General Practitioners and Consultants

a study of outpatient referrals

Robin Dowie

When it is realised that referral rates by general practitioners to outpatient departments may vary by a factor of 25, it is clear that this has important implications on the provision of resources. Various studies have tried unsuccessfully to relate the referral behaviour of general practitioners to variables which could be easily measured (age, type of practice, list size, and so on). Robin Dowie has taken the next very difficult step. She has studied referral behaviour by relating medical referrals sent by doctors to a district hospital to her findings from in-depth interviews with these doctors and to information about their use of the investigation services. She has gone on to study the outcome of the referrals by interviewing the consultants concerned and by recording decisions taken in the clinics.

Robin Dowie has also considered what happens in medical outpatient departments when senior house officers who have limited experience are faced with patients called for review. The investigation and discharge behaviour of these doctors is examined.

Her book is full of new ideas for research about the referral behaviour of general practitioners. Advances in this field must look at the knowledge and the security of these doctors when faced with diagnostic problems. The book also has important lessons for those concerned with the education of both hospital specialists and general practitioners.

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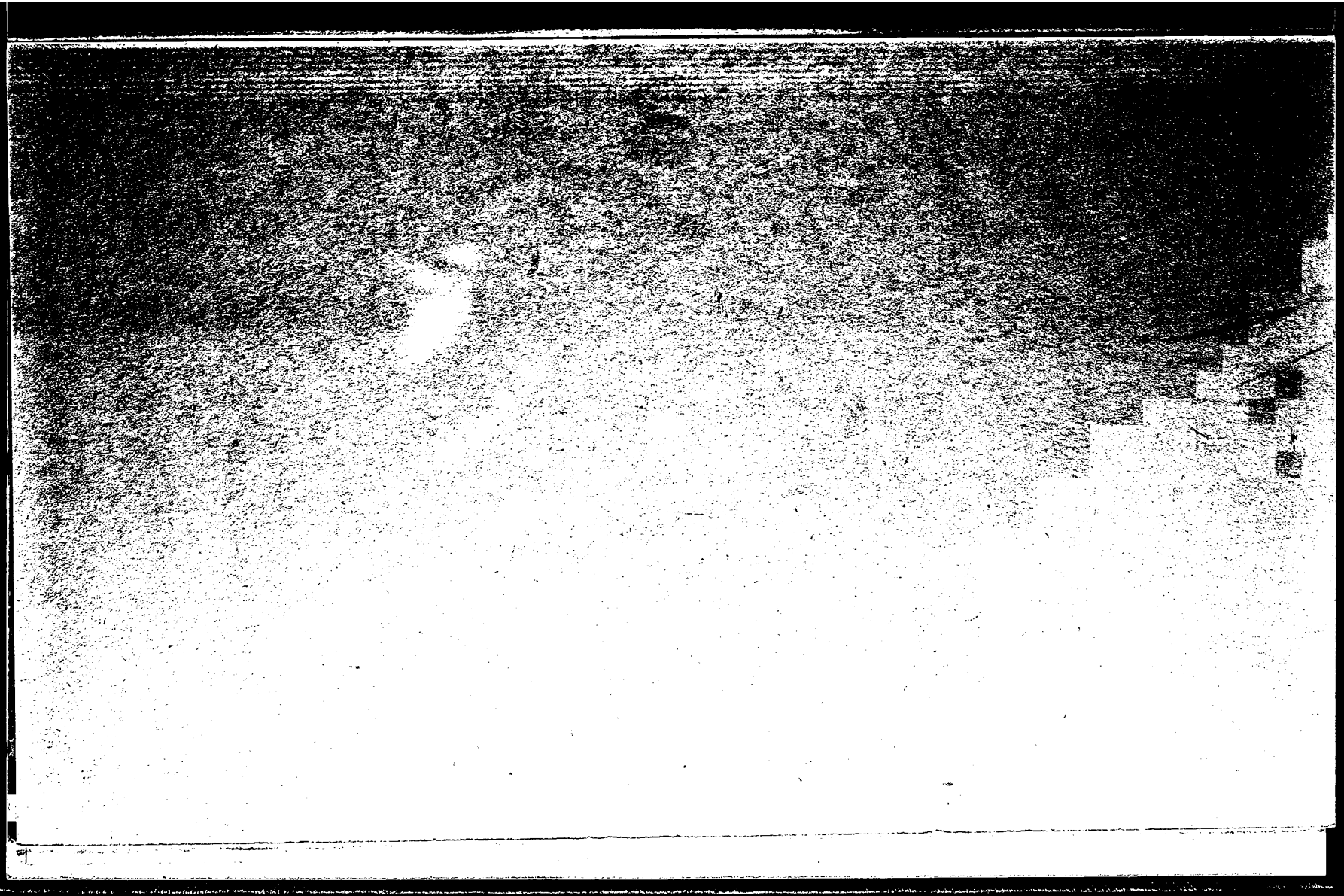

General practitioners and consultants: a study of outpatient referrals

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General practitioners and consultants: a study of outpatient referrals

ROBIN DOWIE

King Edward's Hospital Fund for London

To my sons, Sean and Craig

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Acknowledgments

When the suggestion was first made that research into outpatients be carried out by the Health Services Research Unit in the University of Kent at Canterbury, the thrust was towards the siting of peripheral outpatient clinics in health centres and other premises. During the initial discussions with consultants who hold peripheral clinics, however, it became clear that these clinics could not be satisfactorily studied in isolation. The work of peripheral clinics needed to be related to the workloads of hospital-based outpatient clinics within the same specialty. Also the views of general practitioners would have to be sought. And so the design of the study evolved under the supportive and wise guidance of the Unit's Director, Professor Michael Warren.

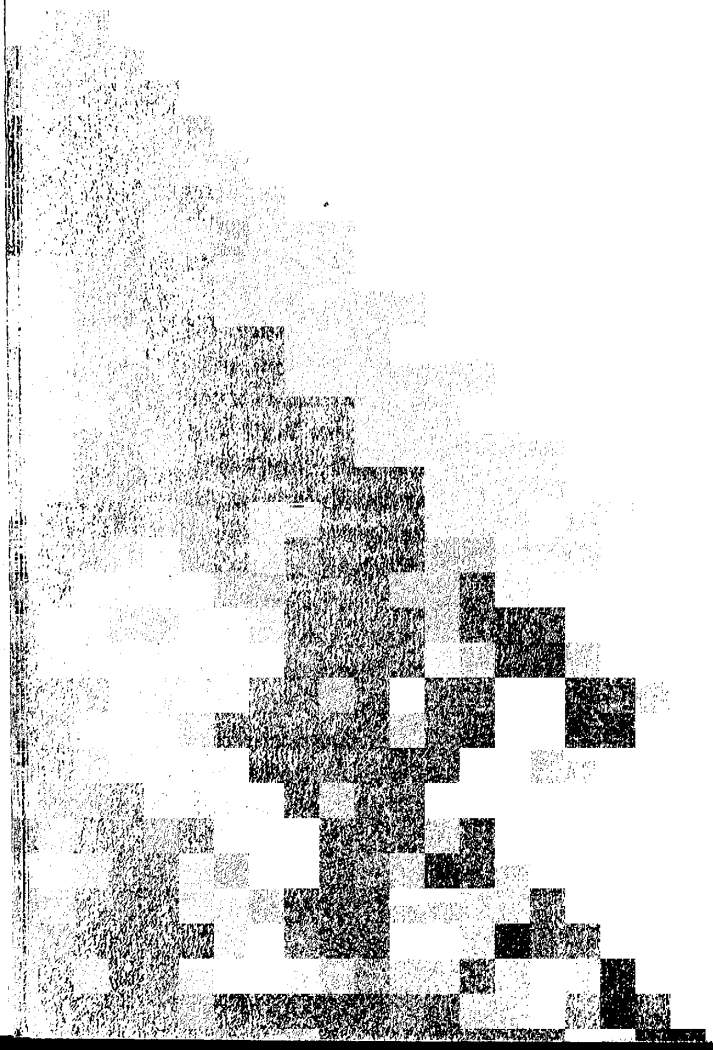
It is with great pleasure that I thank the four consultant physicians for giving me unlimited access to their outpatient work, and for their continued encouragement and friendship. I am grateful, too, for the help given by the consultants in the pathology and radiology departments of the survey hospital. I interviewed 45 general practitioners and I am only sorry that I cannot name and thank them individually. They greeted me warmly and they answered my questions with candour and patience.

At different stages during the study I received help from Jill Abrams, Shirley Imlach, Sally Morris and Angela Beeston who coordinated the clinic case folders, Sheila Gordon, Lavinia Harvey and Cynthia Thorpe who coded the material, and Barbara Wall who extracted the radiology data and provided coding and computing assistance. I am indebted to them not only for their meticulous work, but also for their friendship which sustained me during the sometimes lonely research process. Shirley Woodward typed all the manuscripts and to her, I owe a great deal.

In addition, valuable advice about the research was given to me by Gail Baker, John Bevan, Jane Cooper, Tim Cullinan, Ken Dawes, Bill Grinney, Neil Macmillan, Sheila Thompson, Michael Vaile and Isobel Wellard. My colleagues in the Health Services Research Unit were always supportive and, naturally, I am most grateful to the Department of Health and Social Security for funding the research.

Finally, to Jack Dowie I owe special thanks for our many discussions concerning the issues explored in this book.

Robin Dowie
1983



Abbreviations

BP	blood pressure
C/O	complained of
DGH	district general hospital
DHSS	Department of Health and Social Security
DNA	did not attend
ECG	electrocardiogram
EEG	electroencephalogram
ENT	ear, nose and throat
ESR	erythrocyte sedimentation rate
FPC	family practitioner committee
GP	general practitioner
Hb	haemoglobin
ICD	International Classification of Diseases
IVU	intravenous urogram
JVP	jugular venous pressure
LDH	lactic dehydrogenase
MD	doctor of medicine
MI	myocardial infarction
MSU	midstream urine
NHS	National Health Service
O/E	on examination
POMR	problem oriented medical record
RCGP	Royal College of General Practitioners
RHB	regional hospital board

SGOT	serum glutamic-oxaloacetic transaminase
SHO	senior house officer
SI	standard international
SPSS	Statistical Package for the Social Sciences
TFT	thyroid function test
WCC	white cell count

Foreword

There can be no doubt that the widely different rates at which general practitioners use hospital resources is a subject which demands careful examination. When it is realised that referral rates by general practitioners to outpatient departments may vary by a factor of 25, it is clear that this has important implications on the provision of resources. It also has important effects on the patients who may or may not be referred. Are some general practitioners using the resources unnecessarily, or are some failing to make the necessary services available to their patients?

Some fifteen years ago, I conducted a study in a single group practice in order to try to determine whether the differing referral rates of three general practitioners could be explained by the fact that they were seeing different groups of patients, that is, patients differing in age, sex, social class or morbidity experience. None of these variables accounted for the different rates of referral and subsequent studies have confirmed this finding. Other studies have attempted to relate the referral behaviour of general practitioners to their age, date of qualification, possession of higher qualifications, type of practice, list size, and so on. Such studies have generally been unhelpful.

In all these studies, we tried unsuccessfully to relate referral to hospital to variables which could be easily measured and it became clear that factors which determine individual doctor's referral rates are probably much more complex.

Robin Dowie has taken the next very difficult step. She has studied referral behaviour by relating the referrals from doctors in the catchment area of a district hospital to her findings from in-depth interviews with the doctors from whom those referrals originated. She has studied the reasons for referral and has constructed a model of referral behaviour which fits remarkably well with the behaviour of the doctors she interviewed. She has gone on to study the outcome of the referrals by interviewing the consultants concerned and recording decisions taken in the clinics.

She has extended her study to look not just at new referrals to the hospital but to consider the problems which arise when outpatient departments become overloaded with 'old patients' who are repeatedly called for review. She points out some of the problems encountered

by senior house officers with limited experience when they are faced with these patients for review in the outpatient department, and the difficulties which they encounter in discharging these patients from hospital care.

This book is full of new ideas for research, which will help to elucidate referral behaviour of general practitioners. It is clear to the reader that advances in this field must look at the knowledge and the security of the general practitioner when faced with a diagnostic problem. It must also look at the relationship which exists between the doctor and patient and the relationship between general practitioners and the consultants who are available to them to help solve clinical problems.

This book describes a piece of research which went beyond the early and easily measurable to some of the more fundamental behavioural factors which determine how the National Health Service works – behaviour of patients, general practitioners and specialists. It opens up many new fields of enquiry and has important lessons for those concerned with the education of both specialists and general practitioners.

D C Morrell
1983

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Introduction

In the early 1970s, the Health Services Research Unit in the University of Kent at Canterbury discussed with the Department of Health and Social Security (DHSS) a proposal to carry out research into the siting of outpatient clinics away from district general hospitals. The Unit was already carrying out an extensive study on assessing general practices before and after moving into health centres.[6] So this new study was incorporated into the Unit's research programme and I was invited to develop it.

In the preparatory stage of this research study four tasks were done. First, published and unpublished reports about consultant outpatient clinic experiments in health centres and conventional practice premises were collected and reviewed. Second, a critique was prepared of the economic evaluations of community outpatient services. The third (and largest) task was a survey of the 14 regional hospital boards (RHBs) in England to gather statistics about consultant outpatient clinics sited outside general hospitals. The aim of the study was to develop an overview of current practice based on existing routine records. A postal survey was sent out in February 1974 (just before Reorganisation) and the RHBs were asked to provide information about clinics held in general practitioner (GP) hospitals, health centres and other local authority premises for 1972. All but one RHB provided these statistics although some sets were not comprehensive.

Wide variations were seen in the regional provisions of accommodation for decentralised clinics. More interesting though, was the finding that outpatient episodes (the ratio of total attendances to new attendances) in the three types of decentralised premises and in all specialties except psychiatry, were shorter on average than the national ratios for all types of outpatient clinics. Was this trend due to the degree of autonomy within the medical teams undertaking the clinics – junior doctors in hospitals being less inclined towards discharging patients than consultants who tend to conduct peripheral clinics – single-handed? Also, the referring general practitioners may have been screening their patients and directing the fitter ones to the peripheral sites.

The fourth task was a comprehensive review of British literature about the 'interface' between primary medical care and hospital

outpatient care. It was organised under three headings – the patient, the general practitioner, and the consultant. Findings from the major outpatient surveys carried out in the 1960s were summarised in charts, as were the referral figures from a range of general practitioners' practice-based studies. The papers from these four exercises were brought together to form an Interim Report[30], and the Epilogue to the report concluded

> 'Many gaps in our knowledge of the overall purpose and functioning of the outpatient sector are evident from the review of the literature . . . Too little is known of the manipulative powers of patients who perceive a need for specialist advice. Too little is known about the reasons for the wide range in the general practitioners' referral patterns – what are the influences which impinge on their decisions to refer (or not refer)? An appreciation of the dependency of consultants and their deputies on diagnostic and remedial facilities is long overdue. Even more essential is a deeper understanding of how consultants within specialties select patients either for continued review or discharge.'

Thus, as the result of this preparatory work, the aim of the study broadened from an evaluation of decentralised outpatient clinics to a descriptive account of referral decision making and the outpatient system (with particular reference to general medicine).

Fortunately it was easy to reorientate the field study. The general medicine physicians in a district general hospital (DGH) had previously collaborated in projects undertaken by the Health Services Research Unit, and they were willing to collaborate again. These physicians held outpatient clinics both in the DGH (which was in a county town) and in three nearby towns. The peripheral clinics were sited in a health centre, two general practitioner hospitals and an old chest clinic. So all of these clinic sites were studied.

From the outset of the negotiations about the main study it was assumed that the consultants, junior hospital doctors, and general practitioners who participated would themselves record items of information about their workload activities. Indeed, in the pre-pilot phase two meetings were held – one with three general physicians, the other with five general practitioners – to discuss items for inclusion on the various proforma. However, as I developed the outpatient proforma by observing activities in clinics and extracting data from case notes, I started to have doubts about asking the clinic doctors to

record the quantity of data which seemed necessary. There were two impressionistic reasons for these doubts. First, it was clear from sitting in the clinics that the clinicians would have very little time to complete yet another form. As it was, they filled out separate forms for the four pathology departments, the radiology department, other diagnostic departments and the pharmacy. (And the fieldwork showed that some forms were completed at most outpatient attendances.) The second reason was the spontaneous comments of a few junior doctors. They found the task of filling-in research forms irksome. So I collected the outpatient data myself from the case notes, for a period of three months in 1977.

The decision *not* to ask general practitioners to record information about their referral and diagnostic activities was reached in the same spirit. Instead, I interviewed family doctors in the catchment area of the survey hospital 12 months after the outpatient fieldwork, and, when setting up these interviews, they were asked to keep a note of referrals made in the week prior to the interview. By using recent events for reference purposes, it was easier in the interviews to explore two broad issues – the general practitioners' use of the diagnostic services, and their relationships with the hospital doctors.

Two types of data about the doctors' use of the diagnostic services were assembled. The first was numerical – information was collected about the GPs' pathology and radiology requests from the hospital departments during the same period as the outpatient fieldwork. The second source was the interviews. Thus the doctors' usage figures could be examined in the light of their accounts of their investigatory behaviour, notwithstanding the 12-month gap between the hospital fieldwork and the interviews. Some doctors did, in fact, report adjustments in their diagnostic patterns owing to organisational changes in the services (for instance, the waiting times for barium studies were much longer in 1978). But the interviews also indicated that they had made marginal adjustments in their behaviour rather than shifting from being relatively high investigators to low investigators, or vice versa.

The significance of the professional relationships between general practitioners and consultants within the referral process became apparent when I began observing the consultants in outpatient clinics at different sites. Medically similar conditions were seen in the clinics of each consultant, but the new cases were unevenly distributed between referring doctors. This was not a real surprise, for the

literature review had shown marked variations in family doctors' use of the referral services. But what the British research literature did not show was how the consultants perceived differing 'referral standards' between individual GPs, and this hindsight could affect their responses to new referrals. So, as a way of demonstrating this effect, the consultants were interviewed while reading incoming referral letters.

There were two limitations in the design of the study – no patients were interviewed, and information was not collected about the use the general practitioners made of the hospital's inpatient services. The first omission was acknowledged at the outset. The referral process really involves a triad – the patient, the general practitioner, and the consultant. However, because of resource constraints it was not possible to extend the study to include patients' evaluation of the process. The second shortcoming was not recognised until the data were being analysed, when the possibility became apparent that low outpatient referrers or investigators might be relatively high 'users' of the inpatient facilities. By this time it was too late to collect three-months' retrospective data for it would have meant going through stored case folders to extract the names of the admitting doctors.

As the assembled data comprised two distinct sets – statistical data on a computer, and interview material in transcript form – it was decided to analyse these sets separately. So the analyses were written-up in two reports. The first was the statistical analysis and this was submitted to the DHSS in July 1980.[31] The second report about the interviews was sent to the DHSS in October 1981[32], and both are available from the Health Services Research Unit. When editing the reports for this book much of their detailed material was omitted. However, textual references to methodology issues have been retained and two particular issues deserve restating. High level statistical techniques (for example, multiple regressions and factor analysis) were not employed, because of the nature of the data and the purpose of the study. The main concern throughout has been to establish fruitful hypotheses, rather than test theoretically predetermined ones. Two-way tables and graphs and simple regressions were used where appropriate to this end, but the main reliance was always placed on close non-mechanical study of the data. This paid off. For instance, it was only by inspecting a simple chart on which was written the doctors' names, that a theme relating to biochemistry use was uncovered.

As the first step in analysing the interview material (while still

transcribing the tapes), I developed the framework described on page 27. When handling the transcripts within the context of the framework I had two objectives. One was to recognise the background 'rules' or assumptions which general practitioners – as members of the medical profession – take for granted when making referral decisions. The other objective was to establish that the assumptions and themes were shared by groups of doctors. So each time a new topic was introduced, all 45 transcripts or interview notes were searched for relevant statements and underlying meanings. (The method – described in the Appendix – was time consuming.) Finally, when interpreting these ideas, I drew on research reported by clinicians, behavioural decision theorists and sociologists.

Anxieties about credence were always present in the study because this research about the medical profession was being done by an 'outsider'. The interpretations of both the clinical material and the interviews seemed vulnerable to criticism even though the research methods were clearly stated. To minimise objections, two steps have been taken. Wherever possible the numerical results are compared with findings from related outpatient studies, while the topics in the interview material are illustrated by verbatim extracts from the transcripts. These textual procedures should assist readers in judging the verisimilitude of the research.

1 *The research setting*

There were two main aims to this study. One was to learn more about referral decision making than had so far been established in British studies, in particular, the manner in which the general practitioner arrives at his or her decision to refer and conveys this decision in the referral letter. The other aim was to gain an understanding of the relationship between hospital doctors and general practitioners in the outpatient sector. It was, therefore, a descriptive study out of which hypotheses could be developed for testing in the future. Elstein and his colleagues in the field of medical decision making see this kind of research being valuable because it may detect important though unanticipated social and psychological relationships which will help to explain why experienced clinicians differ from each other in their utilisation of diagnostic and treatment resources.[34]

The study was based on a 400-bed district general hospital serving a population of about 165 000 in south-east England. The catchment area of the hospital covered four small towns and the local general practitioners sent nearly all of their diagnostic requests and referrals to the DGH. The fieldwork was done in two stages.

1 Statistical data were collected about the general medical outpatient sessions held by four physicians over three months in 1977, and about the use by general practitioners of the hospital's pathology and radiology departments over the same period. The outpatient data were extracted by myself and I also carried out observational fieldwork in the clinics.

2 Twelve months later I interviewed general practitioners who routinely referred patients to the hospital. These interviews were semi-structured because the intention was to explore issues relevant in referral decision making which had emerged out of the literature review, the fieldwork in the hospital, and from discussions and pilot interviews with five general practitioners. The interviews took between 45 minutes and an hour and all but two were tape recorded – these two doctors preferred not to be recorded. The tapes were transcribed by myself for reasons of confidentiality.

The general medicine outpatient attenders

Information was collected about virtually every outpatient who attended the clinics of the survey physicians during 13 weeks from March to June 1977. (The data collecting methods and recording form are described in the Appendix.) In all, 2402 attendances were made by 1699 individual patients of whom 370 had been referred by general practitioners and attended for the first time during the survey. Relatively high rates of new patients were seen in these clinics; the survey ratio of one new attendance to old attendances (according to SH3 definitions[49]) was 1:4.4 compared to the 1977 general medicine figure for England 1:5.9.[49] Some details were also recorded about failed attendances – the occasions when the clinics were not notified that the appointments would be missed (DNA). There were 187 failed attendances (by 164 patients of whom more than half subsequently attended). So the overall DNA rate of 7 per cent was considerably lower than the 21 per cent recorded by Olsen in the general medicine clinics of the Central Middlesex Hospital, north-west London, in 1978.[88]

A factor which is sometimes overlooked in discussions about medical outpatients, is that nearly half the workload tends to be generated by hospital doctors either as discharged inpatients requiring follow-up or as transfers from other consultants. The proportion of patients who entered the general medical system as GP-referrals both in this survey and the Central Middlesex study[88] was 54 per cent while the figure for five hospital centres in Scotland[118] was 48 per cent.

The 1:1 ratio of males to females in the general medicine loads of this survey and two other studies[39,88] were in contrast with the female dominated patterns found in studies about general practice. For instance, in the Royal College of General Practitioners' (RCGP) 1971/72 morbidity survey[101], 58 per cent of the episodes (excluding normal pregnancy and prophylactic advice) were with females. This suggests that when *doctors* determine whether a patient needs or should continue hospital-based medical attention, the sex differences fall away. If anything it is males, particularly the middle-aged (50–64 years), who are more likely to be referred with medical problems, and this is not surprising in view of the far higher rates for males in both the inpatient and sickness absence statistics which are attributed to hypertensive and ischaemic heart diseases.[49]

The pilot fieldwork for the study showed that an unknown propor-

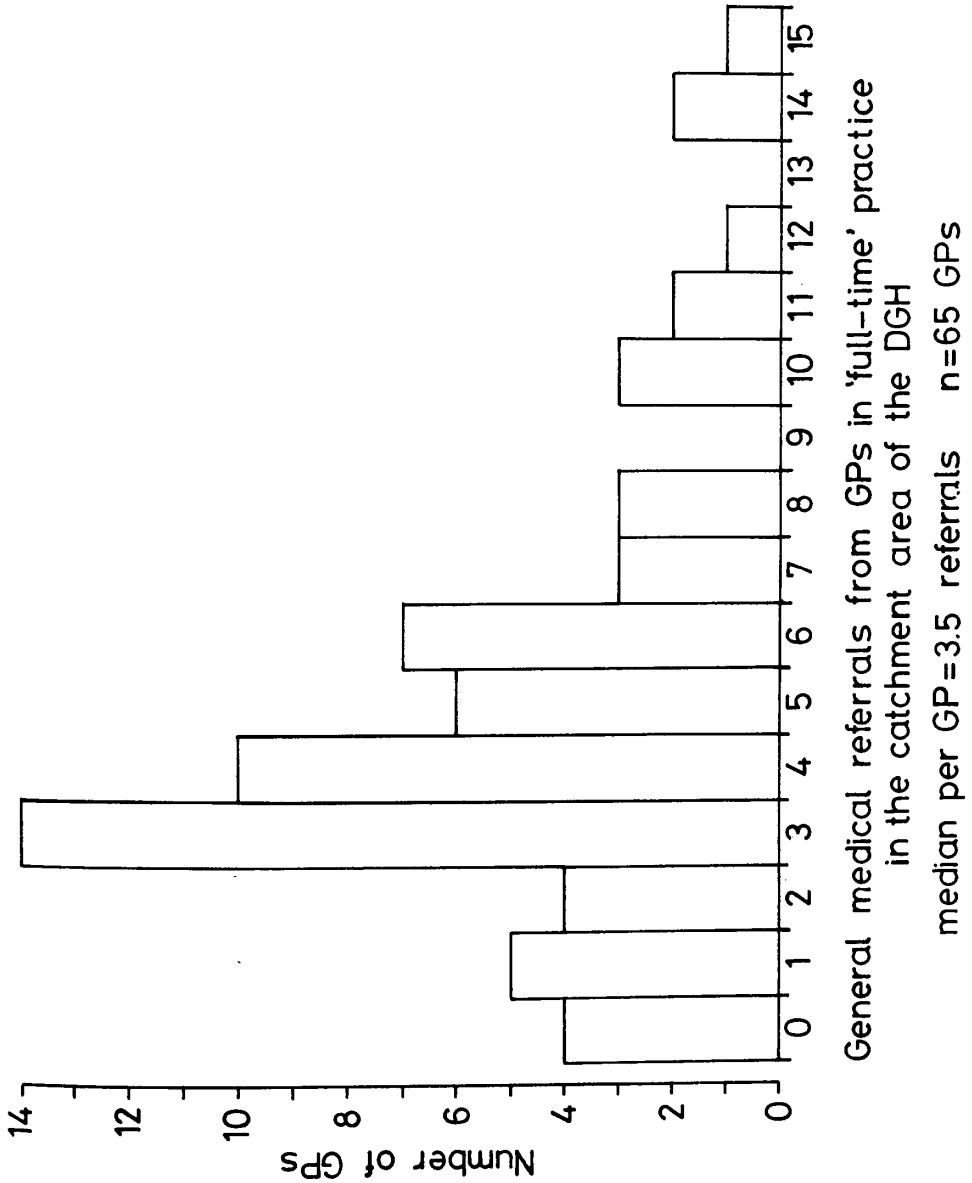
tion of the general medicine outpatients suffered from two or more diseases affecting separate systems of the body. Thus, to gain a more accurate assessment of the distribution of the diseases in the workload, up to three diagnoses 'under outpatient care' were recorded for each patient and coded to a four-digit level using the International Classification of Diseases (ICD).[123] Over one-third of *all* the patients were under outpatient observation for two or more individual diagnoses. Of course, some of these subsidiary diagnoses were jointly or even solely managed by other specialties. But nevertheless they were kept under surveillance in the general medicine clinics. Two out of every five patients suffered from diseases of the circulatory system (42 per cent), and nearly one in five from diseases of the digestive system (17 per cent).

