

OCCASIONAL PAPER **75**



## **Measuring Quality in General Practice**

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*Published by*  
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# **Measuring Quality in General Practice**

## **Pilot Study of a Needs, Process and Outcome Measure**

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# The Royal College of General Practitioners

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*AMD Porter*

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JGRH  
DJH  
MM

## Editor's preface

**G**ENERAL medical practice is a branch of medicine unlike any other. It is characterized by breadth in that patients may come off the street with almost any problem in almost any part of the body or mind. It falls to the general practitioner to make a preliminary assessment and to manage with colleagues in the primary health care team as many as 87% of those problems without referral to the hospital service (OPCS, 1991).

To many outside general practice the assessment function of the generalist, while recognized as important, is seen as somewhat similar to accident and emergency medicine with which general practice is still occasionally confused. Although both disciplines offer a point of first contact for patients, the difference is that general practice is orientated towards the whole person within a family context and the contact usually occurs as part of a long-term, continuing relationship. Although the length of even such fundamental relationships as marriage are shortening, with one in three marriages now ending in divorce, the general practitioner-patient relationship in the National Health Service is proving remarkably resilient with an average duration of registration as long as 12 years. This makes general practice quite different from accident and emergency medicine, where the patient is only 'passing through', and allows valuable long-term relationships to be built up in which patients and doctors can come to a shared understanding of health problems and how they are going to deal with them together.

This is the background against which problems about the evaluation of care in general practice need to be discussed. Conventionally, medical care is analysed in component parts to do with particular health problems, symptoms or diseases. It is relatively easy to evaluate the care of say diabetes by following up either outcomes like the incidence of complications and death, or process markers like glycosylated haemoglobin levels. Similarly the care for asthma can be evaluated in the light of days off work or school, symptom charts, or serial measurements of peak flow or spirometry.

The evaluation of general practice as a whole-person discipline is obviously much more difficult. What are the markers and how are they to be determined? How does one decide whether a generalist doctor relating to a whole person has or has not made an impact, has or has not done a good job, and whether or not the patient is any better? In short, how do we decide if general practice works in terms of real benefit for patients as people?

One major clue as to how such complex medical issues might be tackled came from a Canadian school of general practice built round the academic Department of Family Medicine at London, Ontario under one of the world's leading theorists, Professor Ian McWhinney. In what he has called a 'paradigm shift', a new concept of medicine was derived in which the central issue was the involvement of the patient in the process of care, including the consultation, and the integration of doctor and patient perspectives towards a common goal (McWhinney, 1984). In the 1980s exciting reports emerged from Canada showing that in a variety of symptoms, notably headache (Headache Study Group, 1986), outcomes were better when a so-called patient-centred approach to family medicine care was undertaken (Henbest and Stewart, 1990). Gradually a new logic emerged in which the exploration of the patient's hopes and fears, the real reason for coming, and the expectations of the patient became integral rather than add-on parts of the general practice consultation (Stewart et al., 1995).

Meanwhile in the United States a number of studies, notably the important medical outcomes research project (Wells et al., 1989), showed that in a variety of major illnesses the patients were as ill when seen by generalists as by specialists. A realization dawned worldwide that for most chronic diseases, since they involve hundreds of patients within even a single practice, the main responsibility for care for the majority would inevitably lie with generalists not specialists.

Once these threads—the need to include McWhinney's paradigm shift, and the need to find some form of overall evaluation in whole-person medicine—were pulled together, the next major step was to start to consider the evaluation of general practitioner care in terms of the patients' own reports. Thus the so-called 'satisfaction' literature leapt to the fore as it was realized that patient satisfaction was not just a part of the process but could be considered an outcome in itself (Baker, 1990).

There is now an increasingly international literature determining the various ways in which patient satisfaction can be measured. Simultaneously, a parallel literature is emerging on the measurement of health status using, for example, the Nottingham Health Profile or, more recently, the SF36 to suggest that health status itself can increasingly be rated by patients with adequate reliability. The possibility of quantifiable patient benefit thus loomed out of the mists.

Then in 1992 came a landmark study by Huygen et al. in the Netherlands which showed that the health of patients could be improved across a practice list by certain kinds of general practitioner care.

Against this background the work of Professor John Howie and his team in Edinburgh falls on an expectant readership. This group has been working for some time in this field in the UK, particularly in relation to aspects of fundholding. In this *Occasional Paper* the team brings evidence of a new construct which the authors call 'enablement', which is presented as a new synthesis sharing partly with patient satisfaction and partly with the health status literature. In short they suggest that it is possible for general practitioner care to create a state within the patient which they term 'enablement' in which the patient feels empowered and has, in the patient's view, been considerably helped.

The first important conclusion of Howie's work is that it does show that enablement does occur and does occur commonly. This is good news for general practice and for the Health Service since it shows that general practitioners are perhaps more effective with the large number of health problems with which they are so regularly confronted than has previously been recognized. So general practice does on the whole 'work', as a substantial number of patients report substantial benefit after consultations.

The second big question which immediately follows from this is: what are the key determinants of enablement? Clearly there must be a whole variety of these including personal characteristics of both patients and doctors, the skills and probably qualifications of the doctors (Pereira Gray, 1991), and of course the consulting techniques they use. Indeed Huygen et al.'s (1992) work reflected particularly on aspects of doctor orientation and technique.

But Howie et al. in this work concentrate on another crucial aspect of general practitioner care, the amount of time allowed for consultations. Here the Edinburgh group follows analyses by Buchan and Richardson (1973) who first emphasized the importance of length of consultation, Westcott (1977) who showed that patients with emotional problems have longer consultations, Hughes (1983) who first showed that the length of consultation might act as a substitute for prescribing and that time could be exchanged for treatment, culminating in the better-known works (Morrell et al., 1986; Roland et al., 1986) which found that it was personal preventive care that was lost in short consultations. Recently Baker and Streatfield (1995) showed that personal lists (which increase the amount of time patients spend with their own doctor) were significantly associated with increased patient satisfaction.

Tables in this *Occasional Paper* present evidence to suggest that time remains a crucial marker for quality in general practice and that longer consultations are not only better in terms of providing more opportunities for personal preventive medicine but are associated with greater enablement.

To colleagues outside general practice the pre-occupation of general practitioners with what appear to be relatively small variations in length of consultation arouses little interest. Eight to ten minutes seems so short to specialists—and negligible in terms of the 60-minute psychiatric hour. But for a typical patient with depression consulting typically eight times a year for a total of 80 minutes in the year, with skilful consulting and work done between consultations this can be more effective than a single 60-minute consultation on its own. Only those who do thousands of consultations regularly know just how critical is the difference of a minute or two for every consultation.

Given the fact that the Edinburgh group has also shown in other work that longer consultations are much less stressful for the doctors conducting them (Howie et al., 1992), suddenly a powerful new logic emerges in favour of a reorganization in general practice whereby the length of time of consultation becomes both a process measure and an outcome measure as well.

In conclusion, this work is important because it goes to the very heart of general practice. The essence of whole-person medicine is that the whole person must in some way benefit. Enablement seems to suggest that a significant number of patients *do* benefit. The study also brings the topic of the optimum length of consultation once more into focus. General practitioners have always known that time was their greatest resource and its use one of their greatest skills. This work will reawaken thoughts about the use of time and reorganization of appointment books. Should general practice, having doubled its consultation length from 5 minutes to 10 minutes in the last 25 years, now look towards the 12-minute consultation or eventually the 15-minute consultation? Clearly it is too soon to draw any definitive conclusions. This work will need to be replicated by other colleagues in other centres. It is, however, a thought-provoking study drawing general practice once again back towards its fundamental roots.

Denis Pereira Gray  
Honorary Editor  
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# Preface

AS OFTEN as not, major research projects have complex origins and, insofar as they suggest opportunities for further work, have indistinct ends. The work reported in this *Occasional Paper* fits both these descriptions. The central theme—the advantage of longer time at consultations—draws from the work of Ian Buchan and Ian Richardson in Aberdeen in the early 1970s (Buchan and Richardson, 1973). Ian Buchan, now a general practitioner in Livingston, carried out a time study involving some 3000 consultations done by 20 general practitioners in North East Scotland and the report of this meticulous direct observation study concluded that the target should be to offer patients 10-minute consultations (as against the norm then of 5 minutes). At that stage in the evolution of work on consultation length no information was available to allow standardization of patient need nor to comment on the outcome of consultations. In the quarter of a century since then, a good deal of work has been done on this subject, which has been well summarized by Wilson (1991).

In 1982, the Department of General Practice at the University of Edinburgh set out to research the hypothesis that quality of care at consultations was linked to stress perceived by the doctor. We postulated that, using individual doctors or groups of doctors as their own controls, quality at consultations would be seen to fall as stress increased. It was further hypothesized that stress and shortage of time would be directly linked. Stott and Davis' (1979) description of the content of consultations was used as a starting point for defining quality and at first the diagnostic statement of the doctor was used to identify and control for 'need'. The 'process of care' was studied by a record completed by the consulting doctor, and consultation length and patient flow were timed. 'Outcome' was assessed by using a patient satisfaction questionnaire constructed from the relevant literature. A self-report measure of doctor stress was developed and piloted and the literature on work stress studied in detail, principally by Mike Porter (who has had a major role in the evolution of this work) and by Anita Levinson. John Forbes played a substantial part in helping to develop a pre-consultation questionnaire to assess patient health status using the Nottingham Health Profile, and Mike Porter and John Forbes developed a post-consultation questionnaire on patient perception of outcome. Later, Jane Hopton carried out much of the analysis of the data, and also developed an instrument to measure doctor orientation based on Cockburn's Australian instrument (Cockburn et al., 1987). Work summarized in Chapter 1 of the report which follows suggested that consultation length might be a useful and usable proxy for quality of care; an association between perceived work stress, inappropriate time management, and poorer quality of care confirmed the postulated relationship between the content of consultations and the context in which they were undertaken (Howie et al., 1993).

A second strand which underpins this report also relates back over many years. The College of General Practitioners was founded in 1952 as one response to the trough of morale and working conditions experienced by general practitioners in the early years of the National Health Service. The 1966 charter, the gradual evolution of vocational training and the establishment of the first departments of general practice led to or coincided with the need for the discipline to define its content and boundaries and to describe the skills needed of its practitioners. Key statements about the role of general practice and general practitioners (RCGP, 1972; Leeuwenhorst Group, 1974), as well as essays, research studies, and reports at that time and since,<sup>1</sup> have identified patient-centredness and holism as the distinguishing characteristics of the medicine of the community and of the orientation of those who practise in it. These publications identified methods of assessing the quality both of individual doctors and of practices which are now used to assess doctors for Fellowship of the Royal College of General Practitioners and practices for appointment as training practices. These methods, however, are labour intensive and not yet easily adaptable for use on a large scale or a recurrent basis. The relevance of this short statement of philosophy or professional ideology to the implications which flow from the research reported here will become evident shortly.

## Research opportunity

The National Health Service reforms of 1990 and the introduction of general practice fundholding provided the research opportunity to bring together the two strands described above in an evaluation of the quality of care at general practice consultations. The then Secretary of State for Health at the Scottish Office Home and Health Department, Mr Michael Forsyth, recruited six groups of practices in the north and east of Scotland to pilot the introduction of fundholding in Scotland. Mr Forsyth and the general practitioners concerned agreed that an independent evaluation of the pilot (which came to be known as

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<sup>1</sup> For example: Harris, 1970; Richardson, 1975; RCGP, 1985; Brown et al., 1986; Levenstein et al., 1986; White, 1988; RCGP, 1990; Toon, 1994; Law and Britten, 1995.

the Shadow Fundholding Project) should be carried out and the Department of General Practice at the University of Edinburgh was asked to submit plans to do this.

The approach from the Scottish Office to the Edinburgh Department was made in the last week of December 1989 and, after negotiation with both the doctors concerned and Scottish Office officials, plans were drafted, submitted for peer review, amended, and made ready for implementation in a period of only three months before the project began on 1 April 1990.

Previously published papers (some of which are referred to in Chapter 1) have described some of the work carried out during our evaluation but have assumed the validity of the methods used to identify needs, process and outcome. One purpose of this *Occasional Paper* is to describe in more detail than is possible in a standard journal paper how measures were developed and tested then, and how they have been studied since, in order to help define quality, particularly quality in relation to consultation length. The last chapter in our report describes plans for further work using new data.

One important conclusion of this report is that there is an uncomfortable juxtaposition of intellectually driven ('curiosity-based') research with the pragmatism and opportunism necessary in the increasingly market-driven environment of modern health services research and development. A second, perhaps equally important, conclusion is the need for academic work to be related to political opportunities and for political activities to be informed by the proper use of the best available research. In this case, the 'indistinct ends' referred to at the beginning of this preface include the need to examine whether the concept of 'enablement' which this report describes is a part of 'satisfaction' or is intellectually different, and whether other questions than the ones we have used would strengthen its discriminating power. Further work is also needed to test our measures in settings other than the north and east of Scotland and it would be interesting to have information on the longer term well-being and consultation behaviour of patients whose care and outcome we have so far managed to study only at single consultations.

