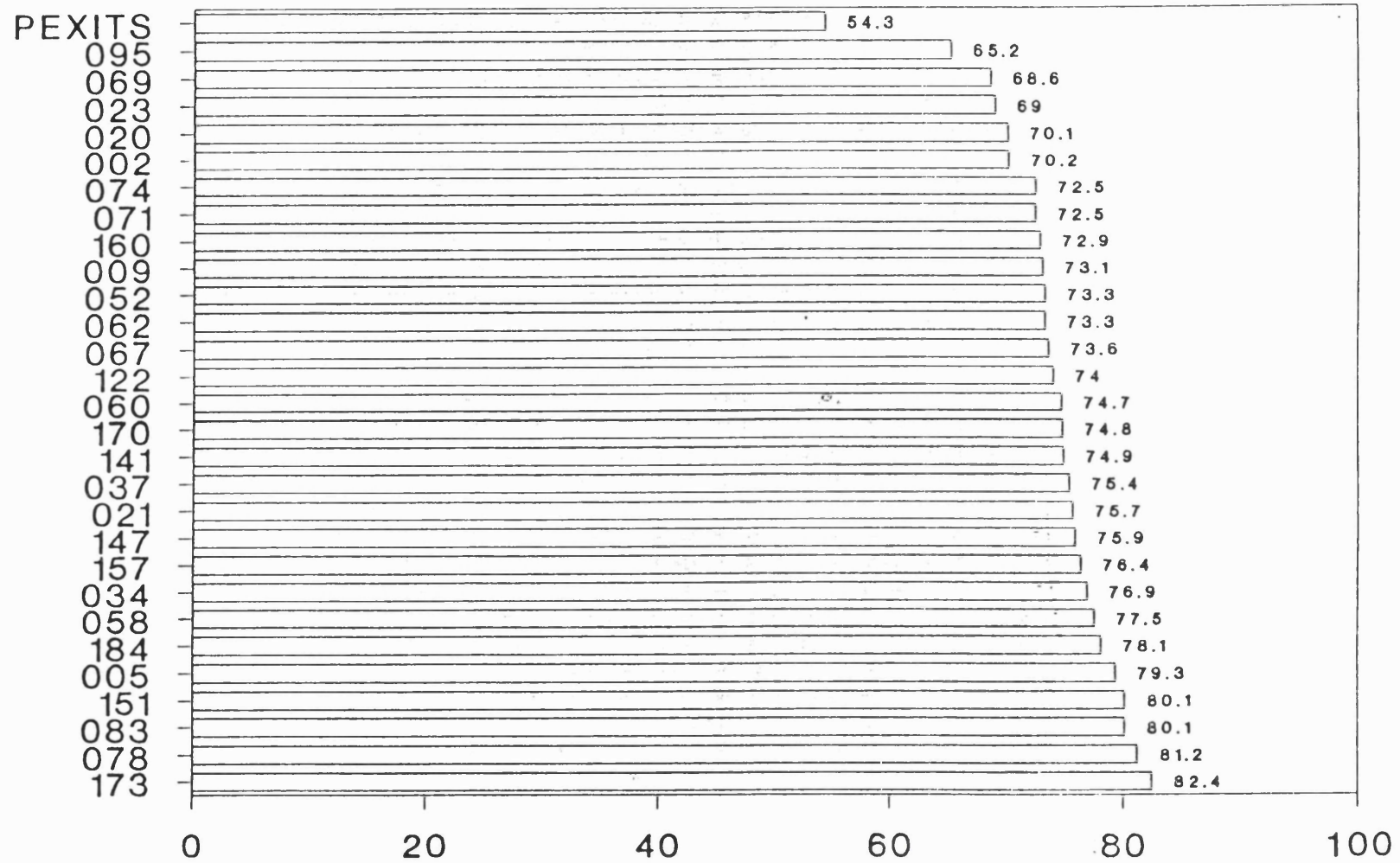


Fig 7

# Premises

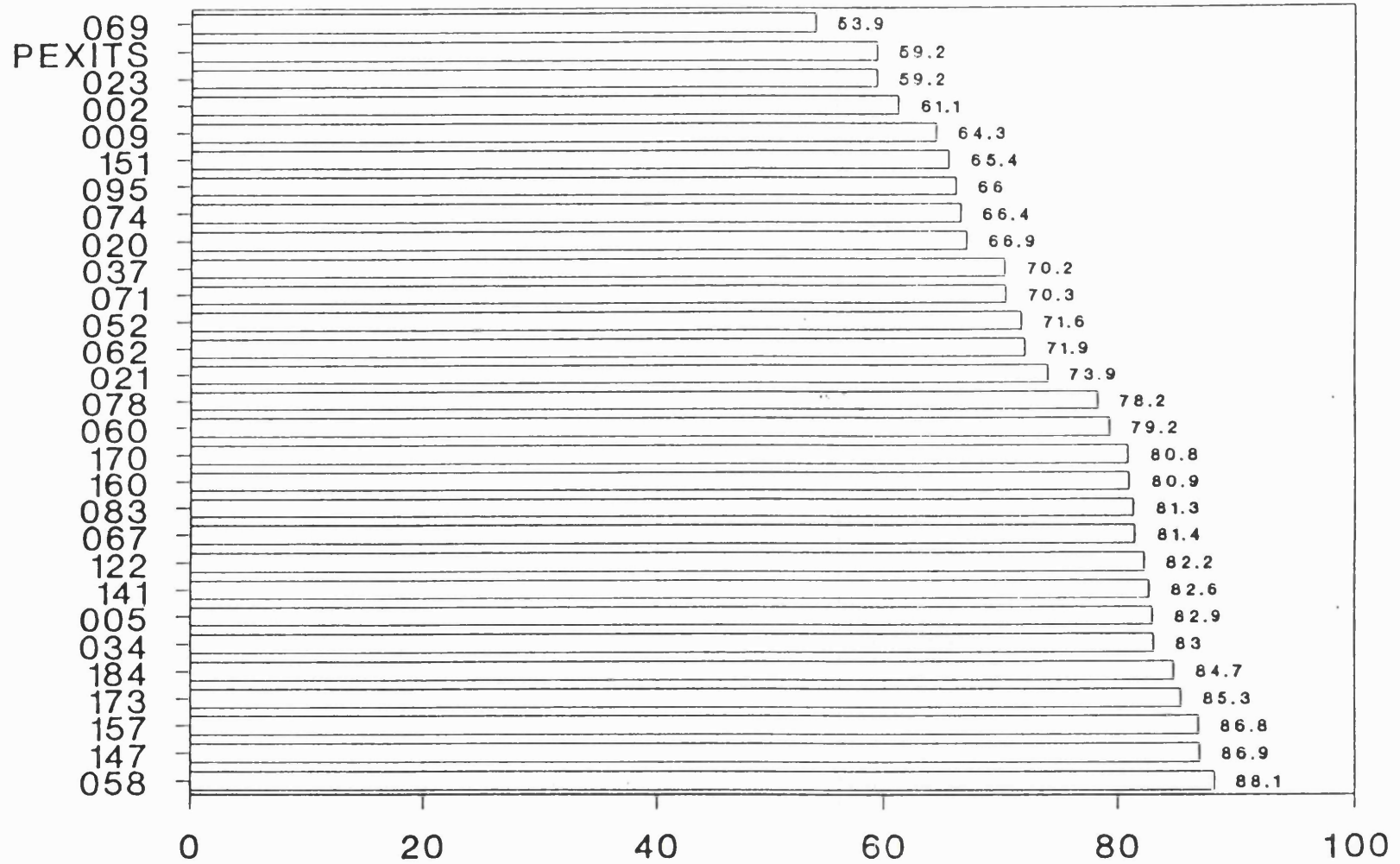


Fig 8

## CHAPTER SIX: THE MODEL OF PATIENT SATISFACTION

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### 6.1. Introduction

In Chapter One a pragmatic model of patient satisfaction was described which formed the basis for the development of the two satisfaction questionnaires and the subsequent studies. The lack of an adequate model or theory of patient satisfaction has been identified as the principal weakness of research into patient satisfaction as it is a topic that has received only limited attention by researchers (Aharony and Strasser, 1993; Wensing et al, 1994; van Campen et al, 1992). In this chapter the findings from the development of CSQ and SSQ and the studies reported in earlier Chapters are used as a means to evaluate the pragmatic model.

### 6.2. The pragmatic model.

In the proposed model of patient satisfaction described in section 1.3.3. and figure 1.1. satisfaction is viewed as an attitude held by patients towards the health care they have received. Health care is composed of many different activities and services (point A in figure 1.1.) which have been classified by one author into aspects of structure, process and outcome (Donabedian, 1966). Structure describes the personnel, buildings and facilities concerned, the process of care is made up of all those actions of health care staff in relation to the patient, and outcome is the end result in terms of change in health status. In this context health status includes not only strictly medical aspects of health but also psychological, and behavioural aspects, including

patient satisfaction itself. As health care can include many different elements, measures of satisfaction should always clearly indicate those aspects of care with which they are concerned.

In the model the attitude of satisfaction is assumed to be a continuous variable ranging from complete satisfaction to complete dissatisfaction. Moreover, it is a multi-dimensional concept, the patient arriving at a particular level of satisfaction with a discrete element of health care after taking into account a number of different factors or dimensions. In determining the relative importance of different aspects of care, or dimensions of satisfaction in relation to each aspect of care, the personal characteristics of the patient may have an important influence. Male patients may place different weights on different aspects of care compared to females, older patients may have particular concerns, and patients from different cultural backgrounds may have particular views. In addition to broad socio-demographic variables, each individual will have a unique outlook and past experiences which will play a part in determining the level of satisfaction. Finally, the level of satisfaction arising from the interaction of these many factors will influence the future behaviour of the patient. Those who are more satisfied will be more likely to follow the advice they have received and be more likely to return to the same source of care on later occasions.

In this Chapter the stages of the model will be considered critically in the light of the findings from the studies of CSQ and SSQ. A formal study designed specifically to test the model has not been performed, but where appropriate, additional analyses are

reported. Information from other research is also included. The implications of this assessment of the model for the understanding of patient satisfaction and future research will then be discussed.

### **6.3. Satisfaction as an attitude.**

Attitude is defined in the Oxford Dictionary of Current English (1984) as a "way of regarding, considered and permanent disposition or reaction (to person or thing)". In the context of patient satisfaction Linder-Pelz (1982a) accepted the distinction between attitudes and perceptions, attitudes being perceptions that have an affective or evaluative element. Methods for the measurement of social attitudes such as attitudes towards war, communism, or racial prejudice were developed during the early decades of this century and gave rise to the study of psychometrics (Thomson, 1968 p. 325; Dunn-Rankin, 1983 p. 3).

In the development of CSQ and SSQ it was accepted that patient satisfaction with health care was an attitude, rather than simply a perception of care. The wording of questions was chosen to express their evaluations of care rather than merely to report their perceptions. Therefore, the findings arising from the development and assessment of CSQ and SSQ cannot be used as a test of whether or not satisfaction is an attitude. However, they do support the contention that satisfaction is a continuous variable from completely dissatisfied to completely satisfied. In the *Dialogue* surveys there were groups of patients with attitudes at either extreme, although it should be acknowledged that most patients reported satisfaction. Satisfaction

is a continuous variable, but is not evenly, or statistically normally, distributed among patients.

#### **6.4. Aspects of health care.**

The questionnaires were developed for use in general practice, SSQ being concerned with patients' attitudes towards the practice in general and CSQ with attitudes towards consultations in particular. It could be argued that patients evaluate health care as a whole rather than separate aspects, in which case patients' scores with SSQ would be related to their scores for CSQ. In this case, patients would not be distinguishing between different parts of care but would have developed a single attitude to all care. Another possibility is that there is a close relationship between practice characteristics and consultations, and although patients assess practices and consultations separately their assessments inevitably reflect the underlying relationship.

In the study of patient satisfaction and characteristics of general practitioners and practices satisfaction scores were available for a sample of general practitioners from both CSQ and SSQ (see Chapter Five, section 5.4.). Therefore, it was possible to assess the levels of correlation between scores for CSQ and SSQ. A high level of correlation would indicate that the questionnaires were measuring the same thing, perhaps an underlying unitary attitude to health care. On the other hand, low correlation would suggest that the questionnaires are concerned with attitudes about different aspects of care. The scores for this sample of general practitioners are shown in table 6.1.

**Table 6.1.**

---

component of satisfaction	mean score	SD
<b>CSQ</b>		
general satisfaction	80.5	3.7
professional care	82.6	3.4
depth of relationship	73.1	7.1
perceived time	72.4	4.1
<b>SSQ</b>		
general satisfaction	68.9	6.0
accessibility	72.0	5.2
availability	51.2	12.8
continuity	53.7	8.0
medical care	66.6	4.2
premises	61.1	15.2

---

Table 6.1. The scores (CSQ and SSQ scales) of doctors taking part in the survey using CSQ and returning doctor and practice questionnaires. N=126.

---



The Pearson correlation coefficients (Altman, 1991 p. 278) between the scales of CSQ and SSQ relating to the same group of doctors is shown in table 6.2. As expected, the levels of correlation between scales within the same questionnaire are high, but the correlation between scales in different questionnaires is low. The difference in degree of correlation of scales within questionnaires compared to scales in different questionnaires is considerable. This finding suggests that different aspects of care in the same settings are judged differently by patients.

Table 6.2.

	GS.	acc.	ava.	SSQ cnt.	mc.	prm.	GS.	CSQ pc.	rel.	time
<b>SSQ</b>										
GS.	-	.80	.81	.55	.73	.75	.16	.10	.06	.28
acc.	.80	-	.69	.54	.61	.74	.12	.05	.06	.18
ava.	.81	.69	-	.65	.73	.69	.04	.00	.00	.20
cnt.	.55	.53	.65	-	.75	.37	-.07	-.09	.01	.06
mc.	.73	.61	.73	.75	-	.56	.03	.01	.06	.12
prm.	.78	.74	.69	.53	.56	-	.13	.12	.07	.17
<b>CSQ</b>										
GS.	.16	.12	.04	-.07	.03	.13	-	.79	.48	.74
pc.	.10	.05	.00	-.09	.01	.12	.79	-	.39	.57
rel.	.06	.06	.00	.01	.06	.07	.48	.39	-	.43
time	.28	.18	.20	.06	.12	.17	.74	.57	.43	-

Table 6.2. Pearson correlation coefficients between the scales of CSQ and SSQ. N=126.