The disease pattern of the *newly* referred patients was noticeably different from the total workload. Far fewer patients suffered from circulatory system diseases. The proportion was 29 per cent. Another 29 per cent suffered from mental disorders or symptoms or ill-defined conditions, and this latter rate was in line with the findings in Forsyth and Logan's 1962 national outpatient survey[39] and a study of the Chesterfield Royal Hospital.[114] So, it would seem that certain characteristics of this study's outpatient workload (the component of GP-referred patients, the sex ratio, and the prevalence of symptoms and ill-defined conditions and mental disorders amongst new patients) were typical of other investigations into general medical outpatients.

The general practitioners' referral numbers

The prediction derived from past studies that the family doctors' numbers of referrals to the general medicine clinics would be widely varied, was fulfilled. The figures for 65 full-time doctors over the 13-week outpatient survey ranged from zero referrals by four doctors, to three doctors making 14 to 15 referrals (Figure 1), and the median was 3.5 referrals. Thus the frequency distribution for the crude referral numbers was positively skewed and this skewed distribution was found in two national referral studies which took account of doctors' list sizes[39] and consultation rates.[100] The overall referral rate for the catchment area (inflated to 52 weeks) of 7.7 per 1000 population was the same as the general medical rate for the catchment population served by the Chesterfield Royal Hospital in 1971.[115]

Figure 1 General medical referrals made by the general practitioners



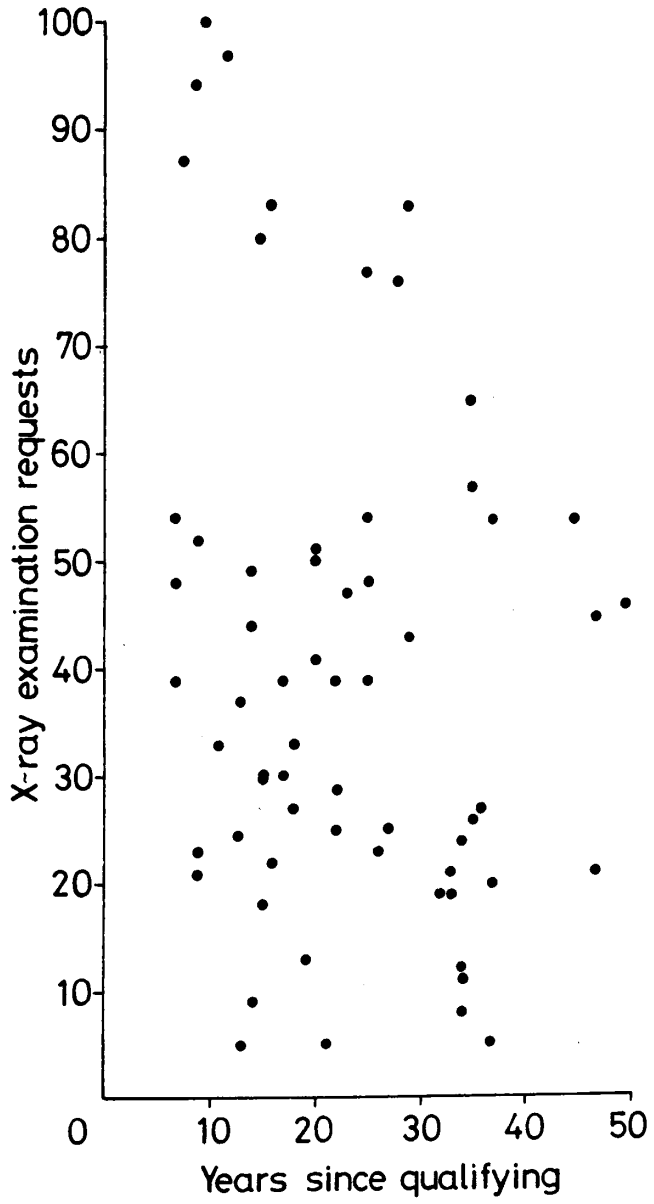
Correlations between the individual doctors' referral numbers and other variables such as years since qualifying, and use of diagnostic services, were no more successful in explaining the variations in referral behaviour than in other studies. In their analysis of 369 family doctors, Forsyth and Logan found that none of the variables – place and length of medical training, length of time since qualifying, and clinical assistantships – yielded a significant relationship with rates of referral to outpatients.[39] Morrell and his colleagues approached the problem from another angle and looked at the characteristics of a practice population. These researchers showed that the observed differences in the referral rates of three doctors in a group practice were not explained by the age, sex, social class and diagnostic characteristics of the patients seen by the individual doctors.[86] An even more complex analysis of these patient variables was carried out by Jarman and colleagues in his practice.[22] When the variables were standardised for the five participating doctors and six specific problems, significant differences still persisted between the doctors. These researchers concluded that doctors have unique 'referral thresholds'.

Radiology use

The general practitioners in the catchment area of the DGH had open access to a wide range of radiological services. So, information was extracted from the radiology department's day-books and record cards about all x-ray examinations requested by these doctors during the 13 weeks of the outpatient fieldwork. (If a patient had been advised to go to the casualty department and was x-rayed, he would not have been included in these data.) The survey also covered two peripheral radiology units.

In all, 2895 GP-requested radiographs were logged in the day-books and these came from 102 family doctors including locums. The average number of requests per GP in full-time practice was 13 per month. This request load was far heavier than the loads generated by general practitioners in two Scottish studies. In 1973/74, 71 doctors practising mainly in Perthshire had a monthly rate of 6 per GP[106], and again during 1973 the 189 doctors using the radiology facilities in Aberdeen averaged 5 requests monthly.[82] But in both areas the doctors had restricted access to certain types of contrast media studies.

Figure 2 X-ray examination requests made by the general practitioners



More interesting though, is the wide range in the individual request figures for the southern doctors and, as Figure 2 indicates, there was no statistical relationship between the doctors' radiology use and their years of experience. Also, there was no statistical relationship between radiology use and medical outpatient referrals.

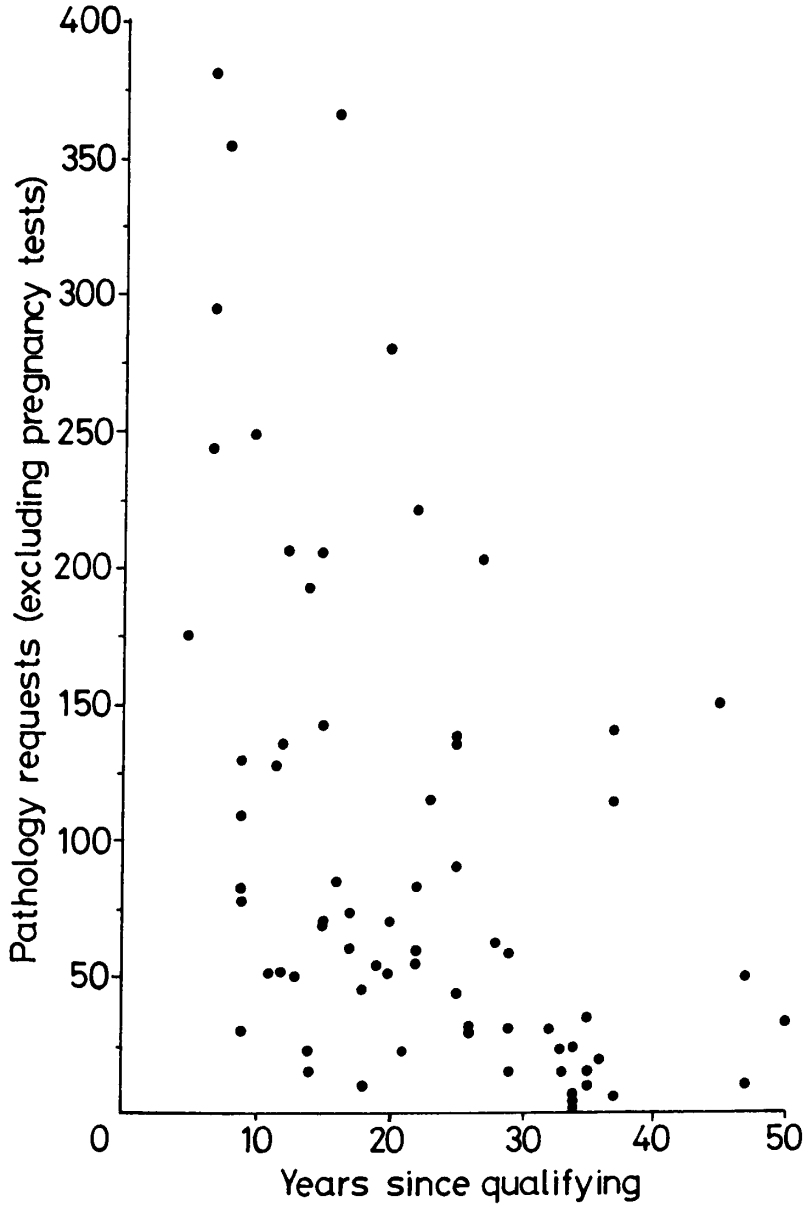
Pathology use

The four pathology departments in the survey hospital provided copies of request forms sent in by general practitioners during the same weeks as the outpatient and radiology fieldwork. Altogether 8483 forms were analysed and the laboratory's records showed that the survey covered 77 per cent of the work generated by family doctors. From comparisons of weekly and monthly records it seemed that the shortfall was spread across the entire survey period. But it had to be assumed that the shortfall was also spread randomly across all general practitioners. The references to pathology use particularly to biochemistry tests, in the referral letters and interviews indicated that this assumption was probably correct.

There was a definite trend for the younger doctors to request pathology tests considerably more often than their oldest colleagues – see Figure 3 in which the inverse correlation of all the observations was statistically significant ($r = -0.47$, $p < 0.001$). This trend was predicted from earlier studies of pathology use, notably that of Rose and Abel-Smith[98] who looked at three-months of data from a hospital group in 1966. However, there was one noteworthy difference between their findings and this 1977 survey – only one out of 209 doctors in 1966 made more than 100 requests.

Finally, there was little relationship between the family doctors' use of the two diagnostic services. While high pathology requesters regularly asked for radiographs, some constant users of the x-ray services generated relatively little pathology work. Forsyth and Logan, too, found in their 1950s Barrow-in-Furness enquiry that the usage rates of these two diagnostic services were not really related to each other.[40] So, all in all, the general practitioners in the survey district were no different from those in other studies as regards their varied patterns of medical referral and radiology and pathology use. They did, though, make heavier demands on the diagnostic services than in past studies, but this is a national trend.[50]

Figure 3 Pathology requests made by the general practitioners



The interviewed general practitioners

The study design was in two parts, the second being interviews with general practitioners. However, as the data collected from the hospital departments was complex, it was necessary to prepare it for processing before turning to the second phase of the fieldwork. Thus the interviewing was done between May and October 1978. General practitioners who were in full-time practice in the catchment area during the outpatient survey formed the sample. Naturally, there had been some deaths, retirements and departures during the intervening period and a few doctors had been newly appointed. So altogether, 66 doctors were personally approached including two new appointments, and 45 (two-thirds) were interviewed. This figure was considered satisfactory especially as it was not intended to analyse the interview material in a statistical manner. Rather, the transcript material (which exceeded 650 pages) was searched for factors relevant in referral decision making. The interview schedule and procedures for analysing the transcripts are described in the Appendix.

The 45 interviewed doctors were members of 24 practices ranging in partnership size from single-handed (5 practices) to five or more partners (2 practices). They were relatively young overall – the average time since qualifying being 19 years. Furthermore, 17 doctors practised in premises organised as health centres.

The interviewees were asked the size of their personal lists, notwithstanding the shortcomings of Family Practitioner Committee (FPC) list sizes as an indicator of the number of patients being cared for by a practice at any point in time (see Alderson and Dowie[2]). Many of the doctors were 'sharing' their patients not only for remuneration purposes but also in terms of the work. Over half of the doctors in partnerships claimed to be willing to see any of the patients in the practice regardless of whom they were registered with. The recurring theme in the 'sharers' answers was the belief that patients should be free to choose whom they wish to see. It was usually expected, though, that a patient would continue with the same doctor during a single illness episode. The elliptical nature of colleagues' entries in the medical records was one reason for encouraging this episodic attachment. The other doctors whose overall policy was to see just their own patients did, of course, see colleagues' patients when on call, or covering holidays and the like.

It is not just the differing policies about patient sharing which make

list sizes an unreliable indicator of workloads. Even in practices where the policy is to see one's own patients, the FPC list size for an individual doctor may be quite different from the actual number of patients whom the GP identifies as his own. This is usually for historical reasons. An additional new partner will naturally take time to build up a list. In a practice where partners have been replaced, the patients may have re-attached themselves to practice members without any formal notification to the FPC.

Clinical assistantships and other external posts were held by more than half the interviewed GPs and these were another reason why they felt that list sizes were a poor indicator of work performance. Eighteen doctors were clinical assistants and three more had recently resigned from their posts. Others held responsibilities with medical boards, public institutions, and family planning services, while four were involved with the vocational training of general practitioners.

Layout of the book

This has been a scene-setting chapter. The remainder of the book is organised around a framework of referral decision making (see Figure 4) which was developed while transcribing the tapes of the interviews. Listening to the doctors' answers to the interview questions, it seemed that many of their replies consisted of a jumble of pertinent points. For example, when asked how he selected the consultants for his referrals, a doctor might raise waiting times for appointments, the availability of peripheral clinics, and his own familiarity with certain consultants. And underlying the answer was the doctors' preferred clinical practice when diagnosing and managing medical problems. After hours of listening to the tapes, three blocks of variables – professional attributes, knowledge of the health care system, and personal style – were identified as impinging upon the general practitioners' referral decision making. Thus the framework, while inevitably imposing some element of artificial order on the material, grew out of it.

The chapters form discrete units and they incorporate virtually all the material from the 45 interviews. Short verbatim extracts from the interview transcripts have been cited. However, great care was taken to edit out clues to the personal identity of the speakers and the individuals (patients or consultants) about whom they might have been talking. Moreover, since only four of the 45 general practitioners

Figure 4 Framework of referral decision making

were women, all references to their statements are in the masculine form. Integrated into the chapters as well, are the results from the statistical analyses of the hospital outpatient, radiology and pathology data.

2 *Clinical judgment and diagnostic investigations*

In the framework of referral decision making (Figure 4), the first item in the block labelled 'professional attributes' is medical (clinical) knowledge. However, the survey doctors' knowledge was *not* appraised via either the outpatient data or the interviews. Nonetheless, the state of a doctor's clinical knowledge is fundamental in shaping his judgment and thus his medical practice, and the subject is discussed in the final chapter. What the interview material does reveal is that many doctors, but not all, combine information from diagnostic tests with their clinical judgment when deciding if a medical referral is warranted. And, should access to an established diagnostic technique (such as barium studies) become restricted, they have to adopt new coping strategies. General practitioners, too, have differing attitudes towards newly developed diagnostic procedures, in particular gastroscopy.

Pre-referral investigations

The general practitioners were asked if they normally investigated patients (where relevant) prior to referral. This they did, but what separated the answers were the ways they *utilised* the investigations. Some doctors saw them primarily in organisational terms: some consultants expected certain investigations to be done; both the consultant and patient were saved time when the investigations were done in advance; and, if there was a long waiting time until the outpatient appointment, then the patient was encouraged that something was happening while the GP was reassured about the problem being non-urgent.

Other doctors emphasised the satisfaction they got from taking the diagnostic workups as far as they could, and indeed the actual decision of whether or not to refer frequently hinged on the information in these investigations. Moreover, when a referral was justified, they would express in the letter their provisional diagnosis.

> '. . . one doesn't intend initially to refer a lot of people to a physician unless one has done the workup oneself . . .' (Doctor 44)

'A lot [of investigations], yes. I think most of them merely because it tends to help us to decide if perhaps referral is necessary.' (Doctor 28)

'I personally regard it as a failure not to at least be in the position to make a tentative diagnosis before referring patients and therefore, unless it is a matter of dire emergency, I tend to do the investigations myself . . .' (Doctor 12)

But were these doctors' observations about their own behaviour reliable? Perhaps some were exaggerating to impress the interviewer. The outpatient referral letters showed that virtually all of the 45 interviewees had done some pre-referral investigations for at least one of their new general medical referrals. Moreover, the three-month dignostic data confirmed that the doctors who chose to work their patients up as much as possible were medium to high pathology and radiology requesters. So the doctors' responses were reliable in a general sense. However, two interesting points did emerge from interviews.

Some of the doctors could not reliably judge their diagnostic use *relative* to other GPs and this is understandable because they do not receive feedback about their request rates. The point is best illustrated by specific examples. Two doctors in separate practices considered that they did quite a few investigations. 'I do, in fact, a fair few investigations, blood tests, MSUs, chest x-rays . . .', and 'I investigate my patients as far as I can before I refer them . . .' They were basing their self-assessments on comparisons with their practice colleagues' investigation rates – both doctors had at least one colleague who, they believed, performed very few pre-referral investigations and the survey data confirmed this. What these doctors were unable to recognise though, was while they were heavier users than their colleagues, they were still below the means for the total sample in both their pathology and radiology requests. Another GP suspected that he over-used the pathology service. Yet in the three-month data, 29 per cent of general practitioners had pathology request figures which were greater than his.

The second point is that although the doctors affirmed that they tended to do investigatory workups, they had *differing perceptions* about which investigations were relevant. For instance, Doctor 26 explained with candour how he avoided investigating certain people.

'Because often I may not do the things that are necessary and

> occasionally do things which are totally unnecessary, and I think if they are going to be referred fairly soon . . . then I generally leave it up to the chap the patient is going to see rather than do a whole battery of unnecessary investigations.'

Another doctor identified biochemistry tests as being outside his repertoire even though he liked to present the consultants with investigations 'a, b and c'. Doctor 8,

> 'Having said all this, I'm not, I would have thought, terribly investigation minded in a biochemical sense. This is just me . . . I suppose I am changing a little bit now but . . . in the old days one tried to attempt to diagnose someone with a myocardial infarction from the clinical signs. One didn't rush to the blood bottle and get an SGOT or an LDH. And to a certain extent, um, I would still tend to do this. Therefore my investigations would not be quite so thorough biochemically as some of the younger chaps.'

The three-month pathology data confirmed that Doctor 8 correctly judged his own biochemistry use relative to colleagues and the data also provided some ideas about the doctors who are frequent users of this particular service.

Biochemistry tests

More than 85 per cent of the catchment area's population was resident in four similarly sized towns and their environs and one town, Town C, had far higher pathology usage rates over 13 weeks than the others. The pre-eminence of the town's 10 principals was consistent across the four pathology departments (haematology, microbiology, biochemistry and cytology). Since a specimen collection service operated in all areas except those adjacent to the pathology laboratory, this organisational feature did not appear to have influenced the request patterns.

The widest range in the rates of requests was for biochemistry tests, from no more than 20 per 10 000 practice population in Town A to over 180 per 10 000 in Town C. (And note that in other studies[54,98] general practitioners have been found light users of biochemistry services, although in 1972, Rose and Abel-Smith predicted it to be a division on which GPs would make increasing demands.) The survey

period did coincide with the Medical Research Council's mild hypertension screening trial in Town C, and for patients found to have a diastolic reading of 115 or more certain biochemistry tests were sent to the local laboratory. But these requests accounted for only about 10 per cent of the biochemistry rate for this town.

Like haematology tests, most biochemistry tests* require a specimen of blood since they are performed on blood serum, and the two types of tests are frequently requested jointly. If help with venepunctures is not available from nursing personnel, these tests might be ordered less often because the general practitioner lacks time, or even has a distaste for the procedure. So the haematology and biochemistry data were reanalysed according to whether the GPs in the four towns and their environs practised in health centres (with treatment rooms) or not. There were two health centre-type premises – one in Town C, the other in Town D.

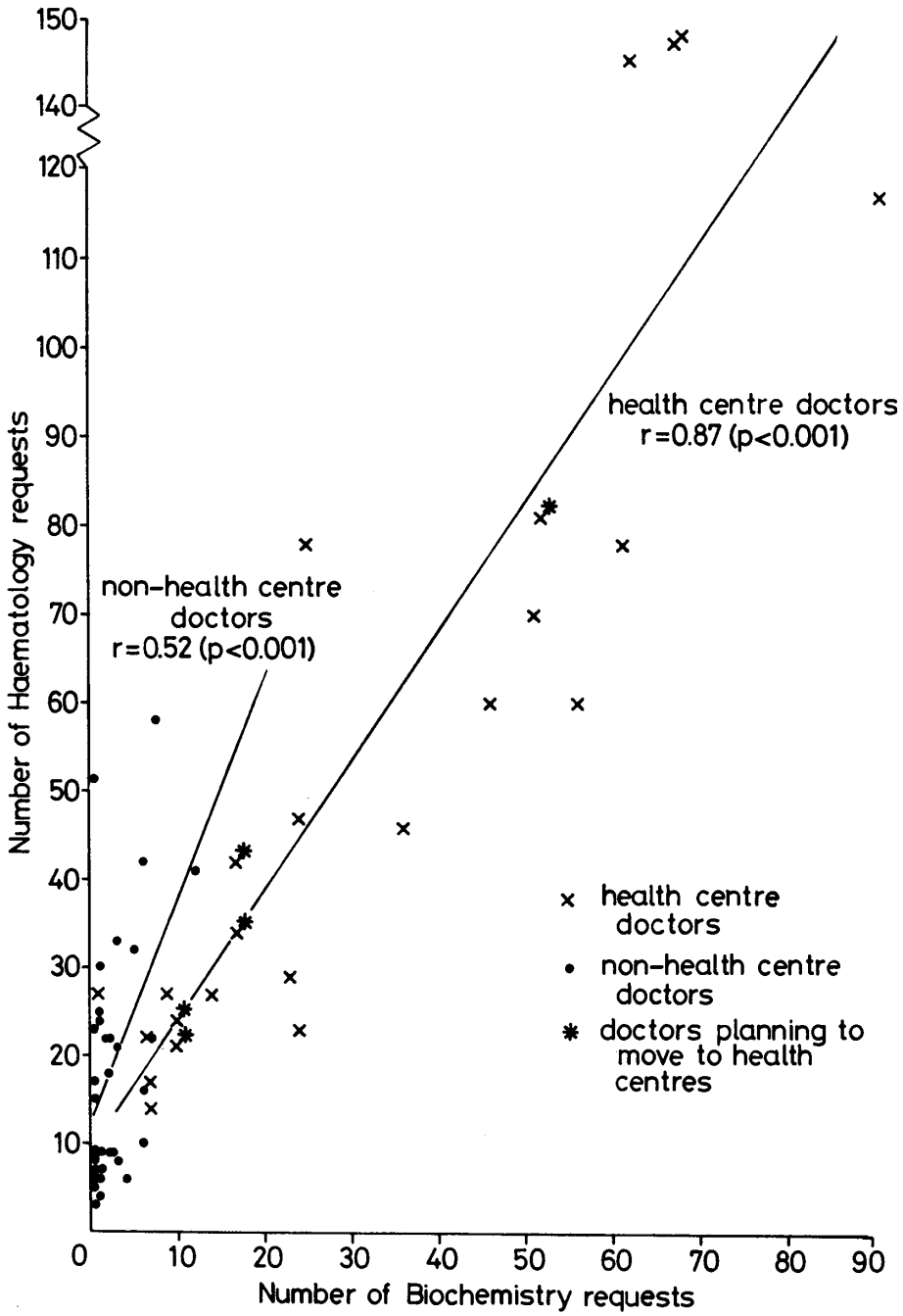
Doctors holding some or all of their surgery sessions in health centres were far more likely to request haematology *and* biochemistry tests for their patients than doctors practising in other premises (see Figure 5). A positive correlation between the two groups of tests was expected but the statistical relationship for health centre doctors was particularly strong.

It is *not* being argued that health centres are in themselves the independent variable; that is, doctors exhibit a high correlation between haematology and biochemistry requests only because they are practising in health centres. (The facilities of a treatment room will, of course, enable doctors to make greater use of the pathology services.[6]) Rather, it is the doctors who are inclined towards using biochemistry tests in conjunction with haematology tests who are also more likely to choose to practise in health centres if given the option. This proposition is supported by some additional observations about the survey practitioners in the four towns.

1 In Figure 5 there are five doctors identified by an asterisk (*). These doctors did not, in fact, commence practising in a health centre until two years after these diagnostic data were collected. Yet they all tended to exhibit a request pattern more characteristic of the health

* Haematology is the study of the blood and its disorders, whilst biochemistry is the chemistry of living organisms and of vital processes. Biochemistry tests can assess the functioning of organs (for example, the thyroid gland, liver, kidney or heart) as well as less specific processes such as the 'handling' of carbohydrates, fats and proteins by the body.

Figure 5 Haematology and biochemistry requests made by general practitioners in four towns and their environs



centre doctors than the non-health centre category. This was particularly true for three of these five doctors.

2 The non-health centre doctors in Town A who did not need to take their own specimens because their patients attended the laboratory, still had generally very low request rates, especially for biochemistry tests.

3 Many of the doctors in the non-health centre category had been offered accommodation in planned health centres but chose to remain in conventional premises.

There will, of course, be a few GPs in health centre practices whose pathology request pattern is more akin to that of non-health centre doctors. These could be doctors whose partners took the initiative to transfer to health centre-type premises. Conversely, there will be non-health centre doctors who are very dependent upon these joint pathology services but have not had the opportunity to enter a health centre. There were, in fact, two survey GPs in a rural practice whose request pattern resembled that of the heavier health centre users. Finally, it is not being suggested that high haematology and biochemistry use is, in itself, indicative of good primary medical care. It is just that this variable has differentiated two patterns of practice and the theme reappears in later chapters.

Restricting access to barium studies

The three-month data from the radiology department showed that the general practitioners as a group were far more likely to request barium meals than the surgical and medical outpatient doctors combined. The GP-requested barium meals numbered 219, the outpatient requests, 69. With regard to barium enema requests, the numbers were similar (around 90) from both sources. Seemingly, gastroscopy was being used inside the hospital as an alternative investigatory procedure, the barium meals having already been done prior to referral. This proposition is supported by evidence in the 370 referral letters. In the outpatient clinics the physicians ordered gastroscopies for 33 new patients of whom almost three-quarters had already been examined by a GP-requested barium study. Moreover, half of the newly referred patients presenting with gastrointestinal problems had had a barium meal or barium enema in the past.