It is, however, hard to escape the apparent relationship between quality and content of consultations, the values of health professionals, and the context in which they work. A model of consultations uniting these themes has now been published (Howie, 1996). One major component of 'context' is the contract to which practitioners work and the incentives/rewards which attach to it. When these conflict with professional values or the ability of professionals to express these values in their work, it is reasonable to hypothesize that quality will fall, as will professional morale, and that levels of stress will rise. The work described in—and referenced in—this *Occasional Paper* seems to support that hypothesis. There is widespread belief that the incentives of the 1990 contract included ones which were perverse in that they have worked against allowing more time for the expression of the holism and patient-centredness at consultation that is increasingly accepted as being good for patients and good for professionals (Scott and Maynard, 1991; Iliffe and Munro, 1993). We hope that this *Occasional Paper* may facilitate the uniting of academic evidence and political opportunity to address whether contractual adjustments which would support doctors who wish to provide more 'longer' consultations should be negotiated.

### The present project

The main body of the *Occasional Paper* is built round a report to the Department of Health of a secondary analysis of the data we collected to evaluate the quality of care at consultations during our study of the Scottish Shadow Fundholding Project.

The report was commissioned by the Department of Health to explore whether our general methodological approach could be developed to produce a template for measuring quality of care at the generality of general practice consultations. Because we have had to adapt data collected for one purpose for a different purpose, a number of basic questions about our general approach have been raised by academic referees. Most of these we were able to address either by adding commentaries at the end of the relevant chapters or by making minor textual alterations where the matters raised were about detail rather than principle. The further work we describe in Chapter 7 will address questions which we cannot answer with the data presently available to us.

The report is presented in seven chapters and the two instruments used to measure need and outcome are reproduced as Appendix 1 and Appendix 2. Appendix 3 describes the background work undertaken to derive the enablement questions which we use as our main outcome measure in this work.

We hope that after reading this report, readers will feel that four objectives have been achieved. Two of these are general and two specific to the work described.

The general objectives are:

- to demonstrate the very long time-scale over which research designed to answer fundamental questions (in this case 'what is quality of care, and what are the determinants of its delivery') takes place

- to show how very pressurizing time-scales may become, despite the long duration of such work, when researchers need to adapt to practical—and even political—opportunities which determine and limit the choices of research approach and design.

The specific objectives are:

- to present a template for conceptualizing and measuring quality of care and the determinants of its delivery (using input, process and outcome measures) that others can adapt to develop different and better syntheses
- to present results which are unpublished and inherently interesting in their own right.

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# Summary

1. As part of the Scottish Shadow Fundholding Evaluation (1990-92), quality of care was assessed in 6 practices with 49 general practitioners using a pre-consultation health needs questionnaire, consultation length as a process measure (previously shown to be a proxy measure for quality) and a post-consultation satisfaction/outcome measure which contained a subset of six questions assessing whether patients felt enabled by their consultation. This report describes secondary analysis of the available dataset undertaken to explore whether the approach used to evaluate quality of care for patients with specific clinical problems could be extended to the generality of general practice consultations.
2. Chapters 1 and 2 of the report describe earlier work developing both the concepts and instruments used in the Shadow Evaluation, and general findings already reported. The reliability and the construct validity of the measure of enablement are examined and found to be satisfactory.
3. Strong correlations between more time at consultations and more enablement for more patients are found at population level for patients with psychological problems, with social problems and with physical problems. More complex problems require more time to achieve equal benefit.
4. Mean consultation length and mean enablement score correlate well with each other and can be used as summary statistics of quality. Where trends require explanation or exploration, other measures of the use of time and the level of benefit gained are more helpful; both sets of analyses can be derived from the same datasets (Chapter 3).
5. Analyses at practice level show that practices which spend more time at consultations enable patients more whatever the nature of problems presented. The rank orders of time spent at consultation and of enablement are highly correlated (Chapter 4).
6. Analyses at doctor level show that doctors who spend more time at consultations enable patients more and that those who spend less time enable patients less. The numbers of patients available for study were not sufficient to explore this association within subgroups of clinical presentations. As in previous studies, we found that doctors who take longer time are likely to be more patient centred, and those who take less time are likely to be less patient centred. Case-mix varies between doctors, but seems to be independent of whether a doctor is more or less patient centred (Chapter 5).
7. The methods developed in this study give useful insights into the definition and delivery of quality of care in general practice (Chapter 6). The measures now need to be tested in different clinical, cultural and organizational settings and results compared with those found using routinely available NHS data on prescribing and achievement of other clinical and management targets (Chapter 7).

# CHAPTER 1

## Background

**T**HE Department of General Practice in Edinburgh has developed a particular commitment to researching in the field of quality of care over a period of more than ten years. One of its present core research themes is “Quality of care: its definition; its delivery; and its evaluation”.

1.1 Working on the hypothesis that, when doctors acted as their own controls, quality of care was inversely related to self-perceived stress, a series of papers published between 1989 and 1992 confirmed that stress was adversely related to quality of care. ‘Quality of care’ was defined as being better when more as against less attention was given to co-morbidity—physical and psychosocial—at consultations, when more health promotion was provided, when less was prescribed, and when patients expressed greater satisfaction with consultations.

1.2 In the first of two key papers Howie et al. (1991) identified specific benefits from longer consultations (defined as lasting 10 minutes or more) generally as against shorter consultations (defined as lasting 5 minutes or less) generally, and proposed that the ratio of long: short consultations might be used as a proxy measure of quality of care in general practice surgery work. Using this concept, quality (using doctors as their own controls) was found to deteriorate when surgeries ran late or were more heavily as against less heavily booked.

1.3 In the second key paper Howie et al. (1992) suggested that doctors could be grouped into those who were ‘more’ or ‘less’ patient centred, and that doctors in these groupings generally worked ‘slower’ and ‘faster’ respectively. The greatest stresses were experienced in doctors who were more patient centred and whose time management was inappropriately related to their preferred consulting style.

### General practice fundholding

1.4 The Department of General Practice was commissioned by the Scottish Office Home and Health Department to carry out an independent evaluation of the Scottish Shadow Fundholding Project which started in April 1990. The original work was intended to run for three years, but a fourth year of funding was made available to allow secondary analyses of this large and unique dataset. This funding concluded in March 1994 (Howie et al., 1995a). One element of the evaluation involved assessing quality of care in a series of clinical presentations. For the purposes of this study quality of care was defined as follows:

Effective primary care entails listing the needs of a patient at a consultation, deciding on the priority for dealing with these needs, and giving care that meets the need or needs selected for attention. The care delivered should improve health or halt its deterioration; offer support where deterioration is inevitable; or identify an appropriate channel through which services can be provided. The needs to be addressed should be negotiated between doctor (or carer) and patient (or

family); they may include physical or psychosocial problems or education or health behaviour or health promotion. Needs can be short term or longer term. Patients should normally feel satisfied by the consultation, although occasionally conflict may exist between meeting needs and patients’ expectations, leading to dissatisfaction. The care delivered should improve patients’ understanding and increase their ability to cope with the problem. Needs may be identified and met over a series of interactions (which may occur over a long time) rather than at a single meeting. More efficient primary care involves carrying out the above processes at lower cost. Thus quality is a relative rather than an absolute concept.

In order to put into operation this definition of quality, we have used a pre-consultation patient-completed ‘health needs’ instrument (Appendix 1), the ‘process’ measure of consultation length already referred to, and a post-consultation patient-completed ‘outcome’ questionnaire including questions found discriminating in our previous quality work (Appendix 2). The development of these instruments is described in Chapter 2.

1.5 The analysis of clinical care referred to above concentrated first on evaluating the care of patients reporting (joint) pain (Howie et al., 1994). This work suggested that patients with social problems (as well as their joint pain) received longer than average consultations when they wished to discuss their social problems, but less time than average when they did not wish to discuss their social problems. For those in the second category, outcome was significantly less favourable implying that quality of care was also less adequate. (Owing to design issues in the early stages of the research, ‘social problems’ were used in this paper as a proxy for ‘psychological’ and ‘social’ problems, the two having been found to be strongly associated.)

1.6 The analysis of care of patients reporting pain was extended to cover 11 further ‘marker’ conditions, which (along with joint pain) accounted for 39% of the consultations of patients aged 16 or over (Howie et al., 1995b). The proportion of patients reporting social problems rose between 1990 and 1992 for 11 out of 12 conditions. Overall, consultation lengths remained constant. Patients wanting to discuss social problems had significantly longer consultations than those reporting no social problems or problems they did not wish to discuss. The proportion of patients expressing ‘enablement’ (see paragraph 1.7 below) dropped for eight conditions and rose for four between 1990 and 1992. The decrease in the proportion expressing enablement remained after controlling for the rise in the percentage reporting social problems. Patients who had social problems they did not wish to discuss but had a general health questionnaire (GHQ 12) score of 5 or more (indicating important psychological distress) were the group reporting lowest enablement. Significantly more patients with pain, skin problems and digestive problems reported social problems and significantly fewer patients reported enablement in 1992 compared with 1990. Patients with diabetes, angina,

chronic bronchitis and problems with seeing fared relatively well over the study period. Some patients with psychosocial problems fared poorly (they had relatively short consultations and were unlikely to express an ability to cope with/understand their illness).

### **The present project**

1.7 The work described above used a group of six of the outcome questionnaire items which seemed more useful than others in discriminating between short and long consultations and appeared to be the basis of a useful outcome measure in their own right (described as representing 'enablement' in this report—see Appendix 3). All our analyses had grouped all consultations carried out by the six participating fundholding practices (with 49 general practitioners who participated throughout our study) in one dataset. Although we had checked that key trends were common to all six practices, we had not

made any quality comparisons at either practice or doctor level, and we were interested to do this.

1.8 In addition we were aware that although considerable commitment was required from doctors, practice staff and patients in order to collect the data, it might be possible to adapt them to become a usable audit package for future use. At the same time, much interest at Department of Health level was being expressed in using routinely available NHS data as a way of assessing quality at practice level, and we wished to develop our methods to a stage where comparisons between our data and routinely available data could be attempted.

1.9 The secondary analysis of our data described in this report was funded by the Department of Health to develop our instruments further, and to undertake the analyses at practice and at doctor level suggested in paragraph 1.7 above.

1.10 A summary of conclusions and an outline of further work proposed are presented in Chapters 6 and 7.

## CHAPTER 2

# Developing the measures: needs, process, and outcome

**E**XTENSIVE literature exists on the development of instruments to measure both health status and patient outcomes (Baker, 1991; Wilkin et al., 1992; Bowling, 1995). The most used general health status measure at the time when this research was being designed was the Nottingham Health Profile (NHP), which became a central part of our first needs instrument. The history of the development of our outcome measure and the literature reviewed during its development is described in Appendix 3. The process variable we have used throughout our developing interest in quality of care has been consultation length and early work on developing this has been referred to in paragraphs 1.1 to 1.3 above.

### Evolution of the needs instrument towards its use as a case-mix measure

2.1 In our first of three periods of data collection for the Shadow Fundholding Project in 1990, in order to identify groups of patients with specific needs, we gathered information on whether a patient had and wished to discuss any of a range of 17 marker physical conditions (principally acute and chronic illnesses which matched common drug groups we wished to study as a further part of our fundholding evaluation). We also asked patients whether they had any of four selected social problems (the choice of these was influenced by Corney's (1988) 'social problem questionnaire' from which four core themes—work, housing, finance, and relationships—were identified). We also asked patients whether they wished to discuss any of the social problems they reported with their general practitioner. Finally we asked patients to complete the NHP, which defines patients as being scorers on any of six dimensions, two of which measure pain and mobility, one which measures social isolation, and three of which are in the general domain of psychological well-being. The complete instrument was piloted on 283 surgery attenders at the practice run by the Department of General Practice in Edinburgh.

2.2 Analysis of the 1990 data showed high correlations between physical marker conditions and those scoring positive for pain (93%) and mobility (92%) on the NHP, and between those reporting social problems and those scoring positive on the remaining four items on the NHP (95%). Thus in the 1991 and 1992 datasets the NHP was discarded in favour of the 12-question general health questionnaire (GHQ 12), which specifically identifies potential caseness with psychological distress (Goldberg and Williams, 1988).

2.3 In our 1991 and 1992 data collection periods the needs questionnaires shown in Appendix 1 were given to all patients aged 16 years or over for completion before their consultation. The first main classification of responders was by whether the patient reported having a marker condition he/she wished to discuss at the

consultation. For this cohort, the following subsequent categorization was made:

- first, any patient scoring 5 or more on the GHQ was categorized as having a psychological problem
- secondly, any patient not scoring 5 or more on the GHQ but reporting a social problem (whether they wished to discuss it or not) was categorized as having a social problem
- all remaining patients were categorized as having a (pure) physical problem.

Thirty-nine per cent of adult patients were covered in this way. This categorization is summarized diagrammatically in Table 2.1.