However, when SSQ and CSQ were completed by the same patient, the findings indicated a different conclusion. In the test of construct validity (Chapter Four) patients attending two general practices were posted both questionnaires. In order to assess correlation at the level of the patient rather than at the level of the health care service, a correlation analysis was undertaken between the scales of CSQ and SSQ completed by these patients. The mean scores for each scale are shown in table 6.3.

**Table 6.3.**

component of satisfaction	score	SD
<b>CSQ</b>		
general satisfaction	74.7	17.0
professional care	75.3	13.3
depth of relationship	67.0	15.2
perceived time	69.8	17.4
<b>SSQ</b>		
general satisfaction	72.4	16.5
accessibility	75.7	17.2
availability	59.3	17.8
continuity	62.5	18.7
medical care	72.3	15.4
premises	78.1	16.5

Table 6.3. The scores (CSQ and SSQ scales) of patients of two practices taking part in the study of construct validity. N=366.

The results of the correlation analysis are shown in table 6.4. Correlations of scales both within the same questionnaire and across questionnaires are relatively high. Thus, analysis at the individual patient level does suggest that there is an underlying common factor, or several common factors, that influence the attitudes of patients towards health care.

Table 6.4.

	SSQ						CSQ			
	GS.	acc.	ava.	cnt.	mc.	prm.	GS.	pc.	rel.	time
<b>SSQ</b>										
GS.	-	.24	.52	.52	.84	.52	.62	.54	.49	.48
acc.	.24	-	.26	.15	.19	.19	.28	.17	.19	.24
ava.	.52	.26	-	.49	.48	.30	.39	.33	.33	.38
cnt.	.52	.15	.49	-	.54	.30	.39	.41	.44	.28
mc.	.84	.19	.48	.54	-	.46	.63	.62	.56	.49
prm.	.52	.19	.30	.30	.46	-	.31	.29	.27	.31
<b>CSQ</b>										
GS.	.62	.27	.39	.39	.63	.31	-	.77	.55	.61
pc.	.54	.17	.33	.41	.62	.29	.77	-	.66	.49
rel.	.49	.19	.33	.44	.56	.27	.55	.66	-	.34
time	.48	.24	.38	.28	.49	.31	.61	.49	.34	-

Table 6.4. Pearson correlation coefficients between the scales of CSQ and SSQ. The questionnaires were completed by samples of patients of two general practices, each patient completing both questionnaires. N=366.

The correlations are particularly high between CSQ and the medical care, continuity and general satisfaction scales of SSQ. Correlations between the availability component of SSQ and CSQ are slightly lower. It is not unreasonable that attitudes towards the consultation should be associated with continuity of care given that the provision of a personal service is viewed as important by patients. Likewise, the patient's views of their relationship with their doctor could influence attitudes towards the quality of medical care.

There are two possible reasons for the finding of correlation at the patient level of analysis but not when data from samples of patients are analysed at the level of the service, both of which are consistent with the pragmatic model. Firstly, the analysis at the service level involved information from patients of only two practices whereas in the earlier analysis 126 general practitioners from 39 practices were included. Therefore, the range of practices and consequently the range of patient satisfaction will have been more narrow. However, previous surveys of patient satisfaction in these practices, undertaken during the pilot tests of the questionnaires, did not indicate that the practices were unusual.

The alternative explanation is that patients possess underlying traits, characteristics or preferences that encourage them to answer questions about satisfaction in a particular way. When analysis is undertaken on samples of patients rather than individual patients the influence of these personal characteristics is ameliorated. There is support for this explanation from information about response sets. The problem of response set is well recognised (Streiner and Norman, 1989 p. 55), and different

varieties have been described including socially desirable response set, acquiescence response set and negative response set. In the development of their patient satisfaction questionnaire, Ware and colleagues (1983) found that 40% to 60% of respondents manifested some degree of acquiescence response set, but found that negative or opposition response set was rare. They also found that socially desirable response set was common, but did not correlate with ratings of satisfaction with medical care. In a study of patient satisfaction of 3,918 adults in north America, the responses to questions about the patients' personal health care were compared with responses to questions about health care received by others (Hays and Ware, 1986). Patients tended to rate their own health care more favourably than health care in general. The degree of socially desirable response set was assessed by an additional eight item questionnaire, which demonstrated a correlation between socially desirable response set and the respondents rating of their own health care. Other patients characteristics may also be playing a role, for example patient age, sex or health status. Taken together, these findings indicate that different aspects of health care are evaluated differently, and that patient characteristics also influence levels of expressed satisfaction.

The pragmatic model not only suggests that different aspects of health care are taken into account in patients' judgments but also that some aspects of care are viewed by patients as more important than others. In Chapter Four the studies of patient satisfaction and characteristics of general practitioners and general practices showed the importance of personal care as a key feature in determining satisfaction with general practice. This particular preference of the majority of patients may also be

an explanation for the correlation between the components of CSQ and SSQ. In the context of general practice this aspect of care may be so important as to influence attitudes to most of the components of satisfaction. This degree of importance of personal care may be a feature specific to general practice. In judging satisfaction with specialist services patients may consider technical aspects of care to be the issue of prime importance, but further research would be required to confirm this.

### **6.5. Patient characteristics**

In addition to response set discussed above, other patient characteristics may influence levels of reported satisfaction, as indicated in the pragmatic model. A number of studies have demonstrated a relationship between patient age and reported satisfaction although in other studies satisfaction was reported to fall with increasing age (Hall and Dornan, 1990; Aharony and Strasser, 1993). The relationship between sex and patient satisfaction is less clear, with no clear relationship being identified in a meta-analysis of studies (Hall and Dornan, 1990). The studies reported in Chapter Five throw some light on the relationship between satisfaction and these two patient variables. Relationships between some components of satisfaction and patient age or sex were confirmed, but the relationship was not simple and depended on characteristics of the general practice. Information about the impact of educational level, ethnic group or income is more limited (Hall and Dornan, 1990).

Several studies have sought a relationship between patient expectations and satisfaction, but the findings have been conflicting (Aharony and Strasser, 1993). In a

study of 125 patients attending primary care clinics in New York, (Linder-Pelz, 1982b) prior expectations explained no more than 10% of the variation in satisfaction between patients. However, in a study involving 118 patients in a health maintenance organisation in Philadelphia patient desires were generally not significantly related to satisfaction (Brody et al, 1989).

Fitzpatrick and Hopkins (1983) interviewed 95 patients attending neurology outpatient clinics who had the presenting complaint of headaches. They found that expectations were expressed tentatively and a lack of variation between the expectations of different patients. In a review of current research into expectations and their influence on patient satisfaction, Thompson and Sunol (1995) argue that the link between the fulfilment of expectations and satisfaction is not simple or direct, but may be subject to many other factors including the individual's values and intentions and socio-demographic variables. The interplay between these and many other variables and the events during the doctor-patient interaction may influence satisfaction, but before further study Thompson and Sunol recommended a detailed exploration of expectations and their meaning for patients, followed by the development of methods to measure expectations. In a recent study undertaken in general practice in London, 504 patients were asked to complete a questionnaire about their expectations prior to a consultation, and a further questionnaire after the consultation (Williams et al, 1995). The patients also completed MISS after the consultation (Wolf et al, 1978). Patients with fewer expectations met reported lower levels of satisfaction.

Another patient factor that may influence satisfaction is their state of health. In their

study of patients with headaches, Fitzpatrick and Hopkins (1983) concluded that patients' concerns about their illnesses should be more directly considered in explaining levels of satisfaction. Hopton et al (1993) undertook a study of 1,599 patients in general practice. The Nottingham health profile (NHP) (Hunt et al, 1986) was completed before a consultation with the general practitioner and a patient satisfaction questionnaire after the consultation. Patients who indicated distress on the pain dimension of the NHP were significantly more likely to report that the doctor had not said or done anything to reduce their worries.

#### **6.6. Dimensions of satisfaction**

During the development of the questionnaires distinct components emerged. Some components were concerned directly with particular aspects of services such as premises or accessibility. Others were concerned with the consequences of service provision or organisation such as availability or continuity or perceived length of consultations and others were concerned with broader concepts encompassing several aspects of health care such as depth of the relationship between doctor and patient, the quality of medical care or professional aspects of care. There is therefore, a distinction between the aspects of health care and the attitudes of patients' towards care. Patients' attitudes are not simple check lists of elements of care that might be recognised by a provider of care, but are a re-formulation of components of care from the patients' perspective.

The identification of components taken into account by patients in determining



satisfaction has been repeated by other researchers. Much of this work was reviewed in Chapters Two and Three. No additional study has been undertaken to test this part of the pragmatic model but it does have extensive support from these sources.

### **6.7. Satisfaction and behaviour.**

The pragmatic model predicts that levels of patient satisfaction will influence subsequent patient behaviour such as compliance with advice, returning to the same source of care in the future and perhaps also have an impact on feelings of well being. There is evidence to support these predictions (Marquis et al, 1983; Smith et al, 1987). The relationships between patient satisfaction and change in doctors and continuity of care have been discussed in Chapter Four. The test of construct validity provided further evidence that patient dissatisfaction is related to the decision of patients to change general practitioner, and that as continuity falls satisfaction also declines. The relationship between satisfaction and compliance and reduction in symptoms was discussed in Chapter Five. However, the evidence available about the impact of satisfaction on symptoms is relatively limited and confined to a small number of conditions. Moreover, although the studies that have been undertaken do confirm the predicted relationships very few more complex study designs such as randomised controlled trials have been undertaken that would indicate that the relationship is causative rather than merely an association. For example, good communication within the consultation might lead directly to improved compliance, the patient's return to the same provider and high satisfaction, rather than satisfaction acting as a mediator, in which good communication leads to increased satisfaction

which leads to improved compliance and return to the same provider (the cognitive hypothesis of Ley (1982)). Some support for the second alternative is provided by the study of Smith et al (1987), but confirmation is required from further studies.

The studies reported in this thesis indicate that continuity of care as one element of personal care has an important role in determining patient satisfaction with general practice. Some new information about the relationship between continuity and patient satisfaction is available in the data obtained for the study of construct validity (Chapter Four). In that study random samples of patients in two practices were asked to complete SSQ and CSQ. The level of continuity of the same patients was estimated using a standard approach which involved calculating the percentage of the last twelve consultations that were with the patient's usual doctor. Patients who had not been registered with the practice for two years or longer or who had not experienced at least twelve consultations were excluded. Table 6.5. shows the number of patients who experienced different levels of continuity calculated by this method. Patients who had not consulted within the last four months are excluded from this table, as although they were asked to complete SSQ they did not complete CSQ.

**Table 6.5.**

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Level of continuity (%)	Number of patients
8	7
17	28
25	44
33	80
42	88
50	62
58	70
67	68
75	77
83	59
92	65
100	57

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Table 6.5. The number of patients with different percentages of their last 12 consultations that were with their usual doctor. Data from the study of construct validity. (N=705).

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In order to identify those components of satisfaction most closely associated with continuity of care a multiple regression analysis was undertaken with the level of continuity being the dependent variable and the levels of satisfaction for each component of SSQ and CSQ being the explanatory variables. The relationship between satisfaction and continuity may be relatively complex. High levels of

continuity of care may increase satisfaction, but the pragmatic model also predicts that increased satisfaction will encourage the patient to return to the same provider (Marquis et al, 1983), thus increasing continuity. By identifying the components of satisfaction most likely to change as levels of continuity change it will increase understanding of the relationship between satisfaction and continuity and suggest hypotheses to be tested in other studies designed to explain the relative importance of continuity in determining satisfaction and in being determined by satisfaction.

Table 6.6.

Explanatory variable	Beta	(SE)	Cumulative r <sup>2</sup>	Additional % of variance explained	Sig (p)
continuity	.58	(.07)	.49	49	< .001
depth of relationship	.19	(.09)	.51	3	< .05
availability	-.26	(.07)	.53	2	< .001
medical care	.26	(.10)	.54	1	< .01
constant	10.92				

Table 6.6. Multiple regression analysis with level of continuity the dependent variable and levels of satisfaction measured by CSQ and SSQ the explanatory variables. N=368.

The results of the regression analysis of data from those patients who completed both CSQ and SSQ are shown in table 6.6. Unsurprisingly, the first explanatory variable entered into the regression equation was satisfaction with continuity, explaining 49% of the variation between patients. Depth of relationship was the next explanatory variable. Increased continuity of care presents the opportunity for the relationship between patient and doctor to develop, each being able to become more familiar with the other. Furthermore, patients who have an established and satisfactory relationship with one general practitioner are more likely to seek continuity of care.

Increased continuity of care was associated with a decrease in satisfaction with availability. Patients who particularly wish to have an appointment with their usual doctor may find that the appointment system of the practice does present some obstacles. Both the practices in the test of construct validity were large group practices approved for vocational training and although in both practices patients seeking urgent appointments could be seen on the same day there were usually several days wait for routine appointments with the doctor of the patient's choice. Patients are making a personal decision in balancing a wait for an appointment with the choice of seeing their usual doctor.

The fourth explanatory variable was medical care, increased continuity being associated with increased satisfaction. If a patient is not happy with the medical care provided by a doctor they can choose to see an alternative general practitioner in the practice or to change practices. Thus, satisfaction with medical care may increase continuity. Moreover, a continuing relationship may allow the confidence of the

patient in the doctor's competence to increase.

Together the findings reflect the importance placed by patients in general practice on personal care. Increased continuity is associated with more satisfaction with the relationship with the doctor and the medical care provided, and with a willingness to compromise to some extent about waiting for appointments. The findings do not provide evidence about the extent to which the relationship between satisfaction and continuity of care is due to satisfaction leading patients to return to the same provider or due to increased satisfaction arising from increased continuity. To answer this question a study would be required of samples of patients newly registered with a general practice, one sample being offered continuity of care and another sample offered normal care.