But during the outpatient fieldwork the waiting time for both barium meals and enemas in the survey radiology department was

four to five weeks whereas one year later, at the start of the interview fieldwork, the waiting times for routine general practice requests had doubled – 12 weeks for barium meals and 10 weeks for enemas. (To help the family doctors, the radiology department asked them to classify their requests as routine, soon or urgent.) So the doctors were asked in the interviews whether the increased waiting times for barium studies had affected their use of these services.

There was no doubt that the majority of the 45 doctors had been inconvenienced in some way even if the prolonged waiting times had not noticeably reduced their overall use of the service. Some doctors started their replies by explaining what they perceived the role of barium studies to be in their diagnostic process.

From reading the answers it seems that there are three types of diagnostic situations for which barium studies might be requested by general practitioners. The *first type* arises in patients whose condition or discomfort does not appear to have a 'significant' pathological cause. For these patients a barium study provides reassurance that there is nothing seriously amiss so there is no urgency in the GP's mind about having the study done.

> 'These are people who one basically would think there was probably not very much wrong, but you feel that you've got to prove it and you don't really mind [the waiting time] too much . . . You have probably jollied this person along with various bottles of stuff over several weeks or months maybe. They've looked fit . . . they've been living well and you think "Well, it's entirely appropriate".' (Doctor 44)

> 'If it's a barium enema and I'm trying to reassure the 65th patient you know on the 5th day that I've seen them with irritable bowel syndrome and I know that it doesn't matter a damn whether they have it done or not but I've got to reassure them, then that's no problem [waiting a prolonged time].' (Doctor 23)

The *second type* of diagnostic situation occurs when, in the clinical judgment of the general practitioner, a patient has a 'significant' disease which the doctor prefers to treat himself rather than refer. He would, though, like to have a barium study confirm his judgment but with the delays he is forced to commence treatment, and in some cases the disease will be under control by the time the contrast study is done. Peptic ulceration and diverticular disease were two diagnoses

which individual doctors mentioned as being within their own expertise.

> 'I mean, if you think somebody's got an ulcer on clinical grounds you would like to have it verified radiologically, but um obviously you are not going to postpone the treatment until it has been if it's a matter of three-months waiting list. So you get on and treat them purely on your own clinical judgment. The chances are that they get better and in the end you don't bother to have them x-rayed.' (Doctor 6)

> 'I always used to like getting a barium enema done before referring them because if it was diverticular disease then I wouldn't refer them.' (Doctor 15)

It is when the GP suspects a malignancy that the *third type* of diagnostic situation arises. For many of the interviewed doctors it was only when confronted with a possible malignancy that the increased waiting times for barium studies really affected them. They had to change their investigatory pattern of behaviour. However, other doctors were unaffected by the recent radiology delays when a malignancy seemed to be a likely diagnosis. So what were the reasons for these opposing views?

One explanation why some doctors claimed to have not been affected was that they had always referred suspected malignancies rather than doing an initial x-ray examination. But even these doctors had differing motives. On the one hand, a doctor who was generally a very low investigator said that he did not think he had been affected. He was not substituting bariums for referrals because if something was urgent 'then you are going to refer it anyway'. On the other hand, at least six doctors indicated that they believed endoscopy to be a superior diagnostic procedure and as it was only done by consultants, they had been substituting referrals for radiology requests for some years. These are two examples of such policies.

> 'Um, well, I suppose that probably since the onset of the fibre optic industry one refers more for that investigation because you learn more from it probably and can take a biopsy at the same time.' (Doctor 25)

> 'Well I think we normally send them now via the consultants . . . our attitude has probably changed a little over the past years in view

> of the advent of gastroscopy . . . you know you gradually change without really realising that you're thinking slightly differently.' (Doctor 10)

Telephoning the radiologists personally or substituting an x-ray request with a referral to a consultant were the strategies used by those doctors who found the waiting times a problem when faced with urgent cases. One-third of the interviewees talked about ringing the radiology department. They had telephoned on occasions in the past, but then it was only necessary to speak to the departmental secretaries whereas now they had to explain their case to a consultant radiologist. Some had mixed feelings about using this strategy and these feelings seemed to depend upon the doctors' level of friendship with one or more of the radiologists. GPs who had no reservations about using the telephone often explained how they knew the radiologists. For example,

> '. . . if it is urgent I ring sometimes . . . I know all the radiologists anyway . . . and I never have a problem getting an urgent one.' (Doctor 40)

In contrast, a couple of doctors who expressed reservations about the system appeared to be unfamiliar with the consultants. One was a doctor who had moved into the district quite recently. But note, it is *not* being suggested that the radiology department was favouring GPs who were well known to them. Rather, the point being made is that individual doctors may feel more at ease about phoning for an urgent appointment if they know a consultant radiologist personally.

The strategy of referring patients as a way of getting around the radiological inconveniences was mentioned in a spontaneous fashion by eight GPs.

> 'If somebody's got something and you think it might be malignant, you no longer wait to get a barium enema or meal done. You send them straight to a surgeon first.' (Doctor 20)

> 'Yes, if you in fact have a problem now . . . raises your suspicion of a carcinoma of the stomach, I would not now ask for a barium meal. I would certainly send the patient directly to the consultant.' (Doctor 16)

Two other types of substitution were also mentioned; a few patients were being sent to radiology departments with shorter waiting times

in other towns, and there was a suggestion that an increasing number of patients were having private x-ray examinations although the numbers were probably still very small.

There were no relationships between individual doctors' views of the barium studies service and other factors such as their length of experience or practice organisation. Thus, each of the three groups of doctors (those who tended to telephone, tended to substitute referrals, or routinely referred for endoscopy) included young and older men and women who were practising from health centres and conventional premises. Furthermore, there was not a preponderance of clinical assistants amongst the doctors who tended to telephone. Finally, it must be emphasised that while the doctors talked freely about how they coped with the waiting-time delays for contrast studies, not one interviewee suggested that the GPs were being unfairly discriminated against compared with the hospital doctors. Indeed, it was clear through all the transcripts that these doctors greatly valued the radiology service and the expertise of the radiologists.

Confidence in clinical judgment

While it was possible to identify in the transcripts three types of diagnostic situations which might warrant barium studies, it was also clear that individual doctors had differing levels of confidence in their ability to judge correctly which of those categories each patient fitted into. One doctor was especially anxious about this problem. Indeed, this next extract may contain a clue as to why some GPs have relatively high investigation *and* referral rates.

> 'If I thought someone had a carcinoma I could get a barium meal done, still can, urgently, and that's no problem. But if I think someone just might have but I'm not sure, then they will have to wait three months, and before they had to wait a fortnight which didn't matter. So I don't know what to do now. I can't bully the x-ray department and say "I think all of these may have a carcinoma" because none of them may have, so I keep my fingers crossed.' (Doctor 29)

Furthermore, this doctor seemed to be more dependent than others upon investigations to confirm his clinical judgment when treating non-urgent conditions for he went on to say: 'It makes a big difference to me because I like doing investigations, but now when I say to

someone "Have a barium meal and we'll sort it out", that means they're going to have their symptoms for at least three months.'

Another doctor conveyed a similar note of anxiety when talking about peptic ulceration, a disease which other doctors were willing to treat themselves.

> 'It is very difficult to get an urgent contrast examination done without actually personally speaking to the consultant . . . It can make life rather difficult especially if you've got someone you're pretty sure has got a peptic ulcer and they are getting a lot of symptoms . . . and you know that you're really doing this as a preliminary perhaps to a referral . . .' (Doctor 37)

The idea that these two doctors might be anxious about their clinical judgment was corroborated by the three-month survey data. Both doctors had relatively high to very high numbers of contrast media requests, pathology requests and general medical referrals.

Explanations for the propensities of some doctors to be high users of diagnostic services may be found in behavioural decision theory.[33] Seemingly, when several sets of probabilistic data (such as clinical data) about a single case are processed simultaneously, the general outcome is *conservatism* in judgment. In medicine this would lead to the ordering of more tests than are necessary to reach any desired level of diagnostic certainty. This may be caused either by the individual's limited capacity for inference – his making less than full use of the data to revise his probabilities, *or* an emotionally based desire for security in his judgment. He 'knows' he could derive the answer with fewer tests but feels emotionally more satisfied by having the extra amount of data behind him even though they are technically redundant.

The interviewees' heightened awareness of possible malignancies was another dimension of their clinical judgment which was evident in many interviews. When they were talking about the waiting-time delays, over a third of the GPs explained how they coped when they had a patient with a suspected carcinoma. Now it is interesting that there were so many references to carcinomas, since the likelihood of each type occurring in the community is very small. The cancer registration figures for England and Wales suggest that on average in a practice population of 2000, there will be one new case of cancer of the stomach every two years, and two new cases of colorectal cancer.[53] So even though an individual GP may have an aged practice population, he is still not likely to encounter new cases in each of these types of

carcinoma more than perhaps two to three times in a year. The transcripts suggest, therefore, that some GPs may be overestimating the probabilities of patients having carcinomas because they lack knowledge about the population-based rates of incidence for these diseases. And this might be leading to their making more use of the channels for getting urgent barium studies done (telephoning the radiologists or referring to outpatients) than is really warranted.

Again behavioural decision theory has an explanation for this heightened awareness of rare but significant events. It has been identified as the *availability bias* to which individuals are prone. One study by Slovic and colleagues[105] is a particularly apt illustration of this availability phenomenon. They were interested in people's perceptions of low probability, high consequence events. So 41 causes of death, including accidents, homicide, various natural hazards, and various specific diseases, were paired, and a large number of laypeople was asked to indicate for each pair the more likely cause of death, and the ratio of the greater to the lesser frequency. The frequencies of accidents, cancer, botulism and tornadoes, all of which get heavy media coverage, were greatly overestimated, while asthma and diabetes, these being silent killers, were among the events whose frequencies were most underestimated. Thus, it is easy to appreciate how an individual doctor who once missed a relatively rare diagnosis that led to a fatality (for example, a stomach carcinoma or brain tumour) may be overly cautious in the future. And it also needs mentioning that their training inclines doctors towards the more serious diagnosis rather than the lesser one.

Open access to gastroscopy

In 1979 Holdstock, Wiseman and Loehry[61] described an open access gastroscopy service which had operated in a district general hospital for three years and they concluded

> 'We think that introducing a general-practitioner direct-referral endoscopy service . . . results in too many endoscopies being performed for too little objective benefit.' (page 459)

This view was held in spite of the GPs' pick-up rate of diseases being slightly better than that of the hospital doctors. But is a desire for open access to gastroscopy widely held by family doctors? This question was put to the interviewed general practitioners. Two separate issues

emerged: first, the doctors had differing opinions about the role of gastroscopy in their investigative armoury and second, only one in four desired open access.

Their opinions about indications for gastroscopy were classified in three ways. One group of doctors usually considered referring for a gastroscopy examination only after a patient had had a negative barium meal and still the symptoms persisted, and a couple made an aside about the investigation being relatively new.

> '. . . if somebody has persistent indigestion and a barium meal and gall bladder x-ray was perfectly normal, I'd probably send them to [the gastroenterologist] to let him have a look down . . . I must say I don't use it a great deal because at the moment gastroscopy doesn't jump into my mind so quickly being a fairly recent thing . . .' (Doctor 17)

Other doctors were even more restrictive about their indications for gastroscopy – they tended only to refer with this procedure in mind after the barium meal had produced a positive or equivocal result causing the radiologist to suggest re-referral.

> 'I should think that I invariably get the barium done first and then on the results refer for gastroscopy . . . I had one a couple of weeks ago where the barium meal showed a large gastric ulcer and the radiologist said that this patient should now have a gastroscopy . . .' (Doctor 42)

Finally, and in contrast, there was a group of doctors who were of the opinion that gastroscopy was a more useful investigation in the first instance and so they tended to substitute barium studies with referrals to the gastroenterologist (as was discussed previously).

These differing opinions about indications for endoscopy were described in some detail because they parallel the indications in the study by Holdstock and his colleagues.[61] These researchers surveyed the general practitioners who had access to their service and found that only half the doctors used endoscopy exclusively. One-third used both endoscopy and barium studies, while the remainder just requested endoscopy when the result of a barium study was abnormal or they did not use the service.

The main reason why three-quarters of the GPs in this study were either against the idea of direct access to gastroscopy or disinterested, was their belief that the procedure was a skilled task which should be

done after a specialist had assessed the patient clinically. This view was held both by doctors who preferred to examine their patients radiologically first, and by those inclined towards using gastroscopy as the primary investigation. Some wanted to share the diagnostic decision making with the specialist. 'I think it is far nicer to say "Well look. I've got a problem. Do you think this patient ought to be gastroscoped?".' (Doctor 8) Others were concerned that the gastroscopist should be clinically astute or they were worried about the risks involved.

> '. . . It isn't something which is done by a technician. It's something which the person looking through the view finder as it were, is the all important aspect of it . . .' (Doctor 5)

> '. . . he would want to see the patient first because presumably it is not without risks. They are not given an anaesthetic but they are knocked pretty flat . . .' (Doctor 30)

Five doctors were concerned in case their colleagues' lack of judgment would lead to abuses of such a service, and the study cited earlier suggests it could happen although only by a few doctors. No guidelines about patient selection were issued to the family doctors using Holdstock's service and they found that, on average, the 90 GPs referred 11 patients each over three years, but four referred over 100 patients.[61] Yet it is unlikely that the incidence of gastrointestinal disease was greater in the practice loads of these 'high' requesters than in those of their colleagues. So perhaps these researchers' conclusions that too many direct access endoscopies were performed was harsh on those doctors who used the service judiciously. The researchers were also disappointed by the relatively low yield of 'serious' pathology for both the GP-initiated and outpatient-initiated endoscopy requests (cancers 2.0 per cent and ulcers 14.2 per cent in a load of 1805 examinations). However, these findings are to be expected in view of the base rate probabilities of these diseases occurring in patients with gastrointestinal symptoms. Furthermore, the yield of carcinomas is no greater in barium meal workloads.[56,95]

Unlike this survey's interviewees, the doctors in Holdstock's study were overwhelmingly in favour of their open access gastroscopy service. Three-quarters believed that it resulted in an appreciable reduction in clinic referrals, even though the appointment waiting-time was two to three months by the end of the three-year study.

However, these doctors were commenting with hindsight. It is possible, too, that if an open access gastroscopy service was available in this study's DGH, the interviewees overall would be appreciative. But in the meantime, there does not appear to be a demand for such a service and one reason is the lack of a commonly held opinion about the roles of barium meals and gastroscopy in clinical decision making.

3 *Medical practice and referral letters*

If general practitioners hold conflicting views about the roles of specific diagnostic investigations in their day-to-day clinical practice, then it is likely that they will have contrasting policies over the management of certain diseases. It was not the purpose of the interviews to find out how individual doctors differed in their style of diagnosing and managing specific diseases but references to differing policies were made. They are helpful in understanding how doctors can have varying referral patterns both in the types of conditions referred and the workups done.

Clinical policies for diabetes and other endocrine diseases

It was a question about medical conditions which the GPs preferred to manage on their own after the diagnosis and treatment were established, which revealed alternative policies for some endocrine diseases. Diabetes was most often mentioned by the doctors and their views were diverse. On the one hand, eight doctors explained how they preferred not to take over the management of their diabetic patients. Their reasons were varied. Inexperience was felt to be a problem because 'the diabetic clinic sees just about everybody'. Also it was thought inadvisable that patients should be supervised by two groups of doctors (even though they are likely to see different hospital doctors at most attendances). Diabetic patients are relatively numerous in most practice populations and as some GPs felt themselves to be under enough pressure, they were happy to have the hospital bear some of their load. Furthermore, some patients do not 'understand' their disease and they can be (or are) especially time consuming.

On the other hand, six doctors indicated that not only were they willing to manage certain diabetic patients themselves, but they also did not refer these patients initially to the diabetic clinic. Those whom they held onto were not insulin dependent; rather, the patients were usually the more elderly with mature onset diabetes who were treatable by diet and/or oral hypoglycaemic drugs. Two of these doctors offered explanations for their policies.

> 'On the whole, you see, a diabetic that needs insulin usually is fairly ill when they're first discovered so they normally get sent to

hospital, whereas diabetics who don't need insulin, the more elderly ones, on the whole aren't that ill so they don't get sent to hospital unless you actually make a positive decision to send them. I don't recall ever sending a diabetic who didn't need insulin.' (Doctor 19)

'You see one thing, I do not refer diabetic patients there, I don't mean the young ones, juvenile onsets, I think they should always be referred. But the maturity onsets, I don't think unless they are very severe and difficult to manage they need referral because it's only going to subject them to going up to the diabetic clinic month in, month out for the rest of their lives. And all they are going to be is weighed and just have a chat about their tablets and so on, and really one can do that here.' (Doctor 15)

Thyroid diseases was another disease group which six doctors mentioned as being of special interest, although even amongst these doctors there were two schools of thought. Half either referred all their over active thyroids (hyperthyroidism) or else sought confirmation from a consultant that the right treatment regime had been selected for the patient. The others were willing to treat by themselves hyperthyroid patients whom they believed did not require either radioactive iodine or surgery – at least in the short-term.

However, all six of these doctors were managing patients whom they had diagnosed as hypothyroid. In this they were aided by a newly available (to family doctors) biochemistry test which measures the thyrotrophin stimulating hormone levels.* One doctor thought he was treating about a dozen patients for hypothyroidism while another estimated that he was doing maybe five thyroid profiles a week for both hypo- and hyperthyroid patients.

Case-specific referral decisions

The preceding sections have been about doctors' policies with regard to certain investigations and diseases. We turn now to look at some case-specific examples of referral decision making which confirm that general practitioners follow different routines when working through

* This test enables the doctor to distinguish between primary and secondary hypothyroidism; the primary state can be treated by slowly administering a thyroid replacement therapy whereas the secondary state indicates that pituitory disease is present and referral is necessary.

similar problems. At the start of each interview the doctor described the referrals he or she had made in the previous week. (They had kept a note of these.) The next pieces of interview material are pairs of referral decisions about related problems made by separate doctors.

The first pair of referral decisions are about thyroid glands which the GPs did not think were abnormal.

> 'One was a woman of 77 who I had been watching for some time who has got an enlarged thyroid . . . She's had it for some time, it was confirmed by x-ray. She's got a thyroid in her chest, well it's a goitre, an enlarged thyroid. I don't think in fact it is active, that she is suffering from thyrotoxicosis, but she is feeling rather tired and run down . . . I just want to make quite sure, to have hospital tests run, that her thyroid isn't the cause of her symptoms . . . this is more to reassure her that she hasn't got an organic cause to her tiredness.' (Doctor 32)

In the second thyroid example, a patient who was being seen from time to time for chronic bronchitis complained of recent weight loss although the GP did not think he looked any different. So he was told to return.

> 'He came back three times in total and the second time he'd lost a couple of pounds . . . Although there did not seem to be any reason to suspect his thyroid [it can cause weight loss] I just ran off the tests [chest x-ray, thyroid function tests] . . . Yet even knowing that some of the thyroid tests were abnormal I couldn't persuade myself clinically he was thyrotoxic which is why I think he ought to have a radioactive uptake test.' (Doctor 19)

Now, in both of these examples the doctors' own clinical acumen (their interpretations of the symptoms and signs coupled with the patients' histories) caused them to doubt that the thyroid glands were responsible for the symptoms. Both had had radiographic examinations performed but only the second doctor had done the standard thyroid biochemistry tests, and indeed, his referral decision was triggered by the slightly abnormal thyroid function tests (TFT). The first doctor was relying on the hospital to do these and possibly other investigations such as a radioactive uptake test which he could not request himself.

The next pair of referral decisions are for hypertension. This chronic disease was described by one GP as 'the bread and butter of

general practice', and the interviews showed that hypertensive referrals are usually patients whose blood pressure is still too high or unstable after treatment. One doctor had a new patient, a man in his forties, who had presented with an unrelated problem. He was found to have a very high blood pressure.

> 'Anyway I started him [on treatment] right away because I mean he's a relatively young man for such a high blood pressure and set the investigations in hand and as it happens his water's perfectly all right, and his urea and electrolytes are all right, and he has improved on treatment . . . I've x-rayed his chest and his kidneys . . . I was intending to do all these investigations which have taken about two months and then send him to the physicians anyway. And in view of his rather poor chest picture and poor response to his blood pressure so far, I'm going to send him.' (Doctor 17)

In the second interview the doctor was not nearly so expansive about the referral.

> 'One is a middle aged gentleman with high blood pressure which I've tried to control. It just isn't coming down so I'm going to refer him [to get] some help from a physician because I'm not satisfied with the response I'm getting with the drugs that I've been using.' (Doctor 21)

Later in the interview this doctor was asked if investigations had been done previously for this hypertensive referral.

> 'Um . . . well not on the hypertensive ones; we make sort of various checks on their blood pressures, but, um, we wouldn't normally have carried out investigations before referral, not here in the surgery.'

So, while these doctors were sure that the patients were suffering from hypertension which was not coming under control and therefore a physician's advice was needed, they had differing thresholds in their workups of the cases. One doctor did not do any investigations; the other looked for possible renal involvement by doing an intravenous urogram (IVU), and he requested biochemistry tests and a chest radiograph.

The final pair of referrals are about ischaemic heart disease and they are dissimilar because one doctor made his decision to refer his patient far later in the episode. This was due to his use of the practice

electrocardiogram (ECG) machine and biochemistry tests to diagnose and monitor the patient's condition. The first referral was a retired, frailish man who visited his doctor because he was getting pains in his chest when he walked up the hill.

> 'He was getting presumably ischaemic pain, pain from insufficient supply through his coronaries, anginal pain. And so I thought "Let's do the job properly." [He was referred to a general physician with a special interest in cardiology.] . . . His clinic has ECGs running round the corner and obviously this would need one.' (Doctor 26)

The second referral was a younger man, about 40, thin with good health who had had a coronary eight weeks previously. It occurred in the early morning and he attended the surgery later that day complaining of chest pain and left arm pain.

> 'It was only on ECG and blood enzymes that it was definite that he had a coronary.' [He was managed at home but again in the early morning he woke with what he thought was another one and it was confirmed by ECGs and blood enzymes. He was now being referred.] '. . . because we'd done all the tests we could, lipid estimations and all to see if there were any abnormal features in his blood chemistry and there was nothing around at all. And he's got a clean bill of health . . .' (Doctor 28)

A doctor in another practice commented on how their ECG equipment had detected three or four coronaries on patients who walked into the surgery in the last six months. And their policy was to treat most coronaries at home apart from the younger sufferers (persons under 60 years of age). Overall, doctors from at least five practices said that they preferred to manage their coronary patients themselves, either at home or in GP-hospital beds.

Each of the transcript examples were about patients whom the doctors had decided to refer. There are no descriptions, though, of cases which these six doctors had chosen not to refer. Thus we cannot be certain from these extracts that their clinical practice was routinised. However, it is possible to corroborate the reported behaviour of the doctors with their usage figures in the three-month diagnostic data. Medium to very high biochemistry use was characteristic of all the doctors who either said that they preferred to manage certain of their diabetic or thyroid patients themselves, or else had made the

fully investigated thyroid, hypertension and coronary referrals. In contrast, the three doctors who had not performed biochemistry tests for the paired referrals were relatively very low users of the biochemistry services. Radiology use was, though, a weak discriminator.

The relative youthfulness of the doctors who were inclined to look after many of their endocrinology patients was also predictable from the pathology trends. Thus, the average length of time since qualifying for these endocrine-oriented doctors was nine years compared to 19 years for all the interviewees. The next section will show that their referral letters were likely to contain diagnostic formulations akin to those in letters written by hospital doctors.

Medical referral letters

The letters which accompanied the referred patients being seen for the first time in the outpatient clinics, were scrutinised for more insights into referral decision making. Three hundred and fifty-eight general medical letters were analysed. The results do not provide explanations for the differences in individual doctors' referral rates. Rather, they further demonstrate how general practitioners have alternative patterns in working up and presenting referred cases.

While there is no reason to expect medical referral letters to be uniform in content, some *standard* items were inconsistently mentioned. For example, more than half of the letters made no mention of the writer's own examination findings, and over one-third did not contain references to medications or advice given (or not given) by the family doctor. But these findings are not unique. In the early 1960s, Forsyth and Logan[39], McMullan and Barr[78], and de Alarcon and Hodson[23] recorded higher levels of omissions. Indeed, the comparative figures shown in Table 1 suggest that the overall comprehensiveness of letters has risen very substantially over the past 15 or so years. Certainly illegibility is far less of a problem – three-quarters of the survey letters were typed compared with one-tenth of de Alarcon and Hodson's sample. Hospital investigations are now much more likely (perhaps four times as likely) to have been carried out, doubtless partly as a consequence of the trend to give general practitioners open access to hospital diagnostic departments.

References to *social circumstances* were more often included in the current survey letters than in those analysed in the early 1960s. Both de Alarcon and Hodson[23], and McMullan and Barr[78] found only 7 per

Table 1 Items omitted from referral letters examined in two surveys

	de Alarcon and Hodson[23] 100 medical letters	de Alarcon and Hodson[23] 500 letters to six specialties	This survey 358 medical letters
Percentage of letters with items omitted	%	%	%
Reference to medications or advice	81	77	37
Presenting symptoms	20	20	9
Clinical ('on examination') findings	68	78	52
Medical history	94	88	47
Hospital investigations	93	89	57

cent of the letters mentioned social circumstances/background, whereas 20 per cent of the letters surveyed in 1977 contained references to occupational or domestic factors, and 17 per cent commented on personal factors such as obesity, and smoking or drinking behaviour. *Psychological factors* (of which anxiety or depression were the most common) were mentioned in nearly one-quarter of the survey letters. However, the quality of medical referral letters has clearly to be assessed not only by estimating the standard items dealt with therein, but also by the noteworthy omissions found by the outpatient doctors who first saw the patients in the clinics. These omissions excluded events which occurred between the time of the referral and the clinic attendance.

The information most likely to be newly uncovered in the first outpatient consultation – newly as far as the reader of the referral letter was concerned – was about *current symptoms*. In at least 12 per cent of consultations, information about additional symptoms such as amenorrhea or a proneness for falling, or about events preceding the symptoms (an accident, a high dosage of amphetamines, or drinking bouts) emerged. As one-third of the new patients had previously seen a specialist and usually for the same or a related problem, it was not surprising that details of *medical histories* were sometimes omitted especially about complex cases such as aortic valve disease plus gall stones, or bladder papillomata with thyrotoxicosis. This happened in 9 per cent of all letters. No more than 2 per cent of the outpatient replies indicated that relevant *family histories* had not been covered in GPs' letters and since only 8 per cent of the referral letters overall

contained a family history, there was little demand for this type of information. Although more than one-third of the referral letters made no mention of *current medications* or *advice*, fewer than ten of all the outpatient replies commented about the absence of relevant prescribing details in the original letters. Presumably, when a referral letter does not mention medications, then treatment has probably not been started.