**Table 2.1** Primary categorization of patients with different needs

Category	Physical problems	Social problems	GHQ score	n (%)
1	Present	None	0-4	2619 (58)
2	Present	None	5+	275 ( 6)
3	Present	Present*	0-4	897 (20)
4	Present	Present*	5+	399 ( 9)
5	Present	Present†	0-4	94 ( 2)
6	Present	Present†	5+	210 ( 5)
				4494

Present\* : indicates patients with a social problem which they do not wish to discuss

Present† : indicates patients with a social problem which they do wish to discuss

2.4 The remaining adult patients were again subdivided by the same method. For them, the final category of 'physical' will contain an unquantifiable group of patients whose principal reason for consultation will have been administrative and for whom the categorization of physical is not particularly appropriate. We cannot accurately estimate how large this group is, but reference to other morbidity studies suggests it will be in the region of 13% of all consultations (RCGP et al., 1995).

2.5 The group of patients with social problems contained two separate populations, namely those who expressed a wish to discuss their problems at the consultation and those who did not express that wish. Thus the following re-categorization of patients was carried out (initially for the cohort of patients who also had a marker condition they wished to discuss—hence described as marker condition patients).

2.6 Given that categories 2, 4, 5 and 6 each contained fewer than 10% of all patients with marker conditions, it seemed sensible to explore the possibility that some amalgamation of categories could be attempted without loss of important distinctions between groups. Categories



2, 4 and 6 all contained patients giving high GHQ 12 scores (5 or more) and could clearly be categorized as having important psychological problems as well as their marker physical problem. Patients in these categories were presumed to require above average time for their consultations if they were to be handled holistically. The 2% of patients in category 5 (who also had physical problems and GHQ scores of 0-4) reported having social problems which they wished to discuss, and on pragmatic grounds seemed to have more in common with patients in categories 2, 4 and 6 (with GHQ scores of 5 or more) than with people with social problems who did not express a desire to discuss their problems (category 3). These patients in category 5 were thus added to those with high GHQ scores to create a new category of patients combining categories 2, 4, 5 and 6 and now labelled 'psychological'.

Thus we arrived at the following classification of need which is used in the subsequent sections of this report:

- *Physical:* patients (with a marker condition) with no social problems, and with a GHQ score of 0-4 (category 1 above)
- *Social:* patients (with a marker condition) with a social problem they do not wish to discuss, and with a GHQ score of 0-4 (category 3 above)
- *Psychological:* patients (with a marker condition) with a GHQ score of 5 or more, and/or with a social problem they wish to discuss (categories 2, 4, 5 and 6 above).

2.7 It was assumed that these three groupings represented an ascending level of need which we hypothesized would require an extra process input (that is, more time) to achieve an equal outcome benefit.

In subsequent analyses, these groups are applied either to the cohort of patients with marker conditions which they wished to discuss, or to all adult patients consulting (all thus including both those with and without a marker condition and including a proportion of patients in whom administrative needs may have been the presenting problem).

### The process variable

2.8 The process variable used in this study is based on our previous work on length of consultation which has been reported elsewhere and is summarized in paragraphs 1.2 and 1.3 above. All consultations recorded as lasting between 0 and 60 minutes were analysed. Consultation length was first grouped into four categories as follows:

- *Short* < 5 minutes
- *Medium* 5-9.99 minutes
- *Long* 10-14.99 minutes
- *Very long* 15+ minutes

As the exact start and finish of each consultation was recorded, it was possible to construct categorizations of

the use of time other than simple consultation length. The use of the ratio of long:short consultations has already been referred to as a possible proxy measure of quality (paragraph 1.2 above), but can be criticized because it does not use the complete range of timing data available. On the other hand, the statistic of mean consultation length solves that problem and can itself be used as a summary statistic.

Given that quality issues seem likely to be focused on consultations at either end of the total distribution, it can be hypothesized that either the percentage of consultations which are short, or the percentage of consultations which are long might also be independent correlates with quality. Finally, recognizing that a consultation of 10 minutes or more is not long by the standards of most other countries with developed health services, some statistic describing the extreme right-hand tail of the time distribution in greater detail might be of interest. With that end in mind, we have also looked at the percentage of very long consultations (15+ minutes) and at the average length of long consultations (measuring 'long' as 10+ minutes).

2.9 Table 2.2 shows the (Spearman's) correlation between rank order of the 49 doctors who collected data during all three data collection periods of the study (1990, 1991 and 1992) in respect of all six time variables. It can be seen that, with the exception of the length of long consultations, the other four measures are all closely and similarly correlated with mean consultation length whether patients with marker conditions or all adult consultations are being studied. Thus five of the six time measures seem broadly interchangeable.

**Table 2.2** Correlations between consultation time variables

Mean consultation length v long:short consultation ratio	r = 0.96 (all patients) r = 0.97 (patients with marker conditions)
Mean consultation length v % long consultations	r = 0.93 (all patients) r = 0.91 (patients with marker conditions)
Mean consultation length v % short consultations	r = 0.87 (all patients) r = 0.88 (patients with marker conditions)
Mean consultation length v length of long consultations	r = 0.41 (all patients) r = 0.44 (patients with marker conditions)
Mean consultation length v % very long consultations	r = 0.82 (all patients) r = 0.71 (patients with marker conditions)

Long consultations = 10+ minutes  
Short consultations = less than 5 minutes  
Very long consultations = 15+ minutes

### Outcome measure

2.10 The outcome measure used in this study evolved from the patient satisfaction instrument which was used in the earlier work on quality referred to in Chapter 1 above. This instrument has been derived after a rigorous search of the literature available at that time (circa 1987); Appendix 3 presents a self-standing review of that process and describes the rationale behind our present decision to separate out a subset of six questions from that instrument.

In short, the satisfaction questions which best discriminated between patient responses after short and long consultations in our earlier work included a series of six which we grouped together as a single item in our post-consultation questionnaire for the fundholding evaluation (question 6 of Appendix 2). Working from the theory that adjustment and coping are important modifiers of outcome and that "what is important in predicting outcome is how the respondent actually feels and perceives life" (Lazarus, 1976; Cox, 1981), we have given the conceptual heading of 'enablement' to positive responses to these questions. (The question of whether enablement is best conceptualized as a further element of satisfaction or as a separate attribute in its own right will be addressed by a part of the further work proposed in Chapter 7.)

2.11 The set of outcome/enablement questions used in this present work and the scores we attached to the possible responses are given in Table 2.3.

**Table 2.3** Outcome/enablement questions used and scores attached to possible responses

<i>As a result of your visit to the doctor today, do you feel you are:</i>			
	<i>Much better</i>	<i>Better</i>	<i>Same or less</i>
• Able to cope with life?			
• Able to understand your illness?	2 points	1 point	0 points
• Able to cope with your illness?			
• Able to keep yourself healthy?			
	<i>Much more</i>	<i>More</i>	<i>Same or less</i>
• Confident about your health?	2 points	1 point	0 points
• Able to help yourself?			

This gave the possibility of a total score ranging from 0–12. We conceptualized a higher score implying that a patient had felt more enabled by the consultation.

2.12 We next looked at the six component questions by themselves and how they correlated with each other. An inter-item correlation matrix was constructed for the six items for the 1990 dataset using non-parametric statistics. The results were as shown in Table 2.4.

**Table 2.4** Non-parametric correlations between items using 1990 dataset

	<i>Cope with life</i>	<i>Understand illness</i>	<i>Cope with illness</i>	<i>Ability to keep healthy</i>	<i>Confident about health</i>	<i>Help yourself</i>
Cope with life	1.00					
Understand illness	0.62	1.00				
Cope with illness	0.67	0.81	1.00			
Ability to keep healthy	0.68	0.71	0.79	1.00		
Confident about health	0.50	0.59	0.62	0.68	1.00	
Help yourself	0.61	0.60	0.64	0.70	0.79	1.00

It can be seen that the highest correlation (0.81) was between cope with illness and understand illness and the second highest (0.79) is between help yourself and confident about your health, and between coping with illness and ability to keep yourself healthy. The lowest correlations were between being confident about health and coping with life (0.50) and being confident about health

and understanding illness (0.59). All the correlations were found to be statistically significant.

2.13 In order to test the construct validity of this enablement element of our outcome scale, three other questions in the post-consultation questionnaire were introduced into the enablement score, each of which had responses on a three-point scale (Table 2.5) and were thus comparable to our other items.

**Table 2.5** Questions introduced into the enablement score and scores attached to possible responses

<i>Questions</i>	<i>Responses</i>		
Would you have liked more time with the doctor today?	<i>Yes, quite a lot more time</i>	<i>Yes, a little more time</i>	<i>No, I had enough time</i>
	0 points	1 point	2 points
Was the doctor in a bit of a hurry?	<i>Yes, very hurried</i>	<i>Yes, a bit hurried</i>	<i>No, not hurried</i>
	0 points	1 point	2 points
Did the doctor give you the feeling your opinions were:	<i>Not important</i>	<i>Fairly important</i>	<i>Very important</i>
	0 points	1 point	2 points

Intercorrelations between these three variables and between each and the enablement score were low, although still significant statistically (Table 2.6).

**Table 2.6** Non-parametric correlations between enablement and three satisfaction variables

	<i>Enablement</i>	<i>More time with doctor</i>	<i>Doctor in a hurry</i>	<i>Opinions valued</i>
More time with doctor	0.50	1.0		
Doctor in a hurry	0.09	0.33	1.0	
Opinions valued	0.25	0.15	0.21	1.0

2.14 A reliability analysis was carried out on the original enablement score and the six items within it using the Cronbach's alpha statistic which nears the perfect level of 1, as the correlation between responses to items approaches the maximum and falls when inappropriate items are added or appropriate ones excluded (Cronbach and Meehl, 1979). The overall Cronbach's alpha for the 1990 responses was 0.93, and for 1991 and 1992 responses it was 0.92 on both occasions. In the event of any of the six items being removed from the score, the Cronbach's alpha decreased, the largest decrease for 1990 being to 0.91 when either coping with illness or confident about health was removed. We repeated these analyses for the 1991 and 1992 datasets and obtained identical results. In each case the Cronbach's alpha decreased when any of the items of the scale were removed.

To test validity and reliability further, we introduced the three other variables described in paragraph 2.13 into the enablement score for the 1990 dataset. Cronbach's alpha was lower (0.87) when the three supplementary questions were introduced. However, when any one of these three items was excluded from the new enlarged model, Cronbach's alpha increased to 0.88 or 0.89.

Leaving these items in but removing an original item reduced the reliability statistic to around 0.84 in each case.

It thus seems reasonable to conclude that the original six questions, but none of the other three variables, should be included in the enablement instrument.

2.15 The next step was to examine the scores found in the patient responses with a view to determining how and where to set a cut-off point at which enablement might be defined as happening or not happening.

Table 2.7 shows the frequency of scores for all responding patients over 16 years of age collected during 2-week tranches of data collection from our six fundholding practices in each of 1990, 1991 and 1992, the percentage of patients scoring within given ranges, and a mean score for all respondents. There were 8097 respondents in 1990, 7160 in 1991, and 6812 in 1992 for whom the enablement component of the questionnaire was fully matched with needs and process data for 5708, 5262, and 4871 patients respectively.

**Table 2.7** Frequency of enablement scores and percentages of patients falling into given ranges for 1990, 1991 and 1992

Enablement score	1990 %	1991 %	1992 %
0	31	31	31
1	10	9	10
2	8	9	8
3	7	7	7
4	7	8	8
5	5	6	6
6	11	12	13
7	3	4	3
8	4	3	3
9	2	2	2
10	3	2	2
11	2	2	1
12	8	5	5
n	5708	5262	4871

#### Significance

% zero	31	31	31	ns
% 0-2	49	49	49	ns
% 6-12	33	30	29	.001
% 10-12	13	9	8	.00001
Mean	3.85	3.52	3.51	

It can be seen that there is broad consistency of responses over time, with approximately one third of all respondents having an enablement score of zero, therefore having consistently reported the same or less on each of the six dimensions. With the exception of zero scorers, a score of 6 was the modal frequency in each of the three years. The percentage of patients scoring 0-2 remained stable across time, suggesting that the levels of patients showing significant lack of enablement remained stable. However, a reduction in the percentage of patients being very enabled does appear to have occurred over time, with a fall from 13% in 1990 to 8% in 1992. This trend was also detected using the range of 6-12 with the reduction in the percentage of patients who were enabled from 1990 to 1992 being significant. The reduction in the percentage of

patients being highly enabled (that is, with a score in the 10-12 range) was highly significant ( $p < .00001$ ). The mean enablement score remained relatively stable at 3.85 in 1990, 3.52 in 1991, and 3.51 in 1992. (The mean scores are relatively low owing to the large numbers of patients scoring zero.)

2.16 At one extreme it is possible to visualize setting a score of zero or of 0-2 as indicating a lack of enablement. At the other extreme a score of 10-12 indicates a clear preponderance of much better or much more responses, over better or more or same or less responses. A third option of a central score of 6 has the advantage of being the modal score (excluding zero) and placing half those who have not scored zero as below 6, and half as 6 or more. Such a score requires respondents to have scored better or more for all six component questions or to match the number of same or less scores with an equal number of much better or much more scores. A further option is to use the mean enablement score of all respondents. Further work to determine the relative merits of these options is described in Chapter 3.