The level of continuity may be influenced by the degree to which the patient was satisfied with the previous experience of care. It can also be a factor which influences the level of satisfaction. It has been a common finding of patient satisfaction studies that older patients report greater degrees of satisfaction (Hall and Dornan, 1988). The studies of the influence characteristics of general practitioners, practices and patients on satisfaction reported in Chapter Five show that the relationship between age and satisfaction is more complex. For some components there was a decline in satisfaction with age, but this was reversed if the practice had a personal list system. The test of construct validity demonstrated that older patients experienced greater continuity of care (see table 4.4.). The increase in satisfaction reported in other studies may only be a result of the degree of continuity of care of older patients. Other studies have not

often indicated differences in satisfaction between male and female patients (Hall and Dornan, 1988) and in this series of studies few differences were found. However, there were some differences such as males patients tending to report lower levels of satisfaction with the professional care and depth of relationship scales of CSQ (see tables 5.29 and 5.30). If there are differences in the degree of continuity experienced by male and female patients this might explain differences in satisfaction.

Of the patients in the test of construct validity who had not changed doctors but had remained with their general practice for at least two years 272 (38.6%) were male and 433 females (61.4%) (see Chapter Four, section 4.3.). The mean continuity score for male patients was 58.9% (standard deviation 24.3%) and for female patients was 60.1% (standard deviation 24.8%). This small difference was not statistically significant. The continuity of care of patients in the *Dialogue* survey reported in Chapter Five was not investigated and so some difference in the levels of continuity of male and female patients in these studies cannot be ruled out. However, the two practices in the test of construct validity did not have practice policies or patient populations that would influence the level of continuity of either male or female patients and so it is unlikely that any differences in satisfaction between patients of different sex can be explained by different levels of continuity of care.

## **6.8. Conclusions**

In this chapter the pragmatic model of patient satisfaction has been critically reviewed. Evidence to support sections of the model have been provided from studies

already reported and also from findings arising from the development and evaluation of SSQ and CSQ. It was argued that satisfaction is an attitude towards health care, and that health care is composed of many different aspects. The characteristics of patients do influence reported satisfaction. There is considerable evidence about the influence of patient age, but less about the influence of gender, educational attainment, ethnic group, economic status or response sets. However, it is clear that response sets do influence reported satisfaction. There is evidence to confirm a relationship between satisfaction and subsequent patient behaviour such as change of provider, but understanding of how satisfaction influences outcomes such as compliance or recovery from illness is limited. More research is needed on these topics if care is to be provided so as to ensure not only satisfaction but also compliance, appropriate continuity and the best technical outcome.

The pragmatic model can be criticised for one important omission. The studies in this thesis have demonstrated the importance of personal care to patients' satisfaction with general practice. This characteristic of health care is not highlighted in the model. In order to address this deficiency the model has been revised (figure 6.1.). In the revised model the requirements of patients for a personal service has been given additional prominence. Furthermore, the characteristics of individual patients have been indicated as an influence on patient behaviour. This link was omitted from the original model.

The revised model is not a comprehensive theory of the causes, consequences of and explanations for satisfaction with health care. Nevertheless, it does provide a valuable



starting point for further study. It does make clear that the process leading to satisfaction is complex and is influenced by many variables, including both patient and health care characteristics. Therefore, the goal of a single theory to explain the interactions between all these variables is likely to be elusive. The lack of a theory to explain satisfaction has been criticised (Wensing et al, 1994; Aharony and Strasser, 1993), but the explanation is not only that the issue has been neglected by researchers but also that a single theory cannot be applied to patient satisfaction. Several different theories will be needed to explain different stages in the process. For example, theories about expectations may help to explain a proportion of overall patient satisfaction, but other theories may be more appropriate to explain elements of patient satisfaction influenced by the doctor/patient relationship. Studies undertaken to assess theories that only address a limited proportion of the factors influencing satisfaction will produce conflicting findings, as has occurred in studies of expectations and satisfaction (see section 6.5.).

The large number of variables that have to be taken into account also presents problems to researchers seeking to explain satisfaction. The first variable to be considered is the aspect of health care concerned. Patients may have different requirements of different sectors of care, for example they may desire a personal service from their general practitioner but desire an efficient and highly competent service from secondary care. There is virtually no information available from research studies to show whether or not patients do have different requirements of this nature, but future studies should always relate their findings to the particular health care setting.

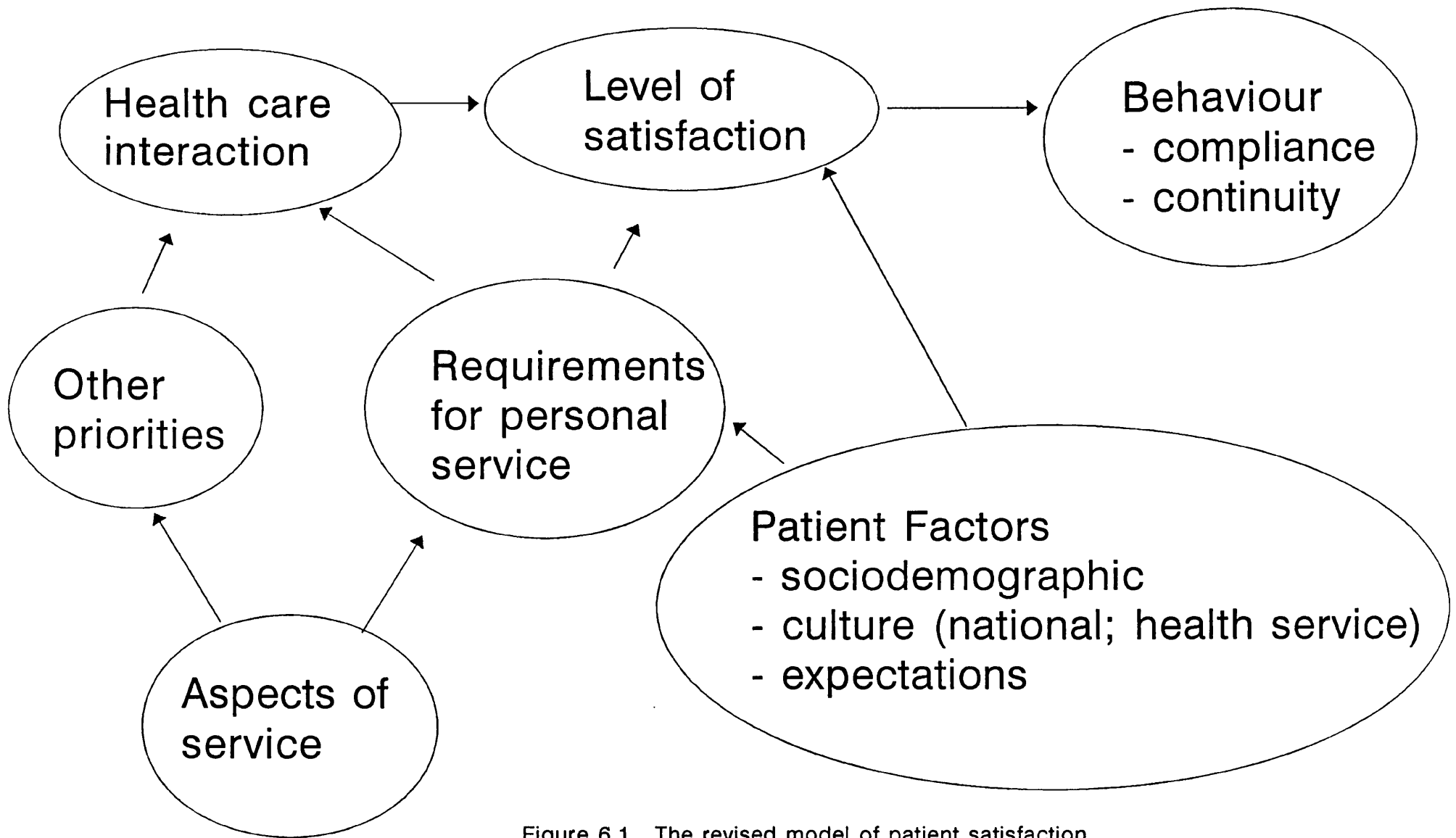


Figure 6.1. The revised model of patient satisfaction.

Patient characteristics are a set of variables that have been shown to be important (see Chapter Five). However, the relationship between satisfaction and patient characteristics is complex, and is influenced by the characteristics of the health care service. The influence of other patient characteristics such as educational attainment or cultural background are little understood and there is a danger that the results of studies of theories of satisfaction will only reflect the characteristics of the limited types of patients included. Studies are needed of the opinions of patients from ethnic sub-groups, the socially disadvantaged, adolescents and other less frequently studied patient groups.

The revised model offers an approach for researchers seeking to explore theories of patient satisfaction. Theories under investigation should be related to stages in the model so that those aspects of satisfaction that could be explained by the theory are made clear. In addition, studies should be designed to acknowledge the large number of variables that can influence satisfaction. A systematic approach of this nature may eventually lead to a better understanding of patient satisfaction.

## CHAPTER SEVEN

### DISCUSSION AND ISSUES FOR FUTURE RESEARCH

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#### 7.1. Introduction

In this chapter the implications of this thesis are discussed. A series of studies have been described beginning with the development of two questionnaires for measuring patient satisfaction with two aspects of general practice; (a) satisfaction with the service provided by the practice as a whole and (b) satisfaction with consultations. Quantitative methods were used and tests of reliability, criterion and construct validity were undertaken. Subsequent studies were undertaken of the relationship between characteristics of general practitioners, practices and patients, and patient satisfaction.

The aims of this thesis (Chapter 1, section 1.4.2) were to:

1. develop measures of patient satisfaction for use in British general practice,
2. identify characteristics of practices, general practitioners and patients influencing satisfaction,
3. and assess the value of the pragmatic model of patient satisfaction.

The studies undertaken have addressed and largely fulfilled these aims, although there are issues that have been identified that should be considered in future research. Furthermore the studies have given rise to a number of other implications. Both of these issues are discussed in this Chapter. The first section is concerned with issues arising from the development of the questionnaires, the second section is concerned

with factors that influence patient satisfaction and the third section discusses issues related to the revised model. Finally, a number of other issues for future research not already considered are discussed.

## **7.2. The development of the questionnaires.**

The development of the questionnaires has shown that the use of quantitative methods can produce measures that are reliable, valid and sufficiently robust for use in most general practices in Britain without the requirement that the users should have special expertise. Both CSQ and SSQ are now available for wide use, although further evaluation is required in practices that have large numbers of patients who are deprived or from ethnic sub-groups. Nevertheless, the evaluation studies have provided information about their properties and indicate to what extent users can have confidence in the findings.

Therefore, evaluated measures are now available and future assessments of patient satisfaction that employ measures that have not been adequately developed and tested should be viewed with caution. Researchers and those undertaking assessments of patient satisfaction within the context of clinical audit may be interested in aspects of care that are not addressed by the questionnaires, for example out of hours care, home visits or care provided by district nurses. However, methods for the systematic development of patient satisfaction measures have now been shown to be practical. The use of a small number of pilot tests and relatively simple methods to evaluate questions such as response patterns, proportion of missing responses, principal

components analysis and the use of Cronbach's alpha can be undertaken by researchers without much difficulty. Indeed, it would probably be possible to employ fewer pilot tests than were used in the development of CSQ and SSQ provided larger samples of patients were included.

In addition to showing that the use of sound development methods is practical the development of the questionnaires has identified several of the issues that patients take into account when judging care and so offers some guidance to future test developers. However, these arguments should not be seen as recommending that quantitative methods should invariably be adopted. CSQ and SSQ are intended for specific purposes, namely wide use by general practitioners and others for the convenient, simple and robust assessment of patient satisfaction (see Chapter Four, section 4.2). For other purposes, such as the exploration of issues important to a specific sub-group of patients, the use of qualitative methods is required.

### **7.3. Factors influencing patient satisfaction**

In identifying the importance to patient satisfaction of the provision of a personal service this study has provided evidence to support one of the features that have been viewed as characteristic of general practice. In defining the general practitioner the role of personal care has been repeatedly emphasised. In a definition of the general practitioner's job produced by the Royal College of General Practitioners (RCGP, 1969) the first statement was: "The general practitioner is a doctor who provides personal, primary and continuing medical care to individuals and families". In an influential statement the Leewenhorst group (Working party of the second European

conference on the teaching of general practice, 1977) also reflected the same issues in its opening sentence - "The general practitioner is a licensed medical graduate who gives personal, primary and continuing care to individuals, families, and a practice population, irrespective of age, sex and illness".

The British government has also acknowledged the principle of a personal service in saying "The continuity of care which they provide for people on their lists, and their ability to arrange for patients to receive the most appropriate form of specialist treatment are hallmarks of our system" (Secretaries of State, 1986). Moreover, in its plans for revising the contract for general practitioners the first objective listed by the government was to make services more responsive to the needs of the consumer (Secretaries of State, 1987). The subsequent changes to the general practitioner's contract made clear that consumer surveys were to be carried out by health authorities (Health Departments of Great Britain, 1989). An objective of the fundholding scheme was "to improve quality and standards of care provided to individual patients" (Department of Health, 1989).

However, changes taking place in the NHS are placing considerable pressure on the ability of general practice to offer a personal service. In the 1980s there was a trend for practices to increase in size (Baker and Thompson, 1994). The growing popularity of fundholding may increase this trend by encouraging smaller practices to co-operate with other practices, to merge or to increase in size (Bosanquet, 1992). Furthermore, the gradual shift of some services from secondary care and the consequent increased demands on primary health care services may make it even more difficult for

practices to offer personal care (Duggan, 1995).

This trend towards larger practices has raised the possibility of a new role for the general practitioner, with a greater emphasis on organising the work of the primary health care team in comparison with directly providing personal primary care (Keeley, 1992). Thus, it may be that the NHS reforms, of which one objective was to make services more responsive to the wishes of patients, is in the case of primary health care services having the opposite effect. The rise of teamwork has also been seen as placing pressure on the principle of personal care and one proponent of teamwork in primary health care has questioned the evidence about the importance of personal continuity and suggested that the future pattern of practice may develop into one of partnership between different professionals and between professionals and patients (Williamson, 1995). It has been suggested that "Personal care can be provided by different members of the team according to the needs of the patient" (Sawyer, 1995).