So, whilst overall the outpatient doctors' replies indicated that nearly two-fifths of the referral letters omitted some details of relevance to the diagnostic process or management plan, when the types of information are itemised, the omission rates are relatively small. It is possible, though, that these omission rates are underestimated because the writers of the outpatient replies do not necessarily state explicitly or imply that relevant details are missing from the general practitioners' case presentations unless they are significant in the outpatient decision making.

Vague though courteous endings of letters such as 'I would be grateful if you would see her and advise', and 'I would appreciate your opinion', were typical of many survey letters. However, from a close reading of the referral letters it seemed that in virtually half of the letters the general practitioners wanted help in establishing the diagnosis and, consequently, with the treatment. Included in this category were the letters making explicit requests for help with the diagnoses, and letters where the reason could only be inferred from the information provided. The second commonest referral reason was for advice on treatment or management of conditions which had been diagnosed by either the family doctors or in previous hospital episodes. So, uncertainty about treatment appeared to be the reason for almost one-quarter of the letters. A desire for reassurance either by the doctor or the patient and family was conveyed directly or by innuendo in one in ten of the letters. Apparently this was a common strategy adopted by the survey doctors when handling patients who wished to be referred. (This issue is explored in Chapter 6.) Another one in ten of the referrals were prompted by other medical reports. Half of these reports were from radiologists whose x-ray examination findings indicated that further investigation was warranted (usually endoscopy). Finally, there were just 16 survey letters containing an explicit request for an investigation which the GPs could not order directly (mainly gastroscopies).

A comparison of these findings with Chamberlain's survey of two

southern hospital groups in 1962–63[17] suggests that the reasons for referral have not changed very much over 15 years. Chamberlain[17], de Alarcon and Hodson[23], and McMullan and Barr[78] were critical of GPs for too often leaving it to the consultant to guess exactly why a particular referral had been made or what was wanted of the consultant. Yet when this point was raised in the interviews with the local general practitioners, many thought it was unnecessary for them to tell the consultants how they wished the patients to be investigated or managed – see Chapter 7.

Diagnoses in the letters

Almost two-thirds of the survey referral letters suggested one or more diagnoses for the presenting problems, whereas the proportion was closer to one-third in the letters examined in the early 1960s.[17,23,78] What was so apparent was the variety of ways the letters were structured, especially for new problems. In some letters the general practitioners had hypothesised a diagnosis from symptoms, examination findings and, where relevant, medical histories of the patients and family members, and results of investigations. The following abridged letter is one such example.

> '. . . first saw him at the end of March. He C/O vague ill health and puffiness of the face. He looked pale and O/E it seemed fairly clear that he was suffering from myxoedema. [Details were given of heart, chest, BP and urine.] TFT results . . . confirmed myxoedema [details of treatment given]. He began to improve then C/O mild anginal symptoms. [Thought to be due to drug regime which was amended.] However I do not appear to have improved the situation . . .'

Other letters were more perfunctory in their description of how the diagnosis was reached. This is another thyroid example.

> 'This patient came C/O menstrual problems and was found to be clinically hyperthyroid – this was supported by biochemistry tests. [A social history was described.] The daughter of Mrs [X] has thyroid disease . . . I would appreciate advice on treatment . . .'

In this group of letters the diagnoses were often broadly stated – for instance, 'a neurological lesion', 'a pain of cardiac origin' and 'been suffering from ulceration for some years'.

In another group of letters the symptoms, medical histories and investigations where relevant were described by the writers but they refrained from identifying a diagnosis or, alternatively, there did not seem to be a diagnostic cause for the problem and this was supported in the clinic.

> '. . . hypertensive for about five years [drug described] . . . He had a severe chest pain eight weeks ago during the night. There was no vomiting, nausea or pain radiating into neck or arms. [Wife's description of the event.] Patient not bad since, though tightness in chest and extensive fatigue on active exercise. [Chest x-ray normal and ESR, WCC, Hb, LDH and SGOT done.] [BP and low heart rates given.] I would be grateful if you could see him.'

Finally, a few letters merely handed a medical problem over with a minimum of description.

> 'This patient was told eight years ago at the [X] Hospital that he had had a "heart attack". Since then he has had [two drugs for unsteadiness] but no specific therapy. He would like you to give him a check-up.'

An attempt was made to assess the levels of diagnostic development in the referral letters, but first the method is explained.* The diversity in the medical problems meant that it was not feasible to apply a standardised scoring system to the workups described in the letters. To illustrate: when diagnosing certain medical problems and, in particular, neurological conditions such as epileptic manifestations or multiple sclerosis, pathology and radiology investigations contribute little to the diagnostic process, apart from discounting possible alternative diagnoses, whereas other problems can be diagnosed from the investigations alone (for example, the endocrinal conditions of thyroidism and diabetes). From repeated readings of the referral letters, categories of diagnostic development were formed and these were discussed with a survey physician. The letters were coded by myself and, when assessing them, account was taken of the findings recorded in the outpatient replies. There were, of course, some letters in which the doctors were asking for reassurance that a patient was *not* suffering from a disease. These letters were assessed according to the information supporting the negative conclusions. While the great

* The rationale underlying the method is described in the Appendix.

majority of the letters clearly fitted into one of the categories, there were some whose categorisation was blurred – a problem which besets the coding of all descriptive data.

While nearly two-thirds of the letters contained a reference to a diagnosis, Table 2 shows that only one-third were related to new problems – new to the GP that is. The other letters containing a diagnosis were about chronic diseases or cases which had been seen by another doctor, usually a specialist. Of greater interest, however, are the letters in which the doctors presented comprehensive accounts of symptoms, histories, investigations and treatment. These numbered 115, but in only half did the writers commit themselves to a diagnosis (the full hypothesis group). When this finding was discussed with a few GPs, they defended the reticence of themselves and their colleagues on the grounds that they did not want to be found in error by the hospital staff. Yet not all the writers felt this way. As one interviewed doctor revealed, 'It's nice to be able to give some sort of

Table 2 Categories of diagnostic development in the referral letters

	Percentage of 358 letters	Diagnostic development score
Diagnostic hypotheses	%	
Weak hypothesis based on outline of symptoms, history and perhaps routine tests	15	3
Full hypothesis based on detailed symptoms, history, selected tests and treatment results	17	5
Symptoms only		
Outlines symptoms and perhaps treatment	18	2
Details symptoms, history, tests, and treatment	15	4
Problem handed over		
New or chronic problem transferred with scant details	8	1
Diagnosis already established		
Diagnosis is a chronic disease or in a specialist's report	27	—

Note: Symptoms include examination findings, history covers social comments and tests include radiology and pathology work.

idea to what may be the problem to the consultant . . . it suits my pride.'

The analysis was extended to finding relationships between general practitioners' patterns of diagnostic development and other characteristics. First, each of the categories in Table 2 was given a score between 1 and 5 (see the right-hand column). The assumption behind this 5-point ordinal scale was that the referral letters receiving the highest score would be those which most closely resembled the hypothesis development in letters written by hospital doctors about diagnostic problems. Letters which contained a comprehensive description of symptoms and so on, but no diagnosis, received a higher score (4) than those with a 'weakly' argued diagnosis (3) because the former letters were indicative of more rigorous workups and case presentation. Next, the letters in which the reason for referral was to establish a diagnosis were separated out. These comprised about half of the 358 letters. The scores of these separated letters from each GP were averaged to form an index for the doctor.

The exercise showed that there is a uniformity in the styles of letters from individual doctors which suggests that they have internalised standards of case presentation. And even if a doctor is writing under pressure and produces a letter which is not, in his judgment, up to his usual standard, the letter will only be marginally different. For instance, a doctor who routinely develops a diagnostic hypothesis is most unlikely to write a letter which just summarises the symptoms or merely passes the problem over. So, when the indices were informally compared with a survey physician's own assessments of the doctors as letter writers, overall they were consistent even though only one letter had been scored for some doctors. Finally, the indices for the individual doctors were correlated with other characteristics (the theoretical reservations about indices compiled in this way notwithstanding[4]).

When seeking help with a diagnostic problem it is the more recently qualified general practitioners who tend to write referral letters containing comprehensive descriptions of symptoms, histories, investigations, and possibly one or more diagnoses. Amongst 61 doctors there were 26 with a diagnostic development index ranging between 4 and 5, but only six of these doctors had qualified before 1957 compared to over half of the total sample. Pathology use was an even stronger predictor of diagnostic hypothesis development. This was to be expected since in a previous chapter, pathology use was shown to

be inversely correlated with age. However, it was possible to have a high diagnostic development index and *not* be a high user of the pathology services.

Finally, the indices showed that diagnostic development is not directly related to the doctor's decision making about whether or not to refer. The doctors who were high referrers had differing letter writing standards. Ten general practitioners made eight or more general medicine referrals over the 13 survey weeks. Their indices (average scores for the letters) were: 2 (three doctors), 3 (two doctors), 4 (four doctors), and 5 (one doctor). So clearly some other variables have to be sought to explain doctors' propensity to make referral decisions.

Letters from health centres

The structure of the referral letters written by doctors in or planning to move to health centres differed from the letters from doctors in conventional premises in the four towns (and environs). Similar percentages of letters mentioned symptoms, family history, social and psychological factors, medications, and 'on examination' findings including blood pressure readings. This suggests that the routines of history taking and examining learnt as medical students persist throughout the general practitioners' careers, regardless of where they practice from. The health centre doctors' marginally higher and fuller rates may be explained by their letter writing methods – 94 per cent of their letters were typed compared with 54 per cent of the letters from the non-health centre doctors (chi square test $p < 0.01$). Most of the typed letters would have been dictated by the doctors either into a dictaphone or to a secretary, and it is easier to elaborate about specific items using this method. This point was made in the interviews when the doctors talked about their letter writing habits – see Chapter 6.

It was the manner in which the doctors discussed diagnoses which distinguished the two sets of letters. While just over half of each group wanted help in establishing the diagnosis, the letters from health centre doctors were much more likely to develop fully a diagnostic hypothesis (32 per cent versus 9 per cent). This difference was statistically significant ($p < 0.01$). Thus, it was not surprising to find that the health centre doctors' letters contained more references to technical evidence – hospital diagnostic investigations and their own ECG readings. This latter difference was statistically significant

($p < 0.01$), likewise the references to biochemistry tests (25 per cent and 11 per cent) which is in accordance with the pathology request findings described in the previous chapter.

It appears, therefore, that medical referral letters reflect certain characteristics of the writers' patterns of medical practice. But in terms of the outpatient outcome, does it matter how the letters are written? The outpatient data are examined with this question in mind in Chapter 9.

4 *Judgment of specialties and specialists*

These next two chapters are about another set of factors affecting referral decision making – the family doctor's knowledge of the health care system (the right-hand block in the framework on page 28). The elements of this knowledge are classifiable as internal or subjective influences, and external or objective influences. Internal influences are unique to each GP and incorporate his specialty selection and his awareness of the attributes of individual consultants within the specialty. External influences are the available resources (for instance, the number of consultant gynaecologists, or the existence of premises suitable for peripheral outpatient clinics) which are then organised into services and regulated by the health authorities. Consultants, too, can informally regulate the services by changing their policies about, for example, accepting patients for termination of pregnancies. These policy changes may be triggered by new limitations being imposed upon available resources such as a reduction in a specialty's inpatient beds. This chapter, though, is about how a doctor's unique internal assessments of specialties and specialists shape his or her selection of referral pathways.

Choosing the specialty

For many presenting problems the specialty choice seems relatively straightforward; eyes to the ophthalmologist, hernias to the surgeon and so on. But for a proportion of referrals the choice is between complementary specialties (for example, general surgery or urology or gynaecology), or, increasingly, between surgical and medical management. There were various examples of such problems in the interview transcripts. They included certain diseases of the digestive system, some urinary problems which both urologists and nephrologists deal with, and over-active thyroid glands which can in fact be referred in three directions – for medical management, for radioactive iodine, or for surgery.

In the interviews the doctors were asked how they made their consultant selections for the previous week's referrals but there was no

specific questioning about specialty selection except in some of the later interviews. The reason was that as the outpatient research phase had been centred on a single specialty (general medicine), I had not seen other specialties' workloads with which to form comparisons. It was the GPs themselves in the interviews who drew my attention to the existence of alternative referral pathways. For example, when Doctor 17 was asked about waiting times for appointments – whether or not this affected his referral decision making, he replied

> 'It doesn't affect it so much because I know who I want to refer it to . . . The only case it might influence me was if I was in doubt whether to send someone to a physician or a surgeon first.'

This ignorance on my part was not, perhaps, so surprising because in the literature about referral behaviour there seems to be a taken-for-granted assumption that family doctors have appropriate knowledge as to which specialty (as opposed to specialist) should be selected. For example, the Royal College of General Practitioners in their 1972 manual for teaching vocational trainees – *The Future general practitioner*[102] – chose not to spell out how specialties and consultants should be selected when referring patients. It was up to the trainers' and trainees' judgment of the knowledge, skill and personality of the specialists. The 1981 manual, *Teaching general practice*[19], did not contain any additional advice.

Yet although no questions were asked routinely in this survey's interviews, the transcripts showed that family doctors are likely to be making two kinds of judgments about which specialty to refer patients to. The first occurs when it is not clear what the diagnosis is – there can even be uncertainty about which system is dysfunctioning. The second type of judgment is even more intrinsic to the individual's decision making for it is a combination of his knowledge of current medical practice and his preferences about treatment alternatives.

Five general practitioners provided apt illustrations of the dilemma which can arise when there is uncertainty about which bodily system is dysfunctioning. Two doctors each sent a referral initially to the chest physicians. Both patients had just been seen for the first time with their current problems. In one case a man in his 70s attended complaining of lack of energy. On questioning he admitted to having lost 1½ stones over five months and to have been off his food in the last four weeks.

'I said "Right get stripped". He had a bit of a crepitation in the right lung. Then much more surprising he had a big mass in the left upper abdomen – large, firm, smooth, not painful – didn't appear to be bowel, didn't appear to be stomach. This is a bit of a problem. I wondered if I should send him to a surgeon, or to a physician or who? . . . I think that the most likely diagnosis is carcinoma of the lung or similar although it is not in a common place . . .

'I spoke to [a chest physician] personally . . . and said that if it is nothing to do with his lung, if it turns out to be a carcinoma of the colon, don't get mad because he is just a strange case . . . but we have to start somewhere.' (Doctor 40)

The second patient, a lady nearly 80, apologised for troubling the GP but she had coughed up quite a considerable amount of blood in the past 48 hours.

'So I referred her to the chest clinic knowing almost certainly that it was nothing to do with the chest clinic but I'd much prefer to start with bad things. If you send them to the ENT department where this blood was probably coming from then no one ever looks for the tuberculosis in the chest . . . The most common cause of coughing up blood in an old person is cancer of the lung or tuberculosis . . .' (Doctor 26)

There are two other noteworthy points in the above extracts. The first doctor was aware that consultants can feel impatient if they receive a referral which they consider to be more appropriate to another specialty. In fact both doctors spoke with the chest clinic to explain the circumstances about their referrals. The second point is that GPs, in turn, hold their own views about the strengths of individual specialties. Thus, in the latter narrative the doctor was guarding against the ear, nose and throat (ENT) department overlooking a possible diagnosis in the pulmonary system (tuberculosis) and thereby not cross-referring to the appropriate department. Jennett made a similar point when writing about the increasing trend towards specialisation.[66] Many patients require the services at different times of a variety of specialists. The risk is that some may not reach the appropriate specialist unless their doctor is willing to transfer them and the specialised unit is prepared to accept all referrals.

The third GP's referral pathway dilemma lay between two surgical specialties – general surgery or gynaecology. The patient was a young

woman in her early 30s who was having recurrent abdominal pain. She had been examined by two colleagues; the first suspected sub-acute appendicitis while the second felt it was more likely to be ovarian pain and referred her to a gynaecologist.

This type of dilemma is not so unusual. For instance, Blacklock and Gunn[9] looked at the diagnoses of patients seen as general surgery emergencies in the accident and emergency department of the Bangor General Hospital. Out of 207 females suffering from 'acute abdominal pain', 16 (8 per cent) were diagnosed as having a pain originating in the uterus or adnexae.

The final examples of specialty dilemmas involved patients whom the family doctors thought had psychiatric problems, and this type of dilemma has also been observed by other researchers. The presenting problem of the first patient, a man in his 40s, was frequency of micturition. He had been investigated in the past and treated with drugs. Then a month before the referral the patient reattended with some loin pain which the doctor could not account for. Instead, he favoured a psychosomatic explanation after performing urine tests which proved negative. The doctor then requested an IVU and referred the patient to a urologist, although with some doubts.

> 'Now, whether [a urologist] is the right person to send him to or to the psychiatrists I don't know, but I think psychiatrists would certainly want exclusion of an organic cause first.' (Doctor 18)

The GP involved in the second referral was even more certain that a lady should see a psychiatrist but for various reasons, including the stigma involved, both she and her husband had resisted it. But now the patient had chest symptoms and so the GP referred her to the chest clinic.

> 'So this is a bit unfair on the chest physician. He's having to filter something which is not essentially a chest problem . . . Knowingly I'm using him – I will write that . . .' (Doctor 43)

Morgan likewise observed the reluctance of family doctors to 'label' patients as being mentally ill.[85] In research conducted for the DHSS he studied over 100 newly referred psychiatric outpatients and these patients, their family members and the referring general practitioners were interviewed. A sizeable proportion of the sample (16 per cent) had already been referred to physicians or surgeons to exclude any organic causes for the problems.

The second type of judgment about which specialty to refer patients to is determined by current medical practice coupled, in some instances, with the GP's own preferences about treatment alternatives. The biochemical and pharmacological discoveries of the past decade are one reason why certain diseases which were traditionally cared for by surgeons have been transferred to the medical specialties or else are jointly managed. Paralleled with this was the diagnostic breakthrough of fibreoptics, especially gastroscopy and colonoscopy for gastrointestinal problems, and in many hospitals these endoscopy services are operated by physicians rather than surgeons. This was the case in the survey hospital – the gastroscopy and colonoscopy services were provided by a physician.

The survey doctors, overall, responded to these changes in clinical practice by switching their gastrointestinal referrals to the physicians. One GP summed up the trend in a rather colourful way.

> 'In the old days for instance, . . . if you vomited blood you went under the physicians, but if you had bright red blood from the backside then you went under the surgeon. They've altered all this now. And the whole lot go under the physicians who transfuse them and send them on to the surgeons later.' (Doctor 30)

However, individual doctors' responses to this general trend were rather more subtle. It also involved their personal judgment about the appropriateness of surgical vis à vis medical management.

There was a glimpse in the transcripts of how general practitioners held diverging views about the philosophies of surgeons for certain diseases. These are two examples of doctors talking about obstructive jaundice. The first qualified 25 years ago and his comments arose in the context of doing routine investigations prior to referring.

> 'It's sometimes nice to have, say, a problem of jaundice sorted out even before it goes up there – to say "Please this obviously is an obstructive jaundice because they say the alkaline phosphatase is raised . . .". But when you're dealing with surgeons they're not at all appreciative of your investigatory efforts.'

So for this doctor the referral pathway for presumed obstructive jaundice was surgical. The second doctor, a much younger man, was talking about a patient with painless onset of obstructive jaundice caused, he thought, by a carcinoma of the pancreas.

> 'But I would not refer him directly to a surgeon even though it's a surgical condition. I referred him in fact to a physician because . . . I've seen patients who have had presumed carcinomas of heads of pancreas operated to find that they've got infective hepatitis and they've died. So I would request a medical opinion in the first instance.'

The reason why some doctors favoured certain specialties was ideological. It reflected their personal values. This emerged in the young doctor's explanation as to why he chose the medical pathway for the patient who had the carcinoma of the pancreas.

> 'That's partly a reflection of my own biases and prejudices I guess, because I'm medically rather than surgically orientated, and also because I think the physician gives a more considered opinion . . . The surgeons just say "Well if I'm not sure I'll chop it out and see", whereas a physician will say "Well it could be, it couldn't be, I think we'll look around this problem before saying yes, it's definitely a surgical case".'

A second, equally young GP volunteered similar preferences.

> 'I would say that the only bias I have is towards the medical side . . . I try and refer medically rather than surgically. In other words if there is a gastrointestinal problem I refer to [a physician] rather than to the surgeon. That is only because I think you get an opinion rather than somebody who's ready to get the knife out. But I think that, in general, people tend to refer surgically rather than medically.'

He too offered an explanation.

> 'I know why I refer mainly medically. It is because I spent a lot of time in hospitals doing medicine.'

Now, perhaps, the recent scientific revolution within medicine has also affected the professionalisation process of doctors trained during the period. This is not to say that these intra-professional antagonisms did not exist in the past, but rather, because of the recent breakthroughs, they are today more exaggerated. It is also the case that the young doctors quoted above were particularly well qualified in medicine – one had written an MD thesis on endocrinology, the other was a member of the Royal College of Physicians. A new family doctor with extensive surgical experience may not have shared their views.

The recently published American ethnographic studies by Carlton,[15] and Bosk[11] are supportive of this proposition that intra-professional ideologies exist. Carlton looked at the socialisation of student physicians and Bosk at student surgeons. Both made references to the differing styles or models of behaviour of the two professional groups. Carlton found that often there was underlying conflict over the treatment of choice when cases were jointly managed by surgeons and 'medicine men'. The surgeons preferred to cure surgically because the results were relatively immediate and clear, whereas the physicians' professional bias was to exhaust pharmacological management first because it did not have the risks of anaesthesia and surgical morbidity. Bosk made a similar point but in a blunter fashion: in his hospital, stories showing how the good work of the surgeons was frustrated by excessive caution and indecision by others, were quite common.

The examples of speciality choice cited so far have applied to long established branches of medicine. How, then, do general practitioners respond to a recently created medical specialty such as nephrology (renal medicine)? The local family doctors had a choice of three referral pathways for patients with certain symptoms relating to the genito-urinary system; urology, renal medicine, and genito-urinary medicine. The renal physicians were willing to accept patients suffering from recurrent urinary infections or haematuria as well as the more specific symptoms indicative of kidney dysfunction such as uraemia. This policy had been explained at meetings with GPs in various parts of the survey hospital's catchment area.

However, it seemed from the interviews that many doctors were still inclined to refer generalised symptoms of urinary infection, haematuria and frequency of micturition to the urology specialty. Among the referrals described by the interviewees were nine patients suffering from one or more of these symptoms. All were referred to the urology surgeons plus, of course, the patients thought to have prostate or bladder tumours. In fact there was only one referral addressed to the renal physicians – a woman with a very low potassium level.

Now, there are two obvious reasons why the family doctors tended to send urinary tract symptoms to the urology specialty. First, these surgeons performed all the cystoscopies in the survey hospital and so if a GP anticipated that this diagnostic procedure would be necessary, then he or she would be inclined to refer to the endoscopist. Second,

the patients could be re-referrals to urology – this applied to three of the nine patients mentioned above. There is, however, a third possible reason why the urology specialty was usually selected; the general practitioners' perceptions of the role of renal medicine appeared to be narrower than the views of the renal physicians. This may have been due to the GPs being unaware of the expanded expertise of the relatively young specialty. They still tended to equate renal medicine just with diseases likely to cause chronic renal failure. Yet while a doctor with a list size of 2500 may not see one person in a year with chronic renal failure, he or she is likely to have 40 patients consulting with cystitis and 15 patients with pyleo-nephritis in the same period.[42]

In the interviews with three doctors who ranged in age from young to middle-aged there were hints supportive of the proposition that family doctors have narrow constructs of the role of renal medicine. Two remarked on how rarely they made renal referrals: 'I've sent one or two . . .' and '. . . my actual kidney referrals are virtually nil over the year – very, very low.' The third spoke in terms of end stage renal failure. 'Well I think most people feel that by the time you've reached [the renal physicians] that your end is not far off.' In contrast, a fourth doctor who had had clinical experience with a renal replacement programme, found this affected his diagnostic decision making. 'Well I tend to have an interest in kidney problems. I tend to look for them and often find them where they are not obviously presented.'

This proness to link urinary tract referrals with the urology specialty seems to be a general phenomenon. For instance, in an editorial about urinary tract infections in the *Journal of the Royal College of General Practitioners*, the view was expressed that if a little girl has a recurrence of vague symptoms of abdominal pain and pyrexia caused by urinary infections she should be referred to a urologist for a full investigation.[117] There was no mention of referring the child instead to a nephrologist or even to a paediatrician. However, this editorial was written in 1977 when there were only 42 consultant nephrologists in England.[49] But as this is an expanding discipline,[50,63] it will be interesting to observe if there are shifts in general practitioners' referral pathways for urinary problems over the next decade.

Choosing the consultant

The main criteria applied by the interviewed family doctors when choosing a consultant for each referral was their knowledge of the

consultants' special expertise, and their personal preferences about the consultants' interactional styles. So how comprehensive was their knowledge of the consultants' special expertise?

The general medicine specialty had the most clearly defined areas of special interest amongst the consultants. Consultants in other specialties may have also had particular interests in, for example, peripheral vascular surgery, but these were rarely mentioned in the interviews. There were four general physicians in the survey hospital and their special interests were in cardiology; gastroenterology; neurology, immunology, oncology; and renal medicine. (Other physicians also held special clinics to which the GPs could refer – chest diseases, diabetes, endocrinology, geriatrics and renal medicine.)

It was clear from the interviews that the majority of general practitioners were aware of the general physicians' special interests, especially in cardiology or gastroenterology. Half the interviewed doctors made specific references to the sub-specialties while many other interviewees conveyed their awareness of the differentiated roles. The following statement was typical.

> 'Because [Dr B] I know is primarily gastroenterology so virtually all my gastroenterology medical problems I refer to him. All my cardiac ones I refer to [Dr A]. And then my sort of general medicine ones – it's almost a toss of a coin . . . I refer to [Dr D] a certain number. They tend to be more general medical or renal for obvious reasons, and to [Dr C] I tend to reserve my general medical, and certainly neurological ones I tend to refer to him.' (Doctor 18)

Occasionally too, a remark was passed about the technical expertise of surgical consultants. But comments of this kind were minimal probably because such judgments were subjective and the interviewees did not wish to appear critical.

Although the interviews suggested that the local doctors were aware of the general physicians' special interests, there were occasions when one of these physicians received a new referral whom he felt was more appropriate to the skills of a colleague. From the GPs' narratives there emerged two reasons for these seeming errors of judgment. First, a family doctor could be genuinely uncertain as to the likely cause of the patient's symptoms. Thus the points made in the previous section about specialty selection when uncertainty exists are equally applicable to this situation. An example of such a dilemma was provided by

Doctor 29. He was explaining what he would do for a hypothetical lady who was having 'drop attacks or funny turns'.

> 'If I thought it was neurological I would send it to [Dr C] because that's his interest. If I thought it was cardiac, and they very often are, then it would go to [Dr A] . . . He's got an ECG thing that you can strap on you now, and you go around for 24 hours. And that proved that a lot of these are cardiac things whereas before we didn't realise that. So the answer is I don't know who I'd send it to now but it would be either [Dr C] or [Dr A] . . .' (Doctor 29)

Second, what the family doctors wanted for some referrals was not a sub-specialist's skills but rather the overview of a general physician. The interviewees appreciated the trend towards specialisation in medicine especially as it resulted in the survey hospital's services being considerably expanded. Nonetheless, they still needed the continued presence of the generalists as this next quotation suggests.