2.17 The absence of a patient-needs category covering patients presenting with purely administrative problems has been referred to in paragraph 2.4. This is a problem which this work cannot surmount using the present dataset. The move from the use of our pre-consultation questionnaire (Appendix 1) as a *needs* assessment instrument to its use as a *case-mix* instrument will be addressed in a project now funded to address issues outlined in Chapter 7.

### Summary

2.18 In this chapter we have traced the development of three instruments/variables defining different elements of needs, process and outcome. The range of possible items and thus the number of possible correlations between them can be summarized as in Table 2.8.

**Table 2.8** Range of instruments and categories identified

Quality		
Needs	Process	Outcome
All patients	% short consultations	Enablement score of:
Marker patients	% long consultations	0
	% very long consultations	0-2
	Long:short consultations	6+
	Length of long consultations	10-12
Physical needs	Mean consultation length	
Social needs		
Psychological needs		Mean score on enablement distribution

2.19 Thus far it has been concluded:

- that the needs questionnaire can separate patients with different types/levels of need in a way which has strong face validity
- that five of the six possible measures of consultation length (which have previously been found to be a proxy measure of quality on a number of defined grounds) seem interchangeable as a process measure

- that a measure based on six post-consultation questions with good internal consistency and good construct validity has been developed which could be scored in five ways which measure different elements of the concept of enablement as an outcome measure.

Chapter 3 attempts to relate these concepts and measures to each other at the general population level.

### COMMENTARY

Two issues about the methods we have adopted have been raised by commentators and these are addressed here.

#### Choice of GHQ 12 cut-off at 4/5

2.19 The general health questionnaire (GHQ) is an instrument developed to identify the presence of possible psychiatric caseness. There are several different versions, the GHQ 28 and the GHQ 12 (28 and 12 questions respectively) now being the most commonly used. The response-set to each question has two positive and two negative options and these are conventionally scored as 1, 1, 0, 0, giving a maximum possible score of 12 on the GHQ 12 version which we have used.

GHQ scores can be regarded as a continuous variable. No single score creates a categorical divide between psychiatric cases and non-cases, the cut-off point being chosen to reflect the purpose in hand. Although the cut-off level between 2 and 3 on the GHQ 12 is the one most commonly used in studies of general practice morbidity, many researchers regard that cut-off as being over-sensitive. Whether this option should be taken depends on the purposes for which the screen for potential psychiatric caseness is being made (Goldberg and Huxley, 1980). Firth (1986) has used a cut-off between 3 and 4 in her study of the drinking patterns and psychological health of medical students. Kind and Gudex (1994), in their methodologically rigorous evaluation of the Health Measurement Questionnaire against the GHQ and the NHP, confirm that the GHQ is indeed an ordinal (continuous) scale and also use 3/4 as the place for dividing cases from non-cases. At the other extreme, Corney (1988) evaluated her social problem questionnaire against GHQ 12 using a cut-off between 1 and 2 to indicate caseness.

Given that no single mandatory cut-off point applies, our decision to cut off at 4/5 ensures increasing the sensitivity of our definition of cases, as we wished to create a category of patients with as 'conspicuous' (Goldberg and Huxley, 1980) a level of morbidity as applied to our other marker groups of patients. The decisions we describe in paragraph 2.6 allowed us to create a group of 22% of consulters whom we describe as psychological cases—a figure broadly similar to Goldberg and Huxley's findings, where 24% of a roughly comparable sample of consulters were so categorized (their Table 4.1). This seems a clinically meaningful grouping.

We have re-worked our data and found that 11% of patients with physical problems and 15% of patients with physical as well as social problems scored 3 or 4 on the GHQ. Other workers may wish to repeat our work using the same general approach but making different decisions on categorization of responders.

#### Choice of response-set for enablement questions

2.20 Response options to questionnaires usually have either an odd number of options with a neutral central choice and equally and oppositely graded positive and negative choices on either side, or an even number of options with the neutral choice removed and respondents forced to choose between one or more graded options on either side of the mid-line.

In our original satisfaction questionnaire, respondents to the questions we are now using as our enablement questions were given the options more able, same, or less able, or equivalent options to fit the wording of the stem question. Only 1% or less of respondents answered less able to any of the questions; thus the right-hand end of the choice of responses was removed as being non-discriminating. The weakness of many satisfaction-type questions is their low ability to discriminate between positive responses and we thus opted to place the choice of better in the central position, with much better and same or worse as the choices on either side. Again, this paper is outlining a general approach to measuring outcome and other workers may wish to repeat our work using different response-sets. Similarly our decision to allocate scores of 2, 1 and 0 to the three choices of response was reached after experimenting with a range of options and finding similar conclusions with all of them.

## CHAPTER 3

# Relationship between needs, process, and outcome at population level

**T**HE PREVIOUS chapter has described the development of measures relating to need, process and outcome, and the justifications for categorizing the measures into specific variables. This chapter explores further the relationship between needs, process and outcome at population level with a view to selecting from these variables a set which would allow comparison of quality of care at practice or at doctor level.

### Hypotheses

3.1 Before setting out to test the relationship between the variables, we committed ourselves to two hypotheses about how the relationships might look. We hypothesized:

- that patients with given levels of need would feel better enabled by longer consultations
- that patients would achieve less enablement from consultations of a given length as the level of their needs increased.

### Preliminary work

3.2 Table 3.1 shows the initial analyses we made relating needs, process and outcome for the defined marker conditions selected for study. This table uses the long:short (L:S) ratio as the process measure and the percentage of patients scoring 6 or more points out of 12 as the enable-

ment measure. The table is based on patients with marker conditions for whom matched needs/process/outcome data were available.

It can be seen that there is an enablement advantage to long as against short consultations for 9 of the 12 marker conditions, although this generally falls short of statistical significance. The chances of finding useful results dividing most of the cells in Table 3.1 between either 6 practices or more certainly between 49 individual doctors were clearly negligible and it was decided that it was appropriate to amalgamate all marker conditions into a single category.

3.3 Patients with marker conditions were divided into two groups: one containing those patients with joint pain and the other containing all patients with other marker conditions. Patients in both groups were then split into six categories depending on whether or not they had social problems, whether or not they wished to discuss them, and whether or not their GHQ score was 0–4 or 5+. This process has been summarized in Table 2.1.

3.4 The percentage of patients having short, medium and long consultations in each category is shown in Table 3.2a and b. The figures confirm that as need becomes more complex, doctors appear to allocate more time, the exception being patients with GHQ scores 0–4 reporting social problems they do not wish to discuss, who do less well than those who have the same physical problem but no social problem.

**Table 3.1** Percentage of patients reporting enablement by marker condition and consultation length (1990–1992)

Condition	Long:Short ratio	Enablement						Significance	
		Short consultations		Medium consultations		Long consultations			
		%	n	%	n	%	n		
Pain	1.1	29	298	33	853	34	340	1491	0.35
Skin problems	0.7	28	329	30	702	31	246	1277	0.50
Period problems	2.0	32	90	29	365	40	181	636	0.03
Digestive problems	1.9	38	79	36	314	39	147	540	0.83
Asthma	1.1	32	90	33	292	47	101	483	0.04
Difficulty passing urine	1.2	16	87	31	226	28	102	415	0.03
Problem hearing	0.7	32	104	34	195	40	73	372	0.53
Angina	1.0	37	43	43	208	36	109	360	0.44
Chronic bronchitis	1.3	35	37	30	154	32	47	238	0.82
Difficulty seeing	2.2	30	33	34	122	31	71	226	0.84
Varicose veins	2.1	31	29	33	105	38	60	194	0.74
Diabetes	2.8	58	24	40	96	40	67	187	0.23

**Table 3.2** Analysis of time by levels of need**(a)** Percentage of patients having different consultation lengths (patients reporting pain problems)

Levels of need	Short	Medium	Long	n	Mean	L:S
	%	%	%			
1. No social, GHQ 0–4	20	58	23	926	7.4	1.17
2. No social, GHQ 5+	8	50	41	131	9.0	4.91
3. Social, GHQ 0–4	24	60	16	327	6.9	0.65
4. Social, GHQ 5+	18	52	30	159	8.0	1.65
5. Want to talk, GHQ 0–4	15	39	46	39	8.9	3.00
6. Want to talk, GHQ 5+	10	50	40	94	9.6	4.22

**(b)** Percentage of patients having different consultation lengths (patients reporting other marker conditions)

Levels of need	Short	Medium	Long	n	Mean	L:S
	%	%	%			
1. No social, GHQ 0–4	22	58	20	1693	7.1	0.87
2. No social, GHQ 5+	9	51	40	144	9.0	4.46
3. Social, GHQ 0–4	23	58	19	570	7.0	0.84
4. Social, GHQ 5+	18	60	22	240	7.4	1.21
5. Want to talk, GHQ 0–4	22	40	38	55	8.5	1.75
6. Want to talk, GHQ 5+	10	45	36	116	9.9	3.82

3.5 The percentage of patients reporting enablement for given consultation lengths for different levels of need is shown in Table 3.3a and b. In most horizontal lines of this table, short consultations are less enabling than medium or long consultations. However, a number of the cells are created from very small numbers and are difficult to interpret for that reason (for example, the 50% enablement for short consultations in line 5 of Table 3.3a is based on four patients). No clear trends are seen at this stage in the vertical analyses of the columns of these tables, possibly again because of difficulties with many cells being based on small numbers.

**Table 3.3** Analysis of outcome by levels of need and time spent**(a)** Percentage of patients reporting enablement at 6+ on enablement scale (patients reporting pain problems)

Levels of need	Short		Medium		Long		n
	%	n	%	n	%	n	
	1. No social, GHQ 0–4	25	142	31	437	25	
2. No social, GHQ 5+	13	8	21	52	26	43	103
3. Social, GHQ 0–4	17	65	27	163	49	43	271
4. Social, GHQ 5+	17	23	28	67	28	43	133
5. Want to talk, GHQ 0–4	50	4	23	13	33	12	29
6. Want to talk, GHQ 5+	22	9	26	31	33	30	70

**(b)** Percentage of patients reporting enablement (patients reporting other marker conditions)

Levels of need	Short		Medium		Long		n
	%	n	%	n	%	n	
	1. No social, GHQ 0–4	28	321	32	873	43	
2. No social, GHQ 5+	11	11	22	77	33	67	155
3. Social, GHQ 0–4	23	105	30	311	28	89	505
4. Social, GHQ 5+	18	36	22	130	31	46	212
5. Want to talk, GHQ 0–4	38	8	22	22	35	33	53
6. Want to talk, GHQ 5+	10	12	25	60	32	44	116

At this stage it was decided to continue the process of creating a smaller number of larger categories and this was done as previously described in paragraph 2.6. From this point onwards nearly all analyses are done on the three larger categorizations of physical need (58%), social need (20%), and psychological need (22%) thus created.

### General correlations between needs, process and outcome measures

3.6 Before analysing and interpreting the main dataset at practice or at doctor level, it was necessary to demonstrate that there was a general relationship between the process and outcome variables and to examine which of the different possible definitions of the process and outcome variables best correlated with each other.

The work correlating the different time variables as process measures has already been reported in paragraph 2.9 above.

Using the non-parametric Spearman's rank correlation coefficient as the statistic, rank correlations for the 49 general practitioners were now calculated for their performance on:

- five different ways of measuring enablement, against
- five different measures of consultation length
- for patients with marker conditions and for all patients.

The results are shown in Table 3.4a and b.

It can be seen that most of the correlations are significant at the 1% level with mean enablement score consistently scoring higher than the other enablement variables in the relationship with time, both for all consultations as well as for marker consultations.

The correlation between the percentage of very long consultations which doctors carried out and the percentage of patients they had scoring 10–12 on the enablement variable was the highest (at 0.61 for all consultations).

When the analyses presented in Table 3.4a and b were carried out separately for patients with physical, social, and psychological problems, the correlations were less good. In part this was probably because the n values for fully matched patients seen by individual doctors in the social and psychological categories frequently fell below 20 and thus produced too low a base to work from.

3.7 These findings suggest that the original decision to select an enablement cut-off point at 6 may, if anything, have underestimated the statistical strength of the association between length of consultation and the concept of enablement generally. Therefore, both the mean enablement score and the percentage enabled at 6+ have been used together in several of the remaining analyses in this chapter and in Chapters 4 and 5.