These tensions between the need for personal care, the changes in general practice arising from the NHS reforms and the trend towards teamwork must be resolved if general practice is to retain the confidence of patients. Personal care is evidently of central importance to patient satisfaction. This may explain in part the growing disenchantment of patients with the NHS as indicated by the rise in the number of complaints (Allsop and Mulcahy, 1995) and highlights the need for sequential studies to determine whether levels of patient satisfaction are falling.

There are also implications for general practitioners in the way that they organise



their practices and for NHS policy. Practitioners need to consider how they can ensure patients receive a personal service whilst at the same time they receive care that is of high technical quality. They should review the operation of appointment systems, consider the introduction of personal lists, limit the amount of time a general practitioner may devote to work outside the practice and give thought to the organisation of the vocational training programme within the practice.

The issue for NHS policy is how to balance the demands for increasing the technical quality and range of services provided by primary health care with the need to preserve and improve the personal nature of the service. The present direction of policy is towards the gradual creation of larger primary health care units in which increased investment can be more easily justified and management made more accountable. An alternative would be for the large group practice to split into small groups of two or three general practitioners, each sub-group with its own associated staff, but the management system remaining at the large group level. To avoid forcing small practices to coalesce integration could take place at the higher management level, but not at the point where the service is provided. A similar suggestion is that of the core primary health care team (Stott, 1995) composed of three to six people, perhaps with several core teams being located in the same practice.

#### **7.4. The model of patient satisfaction.**

This thesis has not resolved the problem of a lack of an adequate theory of patient satisfaction. However, by proposing and assessing parts of a model some progress has

been made. The studies to identify characteristics of patients, general practitioners and their practices that influence levels of satisfaction showed that aspects of all these do have an effect. Thus, the determinants of satisfaction are various and the interactions between them are complex. The quest for a single theory to describe the processes involved and to predict levels of satisfaction is inappropriate, but a model such as the one proposed is probably of more practical value. It highlights the importance of many different variables and suggests avenues of further research that might eventually lead to a more complete theory. At the very least, future studies of patient satisfaction should be related to this or other models of proven utility. Studies of theories that might assist in understanding satisfaction should state explicitly to which aspects of the model the theory concerned applies.

#### **7.5. Other issues for future research into patient satisfaction**

Whilst several questions for further research into patient satisfaction have been identified, two have yet to be discussed. These are the role of measurements of patient satisfaction in improving the quality of care and the relationship between patient satisfaction and recovery from illness.

Whilst there has been considerable encouragement for health authorities and those involved in clinical audit to undertake assessments of patient satisfaction and to include them in quality improvement efforts (Department of Health 1993; Department of Health. 1994) there is only limited evidence that surveys are followed by improvements in care. Repeated measurement of patient opinion in order to complete

the audit cycle or to monitor the effects of changes to care have only rarely been undertaken (Kelson, 1995). The most common approach has been to survey satisfaction in a single data collection and information to show how frequently such projects are followed by quality improvements is limited. If patient satisfaction is to be used to change care we need to know how the collection of data and its feedback to health service staff should best be managed so as to produce genuine improvements. Therefore, studies of the role of patient surveys in quality improvement are required.

The other issue that requires further study is the relationship between patient satisfaction and recovery from illness. The revised model predicts that satisfaction will increase compliance and also the likelihood that the patient will return to the same doctor in the future. However, it has been suggested that the behaviour of the doctor might sometimes have an impact on the patient's illness. Over 30 years ago Balint (1964) asserted that the doctor could have a major, and sometimes defining, influence on the patient's feelings, particularly when psychosocial factors were contributing to the illness. He coined the now familiar term "the drug doctor". These early observations have contributed to the development of the biopsychosocial model of health care and the related patient-centred clinical method (Henbest and Stewart, 1990). In attempting to explain why patients who contract the same disease have different outcomes, or people exposed to the same infectious agents or risk factors do not all contract the illness Atonovsky (1987) has suggested that people have an inherent level of resistance to disease which he termed the "sense of coherence" and which may be influenced by their doctors. He developed an instrument to measure this level of

resistance. It has also been suggested that the placebo effect is a manifestation of some reaction between patient and doctor that has an impact on the recovery from illness (Brody, 1980).

Despite these suggestions there is only limited direct evidence that consultation behaviour itself has a therapeutic effect and the importance of the true placebo effect is uncertain (Ernst and Resch, 1995). Patient satisfaction is not itself a measure of any therapeutic effect of the doctor but may offer one approach to further study. CSQ has shown that patients in general practice do distinguish between professional care and the depth of their relationship with their doctors. If satisfied patients have a different pattern of recovery from illness than those who are less satisfied this finding may reflect the therapeutic effect of consultation behaviour. Studies that relate different components of patient satisfaction to any changes in health might begin to provide evidence about whether consultation behaviour does influence recovery and if so, which types of consultation behaviour are important. Thus, it is possible that further research into patient satisfaction might pay dividends in our understanding of the doctor patient relationship and lead to more effective consulting behaviour.

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## APPENDIX: Published papers

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1. Baker R. 1990. Development of a questionnaire to assess patients' satisfaction with consultations in general practice. *British Journal of General Practice* 40:487-490.
2. Baker R. 1991. The reliability and criterion validity of a measure of patients' satisfaction with their general practice. *Family Practice* 8:171-177.
3. Baker R, Whitfield M. 1992. Measuring patient satisfaction: a test of construct validity. *Quality in Health Care* 1:104-109.

# Development of a questionnaire to assess patients' satisfaction with consultations in general practice

RICHARD BAKER

**SUMMARY.** *The assessment of patient satisfaction has become an important concern in the evaluation of health services. Measures of satisfaction must be valid and reliable if they are to be used widely. This paper reports the development of a new questionnaire to assess patients' satisfaction with consultations together with initial tests of the questionnaire's reliability and validity. Principal components analysis of the patients' assessments of care revealed three factors of satisfaction: the professional aspects of the consultation, the depth of the patient's relationship with the doctor, and the perceived length of the consultation. The consultation satisfaction questionnaire is reliable under the conditions of this study and may have a role in research, medical education and audit.*

## Introduction

PATIENT satisfaction is one objective of care, and, along with recovery from illness or amelioration of the presenting problem, it is therefore an outcome of care. It is also a contributor to outcome, as satisfied patients are more likely to cooperate with treatment.<sup>1</sup> Moreover, satisfaction is the patient's judgement of the quality of care.<sup>2</sup> In addition to these three practical reasons why patient satisfaction should be assessed, there is the philosophical view that patients should by right have their concerns about care taken into account. The growing importance of consumerism in health care is but one element of a broader social movement, and it would be unrealistic to expect that health services will be allowed to remain undisturbed by changes taking place in the rest of society. The new contract for general practitioners instructs family practitioner committees to carry out consumer surveys aimed at measuring patients' satisfaction with general practitioner services,<sup>3</sup> and the medical audit advisory groups to be set up from April 1991 have been given the duty of ensuring that patients' interests are taken into account.<sup>4</sup>

Assessment of patient satisfaction has been used as a measure of outcome in studies of aspects of general practice such as deputizing,<sup>5</sup> length of consultations<sup>6</sup> and workload.<sup>7</sup> However, there are no patient satisfaction questionnaires devised for use in British general practice that have been subjected to thorough testing of reliability and validity. If surveys of patient satisfaction are to influence clinical care, it is important that the assessment instruments are tested as rigorously as other medical measurements, otherwise the quality of care might be made worse rather than better. Several questionnaires have been developed and tested in the USA and used in the UK<sup>8,9</sup> despite the lack of evidence to show that they are reliable and valid when used outside the setting for which they were designed. Nevertheless, these American questionnaires have shown that it is possible to develop methods of assessing patient satisfaction with known levels of validity and reliability.<sup>10</sup>

When the Bristol University quality assurance project was set up, one of its objectives was to develop methods for assessing patient satisfaction with general practice. There are many aspects of general practice that might be included in a patient satisfaction questionnaire, such as office organization, the work of practice nurses or attached staff, out of hours care, and availability of doctors, in addition to the doctor-patient relationship. However, a questionnaire covering all possible areas of concern would be too long for patients to complete quickly, and also inflexible for potential users who are unlikely to want to assess every aspect each time the questionnaire is used. Therefore, two questionnaires were planned, one to assess satisfaction after a consultation with a general practitioner, and the other to assess patient satisfaction with the services offered by a general practice as a whole but excluding the consultation. This paper reports the development of the questionnaire about the doctor-patient consultation.

## Method

All the development work was undertaken in one suburban practice of 12 000 patients who were predominantly from social classes 1 to 3M. There were six principals in the practice, plus one trainee and one doctor working under the retainer scheme. Three of the doctors were women and five men.

The questionnaire was required to be brief, understandable and easy to complete for adults aged over 16 years. It was designed to be self-administered, so that it would be cheap and easy to use in different general practices. Throughout the development period it was administered in the same way, being given to patients as they arrived for consultations at the surgery, with instructions to complete it after the consultation but before departure, leaving it in a marked box in the reception lobby. Patients were excluded if they were under 16 years of age, too ill to complete the form, unable to read the form, or if they had already completed any version of the consultation satisfaction questionnaire. Questionnaires were not marked in any way that might permit identification of patients, and the method of collecting completed forms was chosen so that patients could feel certain that their comments would be anonymous. The questionnaire was also labelled to indicate that its origin was the general practice unit at the University of Bristol rather than the practice as an enquiry about satisfaction from the patient's own doctor might inhibit the expression of negative opinions.

The method of questioning chosen was a five-point Likert-type<sup>11</sup> scale asking for agreement or disagreement with statements about the doctor and the consultation. This scaling method has been employed in other surveys<sup>10,12</sup> and has the advantage of being relatively easy for respondents to complete.

## Question selection

The first step was to identify the various issues that patients may take into account in their assessment of consultations, and the second step was to refine the questions so that these issues were covered in a way that patients could understand and that obtained a range of opinion. An initial review of other questionnaires on patient satisfaction together with general practice studies that included surveys of patient opinions was therefore undertaken in order to determine what aspects of care had been

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found to be of concern to patients. This review was supplemented by discussion with fellow general practitioners and personal experience of patients' comments on their care. This preliminary work led to the preparation of a list of statements about consultations that could be included in a questionnaire. Statements that would apply only in the study practice were omitted so that the questionnaire could be used in other practices. Finally, patients were asked for their comments by including on the first version of the consultation satisfaction questionnaire two open questions asking respondents to state whether there were any things they particularly liked or disliked about the doctor. However, there appeared to be no area of the consultation not covered by the existing statements. The most common extra statement was that the doctor was 'a good listener' and a statement to this effect was employed in later versions of the questionnaire, but it proved not to discriminate, having a narrow range of response and reflecting general satisfaction rather than a component of satisfaction. Some statements were included twice, worded positively on one occasion, and negatively on the second, to account for the tendency of some respondents to agree with all statements. In addition, single-item measures compared with multi-item measures are known to be poorly reliable.<sup>13</sup> In scoring replies, the one to five scale was reversed when appropriate so that for all statements, a score of one indicated satisfaction, and five dissatisfaction.

#### *Refinement of the questionnaire*

Several methods were used to evaluate the selected statements. First, as a simple check, the comments of colleagues on the meaning of each were obtained. Secondly, the pattern of response to statements was studied to discover whether a range of opinions was being disclosed. To reveal skewness in replies, graphs of the results for each statement were plotted. Thirdly, wording was repeatedly reviewed for ambiguity and other problems. This process was assisted by checking the difficulty experienced by patients in answering statements as shown by additional comments written on questionnaires. Finally, the number of patients who failed to respond to each statement were recorded in order to reveal any problems.

If one of these methods showed a problem, the findings from the other selection methods were reviewed and statements were discarded or rewritten. This led to revised versions of the questionnaire that were subjected once again to testing by a group of patients.

From version three onwards, development of the questionnaire was also guided by the findings of principal components analysis, making use of Varimax rotation and Kaiser normalization.<sup>14</sup> This procedure reveals how statements are answered relative to each other,<sup>15</sup> and has the advantage that no assumptions about the distribution of data need be made. Statements are picked out which tend to be answered in a similar fashion and are therefore likely to be about the same broad issue. Thus, the different factors that influence satisfaction can be identified, and the homogeneity of the statements within each factor determined. Statements that were shown to relate only weakly to a factor were improved, replaced or discarded, depending on the findings of the other methods of statement assessment. For example, a statement used in version five, 'This doctor was not very friendly', was found to correlate only weakly with two components of satisfaction and as it therefore failed to assess any specific component of satisfaction it was omitted.

The development of the consultation satisfaction questionnaire resulted in improved statements, with a wider range of replies and the emergence of more homogeneous factors. This process became more rapid from version three onwards, when experience of the methods of questionnaire refinement had been

gained. Principal components analysis of version four revealed two factors, one concerned with the length of the consultation, and the other with technical aspects of care such as the thoroughness of the examination, and the adequacy of the explanation of the illness and its treatment. Version five included additional statements intended to reveal views on the interpersonal aspects of the consultation. These were largely successful, and version six, the final version, was a minor modification of version five.

Version six of the consultation satisfaction questionnaire was administered to 40 consecutive patients attending each of the eight doctors.

The reliability of the questionnaire was assessed using a test of internal consistency, Cronbach's alpha.<sup>16</sup> This is a split-half method of estimating reliability that offers an alternative to test-retest methods which can be impractical when assessing views about a specific event, and it is frequently employed in questionnaire development. The coefficient of variation was determined for each statement to indicate the degree of response variability. In order to confirm that the individual factors were related to general satisfaction, Spearman correlation coefficients were calculated for each factor score with the score for general satisfaction.