> 'Well here again I tend to refer things according to their special interests. But I still feel that some physicians have a better general view than others and if a patient doesn't fall very clearly into one of the specialties I tend to favour one physician rather than the rest.' (Doctor 41)

One not-so-young doctor was rather more explicit as to why he needed freedom to choose between the consultants in all specialties. Often he was wanting more than just a confident diagnosis – he also desired the patient's esteem via a reassuring outpatient consultation.

> 'I think we look at the consultant we choose probably a little differently from the consultant . . . We tend to look at the chap and try and see whether he will go down well with the particular patient. And that often is all we really want. We want, in fact, a good relationship more than a hard and fast diagnosis . . .' (Doctor 16)

Other interviewees, likewise, were concerned to match the style of the consultants with the patients' temperament. In some instances, though, concern for the patient's disposition was over-ridden by the necessity of obtaining specialised expertise. However, the family doctors' formulations over the consultants' styles were not exclusively about the consultant/patient interactions. They also reflected the doctors' own interactions with the consultants over months, years. These could be direct (at meetings, in the hospital, in patients'

homes while on domiciliary visits, and socially) and indirect (the tone of hospital letters and the feedback from other hospitalised patients).

It was clear from the interviews that individual doctors had differing perspectives about the interactional styles of consultants within specialties, and thus differing preferences for their referrals. This variation was due to both the family doctor's personal construct of what were favourable attributes in consultants, *and* the amount of contact made with the hospital clinicians which enabled him or her to update these preferences. The transcripts also gave the impression that once preferences were formulated, they remained relatively static or routinised for the majority of referral decisions within a specialty. These are a senior partner and a young doctor speaking.

> 'And I suppose most of my work would go to the senior consultant [in one large specialty] because he and I have sort of grown up together in the place . . .' (Doctor 14)

> 'I do tend to stick to one consultant. I mean in [one specialty] I send nearly everything to [X] because I know him and I've had more contact with him . . .' (Doctor 15)

Two doctors likened referral habits to prescribing habits in that 'one generally sticks' to what is known.

So, when a new appointment was made in a large specialty (that is, with three or more consultant posts), the general practitioners were sometimes slow to review their preferences because their current relationships were satisfactory.

> 'But there are six physicians and I might use two or three um, possibly four, but two I never send patients to. In fact I don't think I know what they look like . . . In fact they are new people, they're the last sort of additions to the hierarchy . . .' (Doctor 4)

Occasionally the obverse situation arose. Three doctors were regretful that they had been unable to personally review their preferences following hospital staffing changes. They had heard from GP colleagues that some incoming consultants were particularly amenable. However, the waiting times for outpatient appointments with these clinicians were so long (owing to other colleagues reviewing their preferences) that they continued with their established referral pathways.

Learning about new consultants

How, then, do general practitioners learn about the clinical and personal attributes of individual consultants? To find out more about this process the interviewed doctors were asked if they liked to learn something about new consultants before making referrals to them. The multi-stage process of acquiring and assimilating knowledge about a new appointment was well summarised by one doctor.

> 'We get to hear about him because there is a circular sent around . . . What often happens then is that one phones up for an urgent appointment and you're told that the three [established] consultants cannot see the case for two or three weeks but "Dr or Mr – could see your patient next Friday" . . . You then get letters back and if he writes a decent letter and it seems constructive, then you're inclined to refer people more frequently and often you might well meet him at meetings as well and so you get to know.' (Doctor 22)

The family doctors were formally notified by a circular whenever a new consultant was appointed to the survey hospital. These circulars outlined any special interests of the consultant and his weekly schedule for outpatient clinics and other activities. A few of the interviewed doctors felt that this kind of information was not sufficient, although one admitted that 'GPs are very bad at reading matters'. Another criticised the lack of comprehensive information about the full number of consultants holding outpatient sessions in the survey hospital. He had prepared his own consolidated list because 'There's no real definitive list of who's where when'.

Often a new appointment took over the caseload of a retiring consultant and so the family doctors would receive correspondence about follow-up patients which alerted them to the presence of the new clinician. Likewise on the inpatient side – information about emergency patients was fed back to the doctors from the new consultant's firm when it was on call. Hearsay amongst GP colleagues was another source. 'Reputation of course, spreads like wild fire in a smallish community.'

The general practitioners seemed to be more concerned to evaluate the personal qualities or style of the new consultants than to form judgments about their clinical expertise or competence. And this is understandable. They probably felt that they were not in a position to

make clinical evaluations. As one doctor said, 'I think you have to accept that they're competent if they've got the job'. However, four doctors mentioned that they liked to know where the consultants had come from and what sort of jobs they had previously held – two even consulted *The Medical Directory*. Two other doctors were guided in their assessments of clinical expertise by the internal hospital correspondence. (Note that the GPs usually received carbon copies of the letters about their patients which passed between consultants.) It must be emphasised though that the family doctors were not generally disinterested in a new consultant's clinical expertise. Far from it: they were keen to learn of the consultant's views about clinical matters. But at the same time they needed to assess how he would interact with patients.

There were two more usual ways of forming views about a new consultant. One was to take the initiative by referring a few patients and then assessing the responses.

> 'It is trial and error really. Very often the new one has no waiting list so you send patients . . . and then you sit back and see what sort of answer, result you get back. I mean one can judge a bit from the letters and what they think and also one can judge by what the patients have told you about them . . . Obviously you don't necessarily go completely by what the patient says . . .' (Doctor 6)

The second and most favoured method of summing-up a new consultant was actually meeting him or her. Some older interviewees were convinced that it was to the patients' advantage if they were personally acquainted.

> 'When a new consultant is appointed I like to know [his background] and I usually like to have a look at him as well, meet him before sending any patients to him. I think one's duty bound to one's patients. I don't think it's on to send patients to someone you know nothing about.' (Doctor 12)

The preferred method of meeting new consultants was to attend gatherings of general practitioners. The doctors in one large health centre held regular lunch time meetings to which both new and established consultants were invited and the second health centre was following suit. Another group of doctors commented that they used to meet new consultants at a local medical club's meetings. However, the club had lapsed (for organisational reasons) and the loss of a forum to

meet these consultants informally was much regretted by some. There were, of course, other methods of meeting new consultants – on domiciliary visits, socially or at postgraduate refresher courses. Yet the chances of this happening in the first few months after a consultant had taken up his appointment were low for most GPs. Even if a doctor held a clinical assistantship in the survey hospital, it did not ensure that contact would be made with new consultants in other specialties.

Finally, it is noteworthy that the mechanisms and criteria by which these 45 doctors assessed the attributes of their consultant colleagues were mirrowed in an analysis undertaken by Freidson of a large American group practice incorporating specialists and generalists.[41] This is one from a range of apt quotations made by the American primary practitioners.

> 'Generally speaking, there are a couple of ways of forming opinions about doctors. One is I guess by his background, his training. This is probably the initial factor, which is very often wrong. But that's probably the first information you have. Secondly, you see patients that they handle and how they handle them, and you are impressed with that or you are impressed by informal discussions around the hall or you are impressed by some more formal discussions at conferences. (#1-Primary practitioner)'[41] (pages 140–1)

But there are also organisational factors affecting British referral pathways to specialists as the next chapter shows.

5 *Availability of resources and organisation of services*

This second chapter about the family doctors' knowledge of the health care system looks at the external constraints on a GP's decision making. When thinking about ambulatory cases, a doctor will weigh up the patient's access (distance and available transport) to scheduled outpatient sessions which may be held at alternative clinic sites; and the expected waiting times, first to get an outpatient appointment, and second – when surgery is anticipated – the subsequent period until admission. In special circumstances the doctor may decide to go outside the local referral conventions. For instance, a patient working outside the district could be referred to a hospital which is close to his workplace. Or, an extended waiting time for an outpatient appointment with a particular consultant may prompt the doctor to think in terms of a domiciliary consultation. Again, an anticipated extended local waiting period for an elective operation may cause a referral to be sent to another hospital known to have a shorter waiting list. There were examples in the interview transcripts of each of these alternative strategies to obtain specialists' opinions. And these examples often emerged in the replies to a question which asked what effect waiting times for outpatient appointments had on referral decision making.

Appointment waiting times

Are general practitioners responsive to the waiting periods for appointments? Do they make more referral decisions when the waiting time for a certain specialty is relatively short and, contrarily, does a long waiting time suppress their referral rates (the supply and demand phenomenon)? Or is it the case that the referral decision is independent of the known waiting times, this information only becoming relevant when deciding how to proceed with the referral?

About a fifth of the interviewees indicated that their referral decisions are reached independently of the known waiting times for appointments and this independence is consistent with the findings in the previous chapters. Some were emphatic about separating the referral decision from the subsequent action.

> 'I am not [influenced by the waiting time] when I make the decision to refer – the decision and then the consultant selection.' (Doctor 45)

> 'Probably it doesn't make, doesn't actually make a decision on whether to refer or not. If I'm going to refer, I'll refer. What I think it does alter is, um, the question of urgency . . .' (Doctor 23)

However, there was no doubt that the waiting times for appointments in some specialties were, in their opinion, regrettable. For example, the estimated minimal period for a routine new appointment in the rheumatology and rehabilitation and orthopaedic specialties was six weeks. (Delayed waiting times for orthopaedic services is a national problem.[51]) So the family doctors adopted coping strategies.

If the doctors had an urgent or semi-urgent patient whom they wished to be seen by a specific consultant, then either the consultant or his secretary was telephoned.

> 'If I think that they should be seen by a particular physician and it is urgent, then I will ring them up and say "Look, I wonder if you could fit in so and so?".' (Doctor 41)

But a few doctors were embarrassed by having to use this method.

> '. . . it takes more time, and one feels one's being a nuisance to the consultant too, the more telephoning and so on, but I've never been refused a reasonably early appointment.' (Doctor 14)

A second doctor who felt foolish when telephoning, explained that the reason for asking often seemed rather facile. 'It may refer to social things which are not easily appreciated to anyone actually dealing with the hard facts of clinical medicine.' Switching referrals to consultants with shorter waiting times was another strategy mentioned. '. . . and sometimes I will switch consultants in order to get them seen more quickly.'

However, in a few specialties the commonly-used strategy for both urgent and non-urgent referrals was to address the letter to the department (of the selected specialty) and let the appointments bureau or secretaries allocate the referral to the consultant with the shortest waiting time. This was most likely to happen in the ENT and ophthalmology specialties to which many cases of a 'routine' nature are referred (hearing aid requests, unconfirmed squints and such like).

'I left them open ended [to ENT] because . . . they're equally as good. So I don't mind who they see . . . if you name someone specific it may be a lot longer before one is seen.' (Doctor 18)

'There are only two clinics where usually I don't specify the consultant – that's ear, nose and throat, and ophthalmology . . . because the lists are so long.' (Doctor 24)

The general practitioners were encouraged to adopt this strategy. The hospital referral letter form had a clause which said if a specific consultant's advice was *not* required, then the earliest possible appointment would be given. The doctors could also code their letters as urgent or routine. Of the 358 general medical letters examined, 8 per cent were marked urgent, telephone calls accompanied another 4 per cent and the remainder were either marked routine (5 per cent) or, as mostly happened, were unmarked (83 per cent).

While there was virtually no mention in the 45 interviews of doctors increasing their referral rates to specialties with short appointment waiting times (the exception being a doctor who referred more to the surgeons as they could get investigations done quickly), there was evidence of suppressed referral rates caused by extended waiting times. It applied to muscular and skeletal problems which were thought to be self-limiting. Some interviewees used the prolonged wait for an orthopaedic appointment as an incentive to recovery.

'The patient, I think, has got a condition that is going to get better anyhow. I satisfy the patient by saying "Look you've had a couple of weeks on your back, with your bad back. I think the time's come now to get a consultant [orthopaedic] opinion . . . but in the meanwhile I want you to go on resting . . ." With a little luck, by the time he's even had the letter back from the hospital he begins to appreciate he's getting better . . .' (Doctor 16)

More often, though, they abandoned the referral decision.

'I think in some specialties . . . particularly orthopaedics, there is a vast waiting list – something like a knee which may very well get better before the three months or whatever. Then I think sometimes one is put off referring for this reason.' (Doctor 38)

There is another group of muscular skeletal patients whose referral decisions are affected by prolonged waiting times – the semi-ambulant whose conditions are not so serious as to warrant inpatient admission.

Nevertheless, they are distressed perhaps by back pain and their doctor feels that they need a specialist's assessment. There are two courses of action (apart from private referrals) available to the GP – domiciliary consultations or referral to other hospitals – and these are discussed later in this chapter.

The general practitioners' two sources of information about waiting times were the circulars sent out quarterly from the survey hospital, and feedback from referred patients. The interviewed doctors appreciated receiving the hospital's circulars but they were not very dependent upon them. Some had poor judgment of how frequently the circulars were sent out – monthly or occasionally. Moreover, they were somewhat critical of the format of these circulars. Traditionally the circulars had listed the routine new appointment waiting times for *each* consultant, but 18 months prior to the interviewing this policy was changed. Thus the entries just gave the time span within each specialty, for example, antenatal appointments 2–6 weeks.

Many of the GPs regretted the loss of specific information about each consultant. Indeed, a few were indignant about the revised policy.

> 'The lists they dish out. Um, useless I should think because they don't put each consultant down. They put down "Medicine 3 to 13 weeks". Now I know which one is 3 weeks and which one is 13 . . . But unless you know that it's useless.' (Doctor 29)

Apparently the reason for changing the waiting times layout on the circulars was the belief that GPs collectively were switching their referrals from consultants with extended waiting periods to those with short periods within a specialty. And it was possibly felt, as well, that individual family doctors might be taking advantage of short periods by making 'excessive' referral demands. Thus a consultant could quite quickly become swamped with new referrals after a circular had been sent out.

Certainly the transcripts confirmed that switching between consultants occasionally occurs. But, as has been shown, generally the doctors have strong preferences about who sees their patients except in certain specialties. So they are willing to accommodate the appointment delays for routine cases.

> '. . . I would take the view that if it isn't particularly urgent, if the patient wants the opinion that I consider a good one they are just going to have to wait for it.' (Doctor 41)

Yet they still liked to be able to forewarn the patients of the likely delay as Doctor 4 illustrated.

> 'This is not an urgent matter, it's a question of waiting perhaps, even if you wait two or three weeks, or six weeks, I'll be quite happy.'

Patients, too, convey information about appointment waiting times and it can be more useful than the hospital circulars.

> 'You know when a patient comes back and complains to you that they're not being seen until Christmas when you only saw them last week . . . So you have a good feeling of how things are going.' (Doctor 23)

There are two reasons why patients should be even more reliable barometers of the fluctuations in the waiting times. First, the hospital circulars are produced only four times a year, and a consultant's holiday or leave of absence can rapidly change the balance within a specialty. (It was for this reason that some doctors thought the circulars were too infrequent.) The second reason relates to the practice adopted by many consultants in the survey hospital of reading their incoming personally addressed referral and transfer letters so that they can assess the urgency of each case. This policy arose during the period of industrial unrest among hospital staff in the mid-1970s. Its aim was to ration the number of new patients (GP-referrals and consultant transfers) seen in each outpatient session, and the reason for maintaining the practice was the desire to have sufficient time to give these patients a thorough workup.

At least six of the interviewees were aware that the consultants were screening the referral letters. One general practitioner commended the system and he went on to describe how the responsibility for obtaining reasonable appointment times lay with the GPs and their referral letter writing.

> 'If you write "Dear Dr So and So, here is Mrs Such and Such; she has got chest pains. Please will you see her", you will get a 12-week appointment. That's your fault. But if you write and tell him that her blood pressure is such and you've had certain blood tests done and she obviously has got heart disease, then you are much more likely to get an appropriate appointment . . . As ye sow so shall ye reap!' (Doctor 45)

The above quotation was about medical referrals and it is interesting that while the waiting times for other specialties were singled out by the interviewed doctors, there were virtually no spontaneous comments about general medicine. Even a later interview question about medical appointments did not produce critical comments and yet there were delays for routine general medicine referrals. For example, the circular which was sent out near the end of the interview fieldwork listed the waiting periods as 4–8 weeks in the DGH clinics and 8–9 weeks at two of the three peripheral clinic sites.

The consensus of uncritical opinion may have been the direct result of the general physicians screening their incoming referral letters. In the outpatient data, 261 referral letters were marked by these consultants; 15 per cent were considered as urgent (to be seen within one week to ten days), 21 per cent as semi-urgent, 13 per cent were to have a special investigation first and the remaining half were given routine appointments. The data also showed that four-fifths of the 370 new patients were seen within the eight-week waiting time periods indicated in the relevant circulars. The remaining fifth were seen by 12 weeks but there were at least two reasons for the extended delays. One was the inevitable gap between the date of the family doctor writing the letter and the consultant reading it. The other reason was the postponement of inconvenient appointments by patients. Finally, it is noteworthy that the consultants classified a higher proportion of the referral letters as urgent/semi-urgent than the letter writers themselves. This was partly owing to the consultants' hindsight about the clinical judgment of the individual authors. It is an issue which is explored in Chapter 9.

Peripheral clinics

When deciding on the pathways for their referrals, the general practitioners could exercise geographical options. Those practising in towns in which peripheral outpatient sessions were held by consultants based in the survey DGH, could ask to have their patients seen either in the hospital clinics or at the peripheral sites. GPs with patients living on the boundaries of the catchment area were making choices between alternative district hospital services, while all the family doctors could refer patients to hospitals in other centres (notably London).

Peripheral clinics were held in three towns located 7½ miles, 9

miles and 10 miles respectively from the survey DGH. General medicine, rheumatology and rehabilitation, general surgery and gynaecology clinics were held in all three towns; and orthopaedic surgery and mental illness sessions in two towns. The frequency of the sessions did, however, vary between sites – they could be weekly, fortnightly or monthly. The types of premises housing clinics included two GP hospitals, an old chest clinic, and for some general medicine sessions, a health centre. As two of the three peripheral towns had relatively elderly populations (25 per cent or more being 65 years or over), it was far more convenient and less costly for the older patients to attend the local clinics. The general practitioners were, though, influenced in their use of these clinics by the attributes of the consultants who undertook the peripheral sessions, the limited investigatory facilities in the local clinics, and the waiting times for appointments. Three-quarters of the doctors practising in these three towns were interviewed (24 interviews) and almost all mentioned one or more of these factors when talking about their use of the peripheral clinics. But no one summed them up better than Doctor 24.

> 'It depends on a good many factors . . . each decision is a balanced one – on the patient, on the condition, on the time interval they might have to wait, and the consultant, obviously, that one wants.'

Only one of the three peripheral towns had x-ray facilities capable of taking plain films of all parts of the body except the skull and sinuses. The radiographers' three sessions weekly coincided with most of the peripheral outpatient sessions. No pathology work apart from testing urine was done at any of the sites but specimens could be taken for collection by the laboratory transport service. ECG machines were available at two clinic sites. There were, however, physiotherapy departments in each of the towns although the family doctors did not have open access to them. The interviewed doctors were well aware of the local clinics' restricted investigatory services, yet they did not emphasise it as a discriminating factor when deciding on the destinations of their referrals. To explain this we need to look at the three-month general medicine outpatient data.

The first outpatient attendance for 65 (18 per cent) of the 370 newly referred patients was at a peripheral clinic. When the diagnostic workups (pathology and radiology) in the referral letters seen at the DGH clinics were compared with the letters seen at the peripheral clinics, the figures for the DGH letters were only slightly higher. Also

the family doctors' reasons for referral (help with diagnosis, advice about treatment, or reassurance for the patient or doctor) were distributed in similar proportions in the two groups of letters. Thus it did not appear that the local medical clinics were being used unduly for the purpose of reassuring patients.

However, the data did show that there was a two-stage sorting process as to which clinic site the patients were sent. It depended on the nature of the clinical problem and therefore the choice of consultant, and its severity. First, the nature of the problem. Each of the three general physicians conducting the peripheral clinics had special interests – gastroenterology, neurology and immunology, and cardiology. Needless to say the general practitioners in the three towns knew of their sub-specialisations. But they also believed that the physicians were competent to deal with general problems such as hypertension, headaches, and epigastric discomfort. So the peripheral town doctors were likely to refer these general problems to the consultant holding the local clinic, while the more specialised problems went to the appropriate sub-specialist.

> 'Ah well, you see, the medical people have their own special interests . . . So for instance, if one had someone with say problems with their heart, they would go to Dr [A] . . . if they've got problems with the bowels they would go to Dr [B] whether he did a clinic session here or no. And again Dr [C] is interested in various other things. So I suppose 50 per cent or more of the medicine will go to a consultant who is interested in it. The rest will go therefore to Dr – [at the local clinic].' (Doctor 30)

> 'Dr – comes here and I send most of the medical stuff to him. But this particular chap I sent to Dr [A at the DGH] because this is a hypertension and cardiology problem so he went to him because I know he's interested in this line.' (Doctor 17)

Were any effects of this first stage in the sorting process evident in the hospital-based statistics? The figures in Table 3 confirm that the family doctors were discriminating between clinic sites according to the special expertise of the individual consultants. (The higher 'attachment' figure for Town B was due in part to the local population being heavily weighted towards the elderly who were less able to travel nine or more miles to the DGH.)

The second stage of the clinic selection process was determined by

Table 3 Patients referred to the general physicians from three peripheral towns

Patients referred from	Percentage of patients sent to physician holding local clinic %	other general medicine physicians %
Town B	69	32
Town C	47	53
Town D	50	50

the severity of the clinical problem. Since the peripheral clinic in Town B lacked many investigatory facilities, the nearby family doctors sensing when a patient needed a comprehensive workup which could be done on the same day as the outpatient attendance, would send the letter to the DGH. The same applied to patients whom they thought needed a special investigation. The physicians who held the peripheral clinics in the other two towns had actually arranged for all their referral letters to be sent to the DGH where they screened them for urgency and clinic appropriateness.

This background information about the diagnostic facilities at the peripheral clinic sites and the process of case selection helps to explain why there was a statistically significant difference in the percentages of new patients who had radiographs or pathology tests requested at their first attendance – 64 per cent of the patients seen in the DGH compared to 41 per cent for those attending the peripheral clinics (chi square test $p < 0.01$). Also, twice as many DGH patients received or were booked for ECGs and special investigations. There was, however, another factor which affected the investigation rates for the clinic sites – the status of the doctors seeing the patients. Nearly 94 per cent of the new patients attending the peripheral clinics were seen by the consultants responsible for the clinics, whereas in the DGH, the figure fell to 82 per cent. The assisting junior doctors (all senior house officers) investigated 80 per cent of the new patients whom they saw; the equivalent rate for the four consultants was 56 per cent ($p < 0.01$). So this high figure for the SHOs had a weighting effect on the DGH investigation rates. (There is more about the SHOs' decision making in Chapter 7.) Cullis, Heasell and Weller in their economic evaluation of paediatric peripheral clinics[21], also noted a trend for junior doctors to order more tests on average than consultants at any site.

Appointment waiting times were an important criterion in the peripheral town doctors' selection of clinic sites for specialties other than general medicine. The waiting times for peripheral appointments exceeded the DGH time periods in nearly half of the peripheral clinics held by five specialties during the interview fieldwork. There were, of course, fluctuations between specialties but certainly it was common for an individual consultant to have a longer appointment delay for his peripheral clinic than for his main clinics. The interviewed doctors reacted to these differential waiting times by switching referrals between sites unless the patient really did not wish to travel and there was no urgency about the case.

> 'I try and find where the er first appointment would be, hoping that it would be a Town – rather than [at the DGH] . . .' (Doctor 3)

> 'If I refer to the [local clinic] and I ring them up for an appointment and they say "No can do", I will then switch to the [DGH] and see if they can do better. But, for an ordinary cold case I just bung the letter in the post and wait for the patient to object.' (Doctor 9)

The family doctors also held opinions about the personal styles of the consultants who conducted the peripheral clinics. One interviewee indirectly hinted at the dilemma which could face a doctor if a consultant holding local clinic sessions was not held in high esteem.

> 'Well now; of the [consultants within X specialty] only one comes to the local clinic. I think he's great. I mean if I needed any work I'd go and see him. It would be a different matter if I didn't think . . .'

Finally, when considering the question of whether peripheral clinics are appropriate for newly referred patients, these data are in line with the conclusions of Urquhart and Ruthven.[118] They looked at the potential of health centres in Scotland as alternative clinic sites for general medicine, general surgery, gynaecology and ENT sessions. (One in four Scottish health centres had radiology facilities in 1976.[77])

> 'The feasibility of locating first consultations at the health centre clinic will . . . depend to some degree on the extent to which the general practitioner is able to anticipate that the consultations will involve procedures beyond the scope of the facilities available at the health centre.'[118] (page 202)

But this study has also shown that family doctors in peripheral towns discriminate between the special interests of physicians when select-

ing their referral pathways. The economic evaluation of peripheral paediatric clinics by Cullis and his colleagues[21] was centred on Bath and Oxford. However, they focussed on the attitudes, and costs (travel costs and time lost from work and other activities) falling on patients' families. The evidence suggested that peripheral clinics held in conjunction with DGH clinics were an efficient use of society's resources.

Referring to hospitals elsewhere

For patients living on the boundary of the survey hospital's catchment area their spatial accessibility was the main criterion when selecting clinic sites. It was not just a question of which district hospital's services were closer in terms of geographical distance, rather the question was: which site is easier for the patient to reach? For example, patients might choose to travel ten or more miles on a single bus journey rather than half this distance but using two buses. So within a geographically dispersed rural practice it was possible for patients living in villages close to the main arterial roads to identify with the more distant DGH, whereas patients in the heart of the countryside would choose to go to the closest hospital facilities.

A second criterion mentioned or hinted at in some of the interviews with doctors in dispersed practices was the general practitioner's own familiarity with the alternative hospital systems. These doctors tended to identify more closely with a particular DGH – in this case the survey hospital – and indeed, one doctor was anxious that zoning would never be enforced. (The psychiatry specialty was already zoned.)

> 'Well I like going to [the survey hospital]. If I'm given my own way I like sending everybody [to it].' (Doctor 15)

Doctor 15's practice was in fact adjacent to three separate district hospital systems but the third he rarely used. '[X] Hospital I don't send to, mainly because I really don't know the hospital, I don't know the people there.' And this reluctance to use unknown consultants was conveyed by other doctors when they were talking about referring patients to London and elsewhere.

In the interviews the doctors were asked if they referred patients away from the local area. Over and over they replied in negative terms – 'Well no, virtually no', 'Not very often these days'. From their

estimates and the descriptions of the previous week's referrals given at the start of each interview, it seemed that only about 5 per cent of their referrals were being sent to distant hospitals and not always to London.