**Table 3.4** Spearman's rank coefficients at doctor level (n=49) for consultation time against enablement variables

Enablement variables	Consultation variables				
	Mean consultation length	Long to short consultations	% short consultations	% long consultations	% very long consultations
Mean enablement	.53 (.000)	.53 (.000)	.42 (.001)	.55 (.000)	.57 (.000)
% scoring zero	.45 (.001)	.47 (.000)	.36 (.005)	.48 (.000)	.47 (.000)
% scoring 0-2	.49 (.000)	.50 (.000)	.39 (.003)	.51 (.000)	.49 (.000)
% scoring 6-12	.42 (.001)	.40 (.002)	.32 (.013)	.41 (.002)	.48 (.000)
% scoring 10-12	.45 (.001)	.38 (.004)	.25 (.041)	.49 (.000)	.61 (.000)

  

Enablement variables	Consultation variables				
	Mean consultation length	Long to short consultations	% short consultations	% long consultations	% very long consultations
Mean enablement	.50 (.000)	.52 (.000)	.46 (.000)	.46 (.000)	.42 (.001)
% scoring zero	.36 (.005)	.37 (.004)	.33 (.010)	.31 (.014)	.24 (.050)
% scoring 0-2	.43 (.001)	.43 (.001)	.42 (.001)	.41 (.002)	.45 (.001)
% scoring 6-12	.35 (.007)	.38 (.004)	.33 (.011)	.31 (.014)	.26 (.033)
% scoring 10-12	.40 (.002)	.40 (.002)	.31 (.015)	.43 (.001)	.50 (.000)

3.8 Table 3.5 shows the level of enablement at 6+ for all patients and for those with marker conditions for whom fully matched needs/process/outcome data were available, at three levels of need and for four consultation length categories.

**Table 3.5** Enablement scores (6+) for different levels of need and for different consultation lengths**(a) For all patients**

	Short	Medium	Long	Very long	n	Significance				
Physical	26	1310	31	3058	34	838	40	212	5418	.00001
Social	21	429	27	940	32	247	33	69	1685	.00605
Psychological	22	299	26	982	29	468	33	144	1893	.073

**(b) For marker patients**

	Short	Medium	Long	Very long	n	Significance				
Physical	27	450	31	1229	35	353	44	90	2122	.0051
Social	21	165	29	434	32	101	50	22	722	.0139
Psychological	19	107	24	422	29	215	37	57	801	.047

3.9 Table 3.6 shows the mean level of enablement for all patients and for those with marker conditions for whom fully matched needs/process/outcome data were available, at three levels of need and for four consultation length categories.

**Table 3.6** Mean enablement scores for different levels of need and for different consultation lengths**(a) For all patients**

	Short	Medium	Long	Very long	n	Significance
Physical	3.0	3.6	4.0	4.5	5418	.00001
Social	2.8	3.4	3.9	4.2	1685	.0001
Psychological	3.0	3.2	3.7	3.8	1893	.005

**(b) For marker patients**

	Short	Medium	Long	Very long	n	Significance
Physical	3.1	3.7	4.2	4.7	2122	.00001
Social	3.0	3.6	4.1	5.1	722	.0073
Psychological	2.9	3.2	3.6	3.6	801	.147

3.10 The analyses reported in Tables 3.5 and 3.6 generally support both our starting hypotheses, namely:

- that for given levels of need, longer consultations produce greater enablement
- that less enablement is achieved from consultations of the same length as the level of need becomes greater.

3.11 A further subanalysis was undertaken to attempt to explain the relatively (and unexpectedly) small difference between enablement at different levels of consultation length for patients with psychological problems reported in parts of Tables 3.5 and 3.6 above. Having noted that consultation lengths for patients with GHQ scores of 5 or more were notably shorter in category 4 of Table 3.2 than

in categories 2 and 6, the data for these categories of patients were re-analysed. In Table 3.7 we have explored the relationship between enablement and consultation length for patients with psychological problems in category 4 (containing patients with a GHQ score of 5+ who had indicated they had social problems but did not want to discuss them) against those in category 2 + 6 (containing all other patients with a GHQ score of 5+). The result is shown below (Table 3.7). The possible significance of this analysis is discussed in paragraphs 4.4 and 5.18.

**Table 3.7** Time and enablement statistics in relation to two subcategories of patients with psychological problems

	Average consultation length (minutes)	Long:short ratio	% enablement at 6+ Consultation types				Mean enablement score
			Short	Medium	Long	Very long	
Psychological (category 2+6) n=485	9.2	3.4	21.6 36	26.7 193	29.0 118	32.6 39	3.4 386
Psychological (category 4) n=399	7.5	1.1	18.2 57	22.5 183	24.1 65	37.5 14	3.1 319

### Summary

3.12 From the analyses reported in Chapter 3, it seems reasonable to draw the following conclusions:

- longer consulting time is generally related to greater enablement for any group of patients having similar needs
- the correlation seems least strong for patients with a GHQ score of over 5; but this may be explained in part by such patients apparently belonging to two subgroups almost equal in size but probably different conceptually—one containing patients who expressed a wish to discuss their problems, and a second con-

taining patients who did not. The first group received four times as many of the more beneficial longer consultations than did the second group

- having shown in Chapter 2 that five time variables were largely interchangeable as process measures, it now seems that the five different ways of measuring enablement we have described all correlate well with consultation length and may also be interchangeable.

3.13 It thus seems reasonable to proceed to compare practices with each other (Chapter 4) and doctors with each other (Chapter 5) recognizing that:

- where a summary statistic is required, mean consultation length and mean enablement score can be applied to any defined population
- when an explanatory statistic seems more helpful (as when exploring findings at the extreme of distributions, or trying to explain unexpected findings), any of several options for categorizing either consultation length or enablement can be used with the knowledge that they are measuring similar concepts.

### COMMENTARY

3.14 The doctors consulted blind to the needs data (including GHQ scores) of the patients they were seeing. It is reassuring to note that they appeared to discriminate between patients with different need, giving more longer consultations to patients with psychological problems (Table 3.2a and b).

3.15 It is also worth commenting that, given the significant benefits accruing to patients in the social category from longer consultations, the observed level of short consultations for patients with social problems which they do not wish to discuss may not be as high as would be in their best interests.



## CHAPTER 4

# Relationship between needs, process and outcome at practice level

**I**N THIS chapter we explore the relationship between needs, process and outcome at practice level.

4.1 Five of the six practices which participated in the study were semi-rural; one was a city practice with a mix of inner and outer city patients. All had lists of between 10 000 and 20 000 patients. To preserve anonymity they have been identified as practices 1–6, the practice number reflecting the rank order of their mean enablement score for all adult consultations carried out. The percentage of patients with psychological and social problems (that statistic itself a possible measure of case-mix complexity and of social disadvantage) ranged from 39 to 42 for the five country town-based practices and was 48 for the city-based practice.

In the analyses presented, n values for the number of patients seen in different categories in individual practices have been excluded to ensure that practices cannot be identified by this means.

4.2 Table 4.1a shows the percentage of patients enabled at the 6 out of 12 level score and the mean enablement score for all patients returning enablement questionnaires; and the long:short ratio and the mean consultation length of all adults seen for whom matching needs, process and outcome data were available. Table 4.1b shows the same statistics for all patients with physical problems. Table 4.1c shows the figures for patients with social problems. The data used are the matched data collected in 1991 and 1992 which it was possible to allocate to practices.

**Table 4.1a** Consultation length and enablement for all consultations (n=8996) seen in the six study practices

Practice	Mean consultation length (minutes)	Long:short consultation ratio	Enablement	
			6/12 %	Mean
1	8.1	1.42	34	4.0
2	6.9	0.66	34	3.8
3	7.4	0.84	31	3.7
4	7.4	1.19	28	3.4
5	6.8	0.60	27	3.2
6	6.3	0.45	24	3.0

**Table 4.1b** Consultation length and enablement for all patients categorized as having physical problems (n=5418)

Practice	Mean consultation length (minutes)	Long:short consultation ratio	Enablement	
			6/12 %	Mean
1	8.2	1.76	35	4.1
2	6.6	0.55	34	3.8
3	7.4	1.02	31	3.5
4	7.2	1.17	29	3.4
5	6.7	0.56	28	3.2
6	6.2	0.43	24	3.0

**Table 4.1c** Consultation length and enablement for all patients categorized as having social problems (n=1685)

Practice	Mean consultation length (minutes)	Long:short consultation ratio	Enablement	
			6/12 %	Mean
1	7.8	1.24	33	3.9
2	6.8	0.58	28	3.7
3	7.2	0.81	28	3.7
4	7.0	0.87	24	3.0
6	5.8	0.25	23	2.9
5	6.8	0.60	22	2.9

It can be seen that practice 1 has consistently scored highest for both measures of enablement, and has the highest long:short ratio and longest mean consultation length. Similarly practices 5 and 6 have the lowest enablement and generally the lowest long:short ratio and shortest mean consultation length. Practices 3 and 4 consistently occupy middle positions in all three measures. Practice 2 does not fit in that it achieves high enablement despite relatively low long:short ratios and mean consultation lengths. (This may represent an artifact caused by one partner in practice 2 not giving outcome questionnaires to patients who had had long consultations when he was running late.)

4.3 Table 4.2 shows the same analyses as Table 4.1a, b, and c for patients with psychological problems. Although there is a symmetry between enablement and the two time measures if practice 2 is excluded, it is notably less strong than in early tables in this section for the long:short ratio. This is not surprising given the absence of overall correlation between consultation length and enablement for psychological problems previously reported in Table 3.5.

**Table 4.2** Consultation length and enablement for all patients categorized as having psychological problems (n=1893)

Practice	Consultation length (minutes)	Long:short ratio	Enablement	
			6/12 %	Mean
2	8.0	1.53	31	3.7
3	9.0	2.23	30	3.7
1	9.8	3.48	28	3.7
4	8.8	3.57	25	3.3
6	7.9	1.37	25	2.8
5	7.6	1.21	22	3.0

4.4 In an attempt to explore this unexpectedly weak association between longer time spent on psychological problems and greater enablement, Table 3.2 was re-

**Table 4.3** Consultation length and enablement for all patients with psychological problems, subdivided by categories previously described in Table 2.1 (n=1893)

<i>Category 2 + 6</i> (Patients wishing to discuss problems)					<i>Category 4</i> (Patients not wishing to discuss problems)				
<i>Practice</i>	<i>Mean consultation time (minutes)</i>	<i>Long:short consultation ratio</i>	<i>Enablement</i>		<i>Practice</i>	<i>Mean consultation time (minutes)</i>	<i>Long:short consultation ratio</i>	<i>Enablement</i>	
			<i>6/12 %</i>	<i>Mean</i>				<i>6/12 %</i>	<i>Mean</i>
1	10.5	6.3	32	4.0	2	7.3	1.0	27	3.3
3	9.7	3.3	32	3.8	3	8.3	1.4	24	3.4
2	8.5	2.5	28	3.6	1	8.9	1.6	22	3.2
4	9.7	8.2	27	3.3	6	8.9	0.6	22	2.8
6	8.7	2.2	25	3.0	5	6.8	0.7	22	2.7
5	8.1	1.9	22	2.7	4	7.5	1.5	20	3.1

examined, and as already described in paragraph 3.10 above, Table 3.7 was constructed. Table 4.3 now presents the same analyses of measures of enablement and measures of consultation length presented for each practice in Table 4.2, separating those patients who had indicated that they did not want to discuss their social problems (category 4 in Table 2.1), from the remainder of those with a high GHQ score (category 2 + 6 in Table 2.1).

This new analysis gives a good correlation between ranking for enablement for psychological problems and mean consultation length in category 2 + 6 and a good fit for enablement against long:short ratio. (The long:short ratio breaks down for practice 4 because practice 4 uses almost exclusively long consultations for patients in this category and the long:short ratio is thus distorted by a small numbers effect.)

In contrast, for patients with social problems which they do not wish to discuss (category 4), there is no link between either of the enablement variables and either of the consultation length variables. However, the top three and bottom three practices in the two sections of Table 4.2 are the same.

**Table 4.4** Consultation length and zero enablement scores for six practices

<i>Practice</i>	<i>Consultation 15+minutes</i>	<i>Practice</i>	<i>Zero enablement all patients %</i>	<i>Practice</i>	<i>Zero enablement psychological %</i>
1	8.3	1	26	3	22
3	6.1	3	27	1	24
2	4.8	2	28	2	24
5	4.5	4	32	4	27
4	3.6	5	37	5	36
6	2.4	6	39	6	40

4.5 Table 4.4 shows the ranking of practices in order of percentage of consultations which lasted over 15 minutes and their percentages of zero scores on the enablement distribution first for all patients and secondly for all patients with psychological problems.

4.6 These further analyses show the ability of the time variable of the percentage of very long consultations (15+ minutes) to discriminate between the six practices for their rank order for the number of zero scorers for enablement for all patients and for patients with psychological problems. The three practices spending more time on very long consultations are the three with fewest zero-enablement responders both for all patients and for patients with psychological problems.

### Summary

4.7 The findings may be summarized as follows:

- In this necessarily small study of six practices, the three practices which allocated more time at consultations (whether measured by mean consultation length, long:short consultation ratio, or percentage of very long consultations) enabled patients more (Tables 4.1 to 4.3) and enabled more patients (Table 4.4) than did the three practices which allocated less time at consultations.
- These findings appear to apply to all patients whether their problems are physical, social or psychological.
- This group of measures might be used as one criterion for assessing the quality of practices, but more work would need to be carried out to compare its ability to discriminate against other quality measures available.