#### **Results**

In the field test of version six, 239 completed forms were obtained, a response rate of 75%. The anonymity of the questionnaire precluded the collection of comparative information about responders and non-responders. Questions concerning general satisfaction failed to form a separate factor on principal components analysis of versions three to six of the questionnaire and these questions were extracted and used as a separate scale (Table 1). However, principal components analysis did reveal three factors (Table 1) and following discussion with 17 professionals, mostly general practitioners, but also nurses and psychologists, names were assigned to these factors. Factor one, professional care, includes the patient's concerns about the examination, the provision of information about the illness and its treatment by the doctor, agreement with the doctor's advice and the doctor treating the patient as a person. Factor two, depth of relationship, is concerned with the doctor's intimate knowledge of the patient within a relationship and the transmission of very personal information to the doctor. These factors suggest that the doctor-patient relationship is being judged on two levels, the first concerning all the traditional behaviours expected of a doctor, and the second at a more personal and emotional level. The third factor, perceived time, concerns the patients' perceptions of the length of consultations when related to their own requirements. The Spearman correlation coefficients for each factor with the general satisfaction scale were 0.64 for professional care and 0.50 for both depth of relationship and perceived time, indicating that each factor is related to but not identical with general satisfaction.

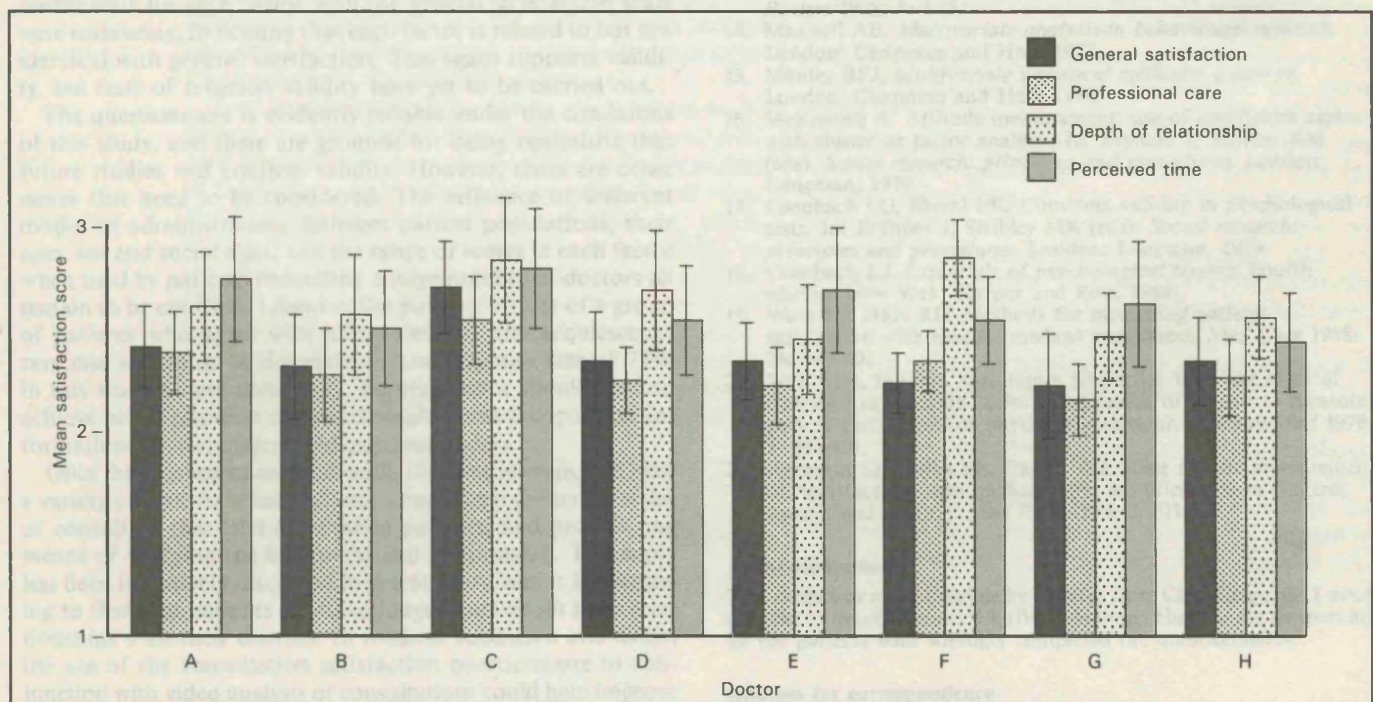
Cronbach's alpha for the complete questionnaire was 0.91, for professional care 0.87, for depth of relationship 0.83, for perceived time 0.82 and for general satisfaction 0.67. These results indicate that the questionnaire is sufficiently reliable to discriminate between groups of patients rather than individual patients.<sup>16</sup> The mean scores for the statements used for factors two and three are reasonably close to but do not exceed 3, the midpoint in the scale. The statements for care and general satisfaction were more likely to have a mean score towards the satisfied end of the scale, although coefficients of variation were still satisfactory. The coefficients of variation for each statement (Table 1) indicate that the statements encourage a range of opinions. This is supported to some extent by the finding of



**Table 1.** Statements from version six of the consultation satisfaction questionnaire: correlations with factor, mean scores and coefficients of variation (total number of respondents = 239).

Statement	Correlation with factor	Mean score (SD)	Coefficient of variation (%)
<i>General satisfaction</i>			
1. I am totally satisfied with my visit to this doctor	—	1.71 (0.67)	39.3
7. Some things about my consultation with the doctor could have been better	—	2.32 (0.92)	39.4
17. I am not completely satisfied with my visit to the doctor	—	2.13 (1.02)	47.9
<i>Factor 1: Professional care</i>			
2. This doctor was very careful to check everything when examining me	0.79	1.89 (0.73)	38.7
9. This doctor examined me very thoroughly	0.79	2.07 (0.78)	37.7
6. This doctor told me everything about my treatment	0.75	1.98 (0.75)	37.8
10. I thought this doctor took notice of me as a person	0.68	1.87 (0.79)	42.2
3. I will follow this doctor's advice because I think he/she is absolutely right	0.65	1.75 (0.67)	38.4
13. This doctor was interested in me as a person, and not just my illness	0.63	2.08 (0.83)	39.8
12. I understand my illness much better after seeing this doctor	0.45	2.27 (0.81)	35.8
<i>Factor 2: Depth of relationship</i>			
8. There are some things this doctor does not know about me	0.85	2.93 (1.03)	35.1
14. This doctor knows all about me	0.83	2.74 (0.99)	36.1
15. I felt this doctor really knew what I was thinking	0.70	2.47 (0.92)	37.1
4. I felt able to tell this doctor about very personal things	0.55	2.09 (0.86)	41.3
18. I would find it difficult to tell this doctor about some private things	0.45	2.28 (0.95)	41.5
<i>Factor 3: Perceived time</i>			
11. The time I was allowed to spend with the doctor was not long enough to deal with everything I wanted	0.85	2.25 (0.90)	40.2
16. I wish it had been possible to spend a little longer with the doctor	0.84	2.68 (0.99)	37.2
5. The time I was able to spend with the doctor was a bit too short	0.81	2.47 (0.97)	39.1

SD = standard deviation.

**Figure 1.** Mean satisfaction scores for the eight general practitioners (total number of respondents = 239).

different mean scores for each of the eight participating doctors (Figure 1).

### Discussion

Further interpretation of the differences in scores between patients consulting different doctors depends on determining the validity of the measuring instrument, and relating individual scores to a scale for which the meaning of individual values is already known. Validity cannot be confirmed by the findings of a single study, but depends on repeated tests which are interpreted in the light of a defined theory underlying the contents of the questionnaire.<sup>17,18</sup> It is possible to advance arguments in support of the validity of version six of the consultation satisfaction questionnaire, but these should be seen as preliminary and incomplete, and subject to the findings of future studies.

One argument to support content validity is that the generation of statements followed careful review supplemented by patient opinion. Another argument is that the factors identified by the questionnaire as important for satisfaction are the same as those found in other studies. A recent American questionnaire has shown patient concern with technical and interpersonal aspects of care,<sup>19</sup> factors that are similar to professional care and depth of relationship in the consultation satisfaction questionnaire. The cognitive and behavioural factors of the medical interview satisfaction scale<sup>20</sup> have similar content to the professional factor of version six, while the affective factor of the medical interview satisfaction scale compares to the depth of relationship factor. Another American scale revealed professional and personal factors,<sup>21</sup> though concern about the financial cost of care is often included in American questionnaires. This is clearly less important to British patients, but another factor, perceived time, was found to be important in this study. This factor is given some validity by a study showing that patients were more likely to complain of shortage of time in consulting sessions booked at shorter intervals.<sup>6</sup>

To support construct validity, each factor measured by the questionnaire should be shown to be related to general satisfaction, but at the same time to be distinct. Spearman correlation coefficients for each factor with the general satisfaction scale were reassuring, indicating that each factor is related to but not identical with general satisfaction. This again supports validity, but tests of criterion validity have yet to be carried out.

The questionnaire is evidently reliable under the conditions of this study, and there are grounds for being optimistic that future studies will confirm validity. However, there are other issues that need to be considered. The influence of different modes of administration, different patient populations, their ages, sex and social class, and the range of scores in each factor when used by patients consulting a large number of doctors all remain to be clarified. Likewise, the possible effects of a group of patients who agree with all statements, 'the acquiescence response set', must be determined. The response rate of 75% in this study is less than ideal. Future studies should seek to achieve better response rates and obtain some comparative information for responders and non-responders.

Once these concerns are dealt with, the questionnaire will have a variety of uses. As a research tool it could help define the styles of consulting that lead to satisfied patients, and provide one means of studying the doctor-patient relationship. This topic has been intensively discussed in recent years, and it is reassuring to find that patients do make judgements about their relationships with their doctors. In medical education and audit, the use of the consultation satisfaction questionnaire in conjunction with video analysis of consultations could help improve consulting skills. However, feedback of findings from the questionnaire to trainees or principals must be done sensitively as,

given baldly, the views of patients could easily undermine self-esteem and the willingness to improve. The model for this type of feedback should be the same as that used for video analysis, when the positive is emphasized, and areas for improvement tactfully pointed out. A system of this kind could readily be employed within vocational training schemes, though for established principals special arrangements such as small group work or a distance learning programme may be required.

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# The Reliability and Criterion Validity of a Measure of Patients' Satisfaction with their General Practice

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Baker R. The reliability and criterion validity of a measure of patients' satisfaction with their general practice. *Family Practice* 1991; 8: 171-177.

The Surgery Satisfaction Questionnaire (SSQ) was developed using the methods of psychological test construction, and designed to determine patients' satisfaction with the services offered to them by their general practitioners. Principal components analysis (PCA) revealed five components distinct from general satisfaction—continuity, accessibility, availability, medical care and premises. Reliability as determined by a split-half test (coefficient alpha) was adequate but should be improved in future versions of the questionnaire.

A study of criterion validity was undertaken to test the questionnaire and to develop methods of testing the validity of measures of patient satisfaction. The two criteria used were the doctors' self-assessment of their own practices and the assessment of an external assessor. The findings supported the validity of the components of continuity, accessibility, availability and premises, but the patients' scores correlated better with the external assessors' scores than the doctors' self-assessed scores. SSQ is a useful foundation for the development of measures of patient satisfaction in general practice.

## INTRODUCTION

The importance of patients' opinions on the care they receive is becoming increasingly acknowledged. This has been encouraged by the investigation of consumers' views about service industries such as catering and marketing. Health care is often described as a service industry, and it cannot expect to remain isolated from the pressures of the consumer movement.

Four specific reasons for investigating patient satisfaction are described by Donabedian.<sup>1</sup> The provider of care would like on most occasions to satisfy the wishes of the patient, so satisfaction is an objective of care. Satisfaction is also a consequence of that care, and is therefore an outcome. Satisfaction can contribute to the effects of care, as a satisfied patient is more likely to comply with advice, and finally satisfaction is the judgment of the patient on the care that has been provided.

Though there are strong arguments for measuring patient satisfaction, there are considerable methodological difficulties. These have led to the suggestion

that the measurement of satisfaction should be abandoned in favour of the increased participation of patient representatives in the management and planning of services.<sup>2</sup> There are two complementary methods available for measuring satisfaction. The first is the descriptive survey<sup>3</sup> which in expert hands has provided a wealth of information about general practice.<sup>4</sup> The second method employs techniques developed by psychologists and educators.<sup>5</sup> Scores such as intelligence quotients are produced with know precision to allow comparisons, although some of the fine detail about individuals may be sacrificed. In satisfaction measures of this kind, the views of patients are grouped into dimensions or components that are shown to influence the overall decision about satisfaction. The components that most often concern patients have been described in recent studies.<sup>6</sup>

There are three main concerns about measures of satisfaction that use this approach. Firstly, the reliability of the tests to be used must be established, secondly, the validity of the tests must be determined, and thirdly, the question of transferability must be considered. Transferability is the extent to which the test continues to measure the same thing when applied to groups of patients of different age, social class or geo-

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graphical region.<sup>7</sup> Testing a measure for reliability is usually relatively easy. Validity presents greater difficulties, but it must be demonstrated before the question of transferability is addressed. Many studies of patient satisfaction do not consider the issues of reliability or validity<sup>8-10</sup> but if patient views are to be heeded in the provision of health care, it is essential that those views are determined using acceptable tests. Otherwise, wrong decisions will be taken on the basis of findings from inadequate questionnaires.

This paper examines the validity of a questionnaire (Surgery Satisfaction Questionnaire—SSQ) designed using the methods of educational and psychological tests to assess patient satisfaction with the surgery they attend. General practices, composed of general practitioners, their associated staff and the premises that they share are usually called 'surgeries' in Britain and this term is used in this way in this paper. Two questionnaires concerned with patient satisfaction have been constructed, one concerned with the patient's views of the services provided by the surgery, and another concerned with the consultation alone. The consultation questionnaire is being reported separately.<sup>11</sup>

Validity can be divided into three main varieties. Content validity examines the test to make sure it contains questions on each factor that is important to the patient's decision about satisfaction. Construct validity seeks to place the theory on which the test is based into a network of laws, at least some of which must involve observables that can be subjected to measurement.<sup>12</sup> For criterion validity, a measure or criterion is chosen that is accepted as being concerned with what the test is supposed to measure. The test or questionnaire is then compared with this accepted criterion.<sup>13</sup> If measured at the same time, this is concurrent validity, but if the test is used to predict a specific later criterion, it is predictive validity. The questionnaire developed in this study was subjected to a test of concurrent criterion validity. The aims were firstly to begin to determine the validity of SSQ, and secondly to develop methods that may be more widely applied for establishing the validity of patient satisfaction as a measure of the quality of care.