Decisions to refer elsewhere were initiated either by the patients or the doctors. The patients were motivated by different reasons. Requests for a second consultant opinion was the reason most often mentioned by the interviewees and they could share their patients' views. 'Most of those I send to London, by the time they've got that far they've usually run out of folk at [the survey hospital].' Commuters to London might suggest that a hospital near their workplace be chosen. Another reason for using London hospitals was to get around the outpatient waiting times problem but this was usually to quell the patients' anxieties. As one doctor explained, '. . . it is nearly always the patients who would like to have an earlier appointment, who can't afford one privately but who can afford a trip to London, and you hope that it's just going to be for a single trip for an opinion and finish.' A few doctors used London hospitals because the waiting times for certain surgical admissions were shorter than locally. However, this was not done routinely because the London waiting times could fluctuate and, furthermore, many patients were not willing to be distanced from their families. Finally, the doctors were responsive to patients who had previously attended a London teaching hospital and wished to be referred back and to those who wanted to go to London as private patients.

There seemed to be far fewer occasions when general practitioners actually chose – within their own referral decision making – to send patients to specialists in London and elsewhere. And these patients were likely to have unusual problems for which there were no well developed local services (for example, tropical diseases, genetic counselling, and plastic surgery). Sometimes the doctors wanted the opinion of a particular expert. 'This happens probably very rarely, but you know, just occasionally one says "Well I know just the person you ought to see".' (Doctor 41)

Which London hospitals were the doctors likely to choose? There were some references to the postgraduate hospitals for dermatology, ophthalmology, neurology and psychiatric diseases. More often, though, the referrals went to the undergraduate teaching hospitals where the general practitioners had trained. But of course, many of the interviewed doctors had not trained in London and two of these

disclaimed sending many referrals to London because they lacked sufficient knowledge of the hospitals.

> 'I can't think of the last time I referred one . . . I don't know them very well up there. And I'm a great believer in knowing who you're referring to because it makes a lot of difference.' (Doctor 18)

It may seem surprising that such a relatively small number of referrals are being sent to London from the survey area. This attachment of the local family doctors to the survey DGH was not always so strong. However, in the last few years the hospital had developed new services staffed by highly competent clinicians. For example, in cardiology not only were new patients being sent almost exclusively to the survey hospital, but also old patients who had initially gone to London hospitals were being transferred to the local hospital for management. This expansion of the hospital's services was applauded by the family doctors. As one said, '. . . fortunately, we get very wide and comprehensive, competent cover from the hospital.'

*Domiciliary consultations**

Under what circumstances do general practitioners request domiciliary consultations? The interviewed doctors were asked this question and there seemed to be three sets of circumstances. In the first group, the general practitioners took the initiative and asked the consultants to undertake visits. In the second group, the GPs contacted the consultants or their secretaries to ask whether patients could be seen urgently as an outpatient or admitted; they were offered a domiciliary consultation which they accepted. Patients in need of psychiatric, geriatric and psychogeriatric help gave rise to the third group of circumstances because for many of these patients, their domestic arrangements needed to be assessed.

There are three main types of circumstance which cause family doctors to ask for a domiciliary visit. Occasionally a doctor wants a consultant to confirm that hospitalisation for a patient dying, perhaps from an inoperable carcinoma, would be inhuman since nothing further can be done in a curative or a palliative sense. The family is thus fully reassured by this collaborative decision. One doctor when making this point added a poignant note.

* This sub-section is part of a paper published in the *British Medical Journal* in 1983.[29]

> 'It's a lonely life sometimes in general practice, one doesn't like to say "We will do nothing" without having gone to another person and then satisfying everybody . . . A person who you think has an inoperable carcinoma and you feel it couldn't be touched . . . get the consultant out and discuss it with the family and it is nicely tied up. Everybody knows where they are.' (Doctor 44)

Second, and also infrequently, there are occasions when patients can actually attend the outpatient clinics, but as their overall health state is so poor, an attendance would be an uncomfortable or distressing experience. What the doctors are wanting from the domiciliary consultation is advice on management. Examples in the interviews included a lady with ulcers of the ankles arising from an arthritic hip and a man with an artificial leg and obstructive jaundice.

The third and by far the most frequent circumstance occurs when patients are acutely ill but the GP does not feel that direct inpatient admission is warranted. For some of the interviewed doctors, they were mainly seeking help in establishing a diagnosis and determining whether admission was desirable.

> '. . . where I'm unsure about the diagnosis and where if one diagnosis is come to, then hospital admission is vital to them, in other words life saving to them . . .' (Doctor 26)

> 'For medical domiciliaries they tend to be the complicated ones . . . the ones where I'm not sure what the diagnosis is, that I'm concerned about but don't think they warrant going in absolutely immediately.' (Doctor 18)

This last speaker also pointed out that he wanted an 'expert' opinion, whereas if he admitted the patient then the first assessment would be made at the junior houseman level. Other doctors claimed that they usually simply wanted guidance on the management of a confidently held diagnosis which they intended to look after themselves.

> 'Well the answer really is I think in someone . . . that you can cope with at home but there is anxiety about them, either your own or very often relatives . . . the elder person who has had a bit of a heart attack . . . And I think really a domiciliary then you'll be getting in the consultant just to give you a little moral support.' (Doctor 31)

> 'But I think any sort of heart case which I think ought not be removed.' (Doctor 36)

Two general practitioners explained how they managed certain coronary patients according to their clinical judgment but backed-up by the assurance that expert advice was available. '. . . it's better to leave him in his bed and invite a consultant out. He can do an ECG there and then on the spot for you.' In contrast, however, another doctor found that he and his four colleagues were asking for domiciliary consultations less often because the practice now had its own ECG machine, and this trend has been observed elsewhere.[38]

A senior partner was critical of general practitioners who, he believed, requested domiciliary consultations as a strategy for getting patients admitted to hospital. However, the available data about general medical visits do not suggest that this is a major problem (or at least it is not a very successful tactic). A 10 per cent sample of domiciliary consultations carried out in the South East Metropolitan Hospital Region during 1967–68 showed that only one-fifth of general medicine visits resulted in immediate admission (the proportion for all specialties was about one-quarter).[107] Again, data about the domiciliary consultations done by the general physicians during the three-month outpatient survey showed that fewer than one-quarter resulted in admissions being arranged. What we cannot tell, though, is how frequently GPs adopt this strategy for elderly patients who are severely physically or mentally ill.

Ad hoc decisions by individual consultants, and restricted clinical resources, give rise to the second group of domiciliary consultations. In the interviews, ad hoc decisions arose when a consultant was temporarily under such great pressure in the outpatient clinics that he or she could not cope with extra urgent or semi-urgent patients and offered instead to visit them at home.

> 'Yes occasionally a consultant will say to you "I just can't fit this patient in. The clinic situation is hopeless but I quite happily will see the patient at home", and if the condition of the patient justifies this, he's seen on a home visit.' (Doctor 12)

Visits were also made to assess some immobilised patients' needs for hospital-based treatment because locally, they were not acceptable as direct admissions owing to restricted resources. This applied particularly to patients with acute back pain.

> 'They won't accept that an acute prolapsed disc is an emergency. So generally a consultant comes out and says "Oh yes, you're right. We'll take this person in for traction".' (Doctor 7)

As regards geriatrics and mental illness, the interviews suggested that the family doctors' decisions to ask for help from these specialties were frequently precipitated by a crisis affecting the patient and/or the carer(s) which made the GP realise that he or she could no longer manage the situation. (Note that this discussion excludes acutely disturbed patients whom family doctors believe should be treated under Sections 25 or 29 of the Mental Health Act, 1959.)

> 'Because you happen to care about your [geriatric] patients, you keep them at home longer than you should. But suddenly a crisis arises . . .' (Doctor 40).

(And when reviewing psychiatric referral studies, Goldberg and Huxley found that patients' failure to respond to treatment from the family doctor was the one referral reason common to them all.[47]) Thus, with so many of the referred cases to these specialties being semi-urgent, the local consultants were unable to cope quickly or properly with all of them as outpatients and a proportion were seen as domiciliary consultations. Moreover, national data suggest that these patterns of practice are widespread.[29] But the general practitioners were also conscious of the advantages of having these patients, notably psychogeriatrics, assessed in their homes – to smell the effects of any incontinence, to look in the refrigerator of those living alone. Also, the effects of the patients' condition on relatives or other carers could be observed and any post-discharge plans formulated.

How often, then, are general practitioners receiving domiciliary consultations? National figures[29] indicate that in 1980/81 the average number of visits per unrestricted principal in England and Wales was 18, or approximately one visit every three weeks. However, the accounts in the interviews suggest that the request rates of individual doctors range widely around this mean just as consultants within specialties vary in their rates of performing domiciliary consultations.[29]

6 *Interactional style and judgment of patients' values*

The third block in the referral decision making framework has been labelled 'personal style', and this encompasses the family doctor's interactional style and his judgment of patients' preferences and values, plus the doctor's own sense of professionalism (see page 28). This block is covered by two chapters – aspects of professional self-identity are presented in the next chapter.

Personal style is an elusive concept to identify, let alone document. Furthermore, the study's design did not include the witnessing of consultations between general practitioners and their patients nor the questioning of both parties to ascertain their views about the outcome of the consultations. Thus, there is no survey data which is specifically about the interviewed doctors' styles of interacting with patients and their families, especially in consultations during which referral decisions were reached.

However, even if material of this kind had been recorded (by direct observation or video taping, and interviewing) there would still be no basis for inferring that a family doctor's interactional style was related to 'competent' clinical decision making. Complex research into medical problem-solving by Elstein and his colleagues did not find associations between personality variables and clinical problem-solving measures.[35] Carlton, too, has pointed out how the greater prevalence of malpractice claims in the United States tend to be against highly trained hospital doctors, implying therefore that it is not incompetence but some other factor(s) which lead to the initiation of claims.[15,109]

Yet while there is a lack of study data about the family doctors' interactional styles with their patients, nonetheless some material does exist which reflects indirectly the general practitioners' attitudes toward the patients' values and preferences. Questions were asked in the interviews about patients' involvement in the referral decision making and whether or not this was conveyed in the referral letters. It is to be remembered, too, that in the referral process doctors are not only interacting with their patients, they are also interacting with the

consultants – usually via letters. So the interviews included questions about letter writing styles.

Interacting with patients

The interviewed doctors were asked if the patients or their families had asked specifically or precipitated any of the referrals made in the previous week. Then later in the interviews, while discussing referral letter writing, the question was put 'If a patient does request a referral or intimates that he would like to be referred, is this usually indicated in the referral letter?' The question was included to find out if statistics about reasons for referral are reliable when they have been derived by examining referral letters. For instance, in her 1960s study of two southern hospital groups, Chamberlain deduced that 7 per cent of letters sent to various specialties were principally for the patients' peace of mind – to reassure them or their families that nothing was really amiss.[17] A similar analysis of this survey's general medicine letters obtained a figure of 8 per cent.

However, it became clear from the answers to these two interview questions that assumptions about patients' 'demands' which are derived from referral letter analyses alone, are too superficial. Two themes were running through the doctors' comments. First, there are differing kinds of patient-initiated referral situations and second, in coping with certain of these situations a family doctor can feel a conflict between his professional relationships with his patient and his consultant colleague.

Four types of patient-initiated referral situations appear to exist. The first situation is relatively straightforward. It arises when a patient presents with a clinical condition and knows full well that the family doctor is incapable of dealing with it him or herself and is also unlikely to demur about seeking a specialist's help. As one doctor put it:

> 'I mean obviously they're intelligent people, they'd come with the view of, with the definite knowledge that I couldn't cope with for argument's sake, the Bartholin's cyst, and so on.' (Doctor 31)

But sometimes the patients might be ungracious in their requests for help and this would rankle with the general practitioner.

> 'There is a group of people who come along and use you simply as a

referral agency. Who say "I'm deaf. I want to see a consultant", that sort of thing . . .' (Doctor 19)

The second type of situation applies to patients who want prophylactic interventions, notably vasectomy and sterilisation, or else the termination of a pregnancy. Curiously, although the interviewees described numerous instances when they acquiesced somewhat reluctantly to a patient's request for referral, no one saw any of the prophylactic referrals in this light. The reason could be that even if patients are certain in their own minds about having this intervention, they may still feel a need to seek further advice from their GP and so, in the end, the decision to refer is shared. Whenever the doctors described vasectomy, sterilisation or termination referrals which had been made in the previous week, they usually conveyed the impression that the decision had been explored in the surgery.

The third type of patient-initiated referral is also, to some extent, a shared decision. It arises when a patient has been receiving treatment from the family doctor but without noticeable improvement. Eventually the time comes when the patient or the family (and perhaps the doctor too) feels that a specialist's advice should be sought. The same situation can arise when the GP is struggling to pin-point a treatable diagnosis by doing a series of investigations. Two doctors offered specific examples where this had occurred. The first was talking about a lady with angina and back pain whom he had had under surveillance.

'. . . this particular patient has a dominating sister who really I felt, you know, was making the burden a little harder for her younger sister . . . Yes okay, she was angling for a consultant's opinion and I thought "Well that's fair enough. I'll help her to, let's do it" . . . I think possibly I would have agreed to have one anyway . . .' (Doctor 16)

The second doctor had been trying to establish a diagnosis for a lady by repeatedly measuring her biochemistry levels.

'The only [precipitated referral] was the woman with the _____ . . . But I was in the process anyway . . . Her husband spoke to me last Wednesday and I had made up my mind last Monday to send her to [a consultant]. It was a very reasonable sort of demand. It was a frustrating case. I didn't mind him getting worried about it because I started getting worried about it.' (Doctor 40)

Occasionally the GPs actually welcomed the patients' referral initiatives for they provided an opportunity to pass over an exasperating case. One doctor had been struggling to find evidence that an elderly woman really was particularly forgetful or had terrible indigestion as described repeatedly by her relatives.

> 'And in the end I said "Would you be happier if she saw a specialist?" and they immediately sat up and smiled and said "Oh yes, that would be lovely".' (The hospital were also unable to find anything wrong.) (Doctor 19)

The fourth type of patient referral initiative causes the greatest chagrin for the doctor because it not only threatens his own self-esteem, it threatens the esteem held by his consultant colleagues. The dilemma arises when a patient or another family member demands, perhaps at the first attendance, to see a specialist whereas in the doctor's own judgment there are no clinical reasons for taking this action. The doctors tended to be rueful as they described specific instances. A father prompted a referral for his son, a teenager who complained of pain behind his eyes. 'I'm quite confident it had no organic basis, but at the insistence of his over anxious and highly neurotic father I had no choice but refer him.' (Doctor 3). Again a mother, on seeing a survey doctor for the first time, complained how an earlier consultant was wrong about her child, the previous doctor was wrong, everybody was wrong because her sister, a nurse, had said so. And now the mother wanted something done about it or else. The interviewee examined the child and likewise felt there was nothing very much wrong. 'But because mother was being aggressive and insisting that something was done', the child was referred (Doctor 21). Two or three doctors mentioned that they tried to use delaying tactics in these situations.

> 'If the patient has specifically said "I want to see a specialist about this", you know that in order to manage that patient in the future you've usually got to acquiesce. You might be able to sort of cope with it for a couple of weeks [by doing some investigations] but you invariably end up having to do the referral . . .' (Doctor 37)

Not surprisingly, it was the fourth kind of patient-initiated referral situation which was most likely to be conveyed or hinted at in the referral letter. A number of GPs distinguished this group in their answers to the letter writing question as seen in the following example.

'If a patient comes in and says "Look here, I want to see a specialist", one's hackles immediately rise and before one's had a chance to decide whether it is anything or not. Then in that case I usually say "This patient has requested that she sees a specialist . . ." But if it's something that you've been dealing with and they happen to say "Look I think I'd like to see somebody", I'll say, "I quite agree, we don't seem to be getting much further . . ." I probably don't specify this in the letter.' (Doctor 6)

When talking about how they phrased their letters for such cases some of the interviewees used terms which were evocative of their concern to maintain the consultants' goodwill. They did not want to be seen as lacking in judgment and thereby wasting the hospital's time or, alternatively, they conveyed a note of apology for having failed to avert the patient.

'I would probably indicate to the consultant . . . one doesn't want the consultant to think that you're wasting their time . . .' (Doctor 21)

'. . . if they come in and are quite adamant . . . they want to see [a consultant], well I just say to them in the letter in a rather apologetic way "You know I haven't done very much but they don't want me to do anything, they want you".' (Doctor 14)

Even when the decision to refer was initiated by the patient and endorsed by the doctor (the third type of patient-initiated referral situation) the letter was likely to be phrased accordingly.

'You know I might say something like "He and I would be pleased to know what you think", and he [the consultant] might think that's what I always write but it isn't.' (Doctor 29)

'Yes I do if I think it is relevant. I say "Both the patient and I would be reassured by . . .".' (Doctor 34)

Yet the inclusion of a caveat in a letter still was not a guarantee against the consultant misinterpreting the situation, perhaps through failing to read the letter closely. One doctor sadly related how he had once explained in a letter that the patient was fearful about her symptoms because a brother had just died from a tumour which caused similar symptoms. The consultant's reply contained a reprimand for having wasted his time.

The foregoing passages have shown how many of the interviewees acquiesced to referral requests from patients. But the doctors were sensitive about these requests. They could bruise the individual's self-esteem. Two young doctors spoke of feeling irrational, of having suffered a blow to the ego.

> 'It may be fairly irrational, but I don't particularly like to be thought of as a chap just to write letters so that they can see important doctors.' (Doctor 19)

> 'I often feel threatened in my own situation as I suspect a lot of other people do, that they're going over my head, and it's perhaps ego destroying . . .' (Doctor 27)

And a recently qualified doctor said that he generally obliged whereas 'an older and wiser doctor might be able to talk them out of it' (Doctor 7). But even some senior doctors were rueful about their failure at times to anticipate such situations. These are two views; the second confessed that he would not make an admission in the referral letter.

> 'If a patient asks to be referred I reckon I've failed because one should be able to sense, anticipate when a patient is seeking a further opinion . . . It does happen to all of us from time to time and when it does I'm always rather annoyed with myself that I didn't spot this before.' (Doctor 12)

> 'I feel rather ashamed to think that I've been pushed about by my patients and therefore that hardly ever gets in the letter.' (Doctor 16)

However, among the survey doctors there were a few who rarely, if ever, found themselves missing their patients' cues. 'I feel that one has lost the sort of psychological advantage if this happens. It may have happened . . .' One also commented how at times he had to actually persuade a patient to accept a referral.

Since not all general practitioners convey explicit messages about patient-initiated referral decisions in their letters, analyses of referral letters probably slightly under-estimate the frequency of these events. One interviewee thought that the figure was about 10 per cent of all referrals and this seems a likely estimate. Finally, it must be noted that we have no data about how frequently patients' requests or intimations are refused or ignored by general practitioners. Also we do not know if, or how, the GPs incorporate a patient's values and prefer-

ences when selecting a consultant. Whenever the interviewees were asked if they sought the views of their patients about which consultant they might be referred to, they usually said 'no', the reason being that most patients were not knowledgeable about the specialists.

Judging patients' values

The following quotation about an individual doctor's assessment of the most appropriate form of treatment for a patient exemplifies the meaning of the phrase 'judgment of patients' values and preferences'.

> 'The next patient is a rather elderly woman who has almost certainly a carcinoma of the right breast. I'm referring her surgically to have local excision rather than radical mastectomy, mainly because she's elderly, she's had strokes in the past, she's recently had a fractured neck of femur and has just recovered from that, and I don't think she would take a major operation, nor would she justify it. Because the statistics about management of breast cancer don't seem to alter however radical you do the operation.' (Doctor 11)

However, doctors may not always be making judgments which are in accord with their patients' preferences. This problem of interpersonal comparisons of values or 'utilities' in economic usage, was outlined by Albert in a review paper about decision theory in medicine.

> 'Whenever physicians make clinical decisions they integrate their own value system with the patient's value system to generate preferences for alternative diagnoses or therapies . . . The ability to assess and integrate patients' values is one of the subtle attributes of a good clinician . . . Of course, the greater the cultural gap between patient and physician, the more difficult this appreciation of values.'[1] (pages 378–79)

Two pioneering research teams have distilled patients' and clinicians' values and shown how the values of the two groups may not always be in accord. The first team measured attitudes towards risk to answer the question: which therapy for which patient? The second team measured perceptions of disability and distress to produce indices which could be used when determining resource allocations for society. Each adopted a unique methodology.

In Boston, McNeil, Weichselbaum and Pauker used a hypothetical gamble approach to assess the risk preferences of 14 patients with

operable bronchogenic carcinoma.[79] These patients were asked to consider choices between a fixed period of certain survival and a chance or gamble on longer survival. (All gambles were assumed to be 50:50, analogous to flipping a coin.) The preliminary results showed a spectrum of attitudes, but the majority were considerably averse to risks. For them life during the next few months was much more important than life many years later. The research team then looked at survival rates for patients with bronchogenic carcinoma who had been treated with surgery or radiotherapy. They found that patients treated by surgical extirpation have noticeably better five-year survival rates, but the procedure has an operative mortality rate which can range between 5 and 20 per cent.

These researchers concluded that *on the basis of five-year survival rates* all patients should automatically choose the therapy with the greater chance of survival at five years. This choice will depend on the patients' ages and the likely operative mortality rates in the local situation, but in most instances the choice will be surgery. However, *on the basis of expected utility data* (the patients' risk preferences), patients should choose the therapy with the higher expected personal utility, and that choice may vary from patient to patient. The risk averse may choose radiotherapy since this treatment has no operative mortality risks and therefore offers a high level of certainty of life in the short-term.

McNeil and her colleagues later carried out a similar exercise to assess individuals' tradeoffs between quality and quantity of life should they suffer from advanced laryngeal cancer.[80] Again the alternative therapies for the condition are surgery and radiotherapy. Surgery improves survival but at the expense of greatly impaired speech, while radiotherapy preserves speech at the expense of reduced chances of survival. The study group consisted of healthy volunteers. They listened to tape recordings of the impaired speech of patients who had had laryngectomy and then they were asked to choose between a fixed period of certain survival and a gamble on longer survival. In the researchers' views, the study had a clear message – patients' attitudes towards quality of life (in this instance, quality of speech) are important, and survival is not their only consideration. Furthermore, attitudes vary enormously from patient to patient.

The two clinical states – operable bronchogenic carcinoma and advanced laryngeal cancer – were chosen by the Boston team partly because of the tendency in the United States to treat them surgically

rather than by radiotherapy even though neither procedure is able to control distant metastases. Radiotherapy for lung cancer is, however, relatively more distressing than surgical extirpation. The trends suggest, therefore, that doctors are generally more risk seeking than patients and have differing valuations of pain and disability. This notion is consistent with the second of the two pioneering research programmes, this time done in London.

Rosser and Kind[69,99] developed a scale to evaluate states of illness and it incorporated both gradations of objective disability and subjective distress. The disability states ranged from no disability, through to housebound, wheelchair dependent, to unconscious; the distress scale ranged from no pain, through to mild, moderate, to severe pain (for which opiates were required). These two classifications were then combined to form 29 illness states. For example, disability state 7 combined with distress state 4 was the equivalent to being confined to bed and in severe pain which needed heroin. Groups of individuals were interviewed with the aim of placing *valuations* on these states; that is to say, how undesirable did the individuals perceive each of these differing illness states. The interviewing process was complex. In essence the individuals were asked 'How many times more ill is a person who is in state X as compared with state Y?' and they were to assume that people in these states were the same age (not elderly), and that sufferers in all states could be improved if treated. Later the exercise was repeated with the assumption that the states were permanent. Six groups were interviewed (70 subjects in all) and the groups included medical patients (10), medical nurses (10) and senior doctors from various hospital specialties (10), as well as psychiatric patients and nurses and healthy volunteers.

One of the findings of Rosser and her colleague is of particular interest within the context of this discussion about judging patients' values. The doctors as a group placed considerably more emphasis on subjective distress (pain) than either the medical patients or the medical nurses, whereas these patients and nurses placed relatively greater value on being able or mobile, whatever the level of pain. For instance, the doctors considered that being confined to bed with moderate pain was more preferable to being in severe pain but able to do simple tasks or even being able to undertake light housework and shopping. For the patients and for the nurses these preferences were reversed.

Of course, these studies were both small in scale and method-

ologically experimental.[96] Furthermore, doctors were treated as a group, whereas a constant theme in this book is that doctors are not homogeneous in either their clinical decision making or their attitudes. Therefore, published statements by individual clinicians, such as those reproduced below, must not be seen as representative. The first was in a letter written in reply to McNeil and her colleagues' paper on lung cancer.[79]

> 'The patient's attitude should have no influence on what the physician advises as appropriate therapy for the patient's illness.'[124]

The second quotation was from a statement by a surgeon responding to the debate about management of breast cancer which had been triggered by the *Sunday Times*.

> 'Of course, mastectomy is mutilating, disturbing, and ideally to be avoided, but the surgeon's object is to provide the treatment most likely to produce a cure; of course, he should discuss it with the patient, but it is for him, not her, to make the choice. That is not arrogance, it is his job.'[125]

These statements underline both the need for further research into the assessment of patients' values, *and* the responsibility borne by the general practitioner when selecting the specialist for each referred patient.

Referral letter writing

Family doctors' letters have received much criticism over the years[17,23,39,78], so a series of questions was included in the interviews to discover how doctors go about the task of writing letters, and if they are aware that standards are variable. It should be remembered that the outpatient data showed how individual doctors tend to be consistent in the way they present each medical case in their letters, regardless of the nature of the problem (see page 56). And while letters to other specialties (for instance general surgery) may be more abbreviated, it is still to be expected that the general practitioner's style will be consistent.

The interviews confirmed that doctors have different referral letter writing habits and, for some, letter writing is not easy. For instance, one doctor (whose letters tended to be detailed) found writing to be 'an awful drudgery . . . I write them in long hand laboriously in the very

late hours at night usually.' Others spoke of being inhibited by tape recorders, and of needing to jot down or mentally make notes before constructing each letter. But for the majority of the interviewed doctors their referral letters were done routinely with the help of a secretary.

Only seven of the 45 interviewed doctors did not have their referral letters typed as a rule, and what was interesting about most of these doctors (and other colleagues who adopted the same practice) was that they tended to write the letters while the patients were still in the consulting room. Some then gave the letters to the patients who would either post them or take them to the hospitals' appointments bureaux. The doctors who wrote letters by hand were not young, and presumably this was the traditional method of preparing referral letters because another senior doctor commented how he now had his letters typed.

> 'All this has come about because we're fortunate in having typists and all this elaborate ancillary back-up as they call it nowadays. In the old days we just scribbled the thing off with so many consultants complaining that they couldn't read what we had written . . .' (Doctor 17)

Two of the hand letter writers believed that the act of writing in front of the patient sustained the doctor-patient relationship. Points of detail could be discussed. But other handwriters were rather regretful that they had not been able to change. For one doctor the problem was a lack of on-the-spot secretarial help, whereas a second doctor found dictating too difficult and so he was often faced with a dilemma: could he really afford ten minutes to write a decent letter to the consultant and delay the patients in the waiting room all that length of time?