## CHAPTER 5

# Relationship between needs, process and outcome at doctor level

**I**N THIS chapter we explore the relationship between needs, process and outcome at doctor level.

5.1 Practices are composed of individual doctors who attract different case-mixes, use different skills, and have different attitudes when consulting. Having demonstrated clearly at population level (Chapter 3) that spending more time at consultation enables more people (and enables people more), and having demonstrated that at least some differentiation between practices on the same grounds is possible (Chapter 4), the next logical step is to explore the relationship between quality and consulting behaviour at doctor level.

5.2 Table 3.3 predicts that there will inevitably be a degree of correlation between time spent at consultation and the ability of individual doctors to enable. At this stage, particular interest must focus on the strength of that association at doctor level, the number and nature of misfits to the general trend and the presence of other variables such as case-mix of doctor specifically or practice generally; practice organization (including list size and continuity of care); and attitude to care (for example, degree of patient-centredness), which might predict either consultation length patterns or enablement patterns or the relationship between them.

5.3 The 49 doctors studied in this chapter were all those who recorded data in all three data collection periods (1990, 1991, 1992). Thus no trainee doctors were included. Four doctors left practices and three joined over the period of the study. These seven doctors are excluded from the analyses in this chapter.

5.4 In this chapter, mean consultation length was calculated from all consultations carried out whether for adults or children, and this allows us to compare findings from this study with previous work we have carried out on the consulting style of a population of volunteer doctors in Lothian. Enablement data were based on all post-consultation questionnaires returned, whether or not these returns could be matched with needs and with process data. (This approach was different from that in Chapters 2 to 4 where only matched input, process and output data were used.)

The datasets used were those collected in 1991 and 1992 when the instruments used were the same (the needs instrument in 1990 differed from that used in 1991 and 1992 as it incorporated the NHP in place of the GHQ, as discussed previously). Of the 22 403 consultations available for study (around 450 per doctor), 78% of adults consulting had needs data available, and 65% had enablement data available (giving around 300 cases and 250 cases per doctor respectively). Given the mix of physical, social, and psychological categories presented (58%, 20%, and 22%, in Table 3.5), this meant that each doctor would have enablement data available for around 50 patients each in the social and psychological categories, but that the number of these in any one consultation

length category would often be in single figures and thus too small for useful statistical analysis.

5.5 For this part of the study, one further dataset was added. Doctors were asked to complete an attitude questionnaire which had been used in previous work to categorize doctors as more or less patient centred (paragraph 1.3). Nine of the 49 doctors were classified as more patient centred, 16 as intermediate, and 24 as less patient centred. The derivation of these categories is described in the commentary at the end of this chapter (see paragraph 5.14).

### Ranking of doctors by needs of patients seen, mean consultation length, two measures of enablement, and attitude

5.6 The first correlations were made between the fastest 12 doctors (based on mean consultation length), their ranked position for two measures of enablement, and their attitude scores. Table 5.1a shows the results of these analyses first for all patients and then for patients with marker conditions.

**Table 5.1a** Fastest quartile of general practitioners ranked in ascending order of mean consultation time by their enablement rank and attitude score

Time rank	Enablement rank		Attitude score		
	All		Marker		
	Mean	% 6-12	Mean	% 6-12	
1	45*	43*	46*	41*	0
2	43*	47*	43*	46*	0
3	34	31	36	21	1
4	29	17	19	28	1
5	37	28	32	26	0
6	30	25	37	24	0
7	47*	48*	47*	48*	0
8	38*	36	41*	25	0
9	49*	49*	49*	49*	0
10	17	20	14	32	0
11	25	9†	15	16	0
12	42*	45*	45*	47*	0
Mean rank	36	33	35	34	

\* indicates doctors appearing in the lowest quartile both for enablement and time measures

† indicates doctors appearing in the lowest quartile for time, and the highest quartile for enablement.

*Note:* In Tables 5.1 and 5.2, time rank 1 indicates the fastest doctor or the doctor with fewest very long consultations; enablement rank 1 indicates the doctor who has enabled most patients; attitude scores 0, 1, 2 indicate lower, medium, and higher patient-centredness respectively.

It can be seen that there is a strong correlation between consultation length and low levels of enablement for all four comparisons made. The mean enablement rank ranges between 33 and 36 out of 49 (if no association was present the figure expected would be 24.5). Depending on which columns are compared, either 6 or 5 doctors appear to be matched (in the sense of appearing in the bottom quartile for both measures) and in only one instance does a doctor appear in the bottom rank for one measure and the top rank for the other (doctor 11 on the time rank); 10 of the 12 doctors have an attitude score of 0 (indicating low patient-centredness).

5.7 Secondly, the slowest quartile of doctors was analysed in the same way as applied to the fastest quartile of doctors in paragraph 5.6 and Table 5.1a above. The results are shown in Table 5.1b.

**Table 5.1b** Slowest quartile of general practitioners ranked in ascending order of mean consultation time by their enablement rank and attitude score

Time rank	Enablement rank		Attitude score		
	All		Marker		
	Mean	% 6-12	Mean	% 6-12	
38	2*	6*	5*	4*	2
39	5*	11*	11*	8*	1
40	9*	13	7*	11*	0
41	44†	42†	40†	44†	0
42	16	12*	10*	27	1
43	26	32	25	19	1
44	6*	21	24	3*	0
45	10*	22	12*	18	0
46	22	34	23	37	1
47	7*	16	9*	15	2
48	3*	3*	1*	1*	1
49	18	10*	13	13	2
Mean rank	14	18	15	17	

\* Indicates doctors appearing in the highest quartile both for time and enablement measures.

† Indicates doctors appearing in the highest quartile for the time measure, and the lowest quartile for the enablement measure.

It can be seen that there is a high correlation between doctors with longer mean consultation lengths and high ranking on the enablement scale (mean rank position ranging between 14 and 18). Depending on which columns are compared, either 7 or 5 doctors are matched in that they appear in the best quartile for both measures and only one doctor (number 41 in the time rank) has a complete misfit in appearing in the slowest quartile and the least enabling quartile. This may be a chance finding, or it may indicate a doctor with a failure to enable despite allocating relatively large amounts of consulting time. In this analysis, 8 of the 12 doctors are intermediate or more patient centred on the attitude score.

5.8 Thirdly, doctors were placed in their rank order for the percentage of very long consultations (15+ minutes) they had carried out. On this occasion the enablement variable chosen was the percentage of respondents scoring

10-12 (very enabled). The correlation between these rankings was carried out for all patients only as the total numbers in these categories were comparatively small. The results for the quartile of all 49 doctors with fewest very long consultations are shown in Table 5.2a below.

**Table 5.2a** Fastest quartile of general practitioners ranked in ascending order of percentage of long consultations by rank of percentage of patients scoring 10-12 in enablement and by attitude score

Time rank	Enablement rank	Attitude score
1	21	0
2	31	0
3	35	1
4	45*	0
5	39*	0
6	44*	2
7	46*	1
8	48*	0
9	37	0
10	22	1
11	19	0
12	49*	0
Mean rank	36	

\* Indicates doctors appearing in the fastest quartile for time and the least enabling quartile for enablement.

It can be seen that there is once again a high correlation between consulting rate and low placing on the enablement rank, with an average rank enablement position of 36. Once again, six doctors appear in the least desirable rank for both attributes, and no doctors appear in the preferred quartile for enablement. In this table, eight doctors are low on patient-centredness.

5.9 Fourthly, the quartile of all 49 doctors with most very long consultations were studied for the rank order of patients who were very enabled (10-12 points on the enablement scale). The results are shown in Table 5.2b.

**Table 5.2b** Slowest quartile of general practitioners ranked in ascending order of percentage of long consultations by rank of percentage of patients scoring 10-12 in enablement and by attitude score

Time rank	Enablement rank	Attitude score
38	1*	2
39	33	0
40	5*	0
41	6*	1
42	23	0
43	20	0
44	9*	1
45	15	1
46	2*	2
47	4*	1
48	11*	2
49	12*	1
Mean rank	12	

\* Doctors appearing in the highest quartiles both for time spent and enablement achieved.

This table shows the strongest fit between the preferred characteristics of long consultation time and high enablement, with an average enablement rank position of 12 and eight doctors appearing in both preferred quartiles. Once again eight doctors in this table are intermediate or high for patient-centredness on the attitude scale.

5.10 Finally, two practices/fundholding groups were compared to explore the range of differences of case-mix (percentage of patients seen with social and psychological problems), consultation length, enablement and attitude at doctor level. Table 5.3 shows the results (six doctors only from each fundholding group are shown in order to ensure anonymity).

This comparison shows that in two practices with very similar total case-mixes, the individual doctors differ widely in the number of patients they each see with social and psychological problems, and that in practice A the majority of doctors have substantially longer consultations than all the doctors in practice B. In the same way, the levels of enablement found in practice A are generally higher than those found in practice B. The practices also differ in the degree of patient-centredness of the doctors.

5.11 Attempts were made to carry out similar analyses to those reported in paragraphs 5.5 to 5.8 using patients with social and psychological problems separately and together. These did not produce any useful further insights perhaps owing to small sample sizes but probably also to the psychological patients containing two subgroups which will obscure analysis made when they are amalgamated.

### Summary

5.12 At individual doctor level, it appears that:

- being in the fastest quartile of doctors (either for mean consultation time, or for the lower likelihood of providing very long consultations) correlates with

having twice the expected chance of being in the least enabling quartile, and virtually excludes the likelihood of being in the most enabling quartile

- being in the slowest quartile of doctors correlates with having twice the expected chance of being in the most enabling quartile, and virtually excludes the likelihood of being in the least enabling quartile.

This confirms that the concepts explored are a useful basis for further work to develop an audit of consulting effectiveness based on consultation length as a proxy measure of quality.

### ADDENDUM

5.13 The datasets for 1991 and 1992 were compared at doctor level to ascertain whether n values based on two weeks of data would be equally able to predict the outcomes reported in Tables 5.1 to 5.3 above, which were based on four weeks of data. These data provided consultation length information on about 450 consultations per doctor, and matched needs and enablement data for adults for some 250 consultations per doctor. There were strong correlations between both time and enablement rankings of doctors between 1991 and 1992, but the fit between time and enablement rank for individual doctors was less strong in 1991 and 1992 separately (0.44 in each year) owing to lower numbers than when 1991 and 1992 were combined (0.53).

We thus recommend that when future studies are designed to repeat work of the kind described in this report, they should be based on 250 completed enablement assessments.

**Table 5.3** Breakdown of time, case-mix, enablement, and attitude profiles for six doctors in each of two practices

<i>Practice A</i>						
<i>Doctor</i>	<i>Mean consultation length (minutes)</i>	<i>Percentage patients with psychological/social problems</i>	<i>Enablement</i>		<i>Attitude</i>	
			<i>6/12 %</i>	<i>Mean</i>		
1	9.4	32	35	3.9	2	
2	9.1	35	39	4.4	1	
3	8.8	31	33	4.1	2	
4	8.0	43	35	4.1	1	
5	7.7	41	33	3.9	2	
6	6.4	47	32	3.9	0	
<i>Practice B</i>						
<i>Doctor</i>						
1	7.0	39	25	3.2	0	
2	6.8	41	29	3.3	1	
3	6.2	37	13	2.0	0	
4	5.9	40	17	2.4	0	
5	5.8	34	30	3.3	0	
6	5.7	45	33	3.8	1	

## COMMENTARY

Chapter 5 contains apparently important associations between consultation length, enablement, case-mix and doctor attitude which merit further discussion. (It should be noted that none of the tables used in this chapter was influenced by the original decision to set the GHQ cut-off at one point as against another.)

### Derivation of attitudes scores

5.14 In our study of Lothian doctors' attitudes in 1986, we used Cockburn's Australian attitudes instrument which scores doctors on six subscales: psychological orientation, preventive medicine, morbidity, communication, responsibility for decisions, and appropriateness of consultations (Cockburn et al., 1987). Three dimensions—responsibility for decisions, psychological orientation and appropriateness of consultations—were associated with the quality indicators we used in our original quality work referred to in paragraphs 1.1 to 1.3. We ranked doctors for their scores on each of these three dimensions and identified doctors as high for patient-centredness if they scored in the top quartile for two or three of the dimensions, and as medium for patient-centredness if they were in the top quartile of one dimension. Doctors who were not in the top quartile for any dimension were defined as low for patient-centredness. The questions which made up Cockburn's questionnaire are reproduced in one of our earlier references (Howie et al., 1992). Examination of the questions confirms the face validity of the judgements about patient-centredness being made.

The doctors in this present study were scored according to where they would have been placed in the Lothian study ranking. Fewer of the doctors in the fundholding study scored high or medium than was the case in the Lothian study—25 of 49 (51%) as against 47 of 80 (59%)—but the fundholding study was not fully comparable in that it was a study of all doctors in participating practices rather than a study of volunteer doctors as in the Lothian study.

### Use of the attitude categorization

5.15 Tables 5.1 and 5.2 show that doctors in the more patient-centred attitude groupings are more likely to have longer consultation lengths and to enable more patients.