## METHOD

### *Questionnaire Development*

Firstly, the issues that might influence the views of patients about their surgeries were identified. The comments spontaneously reported to the practice staff provided one source of such views, and these were supplemented by the views of colleagues. In addition, a review of other studies on general practice and patient satisfaction was undertaken. This led to the preparation of a library of questions which were used in devising the first field test questionnaire. This was given to patients attending one surgery made up of six partners and 12,000 patients. From the third version of the questionnaire onwards, field tests were undertaken

in several different surgeries to prevent the possibility of a particular patient population or the peculiarities of a single surgery introducing questions or concerns that could not be transferred to other surgeries. In order to check that no topic of concern to patients was omitted, the first version of the questionnaire included two open questions seeking patient views on aspects of their surgery that they particularly liked or disliked. The only additional issue revealed by the open questions was a small number of comments about the entrance to the surgery car park. This question was too specific to the surgery to be useful in later field tests.

In all versions of the questionnaire, a Likert<sup>14</sup> five-point scale from strongly agree to strongly disagree was used for patients' responses. This method has the advantage of being relatively easy for patients to complete, and has been employed in other surveys of patient opinion.<sup>15,16</sup> The answers 'strongly agree' to 'strongly disagree' were scored from one to five, after adjusting the direction of the scale depending on whether the question was a positive or negative statement. A low score then indicated satisfaction, a high score dissatisfaction. Some questions were included twice, but reworded slightly and the statement reversed, so that for example positively worded statements became negative. The use of multi-item scales in this way helps to overcome the affect of acquiescence response set as well as improve reliability and sensitivity.<sup>17,18</sup>

The process of questionnaire development was based on review of the individual questions, and from version two onwards, principal components analysis (PCA) with varimax rotation and Kaiser normalization<sup>19</sup> was used to identify the components or factors that determine satisfaction and were being addressed by the questions. This procedure makes no distributional assumptions about the data, and reveals how questions are answered relative to each other.<sup>20</sup> The questions were checked for ambiguity by discussing them with colleagues, by taking note of additional comments written on questionnaires by respondents, and by counting the number of occasions each question was not answered.

Questions were also reviewed to show whether they were obtaining a range of response. If a question was always answered in the same way, for example, satisfaction invariably being expressed, it was felt to be insufficiently sensitive to distinguish the different shades of satisfaction held by different patients. To assist this review, the answers to each question were plotted, with a highly skewed response indicating an insensitive question.

Problems questions were either discarded or rewritten. Questions that failed to load clearly with one or other component revealed by PCA were subjected to particularly close scrutiny. There was a tendency for badly worded questions to load heavily with questions about general satisfaction rather than with a particular component of satisfaction. Some of these were revised and some discarded.

*Testing Criterion Validity*

The final version of the questionnaire was used in the study of validity. Two criteria were chosen to compare with the findings: the views of the doctors about the surgery, and the views of a general practitioner external assessor of the surgery. The doctors working in the surgery will have an intimate knowledge of its strengths and weaknesses. They will be unlikely to be able to compare themselves with other practices as their knowledge of others will be limited, and therefore their views cannot be used alone as the acceptable criterion. External practice assessment by peers has been used in the approval and reapproval of trainers in general practice, where the principal method is a visit to the surgery and a simple inspection of facilities and protocols of organization. There is evidence that the assessment procedure does distinguish between surgeries,<sup>21</sup> so external assessment by peers is also an acceptable criterion.

At each surgery 100 consecutive patients attending for an appointment with a general practitioner were asked to complete a questionnaire. Patients under age 16 and those unable to complete the answers because of their illness were excluded. Patients were instructed to complete the questionnaire before leaving the surgery. No method of identifying patients was included on the questionnaire, so patients could be sure that comments would be anonymous. It was also labelled to show its origin as being the General Practice Unit at Bristol, not the surgery. The scores for components of satisfaction for each surgery were calculated by adding the answers for each question in each component, weighted by the question communality. The total average score was then obtained in each satisfaction component.

Before questionnaires were distributed, one member of each participating surgery was asked to assess the features of their surgery that were being considered by SSQ. They were given a form, and requested to indicate a self-assessed score for each component on one to five scales. An assessment of the surgery was

requested rather than a prediction of what might be the patients' views. In addition, a general practitioner external assessor made a short surgery visit and made an assessment on similar five point scales. The assessment procedure included an inspection of the premises, recording of list size and number of doctors, observation of the reception of patients, the booking of appointments and the work of receptionists, and discussion with the staff and at least one doctor. The location of the practice and the number of doctors and patients were noticed. One external assessor visited each surgery. Two assessors were used. They both had extensive experience of practice assessment, being established general practice trainers who had participated in training practice inspections. They had both seen subjects and assessors in 'What Sort of Doctor?'<sup>22</sup> visits, and participated in pilot visits to test the new scheme of Fellowship by Assessment of the Royal College of General Practitioners. The scores for each surgery awarded by patients, doctors and external assessors were compared by means of Spearman correlation coefficients.

## RESULTS

During questionnaire development, five components of satisfaction emerged. The content of these components was discussed with colleagues including other general practitioners, psychologists and nurses. There was a consensus that the components were separately concerned with continuity of care, accessibility of the surgery, the quality of medical care, the premises, and the availability of doctors. The questions for general satisfaction failed to form a distinct component on their own, a usual finding in satisfaction questionnaires.<sup>15,23</sup> The rotated factor matrix for SSQ (Table 1) with the two general satisfaction questions excluded shows the five components. The reliability of this questionnaire and its components was determined using Cronbach's alpha, a measure of split-half internal consistency.<sup>24</sup> Alpha for the entire questionnaire was 0.82. The scores for the separate components are shown in

TABLE 1 *Rotated factor matrix for SSQ (General Satisfaction questions excluded)*

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Q16	0.85286	0.07811	0.12515	-0.00213	0.12212
Q3	0.83059	-0.02573	0.23141	-0.03356	-0.08799
Q9	0.79432	0.12951	0.11994	-0.07674	0.32118
Q10	0.61549	0.08789	0.10260	0.04768	0.54188
Q11	0.05752	0.84998	0.02695	-0.00511	0.10812
Q15	0.09999	0.82646	0.15169	0.09396	-0.05393
Q4	0.02180	0.75620	-0.03929	0.08631	0.22937
Q5	0.13900	0.03149	0.82086	0.02128	0.08430
Q8	0.18150	0.04659	0.76842	0.02300	0.18904
Q12	0.10520	0.04733	0.69972	0.06534	-0.03191
Q17	-0.01835	0.03502	-0.05745	0.84285	0.00044
Q7	0.01870	-0.01851	0.16304	0.80596	-0.05741
Q2	-0.06054	0.15218	0.01829	0.65773	0.20719
Q6	0.04719	0.12793	0.00443	0.05779	0.81698
Q14	0.30142	0.10641	0.24084	0.07262	0.64649

TABLE 2 Mean scores standard deviations and coefficients of variation for each question, and coefficient alpha for each factor. Alpha for entire questionnaire 0.8222

Factors	Q means	SD	CV (%)	Alpha
<b>1. General Satisfaction</b>				
Q1 - I am totally satisfied with everything about this general practice.	2.104	0.918	43.6	0.6675
Q13 - I am not completely satisfied with one or two things about this general practice.	2.623	0.972	37.1	
<b>2. Continuity</b>				
Q16 - I do not always see the same doctor when I go to the surgery.	2.930	1.166	39.8	0.8471
Q3 - I see the same doctor almost every time I go to the surgery.	2.328	1.159	49.8	
Q9 - It can be difficult to see the same doctor each time you go to the surgery.	2.759	1.182	50.7	
Q10 - It can sometimes be difficult to get an appointment with my doctor at this surgery.	2.807	1.183	49.9	
<b>3. Access</b>				
Q11 - I find this surgery very difficult to get to.	1.941	0.751	38.7	0.7572
Q15 - My doctors surgery is very easy to get to.	2.134	0.812	38.1	
Q4 - It can take me a long time to get to my doctors surgery.	2.313	1.002	43.3	
<b>4. Med Care</b>				
Q5 - The doctors at this surgery are always careful not to make any mistakes.	1.939	0.794	40.9	0.7012
Q8 - I am always satisfied with the medical care I receive at this surgery.	1.846	0.804	43.6	
Q12 - The doctors at this surgery never make any mistakes.	2.816	0.870	30.9	
<b>5. Premises</b>				
Q17 - This surgery building could do with some improvements.	2.956	1.035	35.0	0.6862
Q7 - My doctors surgery is modern and up-to-date.	2.201	0.865	39.3	
Q2 - I do not much like my surgery's waiting room.	2.482	0.904	36.4	
<b>6. Availability</b>				
Q6 - It can be difficult to get through to the surgery on the telephone.	2.549	1.108	43.5	0.5069
Q14 - It can be hard to get an appointment for medical care right away.	2.679	1.121	41.8	

Table 2. This also shows the mean scores and coefficients of variation for each question. The coefficients range from 30% to 50%, which does confirm a reasonable degree of variability in response. None of the question mean scores exceeded three, the mid-point in the scale. This may be because the surgeries in this study were all providing a good service that satisfied most of their patients, or that the tendency of patients to prefer to express satisfaction has not been completely overcome. Nevertheless, SSQ did produce different portraits of each surgery (Fig 1). For example, both practices number seven and eight were single handed, scoring better than larger practices for continuity and availability. However, they scored less well than the other practices for premises, one of them being sited in a temporary cabin and the other in an old-fashioned and largely unmodified terraced shop.

The response rate for SSQ in the validity study was

86.4% overall, with a range between surgeries from 67% to 96%. The validity coefficients are shown in Table 3. Continuity, premises and availability show better correlation, and overall the external assessors scores were more closely correlated with the patients' scores.

The interpretation of the findings rests on whether the criteria of validity were acceptable measures of each component. Is the self-assessed score of the doctors the better criterion, the gold standard, or should the external assessor's score be preferred? The external assessor and patients may have similar experiences of the surgery, looking at it from the outside, whilst the doctors have a different view because they are closely involved, and cannot make a dispassionate assessment. Support for preferring the assessment by the external assessors is given by evidence that shows that the assessment procedure does distinguish between

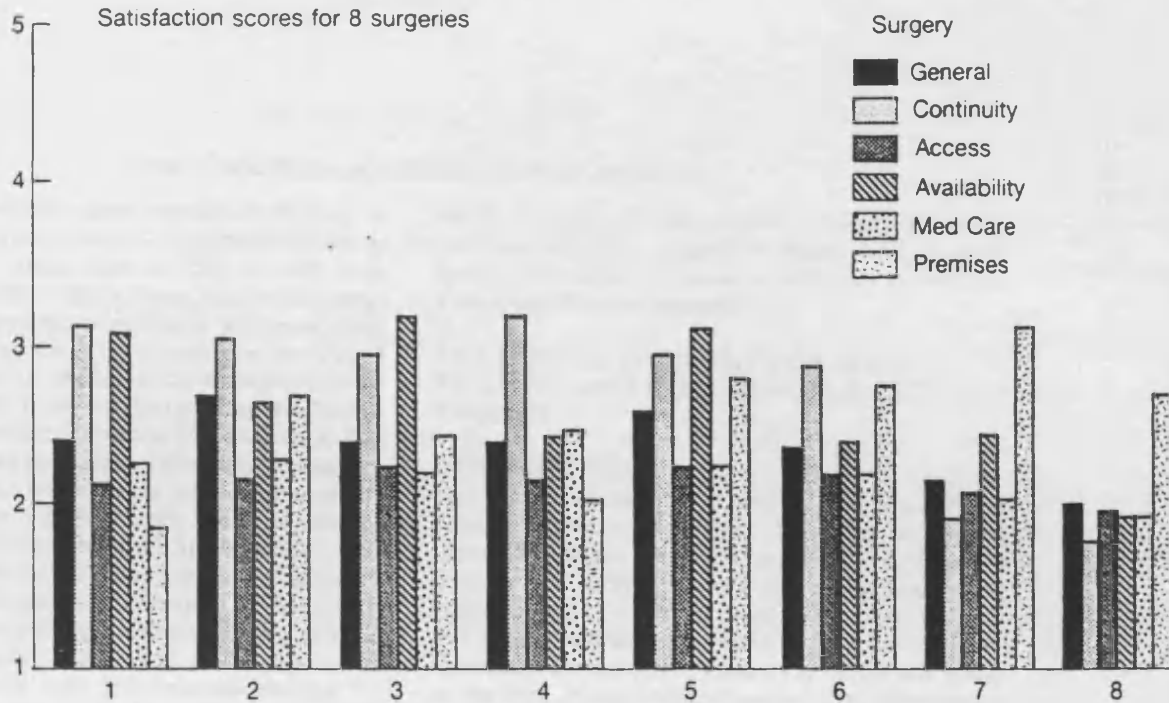


FIGURE 1

surgeries.<sup>21</sup> The external assessors did find difficulty in differentiating between surgeries for the score for general satisfaction. They rated all practices with the same score of 2 (from a scale of 5), so it was not possible to perform a validity coefficient for this component. The doctors in the surgeries faced the same problem, and seven predicted a score of 2, the eighth predicting 2.5. The findings for general satisfaction must therefore be viewed with considerable caution.

There are also difficulties in assessing the quality of medical care. The external assessor was not able to make a thorough assessment of the process and outcome of care given to patients, this was beyond the scope of this study. The external assessor was found to have a closer understanding of the difficulties experienced by patients getting to the surgery than the doctors themselves. The doctors may have exaggerated

TABLE 3 Spearman correlation coefficients (validity coefficients) between patient scores and the predictions of external assessors and doctors working in the surgeries

Factor	Validity coefficients	
	Patients' score with doctors score	Patients' score with assessors score
Continuity	0.847	0.801
Access	-0.216	0.514
Med Care	0.000	0.436
Premises	0.761	0.815
Availability	0.391	0.643
Gen Sat	-0.412	—

the difficulties patients experience because they see the consequences of poor access caused by limited transport facilities in requests for home visits. An alternative explanation is that they were less sensitive to patients' difficulties than the external assessor. This is unlikely as the external assessors had less local knowledge and had no reason to be more attuned to this particular issue.