Just over half the doctors did their letters daily (56 per cent), a quarter worked on them two to three times a week, and the remainder about once a week. Furthermore, of the doctors whose letters were typed, most prepared their letters by dictating either into a pocket-sized dictaphone or else to a secretary. So even more time would have elapsed before the letters were typed, signed and dispatched. (This factor can be overlooked when researchers try to calculate time spans between decisions to refer and outpatient appointments.) Emergency letters were, though, done almost immediately and these could be handwritten.

Each general practitioner seemed to have a set pattern of doing

letters. A few dictated to their secretaries at least once a day, others dictated onto tape daily – one doctor even tape recorded each letter before seeing the next patient. The hand writers have already been mentioned. Another group of doctors took the patients' records home where they drafted or taped the letters and three either typed the letters themselves or else their wives did the typing. Other GPs tended to dictate their letters onto tapes whenever they had some spare time during the week, and these would then be transcribed by secretaries who could be full-time or part-time. A few doctors without full-time secretarial assistance were rather unhappy about their letter writing arrangements. One doctor who was planning to move into a new health centre, spoke of how the current system of a part-time secretary was 'not ideal by any means', and in the new centre 'there will be secretaries on tap all day long'. And of course, GPs are also obliged to write other letters and reports as one interviewee indignantly pointed out.

> 'I write more letters to the social services, to the housing department, to school masters, to the police for shoplifting and other things which I really . . . feel very strongly about . . .'

As statistics about the frequency with which general practitioners write their letters cannot reveal anything about the comprehensiveness of the contents, the interviewees were asked if, having finished a letter, they were ever aware that relevant details (such as drugs or medical or social factors) had been omitted. Two noteworthy points emerged from the answers. First, individual doctors tended to be conscious of having a personalised style of letter writing which may (in their opinion) have shortcomings, and second, the great majority thought that there were occasions when relevant details had been omitted and reasons why this might happen were offered.

Almost one-quarter of the interviewed doctors expressed self-criticism about their own letters which could be too brief or else overlong, confused or in poor journalistic style.

> 'I do agree that a lot of letters that I send are rather potted.' (Doctor 13)

> 'I suspect I write letters that are longer than should be so I don't think I leave things out and they must think "Oh no, not another long letter from —" . . . But sometimes the things you say are relevant even if it is not immediately obvious . . .' (Doctor 29)

'I try and include the things they require, but it's a mess. I'm the first to admit it.' (Doctor 4)

Two doctors even admitted that at times referral letters could be in such a mess with added-in items that they would have to be retyped. Tiredness and lack of time were two factors which could affect the quality of a doctor's individual letters regardless of the method used to construct them.

'The trouble is invariably doing letters when one is pretty exhausted at the end of morning surgery and you know you're not at your best and you know your English is not as good as it ought to be and I'm sure I often leave things out . . .' (Doctor 15)

'One is very conscious of the fact that from time to time one's letters are perhaps a little inadequate and the problem is to find any time of the day which you are not interrupted.' (Doctor 12)

In the light of the above quotations it is not so surprising that many of the interviewed doctors felt they had on occasions omitted relevant details. There seemed to be two types of omissions. One was especially likely to happen in complex cases.

'I think in some cases there's an awful lot to put in and you try and reduce the letter a bit. For instance you might leave out something of the social history that could well be relevant and you might have forgotten it. Because after you've thought to put down their ten drugs that they're currently taking . . . you forget their social history, the fact that they smoke 30 or 50 a day . . . which obviously could be very relevant to the condition . . .' (Doctor 22)

The other type of omission was judgmental decisions by the GPs and these, too, could be of two kinds – decisions to omit negative or neutral information, and decisions to omit redundant information. Included in the negative or neutral category were items such as normal investigation results and drug therapies which had been tried but were unsuccessful.

'. . . if a consultant says "try such a prescription" for certain tablets, I may have already tried them and they may have failed and I may not have put this in the letter . . .' (Doctor 5)

'. . . and you've sent it and you think "Oh, I forgot to let him know . . .", occasionally some of the investigations that I've done.

> Usually the ones that aren't relevant . . . the ones that are normal . . .' (Doctor 18)

This tendency to omit neutral information may well explain why in over half of the survey referral letters there was no mention of any examination findings – an examination probably had been carried out but nothing abnormal was found.

Redundant information was items which the doctor thought irrelevant to the specific case. With complex cases the GP would make editorial decisions about social and medical histories.

> '. . . if a patient's got a wad of notes six inches thick . . . I won't plough through that lot . . . to find out that they may have seen Dr X in 1922 when he diagnosed that they were having fits . . .' (Doctor 24)

Cases sent to surgical specialties tended to be even more abridged. These were usually task-specific letters and could omit social details such as a lady with a breast lump being divorced, or information about drugs for unrelated problems. 'I mean if a person has a broken big toe, I don't think it is necessarily relevant to got into the whole of their treatment . . .'

In contrast to the doctors who selectively omitted or forgot drugs for unrelated problems, ten or so doctors stressed that they were particularly reliable about including details of drug therapies and dosages. Three were emphatic that it was in their nature: 'I tend to be obsessional about this', 'I always put in drugs', and one was peeved sometimes because a consultant's letter omitted the medication or gave an inaccurate dosage. Four others explained that even if they had overlooked any drugs their secretaries would spot the omissions, and likewise with investigation findings. (These doctors stressed the advantages of having trained medical secretaries.) The remaining doctors attributed their reliability about drugs to the structure of the referral letter form.

The survey hospital supplied the family doctors in its catchment area with blue referral letter forms* and when the doctors were asked in the interviews if they used these forms most replied by merely saying 'Yes'. However, a few added caveats. For instance, referral letters about private patients would be typed on practice notepaper.

* These forms were recommended in the 1975 DHSS circular *Hospital Medical Records – Standard Forms and Paper Sizes* (HSC (IS) 197).

Some writers found that the letter forms had too little space for lengthy letters.

> 'Yes that's the other thing – you feel the implication is that if you're going to say it, for God's sake only say it in that square . . .' (The letter form has printed margins.) (Doctor 23)

But the chief criticism of the letter form was that it inhibited the personal communication between the general practitioner and his consultant colleagues, and this is understandable in view of the previous chapters' findings that many GPs prefer to refer to consultants whom they know.

> 'I think they are dreadful [letter forms] . . . this is so anonymous . . . A lot of medicine should be a relationship between doctors, and the patient will be better worked if the specialist says "Oh yes, George is sending me one today. I wonder what that's about?".' (Doctor 27)

> 'I sometimes think I prefer to have our own printed stationery because it gives a little bit more in a way of individuality about it all . . . otherwise I think . . . it makes it all a little too bit official, prosaic somehow; one standard form . . .' (Doctor 4)

So when the interviewees were asked if they thought that a more structured referral letter form might help to overcome the problem of omitting information, virtually all rejected the suggestion. Some were quite emphatic.

> 'No, not at all. I hate structured referral letters.' (Doctor 24)

> 'No, no. I don't want to tick things all over the place. It's bad enough as it is.' (Doctor 40)

There was, however, the box about drugs and allergies on the standard letter form which quite a few family doctors commented on with approval. Some felt that it helped to reduce their rates of omissions, and one in particular always used the space for drugs which patients were taking for unrelated conditions.

Finally, it is worth noting traditionally, referral letter writing has been a self-taught craft. One young doctor explained that he had trained himself while on the job.

> 'When I first came to the practice I was writing most horrendous letters you know, because I had to go through all the notes and look

> out all the past history and all the drugs, and I was putting all this gumph into the letters. But now, for the sake of time and brevity, I don't go quite so mad . . .' (Doctor 7)

However, the future general practitioners may formally acquire their skills. One vocational trainer commented in his interview on how he was teaching his trainees about referral letter writing. It was his belief that the criticisms about doctors' letters were not unfair – 'Doctors write bad referral letters; some doctors write two lines, others write two pages, both of them bad.'

7 *Sense of professionalism*

A recurring theme in the previous chapter was the tension that some general practitioners felt in their relationship with the consultants. They were concerned about maintaining standards in their referral letters, and avoiding censure for 'misusing' the consultants' time by sending inappropriate referrals. But the family doctors, in turn, may hold views or constructs about how the consultants should behave towards themselves. And if these views exist, are they widely held within the GP fraternity and therefore indicative of a professional self-identity as suggested by statements in the *Journal of the Royal College of General Practitioners*[62,91], or are the views idiosyncratic? So included in the survey interviews were questions intended to sound out the attitudes of a spectrum of general practitioners. (It should be noted that only one-third of the interviewed doctors were members, fellows or associates of the RCGP.) The questions were of two broad types. One type sought the doctors' perceptions of the role of outpatient doctors in the management of referred patients. The second type of question was judgmental. The doctors were invited to comment about the outpatient system in general, the standards of the hospital correspondence and their coping strategies when unhappy hospital situations arose. It was possible to match their views against the data collected in the general medicine clinics.

Ideally any analysis of generalist/specialist interactions should be located in historical terms; that is to say, account should be taken of the evolution of these intra-professional roles through the 19th and 20th centuries. It is, though, beyond the scope of this book to review historical developments. However, three comprehensive accounts have been prepared by Peterson[93], Stevens[108], and Waddington.[120] Stevens wrote specifically about the referral system. She observed that as the consultants (who were members of the Royal Colleges) continued to exclude the general practitioners from the large voluntary hospitals during the late 19th century, so the referral system evolved. An etiquette developed whereby consultants were to be called in for a second opinion by general practitioners, but the latter would retain a continuing relationship with the patient. This etiquette arose from informal professional agreement rather than being formalised in the educational or organisational systems.

Consultants' outpatient role

Over the last few years the medical press has carried articles about the seemingly excessive periods of time that some medical patients are kept on outpatient review, one of the most recent being an article by Marsh in the *British Medical Journal*.[83] These articles have contained two underlying assumptions. First, repetitive follow-up outpatient attendances for common chronic conditions are uneconomic in financial terms and opportunity (time) costs[84], and second, the general practitioner is frustrated, resentful and prevented from doing a job that he is trained for.[70] However, there is no recent evidence which shows if feelings of frustration are widely held by general practititoners. To gauge the feelings of the interviewed doctors, they were asked a somewhat oblique question about how they ended their referral letters if all they were wanting was the consultant's opinion or advice and they would like the patient back to manage themselves. It was hoped that the question would trigger expressions of dissatisfaction if they really existed.

Half the doctors said that they did not have any letter writing strategies for retrieving patients early because they were content to accept the decisions taken by the consultants. 'Well no. I leave it up to him really', and 'No. I think the consultants realise the ones you should be able to cope with yourself.' One doctor felt it would be discourteous to instruct the consultants while others saw referral as a team effort. But underlying their neutral letter ending practice was a belief that the consultants did not hold onto their patients unnecessarily.

> 'Take it as it comes yes. They refer the patients back soon enough when they've chewed them round and spat them out.' (Doctor 8)

> 'I don't find this a problem . . . I don't find the consultants taking the patients entirely off my hands . . .' (Doctor 9)

Some of the GPs praised individual consultants who regularly just offered an opinion (having done the necessary investigations) and discharged the patient saying 'Send him back if you're worried.'

About a quarter of the doctors *did* indicate in many letters that they would be happy to continue the care once the consultant had given his advice. 'I would like your opinion on such and such and then I am quite happy continuing to manage the problem.' (Doctor 14) These doctors appeared to be happy with the technique. So, it was only a

small minority of GPs who expressed disquiet or frustration in statements like 'You've touched on something which is a sore point', and '. . . it doesn't work, makes not the slightest difference. Once they get their hands on them they tend to keep them.'

Certainly with respect to general medicine, the three-month outpatient data supported the suggestion that some consultants tend to hand new patients back rapidly. The four general physicians discharged 38 per cent of the referred patients at their first attendance, although there were fluctuations around this mean which reflected (in part) the consultants' special interests.

Registrars seeing new patients

Since the family doctors' prevailing practice was to address their referral letters to specific consultants, it was expected that these doctors would have strong views in favour of the consultants rather than the registrars seeing the patients at their first attendance. Yet the interviews revealed that the GPs felt a certain ambivalence over the status of the doctor – it depended on the purpose of the referral. Two out of every three doctors questioned were amenable to registrars seeing new patients, but the doctors consistently qualified their answers with two points. First, some referrals were *not* appropriate for doctors of less than consultant grade and second, the registrars had to be sufficiently experienced. The other doctors were less ambivalent about registrars seeing their patients – consultants *really* were preferred. Yet they, too, recognised that there were cases which registrars were competent to deal with.

The interviewed doctors were agreeable to registrars performing procedures or investigations which were relatively routine, thereby enabling the registrars to become skilful. Two doctors spoke of hernias as being appropriate for registrars to see; two others mentioned breast lumps. Many felt that ECGs could be reported by registrars, but opinion was divided about the suitability of registrars to manage a gastroscopy service. This division of opinion was consistent with the GPs' differing constructs of the role of gastroscopy as an investigatory tool. It will be recalled from Chapter 2 that some doctors now substituted barium meals with referrals to the gastroenterologist, as they believed endoscopy to be a superior aid or that it was a faster method of getting a patient investigated. These doctors were unhappier at the prospect of registrars doing gastrocopies than doctors who

first screened their patients by a barium study. For example, Doctor 26 tended to refer direct to the gastroenterologist and he felt irked by the suggestion that registrars see gastroscopy patients.

> 'As for gastroscopy, I don't think I would refer them to the registrar not that there is one . . . I think I would prefer if gastroscopy is needed, to discuss it with the consultant . . .'

In contrast, Doctor 18 preferred to reach an initial diagnosis via a barium study and he was also ambivalent about who carried out the gastroscopies.

> 'I don't think it matters as long as the chap who's looking down the machine is competent . . . If something comes back, say a barium meal, and you've got a proven gastric ulcer finding so you know what the diagnosis is, really what you want to know is "Is it benign or is it malignant?".'

Many of the interviewed doctors differentiated between newly appointed registrars and those of longer standing. They considered the former to have less experience than themselves and therefore were not appropriate for seeing new cases. This judgment was also passed on senior house officers.

> '. . . if you send a patient new to the hospital and they're seen by a new registrar who probably has no more experience than you have yourself, this seems rather a waste of time really . . .' (Doctor 37)

> 'You know what worries me is that when I refer to a consultant and it's seen by an SHO . . . hopefully if they are seen by them they discuss it with the consultant but I've got no way of knowing that . . . To tell you the truth I don't feel I should be referring to somebody who hasn't got as much experience as I have.' (Doctor 7)

A few doctors did mention, though, that the ultimate responsibility lay with the consultants. 'It's the consultant's responsibility. I refer to the consultant and if he's happy his registrar can do the job, then that's his decision not mine.' (Doctor 20) Furthermore, there was an awareness that the ratio of consultants to registrars within specialties in the survey hospital was not likely to be modified (at least in the short term). So the GPs, mindful of these organisational constraints, wanted reassurance that when they felt a particular case deserved the expert opinion of a consultant, he or she would see the case.

'. . . I would like to indicate to the hospital quite clearly when I personally want the consultant's opinion, not the opinion of someone who is just a little more specialised than I am but certainly far less experienced in general . . .' (Doctor 31)

Two doctors even said they would telephone or write a note to the hospital to ensure that certain patients saw the consultants. It was when this tacit vetting process broke down, because either the consultant failed to recognise the GP's cues in a referral letter or else he was absent, that the chances of a registrar or SHO exercising disappointing judgment were increased.

Senior house officers' decision making

While the foregoing paragraphs suggest that, overall, the family doctors were not particularly frustrated by the role the consultants and registrars were playing in managing referred patients, nonetheless they were vocal about some shortcomings in the outpatient system, notably the discharge decision making of the senior house officers. They talked about the 'come back in six weeks/months' phenomenon caused, in their view, by inexperienced housemen being unwilling to take discharge decisions and the consultants not giving them guidance.

'. . . When they see the follow-ups they're seen by a houseman who's frightened to discharge them and the consultant never tells them . . .' (Doctor 29)

These doctors were concerned not just by the misuse of time but also because 'rotating' junior doctors were less experienced than themselves at monitoring chronic conditions.

It is possible to test this criticism against the general medicine outpatient data. The four survey consultants were assisted by SHOs, there being no registrar posts in this speciality. Twelve SHOs saw 20 or more attenders each during the three-month survey. Almost 95 per cent of these junior doctors' case loads were follow-up patients including discharged inpatients and, for the great majority of cases, the diagnoses had already been confirmed. Three areas of decision making were looked at: ordering of investigations, clinic activities in general, and discharge decisions.

Both groups of doctors – the consultants and the SHOs – saw over 1000 attenders, and about half of each group of patients were inves-

tigation-free.* The figure was slightly higher for the consultants (see Table 4). The consultants were more likely to request radiographs and other investigations but of course, nearly one-third of their cases were newly referred patients. Thus, when the first attendances for new patients were excluded, the radiology request rates for the two groups of doctors were almost the same – consultants 12 per cent and SHOs 11 per cent.

With pathology work, the SHOs were far heavier users of the service. They ordered tests at 42 per cent of their attendances compared with 28 per cent of the attendances seen by the consultants, and this difference was statistically significant (chi square test $p < 0.01$). Had the analysis merely been based on review attendances, there would have been an even wider gap between the pathology investigation rates for the two groups of doctors. When the attendances were grouped according to diseases, the junior doctors' dependency on pathology testing was even more noticeable. They had far higher pathology request rates than the consultants for six out of the seven largest groups**, the exception being hypertensive disease.

When I was collecting the data from the outpatient case notes, I noticed that at many attendances the activities carried out were not for the patients' first diagnosis. These activities could be for a second or third diagnosis or else for a new problem which might be of a self-limiting nature. For another group of attendances there were no records of any clinic activities having been undertaken nor were the

Table 4 Investigations requested by consultants and senior house officers

	Attenders seen by	
	Consultants (n = 1074)	SHOs (n = 1054)
	%	%
No investigations	50	45
Radiographs requested	18	11
Pathology tests requested	28	42
Other investigations requested	24	17

* The oncology clinic attendances have been omitted from these figures because they made special demands on the pathology service.

** The seven disease groupings were: diseases of the thyroid gland; neuroses and personality disorders; other diseases of the central nervous system; hypertensive disease; ischaemic heart disease; diseases of the oesophagus, stomach and duodenum; and other diseases of the intestine and peritoneum.

patients discharged. So when coding the data for each attendance, an assessment was made as to whether or not 'clinic activities' were carried out and, if so, for which diagnoses. This broad category of 'clinic activities' covered the ordering of investigations, seeking help from another doctor or department, inpatient admission, starting or amending drugs, and other advice about managing the condition, for example, taking bran. Work-ups of discharged new patients were also included.

Some of those clinic activities were noted in the records of four-fifths of all attendances. However, when comparing the frequencies with which these activities were performed by the two groups of doctors, two patterns emerged (see Table 5). First, there was only a small difference in the proportions of all the attendances seen by SHOs and consultants at which no clinic activities appeared to have been undertaken. Indeed, the gap between the two rates of non-intervention was probably narrower because in many of the consultants' non-documented attendances there were no activities to report to the family doctors. Second, the junior doctors were much more likely to carry out clinic activities affecting attenders' co-existing diagnoses or new problems. Attention was paid to secondary conditions during 29 per cent of the junior doctors' attendances compared to 19 per cent of those seen by the consultants and the difference was statistically significant (chi square test $p < 0.01$).

This trend was also evident within six of the seven largest disease groups. When the analyses were repeated for patients who were rebooked, the same patterns emerged although slightly more in both groups had had some clinic activities performed.

One reason why the junior doctors were more likely to intervene in

Table 5 Clinic activities performed by the consultants and senior house officers

Clinic activities performed for	All attendances seen by	
	Consultants (n = 1268)	SHOs (n = 1052)
	%	%
1st diagnosis only	63	52
2 or more diagnoses	19	29
No activities noted	14	17
Not known as letter unwritten	5	3

co-existing diagnoses or new problems is that they usually saw review patients who had an older average age and, therefore, were more susceptible to multiple diseases. But there are two other possible explanations although they cannot be substantiated from these data. First, when familiarising themselves with the attenders' case histories, the SHOs might have attempted to review all of the individuals' medical problems, even though some were being managed by the patients themselves or by their general practitioners. Second, in this familiarisation process, some patients may have felt more at liberty to bring other bothersome problems to the attention of the junior doctor than would have been the case if the consultation had been with the consultant. This tendency for the junior doctors to be concerned with the 'whole person' should be heartening to those in the Royal College of General Practitioners who favour the holistic approach within general practice.

While the consultants saw 84 per cent of the new referrals at their first attendance, at these patients' follow-up attendances there was about a 50 per cent chance that the doctor would be an SHO. This pattern for first attendances was very different from the situation in the Central Middlesex Hospital as reported by Olsen.[88] The consultants in that hospital saw only 54 per cent of the referred general medical attenders and the brunt of the load was borne by the senior registrars and registrars. Only 7 per cent of the overall load in that hospital was seen by SHOs compared to 45 per cent in this survey. The local consultants, too, carried a much bigger share of the load than their London peers.

One-third of the local new patients were discharged at their first attendance, and this represented 10 per cent more discharges than in the similar Central Middlesex data. With regard to all attendances, the rebooking/discharge trends for the two hospitals were reversed. Thus, in the Central Middlesex Hospital 20 per cent of attenders were discharged and 74 per cent rebooked, whereas in this survey the percentages were 17 per cent discharged and 77 per cent rebooked. As the proportions of attenders who were admitted or transferred were the same in the two studies, and the caseloads were similar in their sex and age, source, and diagnostic compositions, then it is reasonable to assume that the variations in the grades of the doctors seeing the patients accounted for these differing disposal patterns.

This was certainly the situation in the local survey for, overall, the consultants made twice as many discharge decisions as their SHO

colleagues. To put it another way, the consultants discharged 21 per cent of their attenders while the SHOs discharged no more than 12 per cent and this was statistically significant (chi square test $p < 0.01$). Not only did the SHOs make more frequent rebooking decisions than their senior colleagues, they were very marginally more inclined to ask the patients to return to the outpatient clinic at an earlier date. For instance, 79 per cent of the SHOs' rebookings were scheduled for three months or less compared to 75 per cent of the rebookings made by the consultants.

There was an inverse relationship between the length of time an outpatient was on review and the likelihood of him or her being discharged. About one-third of all first attenders from any source were discharged immediately; likewise three-fifths of persons who had been review outpatients for up to three months were likely to be discharged within that time period. But from then on, the longer a patient was on review the less likely he or she was to be discharged. This applied especially from ten months onwards when the discharge rates fell to under 10 per cent. Clearly one of the explanations for this trend lies in the status of the doctors seeing the patients and their propensity to make discharge decisions. But another factor is the policy of the individual consultants to keep certain diseases on long-term surveillance coupled with the practice of passing these cases to the junior doctors to review. The policy of long-term follow-up for chronic conditions is discussed in the final chapter.

The overall effect of the trends was that by the end of the 13-week survey *the inflow* of patients into the outpatient clinics (new referrals, discharged inpatients and transfers) *exceeded the outflow* (discharges, defaulting patients and transfers) by 132 patients, representing a net weekly gain of 10 patients across four general medicine firms. The trend for the Central Middlesex Hospital[88] was the reverse (just), although Olsen based his calculation on only three weeks of clinics held by either four or five consultants. These firms experienced a slight net loss of four patients over three weeks, partly owing to the much higher patient defaulting rate in London of 21 per cent compared with 7 per cent in this survey. Thus it appears that a clinic caseload is more likely to be kept in equilibrium by a combination of a higher status staffing ratio and an outpatient population which has a tendency to default, than a mixture of reliable patients and a less experienced staffing structure as found in the survey DGH. However, there can be short-term fluctuations in the inflow of discharged

inpatients booked for follow-up appointments due to seasonal and other factors affecting admission patterns. Finally, it must be remembered that these analyses of SHO performances apply to outpatient work. We cannot draw conclusions about the efficiency of *inpatient* decision making by this grade of doctor from these data alone.

Decision making of individual SHOs

So far the analysis of outpatient performances has been applied to two categories of doctors – consultants and SHOs. But within the SHO category there were marked differences in the activity rates of the twelve doctors. These doctors (with one exception) were on six-monthly rotating duties between the survey consultants' firms and other firms in the hospital, and they had had similar hospital experience. Almost all were from two London teaching hospitals. There was a change-over of doctors between the firms about five weeks after the survey commenced.

There was a wide variation in these junior doctors' request rates for pathology tests. Four doctors investigated between 20 and 30 per cent of their attenders, whereas the rates for three other doctors were virtually double. (The average proportion of the individual SHOs' attendances receiving pathology workups was 42 per cent.) The differing diagnostic mix of the workloads of the four firms does not provide an explanation for the wide variations. SHOs who were seeing similar caseloads within a firm could have very different rates. For instance, all the attenders seen by Doctors A, I and L were patients of the consultant with a special interest in gastroenterology, and these doctors' pathology investigation rates were 25 per cent, 49 per cent and 64 per cent respectively. (Each of these doctors saw 96 or more attenders.) So it seems that the tendency to order pathology work is internal to each doctor, and this finding is consistent with the variations found in general practitioners' pathology request patterns.

During the fieldwork, the survey consultants commented about the beneficial effects that competent senior house officers had on the outpatient clinic throughputs. The number of patients seen at the general medicine sessions held in the hospital averaged 22, of whom four to six were new patients. Thus there was very little time during the sessions for the consultants to closely supervise the discharge decision making of their assistants (either one or two doctors), although they might give some guidance when sorting out the case

folders of the patients allocated to the SHOs. And indeed, these junior doctors could have very different discharge patterns. For example, one doctor who saw 110 attenders discharged 28 (25 per cent) while another who worked for the same firm discharged only six (4 per cent) of his 142 attenders. In fact, five doctors discharged fewer than 10 per cent of their patients. Of course, a junior doctor who has a rapid throughput rate of patients might not be providing good clinical care.

There was not an obvious inverse relationship between the rates of pathology requests and discharge decisions. Although the doctors with the two highest pathology rates tended to discharge less frequently than their colleagues, for the other doctors the inter-relationship pattern was confused. Again it appears that the willingness of an SHO to take discharge decisions is a personal matter and is separate from his pathology request behaviour. This finding is in accordance with the general practitioner decision making data presented in Chapters 2 and 3. In those chapters it seemed that no consistent relationship existed between the use that general practitioners made of the pathology services and their referral rates.

There appears to have been little research published in Britain about the differing levels of clinical performance between consultants and junior doctors and, more specifically, between doctors of the same status. Certainly no comparative *outpatient* data have been found about the use of diagnostic investigations and disposal decision making at an inter-doctor level. The paper by Young and Payne was about out-of-hours biochemistry work and they showed consultants and senior registrars to be more efficient utilisers of the service than their junior colleagues.[126] Some problem-specific research has compared the diagnostic decision making of groups of doctors with or without the assistance of computers. The experiments in diagnosing acute abdominal pain by de Dombal and his colleagues in Leeds[26], and by others including McAdam in Airedale, Yorkshire[76] and Gunn in Bangour, Scotland[25], have repeatedly shown that the predictive diagnostic skills of groups of doctors (consultants, senior registrars, registrars, SHOs and house officers) are closely related to their levels of training. And these skills can be improved with the intervention of the computer. But in the absence of computer aids, the strategy most likely to reduce the ordering of laboratory tests appears to be audit with feedback. This conclusion was reached by Myers and Schroeder after reviewing a range of American papers describing various interventions (education, restrictions or rationing, positive incentives, and

audit with feedback) aimed at reducing laboratory use.[87] However, a key determinant in the success of any of these programmes seems to be the participation of respected senior clinicians. This, naturally, is time consuming.