We have carried out a further analysis of consultation length, enablement and clinical grouping by attitude category and this is summarized below in Table 5.4. It appears to confirm that more patient-centred doctors enable more patients when all consultations are considered together, but perhaps surprisingly this association is again weaker for patients with psychological problems. Once again this causes reconsideration of the generally poorer fit between longer consultations and enablement for psychological problems (Table 3.5) and the possibility that this may be explained by the contribution of a subgroup of patients (Table 4.3) who may not wish to discuss problems and who may be equally well enabled by faster consultations and/or by less patient-centred doctors. This is discussed more fully in paragraph 5.18 below.

**Table 5.4** Enablement and consultation length for patients attending doctors with different attitudes for all marker conditions

(a) For all patients attending with marker conditions

<i>Patient-centredness</i>	<i>n</i>	<i>Mean consultation length</i>	<i>% Enablement</i>
Low	24	7.1	29
Medium + high	25	7.8	33
Total	49	p=0.03	p=0.07

(b) For patients attending with marker condition and a psychological problem

<i>Patient-centredness</i>	<i>n</i>	<i>Mean consultation length</i>	<i>% Enablement</i>
Low	24	8.3	27
Medium + high	25	8.9	27
Total	49	ns	ns

### Other satisfaction measures

5.16 In this *Occasional Paper*, we have not referred to patients' responses to several other questions included in the post-consultation questionnaire (Appendix 2). Patients were almost always satisfied or very satisfied with clinical decisions to prescribe, investigate or refer. Only 6% in each survey period would have wanted more time with the doctor (not necessarily the same as whether they would have benefited from more time) and under 3% of people felt the doctor had given the impression their opinions (as patients) were not important.

### Other determinants of quality

5.17 In this present study we did not collect information about other issues which are likely to contribute to patient satisfaction/enablement such as delay in getting access to the doctor, whether the doctor and patient knew each other, continuity of care, or whether the patient saw the doctor of his or her choice. We have also not been able to study the different perceptions of patients from different ethnic backgrounds. We plan to address all these issues in our next project.

## OVERVIEW

### The original hypotheses (paragraph 3.1), doctors' consulting skills and quality at consultation

5.18 Our definition of quality of care (paragraph 1.4) includes listing needs and defining their priority, and delivering care which improves patients' understanding and increases their ability to cope with their problem(s). We hypothesized (paragraph 3.1) first, that patients with given levels of need would feel better enabled by longer consultations; and secondly, that patients would achieve less enablement from consultations of a given length as the level of their needs increased.

### *At doctor and practice level*

When we analyse our data at doctor level (Table 3.4 and Chapter 5), the first of these hypotheses is emphatically supported. Only if there had been significant differences between the case-mix seen by fast and slow doctors could the conclusion be avoided that doctors consulting faster are providing a less good service than doctors consulting more slowly. When we examined case-mix for categories of doctors, we found no differences between the balance of physical, social and psychological problems seen by fast and slow doctors as a whole.

There were, of course, differences in case-mix between practices and at doctor level within practices. The city practice had 48% of consultations for social/psychological problems, against the range of 39%-42% for more rural practices. At individual doctor level, doctors in practice A ranged between 31% and 47% for the social/psychological needs of the patients they saw (Table 5.3). When we relate doctors' individual ability to enable, this again seems independent of case-mix and of practice. In practice A, the doctors with 31% and 47% of social/psychological patients achieved virtually identical enablement scores (Table 5.3). On the other hand, in practice B, two doctors who both saw the same case-mix—40% and 41% social/psychological—enabled very differently (Table 5.3). The 17% and 29% of patients they enabled is possibly explained by their quite different mean consultation lengths. The analyses presented in Chapter 4 seem to confirm—as with the analyses at doctor level in Chapter 5—that practices which as a whole provide more time enable more patients than do practices which provide less time.

### *At population level*

There is, however, some difficulty in simply equating quality with consultation length. This is first apparent in the whole population analyses in Tables 3.5 and 3.6 where the stepwise benefit of longer consultations for psychological problems seems less strong than might have been expected, and less strong than it is for physical and social problems.

This trend was found again at practice level (Table 4.2) and examined further in paragraph 4.4, where we postulated that patients with psychological problems include two subgroups, one wanting to discuss problems (who benefit from more time spent) and the other not wanting to discuss problems (who do not benefit from more time). This idea has credibility, but our methods are not sufficiently rigorously defined for us to say whether “not wanting to discuss” is the same as

“wanting not to discuss,” and this issue would need to be addressed afresh with purpose-built data.

There is, however, another way of trying to explain these findings which relates to our second hypothesis—that patients would achieve less enablement from consultations of a given length as the level of their needs increased. As a doctor's consulting skills increase, the doctor is better able to allocate appropriate time to achieve appropriate benefit, and indeed the definition of quality to which we were committed (paragraph 1.4) included the concept of efficiency. An effective and efficient doctor will achieve equal enablement for given needs in the shortest time appropriate. Thus as delivery of care becomes more efficient, the level of enablement achieved for a broad category of need by different consultation lengths will approach the same figure. Then what will effectively determine quality will be the doctor's ability to discriminate between the requirement for short, medium, long or very long consultations to achieve equal and optimal outcome for equivalent need.

Table 3.2 confirms that doctors discriminate in favour of patients who have both physical and psychological problems by allocating relatively fewer short consultations and relatively more long consultations than are given to patients with purely physical problems. The simplest synthesis of the data in Table 3.5 is that the generality of doctors is nearing the ideal of achieving equal enablement for equal aliquots of time for patients who have psychological problems and are thus discriminating amongst such patients in an appropriate way. Table 4.3 supports the further suggestion that slower practices are achieving more for some of their patients with psychological problems than are faster practices, but that faster practices and slower practices perform equally well for the subgroup of patients who may not want to discuss their problems in this area.

In contrast, there is apparently good reason to suggest that more people in the physical category would benefit from longer consultations, and similarly that more people with social problems would benefit from longer consultations. It is a matter of concern that patients with social problems receive the highest proportion of short consultations and the lowest proportion of long consultations.

5.19 All the doctors and practices who took part in this study were in approved training practices and it would be inappropriate on the basis of one project to do more than conjecture where any line defining quality might be drawn in the results described in this *Occasional Paper*. Further work will be undertaken to address this issue.

## CHAPTER 6

# Conclusions

**T**HIS REPORT is based on secondary analysis of data collected for a larger project aiming to evaluate the Scottish Shadow Fundholding Project. One part of that evaluation was a study of the quality of care for patients consulting with selected conditions over the period 1990 to 1992.

6.1 In order to carry out the evaluation of quality of care, a definition was proposed (see paragraph 1.4) in which quality was defined as the ability to prioritize need and to provide equivalent benefit to patients with different levels of need. The intervening process variable studied was consultation length, which had previously been shown to correlate with several different components of quality of care at consultations.

6.2 In order to put into operation the concept of quality for research purposes, a health needs questionnaire which allowed illness to be categorized as physical, psychological or social was constructed. This was completed by patients before consultations and all categorizations were thus based on patients' (and not doctors') statements. The outcome measure was completed by patients immediately after the consultation and included six questions asking about perceptions of ability to understand and cope with their health problem; we have described this concept as representing enablement.

6.3 In previously published work we have demonstrated that at general population level, for any given level of need, larger inputs of time are associated with higher levels of enablement as an outcome measure. This report describes work undertaken:

- to explore the reliability and validity of the enablement measure
- to explore whether analyses of different measures of consultation length might increase understanding of the association between needs and outcome
- to extend the analyses of quality of care to practice level
- to extend the analyses of quality of care to individual doctor level
- to outline possible further work of relevance to defining and measuring quality of care which might be of use in
  - increasing understanding of the nature and determinants of quality in delivery of primary care
  - audit of efficiency and effectiveness in primary care.

6.4 Needs were described at three levels (physical, social and psychological), first for adult patients with selected presenting marker conditions (39% of adult consultations) and secondly for all adult patients consulting. Consultation length was defined in six different ways (one the mean value; the other five attempting to summarize information at either or both extremes of the distribution of consultation lengths). Enablement was scored in five different ways (one the mean score; the

other four attempting to summarize information at the extremes or to divide the total population of responders into two approximately equal groups).

### Findings

6.5 The measure of outcome which we have called 'enablement' is reliable (it shows strong internal consistency between each of the component items of the scale, and is repeatable across time and in the same setting). It has also been shown to have strong content and construct validity (the items have proved discriminating between groups of patients with different needs as would have been expected).

6.6 For five of the six ways of measuring consultation length, and for all five ways of measuring enablement, enablement increased as consultation length increased. This applied whether doctors were ranked for their ability to enable patients generally, or when patients were studied as groups.

6.7 Even in a study of only six practices, it proved possible to discriminate between practices for their ability to enable patients. It was found that higher enablement was strongly associated with time spent at consultations at practice level.

6.8 It proved possible to discriminate between doctors for their ability to enable patients. It was found that higher enablement was strongly associated with longer time spent at consultations, and that lower enablement was strongly associated with less time spent at consultations. Doctors spending more time and enabling patients more were likely to be more patient centred compared to those who spent less time and enabled less (who were more likely to be less patient centred).

6.9 Data collected from all consultations carried out in the surgery over a period of four weeks were used to carry out the analyses at practice and doctor level. It appears that stable ranking at doctor level by mean consultation length against mean enablement score can be achieved with 250 matched records.

6.10 However, this volume of data proved too small to examine outcome for some important subgroups of patients (for example, those having long consultations for psychiatric problems, where n values for fast doctors would normally be below 10). More data would be necessary to achieve results which helped to explore or to explain trends at doctor level at the further levels of need subanalysis used in this study.

### Summary

6.11 Time spent at consultations appears directly associated with quality of care, more time producing greater benefit. Practices can be ranked for their achievements on this measure, as can individual doctors.



## CHAPTER 7

# Plans for further work

**T**HIS PROJECT was carried out in one region of Scotland using six practices (two of which were groupings of either two or three smaller practices coming together to hold a single general practice fund) and 49 doctors. The following issues require to be explored:

7.1 Work requires to be done to adapt the pre-consultation questionnaire from a needs-defining instrument to a case-mix instrument, including, for example, questions to identify patients consulting for administrative problems, and items relevant to children. Information also needs to be collected about whether the doctor being seen is the patient's choice of doctor, the patient's usual doctor, and/or is known to the patient; the patient's ethnic background also needs to be recognized.

7.2 Although the enablement instrument has strong content and construct validity and has been shown to be reliable, further work to compare it with other satisfaction questionnaires (such as the medical interview satisfaction scale MISS (Wolf et al., 1978) and the consultation satisfaction questionnaire CSQ (Baker, 1991) will help both to develop the discussion of whether enablement and satisfaction are continuous or different concepts, and possibly to identify other items which might enhance the enablement questions presently being used.

7.3 Work requires to be done to test the utility of the instrument in different settings. In particular, the work described in this report has to be repeated in areas with a different ethnic mix (of both doctors and patients) with different mixes of singlehanded, small and large group practices, and in areas of higher deprivation than generally obtained in the Scottish study. In addition, practices which are not involved in fundholding require to be added to those who are fundholders.

7.4 Substantial interest is presently being shown in using routinely available NHS data on activity (immunization, screening, health promotion, complaints, for example) and prescribing (% generics; steroid: B-agonist inhaler use for asthma, for example) as measures of efficiency and effectiveness in the provision of primary care services (Majeed and Voss, 1995). It seems essential to test such measures against the measures of quality (initially at practice level) which have been developed in this study.

7.5 The needs instrument used may give a better indication of the complexity of case-mix seen than does, for example, the Jarman Index (Jarman, 1984). Work needs to be done to compare the ability of these measures to identify how practices in deprived areas should be assisted financially.

7.6 Interest in evidence-based medicine and guidelines/protocols has more relevance to less prevalent, more hospital-like primary care presentations (for example, diabetes) than to the generality of general practice consultations where physical and psychosocial components are often subtly interwoven, and where good practice and holistic management cannot sensibly be correlated with adherence to guidelines of the kind presently being developed nationally. It seems at least possible, if not probable, that an outcome measure of the kind which we have used in our present work (enablement) will be a better and thus more acceptable predictor and indicator of quality for patients than any other presently available. This possibility also needs to be tested, initially with qualitative work involving primary care managers, providers and patients.

7.7 A multicentre project to address many of these issues has won financial support from NHS sources, and will run for three years from the start of 1997.

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## APPENDIX 1

### **GENERAL PRACTICE PATIENT HEALTH QUESTIONNAIRE**

This questionnaire contains questions about your health, how you are feeling and about your reasons for visiting the doctor today.

It is part of a study being carried out by Edinburgh University. The questionnaire is anonymous, there is no need to put your name on it and it will not be seen by your doctor.

Could you please read it carefully and answer all the questions, even if you think that some of the questions do not apply to you.

After you have checked that you have answered every page, post the questionnaire in the box by the reception desk.

If you do not have time to finish it before you see the doctor, it would be very helpful for us if you could spare a few minutes to finish it afterwards.