#### DISCUSSION

This study has not been able to fully address the issue of transferability of SSQ, although it has been used in a range of surgeries with different structures and patient populations. The overall response rate was reasonable, and was 92% in the surgery with the most disadvantaged population. It is not yet clear what the range of scores would be for a large random sample of surgeries, so what score indicates a 'good' surgery and what a 'bad' one is unknown. The questions themselves did attract a satisfactory range of response as shown by their individual coefficients of variation (Table 2).

SSQ shows evidence of reasonable reliability. Alpha for the whole questionnaire and most of the separate components of satisfaction are adequate, but a score of only 0.51 for availability is unsatisfactory. Further versions of the questionnaire should include more questions for this component in order to improve reliability.

A single study cannot confirm the validity of a satisfaction questionnaire, and the findings reported here should be seen as contributions to the debate rather than a definitive statement about the validity of SSQ.



However, it is possible to draw together the findings of the study and from other reports. It is first important to establish that the components of SSQ are related to satisfaction, and reflect all the issues involved (content validity). There are two questions in SSQ concerned with general satisfaction. If the components are related to general satisfaction, the scores for the separate components should correlate with the general satisfaction scores, but the correlations should not be too high. The components should be distinct from general satisfaction. The results are encouraging, with correlations of 0.435 for continuity, 0.215 for access, 0.557 for medical care, 0.272 for premises and 0.408 for availability. The components are therefore related to but not identical with general satisfaction. Comparison of SSQ with other surveys of patient satisfaction confirms that there have been no significant omissions of components or questions on topics that influence satisfaction.<sup>15,16</sup> These findings give support to the contention that SSQ has content validity.

This study has attempted to test SSQ for criterion validity. The difficulties of validity testing have led to the view that it is unusual for validity coefficients to rise above 0.6<sup>13</sup> so the findings in this study are reassuring. Doctors' self-assessed scores were an unsatisfactory criterion for predicting satisfaction. However the findings from the comparison with the external assessment in particular do suggest that the components for continuity, premises, accessibility and availability are valid. In addition, the external assessors scores correlated reasonably well with the patient scores for medical care, but there is clearly a need to test further the validity of patients' views of medical care. An acceptable criterion that can be used for testing the validity of general satisfaction remains to be found. However, criterion validity has been shown to be a feasible route to the testing of the validity of some components of satisfaction questionnaires.

This study has not addressed the question of construct validity. This has been considered in reviews of the measurement of patient satisfaction,<sup>15</sup> and there are grounds for optimism. The construct of patient satisfaction, the theory that proposes an explanation for it, its determinants and consequences, remains to be fully clarified. A complete construct should be devised as soon as possible.

This study gives support to the validity of measuring patient satisfaction. It is a measure of the quality of care that can be assessed and used to improve the service given to patients. As long as questionnaires are carefully developed and tested, the views of consumers can and should be incorporated into the evaluation and planning of services. There is some evidence that SSQ is valid, although its reliability is moderate, and future versions should aim to improve reliability.

#### ACKNOWLEDGEMENTS

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#### THE BRISTOL UNIVERSITY GENERAL PRACTICE UNIT QUALITY ASSURANCE PROJECT

##### INTRODUCTION

The aim of this study is to help us give you the best possible service at the Surgery. To do this we need to know how you feel about the Surgery and the care you receive. This form contains a list of questions about your views. Please answer all of them. Your answers will be kept entirely confidential, so feel free to make any comments you wish. Please do not write your name on the form. When you have completed it, please leave it and the pencil in the box at Reception or with the receptionist. Thank you for completing this form. If you have any questions about it, please ask the receptionist.

For question 1 onwards, circle the answer that is nearest to your opinion. 'Neutral' means you have no feelings either way.

For example:

'This surgery is too big'

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(1) I am totally satisfied with everything about this general practice.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(2) I do not much like my surgery's waiting room.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(3) I see the same doctor almost every time I go to the surgery.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(4) It can take me a long time to get to my doctors surgery.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(5) The doctors at this surgery are always careful not to make any mistakes.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(6) It can be difficult to get through to the surgery on the telephone.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(7) My doctors surgery is modern and up-to-date.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(8) I am always satisfied with the medical care I receive at this surgery.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(9) It can be difficult to see the same doctor each time you go to the surgery.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(10) It can sometimes be difficult to get an appointment with my doctor at this surgery.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(11) I find this surgery very difficult to get to.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(12) The doctors at this surgery never make any mistakes.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(13) I am not completely satisfied with one or two things about this general practice.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(14) It can be hard to get an appointment for medical care right away.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(15) My doctors surgery is very easy to get to.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(16) I do not always see the same doctor when I go to the surgery.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

(17) This surgery building could do with some improvements.

Strongly Agree/Agree/Neutral/Disagree/Strongly Disagree

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# Measuring patient satisfaction: a test of construct validity

Richard Baker, Michael Whitfield

## Abstract

**Objective** — To establish the validity of two patient satisfaction questionnaires (surgery satisfaction questionnaire (SSQ) and consultation satisfaction questionnaire (CSQ)) developed for use in general practice.

**Design** — Prospective study of performance of SSQ and CSQ in patients selected for their predicted levels of satisfaction.

**Setting** — Avon Family Health Services Authority (FHSA); general practices in Bristol (practice A) and in Cheltenham (practice B).

**Patients** — 400 patients selected by Avon FHSA who had changed practices but not their home address and whose original practice had not changed its services (group 1); 869 randomly selected patients (221 from practice A, 648 from practice B) (group 2).

**Main measures** — Median difference in satisfaction scores for each questionnaire between groups 1 and 2 and between subgroups of group 2 patients according to assessed level in continuity of care (<50%, ≥50%) in the past 12 consultations.

**Results** — 272 (68.0%) patients in group 1 completed the SSQ and CSQ. 711 (81.2%) patients in group 2 (178/221 (80.5%) in practice A, 533/648 (82.3%) in practice B) completed the SSQ and 374 (88/106 (83.0%), 286/335 (85.4%)) completed the CSQ. Both questionnaires classified patients in groups 1 and 2 according to the construct of satisfaction; thus the difference in median scores for every component of satisfaction in each questionnaire was significant and occurred in the direction predicted by the construct. Each questionnaire also discriminated between patients grouped according to their assessed level of continuity of care.

**Conclusion** — SSQ and CSQ are valid measures of satisfaction for these types of patients.

**Implications** — Valid measures of patient satisfaction can be developed; untested instruments should no longer be used.

(*Quality in Health Care* 1992;1:104-109)

## Introduction

The special contribution that the opinions of patients can make to the evaluation of health care is now widely appreciated. Family health

services authorities (FHSAs) have been encouraged to undertake surveys,<sup>1</sup> and now many FHSAs and medical audit advisory groups are looking for suitable techniques. Unfortunately, the available methods are either cumbersome or of doubtful quality. The choice lies between a large scale interview survey, which takes time, money, and skill, and a "do it yourself" design of a simple questionnaire. The comprehensive qualitative survey has the essential ability to identify issues that are important to patients but requires special skills; with the present enthusiasm for patient evaluation of care there is a danger that many inadequate surveys will be carried out.

The question of validity is a fundamental concern about measures of satisfaction. Most surveys report remarkably high levels of satisfaction, but this finding must be contrasted with the fact that no health professional would claim that care is always absolutely perfect. In the new health service managers and staff are increasingly asked to listen for and respond to patients' complaints, and many have discovered that patients do indeed complain. This conflict of evidence raises doubts about the validity of measures of satisfaction and suggests that the findings obtained with them could be meaningless. If health care is to become more sensitive to the wishes of patients establishing the validity of measures of satisfaction is essential, but at present this step is almost always omitted by those performing patient surveys.

A test is valid if it measures what it is supposed to measure. Surveys of satisfaction are intended to measure how patients feel about the care they have received, but in reality they may measure something different — for example, a general attitude towards the expression of criticism or loyalty to the concept of a national health service. There are several different ways to test validity, but these are usually divided into three broad categories.<sup>2,3</sup> The first is content validity, which requires that the test contains questions on all the issues that contribute to patients' views. The second, criterion validity, compares the results from the questionnaires with another measure (or criterion) that is itself accepted as valid. An example of a suitable criterion would be another questionnaire that had already been shown to be valid, but there are no such questionnaires for use in British general practice. The third category is construct validity. A construct is a theory about the characteristic with which the

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test is concerned, which is supported by evidence from other research.<sup>1</sup> The research evidence predicts what the test should disclose in certain circumstances. If the test performs as predicted it has construct validity, if it fails to perform as predicted it does not have construct validity.

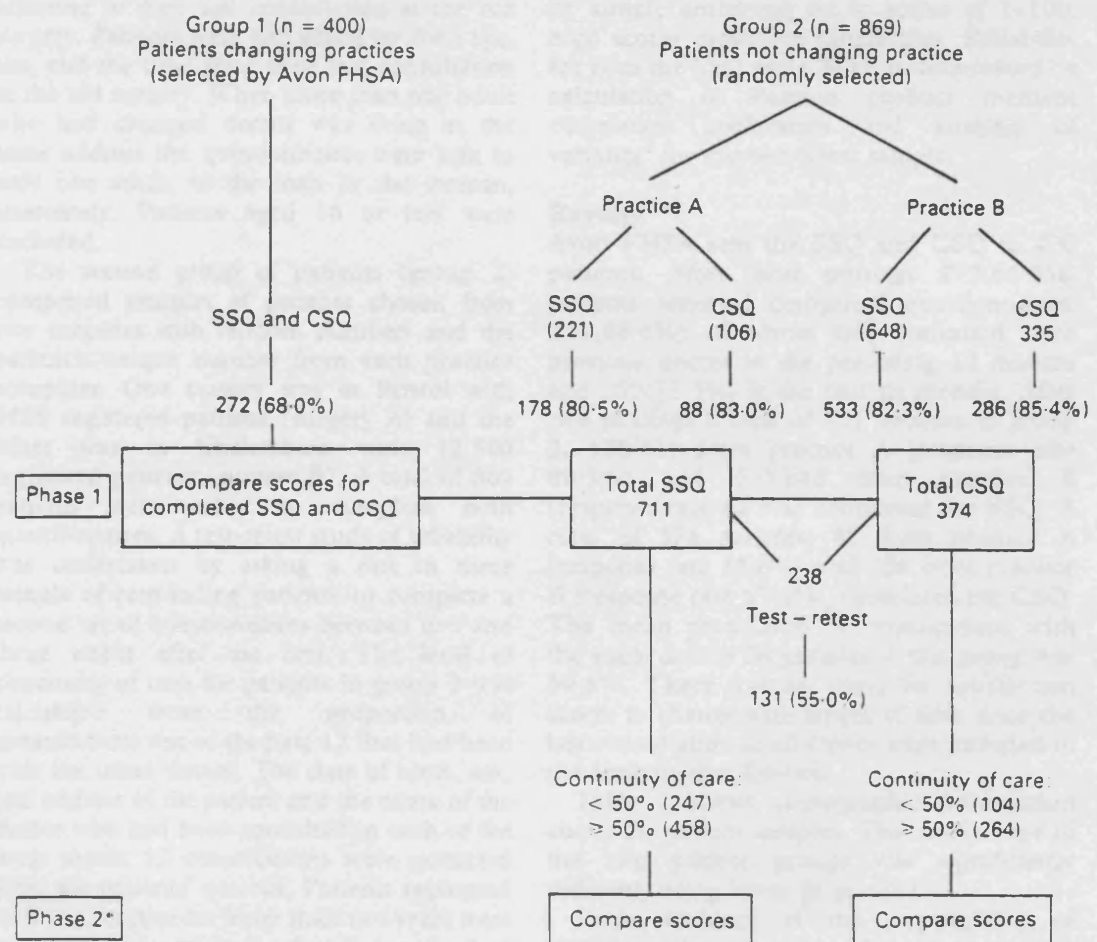
The construct or theory for patient satisfaction predicts that dissatisfied patients will be more likely than satisfied patients to change doctors. This is both a logical theory and one supported by many other studies. Reviews by Ware *et al*<sup>6</sup> and Pascoe<sup>9</sup> report that findings consistently indicate that dissatisfaction is associated with either the patient's intention to switch provider or an effected switch. In a longitudinal study consumer satisfaction was found to predict subsequent changes in the provider.<sup>7</sup> Though much of the evidence comes from North America, a study in 1953 confirmed the association in general practice in Britain,<sup>8</sup> and a more recent survey showed that small numbers of patients change doctors because of dissatisfaction.<sup>4</sup>

In group practice it is usually possible to change doctors without changing to another practice. Patients who are dissatisfied with

their general practitioner can usually consult another within the practice, depending on practice policy. On the other hand, patients who wish to see their usual doctor will be less satisfied if circumstances such as an overburdened appointment system force them to see a stranger. Therefore continuity of care within a practice should also be related to satisfaction, and there is evidence for this.<sup>5, 9, 10, 11</sup> A study in British general practice showed that better drug compliance was achieved when the patient knew the doctor well.<sup>12</sup>

During the past three years a project has been conducted to develop questionnaires to assess patient satisfaction with the surgery they attend and with their most recent consultation with a general practitioner. The first stages of the project have already been reported.<sup>13, 14</sup> Two questionnaires, the surgery satisfaction questionnaire (SSQ) and the consultation satisfaction questionnaire (CSQ), have been developed with the quantitative methods of psychometrics. Before they can be used more widely their validity must be tested. This paper reports a study of the construct validity of the two questionnaires.

The construct predicts that the SSQ and



\*Comprises 705 patients completing SSQ and 368 patients completing CSQ as continuity of care could not be assessed for six patients

SSQ = surgery satisfaction questionnaire  
CSQ = consultation satisfaction questionnaire



CSQ should classify patients who change doctors without changing their home address as less satisfied than those who do not change doctors. Furthermore, patients who repeatedly return to see the same doctor within a practice should score as being more satisfied than those who move from one doctor to another. A study was therefore designed in which patients in these categories were asked to complete the two questionnaires.