**PLEASE ANSWER ALL THE QUESTIONS**

**FIRST, SOME QUESTIONS ABOUT YOURSELF:**

What is your date of birth? \_\_\_\_\_

Are you

Female  Male 

**THESE QUESTIONS ASK ABOUT HEALTH PROBLEMS THAT SOME PEOPLE HAVE OVER A PERIOD OF TIME. IT MAY BE THAT YOU DON'T HAVE ANY OF THESE PROBLEMS. IF YOU ARE NOT SURE WHETHER YOU HAVE THE PROBLEM OR NOT, PLEASE ANSWER NO.**

	YES	NO
Do you have asthma?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have chronic bronchitis?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have pain in your shoulder?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have pain in your neck?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have pain in your back?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have pain in your hip?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have a problem with heavy or irregular periods?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have a skin problem?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have indigestion?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have hiatus hernia?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have angina?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have an ulcer?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>

	YES	NO
Do you have varicose veins?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have difficulty in hearing?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have difficulty in seeing?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have pain passing urine?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have diabetes?	<input type="checkbox"/>	<input type="checkbox"/>
Are you visiting your doctor about this problem today?	<input type="checkbox"/>	<input type="checkbox"/>

**WE SHOULD LIKE TO KNOW IF YOU HAVE HAD ANY OTHER COMPLAINTS, AND HOW YOUR HEALTH HAS BEEN IN GENERAL OVER THE PAST FEW WEEKS. PLEASE ANSWER ALL THE QUESTIONS SIMPLY BY CIRCLING THE ANSWER WHICH YOU THINK MOST CLOSELY APPLIES TO YOU. REMEMBER WE WANT TO KNOW ABOUT PRESENT AND RECENT COMPLAINTS, NOT THOSE THAT YOU HAD IN THE PAST.**

IT IS IMPORTANT THAT YOU TRY TO ANSWER ALL THE QUESTIONS.

HAVE YOU RECENTLY:

Been able to concentrate on whatever you're doing?	Better than usual	Same as usual	Less than usual	Much less than usual
Lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
Felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
Felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable
Felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual

Please turn over →

**REMEMBER IT IS IMPORTANT THAT YOU TRY TO ANSWER ALL THE QUESTIONS.**

Felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
Been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
Been able to face up to your problems?	More so than usual	Same as usual	Less able than usual	Much less able
Been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
Been losing confidence in yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
Been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
Been feeling reasonably happy, all things considered?	More so than usual	About same as usual	Less so than usual	Much less than usual

**PLEASE READ THE LIST BELOW CAREFULLY. THINKING ABOUT THE LAST TWO OR THREE WEEKS COULD YOU TELL US WHETHER YOU HAVE HAD ANY PROBLEMS OR DIFFICULTIES WITH ANY OF THE FOLLOWING:**

	YES	NO
Problems with your husband/wife/partner or family?	<input type="checkbox"/>	<input type="checkbox"/>
Problems with money?	<input type="checkbox"/>	<input type="checkbox"/>
Problems with poor housing conditions?	<input type="checkbox"/>	<input type="checkbox"/>
Problems with work or unemployment?	<input type="checkbox"/>	<input type="checkbox"/>
Would you like to talk to the doctor about any of these problems today?	<input type="checkbox"/>	<input type="checkbox"/>

**THANK YOU VERY MUCH FOR YOUR HELP**

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Under no circumstances should copies of the GHQ 12 be made from this questionnaire: the published version of the GHQ 12 should be obtained from the publisher.

## APPENDIX 2

### **GENERAL PRACTICE PATIENT QUESTIONNAIRE 2**

This questionnaire asks about your visit to the doctor today. It will only take a few minutes to fill in.

It is entirely confidential, there is no need to put your name on it and it will not be seen by your doctor or any of the practice staff.

Your answers will be put together with those of other people and used to help improve the care provided by general practice.

When you have answered all the questions please put the questionnaire in the box by the reception desk.

**PLEASE ANSWER ALL THE QUESTIONS**

**SO THAT THIS QUESTIONNAIRE CAN BE LINKED WITH THE HEALTH QUESTIONNAIRE YOU FILLED IN BEFORE YOU SAW THE DOCTOR, COULD YOU PLEASE TELL US:**

Your date of birth \_\_\_\_\_

Are you

Female  Male

**PLEASE ANSWER THE FOLLOWING QUESTIONS BY TICKING THE APPROPRIATE BOX:**

- |   |                                                                       |                                                          |                                                       |                                                     |
|---|-----------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------|
| 1 | Would you have liked more time with the doctor today?                 | YES, quite a lot more time<br><input type="checkbox"/> 1 | YES, a little more time<br><input type="checkbox"/> 2 | NO, I had enough time<br><input type="checkbox"/> 3 |
| 2 | Was the doctor in a bit of a hurry?                                   | YES, very hurried<br><input type="checkbox"/> 1          | YES, a bit hurried<br><input type="checkbox"/> 2      | NO, not hurried<br><input type="checkbox"/> 3       |
| 3 | Was there anything you would have liked to talk about in more depth?  |                                                          | YES<br><input type="checkbox"/>                       | NO<br><input type="checkbox"/>                      |
| 4 | Was there anything else you would have liked to talk about?           |                                                          | YES<br><input type="checkbox"/>                       | NO<br><input type="checkbox"/>                      |
| 5 | Did the doctor give you the feeling your opinions were...             | NOT IMPORTANT<br><input type="checkbox"/> 1              | FAIRLY IMPORTANT<br><input type="checkbox"/> 2        | VERY IMPORTANT<br><input type="checkbox"/> 3        |
| 6 | As a result of your visit to the doctor today, do you feel you are... | MUCH BETTER<br><input type="checkbox"/> 1                | BETTER<br><input type="checkbox"/> 2                  | SAME OR LESS<br><input type="checkbox"/> 3          |
|   | able to cope with life                                                | <input type="checkbox"/> 1                               | <input type="checkbox"/> 2                            | <input type="checkbox"/> 3                          |
|   | able to understand your illness                                       | <input type="checkbox"/> 1                               | <input type="checkbox"/> 2                            | <input type="checkbox"/> 3                          |
|   | able to cope with your illness                                        | <input type="checkbox"/> 1                               | <input type="checkbox"/> 2                            | <input type="checkbox"/> 3                          |
|   | able to keep yourself healthy                                         | <input type="checkbox"/> 1                               | <input type="checkbox"/> 2                            | <input type="checkbox"/> 3                          |
|   | confident about your health                                           | <input type="checkbox"/> 1                               | <input type="checkbox"/> 2                            | <input type="checkbox"/> 3                          |
|   | able to help yourself                                                 | <input type="checkbox"/> 1                               | <input type="checkbox"/> 2                            | <input type="checkbox"/> 3                          |



**THE NEXT SET OF QUESTIONS ARE ABOUT WHAT YOU THOUGHT WOULD HAPPEN WHEN YOU CAME TO THE DOCTOR AND WHAT ACTUALLY HAPPENED. PLEASE TICK THE APPROPRIATE BOX.**

7 Did you think you would get a prescription today? YES  NO

8 Did the doctor give you a prescription today? YES  NO

9 Did you think the doctor would change the drug or dosage of your prescription today? YES <sup>1</sup> NO <sup>2</sup>  
NOT RELEVANT <sup>8</sup>

10 Did the doctor change the drug or dosage of your prescription today? YES <sup>1</sup> NO <sup>2</sup>  
NOT RELEVANT <sup>8</sup>

11 How satisfied are you with the decisions the doctor made about a prescription?

VERY DISSATISFIED <sup>1</sup> DISSATISFIED <sup>2</sup> 50/50 <sup>3</sup> SATISFIED <sup>4</sup> VERY SATISFIED <sup>5</sup>  
NOT RELEVANT <sup>8</sup>

12 Did you think the doctor would suggest any further tests or X-rays? YES  NO

13 Did the doctor suggest any further tests or X-rays? YES  NO

14 How satisfied are you with the decisions the doctor made about further tests or X-rays?

VERY DISSATISFIED <sup>1</sup> DISSATISFIED <sup>2</sup> 50/50 <sup>3</sup> SATISFIED <sup>4</sup> VERY SATISFIED <sup>5</sup>  
NOT RELEVANT <sup>8</sup>

Please turn over →

15 Did you think the doctor would refer you to a specialist? YES  NO

16 Did the doctor refer you to a specialist? YES  NO

17 How satisfied are you with the decisions the doctor made about referring you to a specialist?

VERY DISSATISFIED  1      DISSATISFIED  2      50/50  3      SATISFIED  4      VERY SATISFIED  5  
NOT RELEVANT  6

**THE NEXT TWO QUESTIONS ASK ABOUT YOUR VISIT IN MORE GENERAL TERMS. PLEASE TICK THE APPROPRIATE BOX.**

18 Can you think of anything that the doctor could have done which would have made you more satisfied with the consultation? YES  NO

Any Comments?

19 Do you think that on the whole the care that you get when visiting a doctor is... GETTING BETTER  1      GETTING WORSE  2      ABOUT THE SAME AS EVER  3

Any Comments?

**THANK YOU VERY MUCH FOR YOUR HELP**

## APPENDIX 3

# The development of process and outcome measures for general practice consultations

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**I**N 1987, John Howie, Mike Porter and John Forbes were funded by the Scottish Office Home and Health Department and Nuffield Provincial Hospitals Trust to conduct a study of doctors' work and quality of care.

To do this study, the researchers required instruments which would allow them to:

- (a) control for case-mix in the consultation
- (b) measure changes in patients' health and well-being following the consultation
- (c) measure patient satisfaction with the consultation.

(a) *Case-mix* was measured using the Nottingham Health Profile (NHP).

(b) *Patient health* was also measured using the NHP three weeks after the consultation.

(c) *Patient well-being* was measured using an instrument specially designed for the study and which subsequently, and with some minor modification, has become known as the 'enablement' instrument.

(d) *Patient satisfaction* was also measured using an instrument specially designed for this study.

The well-being/enablement and satisfaction instruments were contained in a 20-item post-consultation questionnaire which had to be short and easy for patients to complete before leaving the surgery. It was constructed in five stages:

1. A review of the literature at that time (see bibliography at the end of this appendix)
2. Discussions with Professor Rob Sanson-Fisher and Dr Jill Cockburn in Newcastle, Australia who were involved in a large study of doctor-patient consultations and their outcomes, and with Dr Jane Hall (Sydney) who was also involved in deriving outcome measures for general practice
3. Discussions with the Secretary of the Edinburgh Health Council, the Secretary of the Scottish Association of Health Councils and the Co-ordinator of an Edinburgh Women's Health Project
4. Semi-structured interviews with a number of physically disabled people as part of another research project and with people with chronic illness as part of a medical students' project which involved asking about their use of and satisfaction with general practitioners
5. Two pilot studies using student projects on doctor-patient consultations, both of which involved piloting instruments for recording the process and outcome of doctor-patient consultations, including interviewing patients before and after their consultations.

Thus, although there was no systematic and rigorous research into people's perceptions of the quality of general practice consultations, the instruments were based on extensive literature review, interviews with patients, and discussions with representatives of patient groups that were likely to be critical.

The patient satisfaction literature suggested the following topic areas:

- Access
- Premises
- Process
  - technical and cognitive competence (history taking, examination, diagnosis, explanation and information giving)
  - interpersonal care (communication, rapport, trust, patient-centred)
- Outcome

(A questionnaire completed by the patient before the consultation included questions relating to access, but it was not thought relevant for this study to ask about premises. Additional questions on waiting time to see the doctor were asked in the post-consultation questionnaire.)

The interviews with patients and the discussions with representatives of patient groups strongly reinforced the importance of 'patient-centredness': the degree to which patients felt they were taken seriously and listened to. The following questions were designed to address this topic:

1. Did the doctor give you the feeling your opinions were important?
2. Do you feel the doctor took you seriously?
3. Did the doctor give you a chance to say what was really on your mind?
4. Did the doctor give you the feeling he/she was interested in listening to you?
5. Did the doctor seem to have other things on his/her mind?

The following questions were asked to elicit satisfaction with the more technical competence of the doctor. They are obviously closely related to communication skills:

6. Did the doctor say or do anything which has helped to reduce any worries you had?
7. Has the doctor explained things fully?

8. Did the doctor say or do anything which:

- (a) annoyed you?
- (b) was rather inconsiderate?
- (c) upset you because it was bad news?
- (d) upset you because of how he/she spoke to you?
- (e) was difficult for you to understand?

The literature on patient health and well-being suggested that 'enablement' and 'empowerment' were important to people with disabilities or long-term chronic illness, and the interviews and discussions supported this. A six-part question was constructed which was designed to elicit patients' feelings of confidence, ability and coping:

9. As a result of your visit to the doctor today do you feel:

- (a) more able to cope with life?
- (b) better able to understand your illness/problems?
- (c) more able to cope with your illness/problems?
- (d) more able to help yourself?
- (e) more confident about your health?
- (f) more able to get/keep yourself healthy?

These are the questions which have formed the basis of the work described in this *Occasional Paper*.

### Bibliography

It should be noted that the research to develop these instruments took place in 1987–88, hence this bibliography includes only publications up to these dates. It is also important to separate studies of patient satisfaction with medical care in general from those which ask about specific consultations. Whilst the studies of 'satisfaction in general' were helpful in terms of conceptual thinking, the specific studies were more directly relevant.

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