#### Patients and methods

The figure shows the study plan. Two groups of patients were identified. The first (group 1) was composed of 400 patients who had changed doctor but had neither changed their address nor experienced a change in the services provided, such as the retirement of a doctor or the closure of a branch surgery. These patients were identified by Avon FHSA from the registration notifications of doctors. They were sent both questionnaires and asked to complete the SSQ by giving answers for the surgery they had just left and the CSQ by referring to their last consultation at the old surgery. Patients were also asked for their age, sex, and the time since their last consultation at the old surgery. When more than one adult who had changed doctor was living at the same address the questionnaires were sent to only one adult, to the man or the woman, alternately. Patients aged 16 or less were excluded.

The second group of patients (group 2) comprised samples of patients chosen from two surgeries with random numbers and the patient's unique number from each practice computer. One surgery was in Bristol with 9800 registered patients (surgery A) and the other was in Cheltenham with 12 500 registered patients (surgery B). A total of 869 patients were asked to complete both questionnaires. A test-retest study of reliability was undertaken by asking a one in three sample of responding patients to complete a second set of questionnaires between two and three weeks after the first. The level of continuity of care for patients in group 2 was calculated from the proportion of consultations out of the past 12 that had been with the usual doctor. The date of birth, sex, and address of the patient and the name of the doctor who had been consulted in each of the most recent 12 consultations were extracted from the patients' records. Patients registered with the practice for fewer than two years were excluded from group 2, after the method of Freeman and Richards.<sup>15</sup> Patients aged under 16 and any patients judged to be too ill to participate were also excluded.

The SSQ was that previously reported<sup>11</sup> with nine added questions to improve reliability (appendix). The CSQ was used with no modifications, as reported elsewhere.<sup>14</sup> Only patients who had consulted in the previous four months were asked to complete the CSQ. Satisfaction scores from completed questionnaires were compared between groups 1 and 2 (phase 1 of study) and according to level of continuity of care for patients in group 2 (phase 2). Statistical analysis was undertaken with SPSS X, release 3.0. Non-parametric statistical methods were used as the question scales from which the satisfaction scores were derived are ordinal and the distribution of scores was not normal. Mann-Whitney U tests were used to compare the scores of the different patient samples. To improve clarity the method of presenting the scores was modified. Previous scores were reported on a 1-5 scale, with low scores indicating satisfaction and high scores dissatisfaction. This method has been found to be confusing, so the scores were standardised by simple arithmetic on to scales of 1-100, high scores indicating satisfaction. Reliability for both the SSQ and CSQ was determined by calculation of Pearson product moment correlation coefficients and analysis of variance<sup>2</sup> for the test-retest sample.

#### Results

Avon FHSA sent the SSQ and CSQ to 400 patients. After three postings 272(68.0%) patients returned completed questionnaires, 241(88.6%) of whom had consulted their previous doctor in the preceding 12 months and 200(73.5%) in the past six months. After two postings a total of 711 patients in group 2, 178/221 from practice A (response rate 80.5%) and 533/648 from practice B (response rate 82.3%) completed the SSQ. A total of 374 patients, 88 from practice A (response rate 83.0%) and 286 from practice B (response rate 85.4%), completed the CSQ. The mean proportion of consultations with the usual doctor for patients in this group was 59.6%. There was no trend for satisfaction scores to change with length of time since the last consultation so all replies were included in the analysis that follows.

Table 1 shows demographic information about the patient samples. The median age of the two patient groups was significantly different, being lower in group 1.

Some evidence of the acceptability of questionnaires may be derived from the proportion of patients omitting to answer individual questions. In this study the mean percentage of occasions on which a question was unanswered was 0.80%, indicating that patients encountered little difficulty in answering the questions.

The results of principal components analysis<sup>16</sup> of the revised SSQ confirmed that the components of satisfaction were the same as reported previously.

Of the sample of patients in group 2 selected for the test-retest assessment of reliability, 131(55%) returned completed questionnaires

Table 1 Age and sex of patients sent questionnaires

	Group 1 (n = 400)		Group 2 (n = 869)	
	Responders	Non-responders	Responders	Non-responders
No (%)	272(68)	128	711(81.2)	158
Mean age (years)	40.5	38*	51	50
% Female	62.4	60.6†	61.4	53.8

\*p < 0.05, responders v non-responders

†p < 0.00, group 1 v group 2.

Table 2 Coefficients of reliability for components of SSQ and CSQ according to Pearson product moment correlation and analysis of variance from test-retest study in 131 patients\*

Component of satisfaction	Pearson product moment	Analysis of variance
<b>SSQ</b>		
General satisfaction	0.87	0.03
Access	0.90	0.05
Availability	0.83	0.00
Continuity	0.89	0.04
Medical care	0.91	0.05
Premises	0.85	0.02*
<b>CSQ</b>		
General satisfaction	0.82	0.80
Professional	0.93	0.95
Relationship	0.88	0.02
Length of consultation	0.87	0.92

\*Reliability coefficient defined as the ratio of variance between patients to (error of variance plus variance between patients).  $p < 0.001$  for all values of Pearson correlation; not appropriate for analysis of variance.

Table 3 Median (20th, 80th centile) satisfaction scores and median difference in score for patients according to SSQ and CSQ (median difference is median of differences between all possible pairs of scores in both groups)

Component of satisfaction	Group 1	Group 2	Median difference (95% confidence interval)
<b>SSQ</b>			
	(n = 272)	(n = 711)	
General satisfaction	53.3 (40.0, 73.3)	73.3 (53.3, 86.7)	20.0 (19.9 to 20.0)
Accessibility	65.0 (40.0, 80.0)	85.0 (65.0, 90.0)	15.0 (10.0 to 15.0)
Availability	52.0 (36.0, 72.0)	60.0 (44.0, 76.0)	8.0 (4.0 to 8.0)
Continuity	56.0 (36.0, 72.0)	60.0 (40.0, 80.0)	4.0 (4.0 to 8.0)
Medical care	55.0 (40.0, 75.0)	75.0 (60.0, 80.0)	20.0 (15.0 to 20.0)
Premises	60.0 (44.0, 76.0)	80.0 (68.0, 88.0)	20.0 (16.0 to 20.0)
<b>CSQ</b>			
	(n = 272)	(n = 374)	
General satisfaction	46.7 (33.3, 73.3)	80.0 (60.0, 86.7)	26.7 (20.0 to 26.7)
Professional care	54.3 (40.0, 77.1)	77.1 (65.7, 85.7)	20.0 (17.1 to 22.8)
Depth of relationship	56.0 (36.0, 72.0)	68.0 (52.0, 80.0)	12.0 (12.0 to 16.0)
Length of consultation	53.3 (36.0, 73.3)	73.3 (53.3, 80.0)	20.0 (13.3 to 20.0)

Table 4 Median (20th, 80th centile) satisfaction scores and median difference in score for patients in group 2 by continuity of care according to SSQ and CSQ (median difference is median of differences between all possible pairs of scores in both groups)

Component of satisfaction	Continuity of care < 2	Continuity of care $\geq 50\%$	Median difference (95% confidence interval)
<b>SSQ</b>			
	n = 247	n = 458	
General satisfaction	66.7 (53.3, 80.0)	73.3 (60.0, 86.7)	6.7 (6.6 to 6.7)
Accessibility	80.0 (65.0, 90.0)	80.0 (65.0, 95.0)	0 (0 to 4.0)
Availability	60.0 (40.0, 76.0)	60.0 (44.0, 76.0)	0 (0 to 16.0)
Continuity	48.0 (40.0, 74.0)	64.0 (48.0, 80.0)	16.0 (12.0 to 16.0)
Premises	80.0 (64.0, 88.0)	80.0 (68.0, 92.0)	4.0 (0.0 to 4.0)
Medical care	55.0 (55.0, 80.0)	75.0 (60.0, 85.0)	5.0 (5.0 to 10.0)
<b>CSQ</b>			
	n = 244	n = 264	
General satisfaction	66.7 (53.3, 86.7)	80.0 (66.7, 93.3)	6.7 (6.7 to 13.3)
Professional care	71.4 (60.0, 80.0)	77.1 (68.6, 88.6)	8.5 (5.7 to 11.4)
Depth of relationship	60.0 (44.0, 72.0)	72.0 (60.0, 88.0)	12.0 (8.0 to 16.0)
Length of consultation	66.7 (46.7, 80.0)	80.0 (60.0, 80.0)	6.7 (0.0 to 13.3)

on that occasion. The response rate was rather low, but only one posting could be undertaken to comply with the timescale of the reliability study; also patients who have already completed one questionnaire will inevitably be reluctant to complete another. Analysis of reliability for both questionnaires showed high coefficients by Pearson product moment correlation and analysis of variance, indicating reliability (table 2).

Whether or not the SSQ and CSQ are valid measures of patient opinions depends on whether they classify patients according to the construct of satisfaction. Table 3 shows the comparison of median scores of satisfaction in both groups of patients (phase 1 of study, figure). For every component of satisfaction the median difference in scores was in the predicted direction and was significant.

If the SSQ and CSQ are to show different levels of satisfaction in patients with different degrees of continuity of care they must also be reasonably sensitive. Table 4 shows a comparison of median satisfaction scores for patients with levels of continuity of care below 50% with those for patients with levels of 50% or greater (phase 2 of study, figure). Given the ordinal nature of the data, with only 12 possible levels of continuity of care some median scores were the same, although the distribution of scores was different between the two groups for most components of satisfaction, as shown by the scores on the 20th and 80th centiles. The differences were all in the predicted direction. Appropriately, the widest difference in scores was for the patients' opinions about continuity of care. Continuity may be influenced by factors other than satisfaction, such as the availability of convenient appointments and practice policy on personal care.<sup>15</sup> Despite this SSQ and CSQ classified patients in group 2 into separate groups, as predicted by the construct, further supporting the questionnaires' validity and sensitivity.

## Discussion

This study was conducted with two groups of patients carefully selected because their behaviour in using their doctors indicated particular levels of satisfaction. It would therefore be inappropriate to generalise from the findings of this study to all patients.

The significant difference in the median age of the two groups was an expected consequence of selecting patients. Studies of satisfaction have confirmed that the age of patients is related to expressed satisfaction<sup>17</sup>; it would be reasonable to predict that as younger patients are more likely to express dissatisfaction patients changing doctors would be younger. This finding has no effect on the construct.

The construct predicted that patients who changed to different doctors without changing their home address (group 1) should score as less satisfied compared with patients who stayed with a doctor for at least two years (group 2). The SSQ and CSQ passed this test. In the event all components of satisfaction

scored significantly differently and in the predicted direction in both questionnaires completed by patients in groups 1 and 2. This is strong evidence of the validity of the questionnaires. Changing doctors was an emphatic statement of dissatisfaction with the doctor. Low levels of continuity of care within a practice were less definite statements of dissatisfaction by patients. There are other possible reasons for attending different doctors within a practice. For example, one doctor might specialise in a particular aspect of care, such as diabetes or minor surgical procedures, to whom patients may be directed specifically. Female patients who usually consult a male doctor may choose to see a female doctor for gynaecological problems. Both practices in the study are training practices so there would have been regular changes in the choice of doctors. Both practices had experienced changes in partnership in the preceding three years. Even under ideal circumstances doctors are sometimes on holiday or attending courses and so may be unavailable. Nevertheless, there is evidence that continuity of care is related to patient satisfaction, though the relation is less consistent than for change in provider.<sup>10</sup> Given these reasons why low continuity is a less clear expression of dissatisfaction, it would not have been surprising if some components of satisfaction had failed to score patients according to continuity of care. Though the satisfaction score for continuity of care would have been expected to relate closely to continuity calculated from the patients' record of their past 12 consultations, arguments can be made for accepting the validity of opinions on other components of satisfaction, such as practice premises or accessibility when the scores had not been different. Both questionnaires did manage to score differently on most components despite the potential difficulties on this test of validity. The study therefore produced convincing evidence for the validity of the SSQ and CSQ and indicates that the questionnaires are sufficiently sensitive to detect different levels of satisfaction in patients in the same practice who have experienced different levels of continuity of care. This may reflect the development of these questionnaires through a series of pilot studies in which questions were modified to encourage a range of replies. A major difficulty in surveys of satisfaction is the reluctance of patients to express dissatisfaction. Often surveys report that between 80% and 90% of patients are satisfied. By reiterating the clear difference for all components of satisfaction between patients who did and did not change doctors, and for most components in those who experienced high and low continuity of care within two practices, the questionnaires seem to have overcome this problem to some extent. Reports of high levels of satisfaction should no longer be accepted at face value.

Some additional information about the characteristics of the questionnaires is desirable. The norms or range of scores for a large sample of surgeries and doctors is

required for calibration. Experience of the use of these questionnaires in a wider range of social groups is needed. Nevertheless, this study provides reassuring evidence of reliability and validity and encourages the wider use of the SSQ and CSQ. They have several potential applications. These include evaluation of services for both medical audit and management. Low scores for different components of satisfaction can draw attention to the need to review the appointment system or make a case for funds to improve premises or undertake a programme of training in consultation skills to improve relationships with patients. There is great interest in measuring outcome, of which patient satisfaction is one element. The questionnaires offer a measure that can be used in research into the factors that determine the outcome of care. Studies of patient satisfaction should be used to increase our understanding of patients' feelings about care and so help make our work more humane and effective. Whatever future surveys of satisfaction are used for, the chosen survey instrument should be robust and its qualities documented. This study has shown that this stipulation can be met.

We thank Christine Slade for data collection, and Julie Cooper of Avon FHSA for organising the survey of patients who changed doctors.

#### Appendix

- 18 They always answer the telephone straightaway at this surgery.
- 19 I think this surgery building could be a little better.
- 20 I wish it was easier to see my own doctor every time I go the surgery.
- 21 Travelling to the surgery can be a problem to me.
- 22 Getting an appointment when you want one can sometimes be a little difficult.
- 23 I think the medical care at this surgery could sometimes be better.
- 24 I am satisfied with most things about this general practice.
- 25 This surgery building should be improved to make it more pleasant inside.
- 26 There are never any problems in seeing the same doctor each time you go to the surgery.

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