Outpatient letters

When gathering data about the medical outpatient attendances from the case notes, I relied in part on the carbon copies of the letters sent to the general practitioners or other specialists. Almost 90 per cent of the 2402 attendances had been documented by letter by the time the case folders were examined (which was normally seven to ten days after the appointment). Other letters were sent subsequently as investigation results came to hand. I found that the letters contained comprehensive accounts of the outpatient events but I wondered if the interviewed general practitioners also held this view. So they were asked if they were happy in general about the outpatient communications from the medical firms and how did they compare with other specialties.

The family doctors were mostly happy, at a general level, with the medical firms' letters. Over and over they started their answers with 'Yes, oh yes' or 'On the whole, yes'. Just occasionally a doctor was not quite so enthusiastic – 'They're quite good'. Many of the doctors went on to talk about how medical letters differ from surgical letters, the latter tending to be shorter because the problems are more specific. Five doctors suggested that medical letters sometimes contained superfluous information (in the GP's view) and the phenomenon has been observed in other inquiries.[24,64]

> 'I think the medicine boys are much better in the sense that they will usually give you a pretty thorough letter and sometimes, in fact, too much. You don't need all that really.
>
> They either regurgitate the history all back at you which you know anyway, or they give you three pages of lab results all of which are negative . . .' (Doctor 23)

However, there is an organisational explanation for this practice. When the clinic doctors familiarise themselves with each case, they rely on the carbon copies of the letters rather than the handwritten entries in the case notes. For a patient on long-term review, the case notes might contain many handwriting styles. Thus the letters are

intended not only to inform the general practitioners, but also to provide the hospital doctors with a legible and comprehensive account of the patient's history (for new cases), the content of the consultation, the decisions reached and any forward plans under consideration. The hospital doctors, though, have individual styles in their letter writing (just as family doctors have personal referral letter styles), and one GP commented on this.

> 'Obviously I know if I refer a particular patient to consultant X I know I will get a paragraph of a letter but if I send him to consultant Y it might be a page and a half.' (Doctor 19)

Sometimes a doctor mentioned having received an unfavourable outpatient letter. 'Very, very occasionally one is conscious of the fact that one gets a letter back from the consultant and that they can't possibly have read the general practitioner's letter . . . and you say to yourself "Without any doubt, I've wasted my time. It hasn't been read".' But these doctors always qualified their criticism by explaining that such events happened infrequently.

> '. . . these are the sort of things that you tend to remember unfortunately. Because when you think of all the letters you do get back that are very good and very helpful, they far outnumber the omissions.' (Doctor 22)

There is evidence which suggests that these doctors were correct in recognising their 'availability' bias. When evaluating the content of specialists' reports, de Alarcon and his colleagues were surprised to find that in only four per cent of cases was the letter 'vague and useless'.[24] They admitted that this figure was far below the rates which had been anticipated by the members of the research team. (This study was published in 1960.) Again, in this survey I found that virtually all of the questions asked in the referral letters were answered in the outpatient letters either directly (by fulfilling the family doctor's request for an investigation or giving advice about drugs or how to recognise certain diagnoses), or indirectly (such as confirming a diagnosis by a method which differed from that suggested by the GP).

Finally, a number of doctors spoke of the educational value of the consultants' letters, and the benefit was more likely to be gained from the longer explanatory letters.

> '. . . I tend to keep the letters. For example, if I send in a patient who's got bad —— and I've tried a certain type of treatment, he

might write back and say "Well look, in this instance try such and such. And if that doesn't work then go on to so and so" . . .' (Doctor 24)

A New Zealand professor of surgery surveyed referring doctors to learn their views about three types of specimen outpatient letters.[64] Two were abridged, whereas the third was in the traditional style and was particularly verbose. Two-thirds of the referring doctors favoured the abridged versions, but what surprised Isbister were the repeated comments about the educational aspects of the consultants' letters. He acknowledged how this magnitude of need had not been appreciated previously, and that it might be quite inappropriate to shorten consultants' letters at the expense of their educational value in order to save health care resources.

Drugs mentioned in outpatient letters

When collecting the data from the outpatient letters, I noted whether the hospital doctor had actually prescribed any new drugs recommended for the patient (the prescription then being dispensed by the hospital pharmacy), or if he just advised the general practitioner about appropriate drugs. In 10 per cent of the 2033 general medicine letters to the GPs, the recipient was asked to carry out the prescribing. However, this proportion was much higher in the letters following referred patients' first attendance. In over half of the 105 first attendances which involved new or amended medications, the hospital doctors (who were usually the consultants) merely advised the family doctors about the recommended drugs. And even where the hospital doctor himself amended the patient's drugs, he may have only been increasing or lowering the dosages rather than prescribing new drugs. The data also suggested that hospital prescriptions for new patients are written mainly when there is some urgency for treatment to be started.

The hospital doctors used considered language when making these recommendations, as these next extracts from consultants' letters suggest: '. . . and I think it would be helpful to supplement his Digoxin now with a diuretic, perhaps Navidrex-K each morning' and 'She should respond well to the use of Ergotamine, one or two milligrams at the onset of the visual disturbance . . .'. So it was the doctors seeing the follow-up attendances who were most likely to write out prescriptions, and these are examples: 'I also added in

Methyldopa . . . in an attempt to take the edge off her systolic pressure', and '. . . to this end I have prescribed him a six week course of De-Nol.' When recording this information I found that in the majority of letters the doctors' decisions and actions were clearly stated. But occasionally they seemed ambiguous – 'I have therefore asked her to take Betaloc . . .' or 'Meanwhile I am asking him to take Codeine Phosphate . . .'. Had a prescription really been issued that day, and were the family doctors ever in any doubt? So in the interviews the doctors were asked if they ever found the letters ambiguous about whether the hospital doctor had actually written a prescription for the drugs recommended for the patient.

The GPs confirmed that I was not alone in my puzzlement. Almost three-quarters of the interviewees admitted to being uncertain at times. The problems applied to both follow-up letters and letters about new patients, but there were two reasons for the dilemmas which faced the family doctors. The first was the imprecision in the meanings in the letters, and the second, the patients' unpredictable behaviour. And note, the doctors' comments applied to outpatient letters from all specialties. First, *imprecise meanings in the letters*: the following sample of quotations reflects both the uncertainty in the recipients' mind and their concern for the patients' welfare.

> 'They say "We suggest this patient should have . . .", or "Such drug will give such an effect". They don't say if they've prescribed them or whether they want you to prescribe it . . . I spend a lot of time chasing patients up and saying "Right, you know the consultant said you've got to have those. Have you got it, did he give them to you, or is he expecting me to give it . . .".' (Doctor 42)

> 'Sometimes it is the language that sounds ambiguous – "I have prescribed . . .". That should mean "He's got the tablets". But it doesn't quite often . . . It means that you follow-up a doubtful letter usually with a phone call, very rarely a visit, to the patient. And if they come in you have to do this tactfully because you want to imply that there is full cooperation between Doctor X and yourself . . .' (Doctor 39)

Second, *patients' unpredictable behaviour*: many general practitioners routinely asked their referred patients to return to see them after the first hospital attendance so any uncertainties about drugs were sorted out then. The consultants, too, instructed the patients to see their family doctor in a week's time to collect a prescription. However, the

patients did not always take in this advice nor clarify with the hospital doctors just what course of action they were to follow. This could result not only in prescriptions being uncollected but also dosages being incorrectly taken, multiple drugs being taken out of sequence, and courses of treatment being unfinished because the patients did not realise that they had to contact their GP's surgery to renew the limited prescription issued by the hospital. (The hospital pharmacy usually dispensed drugs to cover one week.) The interviews contained anecdotal examples of each of these misunderstandings. Two doctors also commented on how outpatient prescriptions were sometimes written after the hospital pharmacy had closed and the patients then discovered that the chemists were unable to dispense them. This meant a visit to the surgery to have an FPC prescription issued.

Opinions about the hospital doctors' practice of writing out prescriptions were offered by only a few general practitioners. Two senior partners admitted to being 'of the old school' which believed that the consultants' role was just to advise, and the task of prescribing belonged to the GP. On the other hand, another senior partner felt it 'an awful nuisance' for both the patient and the family doctor if the patient had to visit the practice to pick up the tablets. So, while the interviewed doctors were generally well satisfied with the outpatient correspondence, the sections in the letters about medications were a weak spot. The family doctors tended not to mind who prescribed the drugs so long as there were *precise* statements about the decisions or actions taken. The following phrasing was suggested by one doctor. 'Today I have prescribed so and so for dispensing by the hospital pharmacy . . .'

Discharge notes and summaries

While the interview questions were specifically about outpatient letters, 17 doctors (that is, more than one-third of the interviewees) expressed disquiet over the inpatient discharge notes and summaries. Their comments were not directed at the quality of these communications, but at the delays. In the *discharge note* the house physician or surgeon informs the family doctor that his or her patient has been discharged. The diagnosis, treatment and/or recommendations, information given to the family, and any outpatient follow-up plans are noted. Ideally the GP will receive the note within 24 to 48 hours after the patient has left hospital, but sometimes the system breaks down.

> 'It can be very embarrassing when patients come out. Say you sent them in with a coronary and they come out and it is not until the wife rings you up, or you see the wife in the street that you know they're home and they've been home for a week waiting for you, of course, to drop in and see them.' (Doctor 37)

This doctor recognised the delay or oversight in dispatching discharge notes to be a chronic problem. 'Every now and again it is mentioned and things get better and it slides again.'

The delayed arrival of the *discharge summaries* (which are also written by junior doctors) created different problems for the GPs – they were unable to discuss with the patients the details about their hospital experience. One doctor's narrative was particularly evocative of the embarrassment which resulted.

> 'It does seem to me that an incredible amount of time may elapse between a hospital inpatient being discharged and the final letter reporting the illness being received. Sometimes it's up to two months, and the patient keeps pounding around to one's door saying "Well have you heard all about my illness?" which is a great drama in their lives, and it sounds pretty disinterested to say "No, no they haven't come through", and one makes excuses about typing pools and this sort of thing.' (Doctor 34)

Some GPs were also disturbed that they were not always notified when a patient died in hospital.

Yet as Doctor 37 said earlier, unreasonable delays in dispatching inpatient correspondence is not a new phenomenon. In their 1960 paper de Alarcon and his colleagues[24] showed how no more than 30 per cent of discharge notes arrived within 48 hours of discharge, and that overall, 90 per cent of summaries arrived within one to two months. Ten or so years later, two more studies into inter-doctor communications found the over-riding criticism of general practitioners to be about delayed discharge notifications.[7,75] In contrast, few comments were passed in this survey about delays occurring in the dispatching of *outpatient* correspondence. Indeed the regularity of these letters were praised by some doctors. Difficulties mostly arose when the patient attended at the surgery too soon after the outpatient consultation. Usually a full week elapsed before the outpatient letters arrived and sometimes the patients and even the hospital doctors were unaware of this.

Unhappy hospital situations

These final paragraphs hark back to the overriding themes in these two chapters: how does the personal style of the general practitioner affect his interactions with his hospital colleagues, and is there a consensus among GPs that the consultants are enacting an appropriate role in the management of their patients? Material relevant to these two themes was expressed in the answers the interviewees gave to the question 'If you are unhappy about the way the hospital doctors are managing one of your patients, do you let them know?' The answers showed that, first, the occasions when an unsatisfactory hospital situation exists are infrequent, and they can occur for interrelated reasons. Second, general practitioners have individual ways of coping with these situations.

It is essential to realise that instances when an interviewed general practitioner was faced with an unhappy hospital situation occurred very infrequently. Of the 40 doctors to whom the question was put, 28 incorporated in their answers phrases such as 'No, very seldom. I suppose twice a year', and 'It happens very rarely by the way.' Indeed *not one* doctor suggested that such events happened with any regularity.

Two types of unsatisfactory situations can arise. One is triggered by inept comments or ill-judged decisions taken by the hospital doctors in the view of the general practitioner. Eighteen doctors talked of situations which had been mismanaged, usually by junior members of a consultant's firm.

> 'It's usually the junior staff who have either upset them or have told them to come back but can't produce a good reason.' (Doctor 19)

But the consultants too, could make ill-judged comments to patients or recommendations over treatment. The other type of situation occurs when a patient takes umbrage at a hospital doctor's behaviour or is disillusioned by the treatment he or she is receiving. The family doctor may not share the patient's opinion. Twelve doctors spoke of coping with worried or unhappy patients.

> '. . . one gets the situation in which a patient isn't happy and asks for a second opinion and this is more a clash of personalities than a clash of diagnostic skills.' (Doctor 44)

The doctors appeared to cope more easily with the hospital-

triggered situations than those arising from patients' disappointed expectations. If the hospital's misjudgment applied to an *outpatient* then the GP was most likely to write a note to the consultant. It could be on personal notepaper. Otherwise, they telephoned

> 'I think if they are being incompetent or have missed something obvious then I write a little letter when the next appointment's due, or alter the appointment, bring it forward and send in another letter or phone them up.' (Doctor 29)

When family members drew the general practitioner's attention to an unhappy *inpatient situation*, the usual way of handling it was to have a word with the consultant.

> 'I might you know, sort of try and . . . catch them and say "I saw Mrs so and so on the ward and she doesn't seem to be getting on very well, does she?", then hope they'll say "Oh well, . . . we'll perhaps get so and so to see them . . .".' (Doctor 25)

If a patient has become disillusioned by his hospital experience the family doctor can either intercede by speaking with the consultant or else re-refer the patient for a second opinion. Re-referral was the usual course of action adopted by most of the interviewees. As one doctor put it, 'I think it is a sort of sacred right of everybody to have a second opinion and I would in no way hesitate.' The etiquette for re-referral includes informing the original consultant of the decision.

> 'The patient comes to me and looks a bit worried and I look a bit worried and they say "Can they see someone else". Then I drop a line to the consultant saying I hope they have no objection to the patient being referred to someone else. And from which you don't always get a reply.' (Doctor 39)

However, the interviews revealed that not all of the GPs conformed to this etiquette.

There was a spectrum of styles of coping with re-referrals. At one end were two forthright doctors who either had no hesitation in contacting the consultants, or when re-referral decisions were taken, not only informed the consultants but also notified them about the outcome. One felt his actions were justified since consultants receive so little feedback about their failures as 'most general practitioners don't like trouble therefore they don't tell the consultant'. In contrast, if a GP makes a mistake the whole street if not the whole town gets to

hear about it. Another group of doctors took a middle line. They informed the original consultants when re-referring even though they felt awkward about offending their hospital colleague. 'This is very difficult really because whatever you say, you are going to offend.' And it should also be noted that the second consultant may be displeased about receiving a re-referral. But some interviewees confessed that they did not notify the local consultants when re-referring patients elsewhere. For example:

> 'I've just tended to keep my mouth shut and not bothered, and if the patient's unhappy then I think I've taken the weak line out of it and asked for a second opinion from one of the big teaching hospitals and gone around it that way.'

To these doctors must be added others who even chose to avoid the risk of embarrassment and loss of goodwill by remaining silent about the hospital doctors' ineptitudes.

> 'Yes I have often on occasions [wanted to get in touch] then I have thought "I have got a good relationship with the hospital . . . I don't want to spoil it".'

The ages of the doctors who avoided embarrassment were widely spaced and, likewise, their years of experience in the district.

So, this chapter has shown a consensus amongst the interviewed doctors that their relationships with the consultants were favourable and that their professional identity was not threatened, except perhaps by the rebooking activities of the senior house officers. And many were keen to maintain the consultants' esteem, hence their diffidence in contacting the hospital when the occasional problem arose. These findings are in line with those of Cartwright and Anderson who surveyed a national sample of 365 general practitioners in 1977.[16] They did not substantiate the suggestions that family doctors' desires for hospital work and hospital beds have fallen-off over the years[62] or that these doctors have a continuing sense of inferiority vis à vis hospital specialists.[91] Indeed, a third of their respondents believed that the prestige of general practitioners within the medical profession had risen over the previous ten years.

8 *A model of the referral decision*

The interview material suggested that a substantial part of the reason for the variability in the family doctors' referral rates lay in their cognitive processes – differing confidence in their clinical judgment and differing awareness of the base rate probabilities of the occurrence of life-threatening events. The interviews also suggested that general practitioners have differing current states of medical knowledge, hence their reliance (or otherwise) on the information provided in certain technical investigations, notably ECGs and biochemistry tests. Moreover, they are keen to sustain the esteem of consultant colleagues. But as the evidence supporting these claims was dispersed across six chapters, it has not really been possible to observe the working of such cognitive processes within individual doctors' referral decision making. The task now is to synthesise these elements into a model of the referral decision itself – this being the inner circle of the framework of referral decision making on page 28.

In 1977, Janis and Mann produced a book in which they developed a conflict model of decision making based on the assumption that man is a reluctant decision maker.[65] Their aim was to provide a comprehensive descriptive theory of how people actually cope with decisional conflicts. The theory pertains directly to decisions affecting choice of career and personal future, health related activities, and a variety of other kinds of significant choices. So material gathered from the interviews with the general practitioners and elsewhere has been used to demonstrate the applicability of this theory to referral decision making.

Conflict theory – a synopsis

Janis and Mann do not claim that their conceptual model of decision making is unique. Rather it is anchored in various empirical findings and is in accord with Lewin's pioneering analysis of man arriving at decisions through superficial search and biased information processing, thus being vulnerable to gross errors.[71] Both see man not as a rational calculator always ready to work out the best solution, but as a warm blooded mammal and a reluctant decision maker 'beset by conflict, doubts, and worry, struggling with incongruous longings,

antipathies, and loyalties, and seeking relief by procrastinating, rationalizing or denying responsibility for his own choices.'[65] (page 15)

From a search of the literature on effective decision making, Janis and Mann concluded that for decision making procedures to be of high quality, seven major criteria need fulfilling. The decision maker, to the best of his ability and within his information-processing capabilities,

1 thoroughly canvasses alternative courses of action,
2 surveys the full range of objectives,
3 carefully weighs the costs and risks of negative consequences, as well as the positive consequences of each alternative,
4 intensively searches for new information,
5 correctly assimilates all new information,
6 re-examines the positive and negative consequences of all known alternatives,
7 makes detailed provisions for implementing or executing the chosen course of action, with contingency plans if various known risks were to materialise.

Failure to meet any of these criteria when a person is making a fundamental decision is defective decision making.

There are two features of this idealised model which confirm its potential for modelling doctors' referral decisions. First, the authors acknowledge that each decision maker, long before arriving at his final choice on any issue, tacitly assesses how much of his time, energy and money he is going to invest in searching for and deliberating about information concerning the alternatives open to him. Amongst the key questions which will confront him are: what additional information is needed, who possesses it, and how can it be collected? Do I have sufficient skills and expertise to solve the problem myself, or do I need the aid of subordinates or consultants? But since decision makers are often under severe pressure of time, this precludes a careful search and appraisal. The second noteworthy feature relates to the nature of referral decisions. Janis and Mann describe a *fundamental* decision as one with important values and major consequences whether or not these values are attained. So they are interested primarily in decisions of consequence, and referral decisions which are about the welfare of patients, must surely be classifiable as fundamental.

When working through such problems, the decision maker is likely

to be harassed by the cognitive complexity of the issues, especially if insufficient information is available. And this decisional conflict is intensified by the decision maker's perceived threats to his social status and to his self-esteem. So, as decisions of real consequence generate psychological stress, Janis and Mann have produced a conflict model of decision making which demonstrates how individuals cope with or avoid the co-existent stress. In this model Janis and Mann recognise five coping patterns which may be adopted in situations generating psychological stress.

1 unconflicted inertia
2 unconflicted change to a new course of action
3 defensive avoidance
4 hypervigilance
5 vigilance

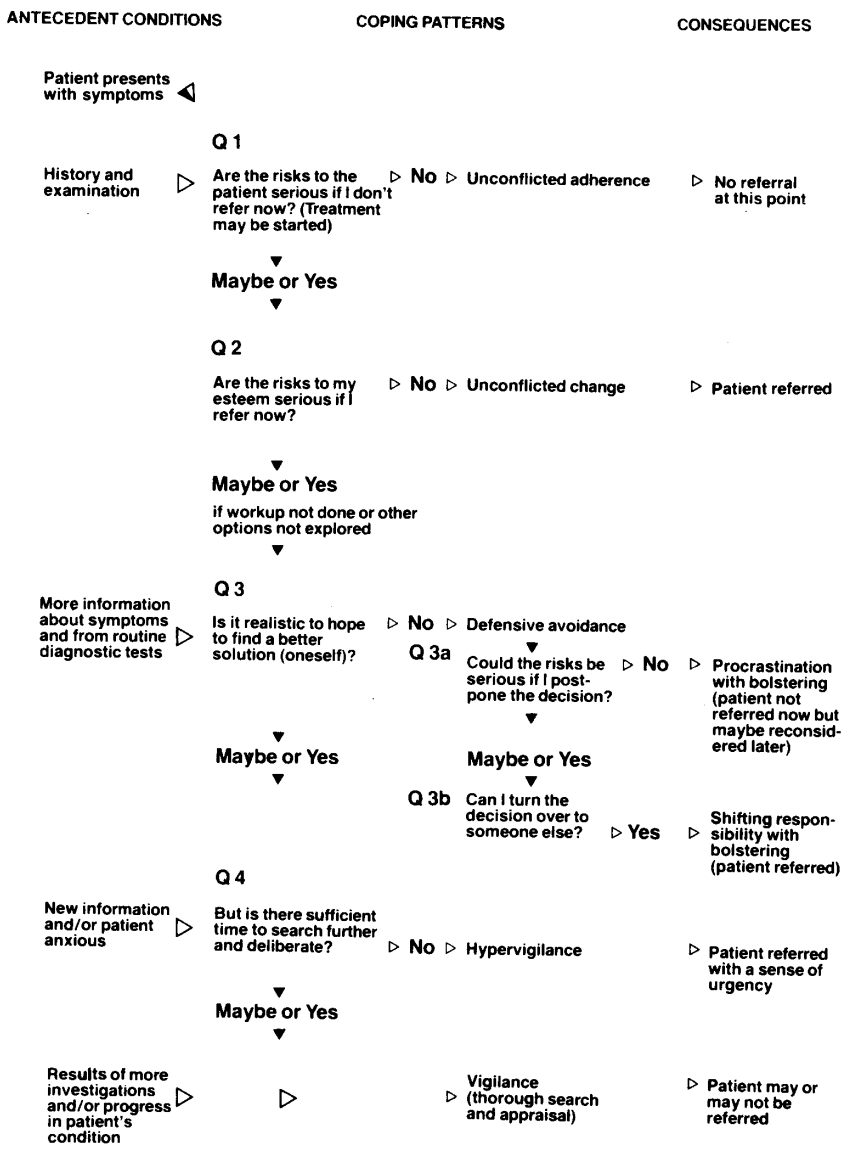
To illustrate, when an individual is faced with a decision of consequence and experiences very little conflict or stress, he is not likely to give the decision much thought or to seek out new information. Thus he will adopt the strategies of unconflicted inertia (1) or unconflicted change (2). In contrast, if his stress is very intense it is likely to give rise to defensive avoidance (3) or hypervigilance (4). These two states interfere with the individual's cognitive processes and so he is a defective decision maker according to the seven criteria listed earlier. It is only when the decision maker is under moderate stress that he is best able to process information in a vigilant fashion (5).

A model of the referral decision

A version of Janis and Mann's conflict theory model modified to represent the stages in reaching a referral decision is shown in Figure 6. To describe and illustrate this model, transcript extracts, referral and outpatient letters, and observational material are used. There is, though, a major shortcoming in the available data – we have no full examples of cases which a general practitioner decided not to refer, just glimpses of such decisions.

Whenever a patient with an episode of illness or a request for help comes under the care of a general practitioner, the doctor will cognitively process one or more of the four sequential questions identified in the model. For the great majority of cases the GP will not

Figure 6 A model of the referral decision



Source: Adapted from Janis and Mann[65], pages 70 and 86.

proceed beyond Question 1: *Are the risks to the patient serious if I don't refer now?* In other words, the situation is judged as being well within his routine management capabilities and so it embodies minimal stress or conflict. There will be, however, a few cases which are judged as having rather higher risks or probabilities of becoming clinically complex.

Some of the interviewed doctors explained that indeed, this was how their referral decision making commenced. The comments were made in response to one question about whether, in the past week, the doctor had considered any patients for referral but in the end decided against or chose to delay the referral decision.

> 'Well, there's lots of people. They're sitting there and you think "What is this, can I deal with it? I know, we'll try this and if it doesn't work we'll refer them". And if they come back and it hasn't worked perhaps you will. It depends on the natural history of the disease in the particular patient, how sure you are that you've got it right or not.' (Doctor 20)

Note the probabilistic judgment in the last sentence – '. . . how sure you are that you've got it right or not'. Incorporated in this judgment will be the doctor's hindsight, his past experience. Two other doctors hinted that there were two types of cases which were potentially complex; obvious referrals and mulled-over referrals. For example,

> 'Oh yes I'm sure there were . . . about six I was sort of mulling over, whether to refer them or not . . . I usually, unless it is quite obvious they have to go, I see them two or three times to see if I can cope first.' (Doctor 35)

Once a case is identified as being complex or potentially complex the general practitioner then processes (perhaps subliminally) Question 2 in the referral model: *Are the risks to me (my esteem) serious if I refer now?* The above transcript extracts suggest that if the case is judged by the doctor as being obvious or obligatory either in an organisational sense (such as obstetric care) or life threatening (when a malignancy is strongly suspected) then the doctor feels little if any threat to his esteem. But when the complexity of a case is not so clear cut, the GP may experience a dilemma as to the timing of the referral, since a premature referral decision may jeopardise his internalised clinical standards, as well as the esteem held by his consultant colleague. Doctor 19 produced a good example of this phenomenon. When he

talked about obligatory referrals he mentioned that 'if somebody comes along and says they've had terrible trouble with haemorrhoids, then again I would have thought it was an obligatory referral'. However, he then corrected himself – there could be exceptions. For instance, he had recently seen a young person with very painful external piles but rather than referring immediately he decided to treat her medically for a little while and then see. And he explained '. . . that was mainly because I don't like sending people without examining them properly and she was too painful to be able to pass the instruments. So I am going to give her some medical treatment for a while and then get her back to have a look.'

There were the transcripts, more general examples of doctors wishing to uphold their internalised clinical standards. A group of GPs indicated that to refer without doing preliminary investigations would violate their self-respect.

> 'If there's time [the investigations are done] because this gives you more satisfaction and it's nice to be able to give some sort of idea to what may be the problem to the consultant . . . it suits my pride.' (Doctor 16)

But the transcripts showed that not all of the interviewed doctors shared this attitude towards investigations. Doctor 26 talked about an elderly man who had anginal chest pains when walking up a hill. This doctor had no hesitation in referring the patient to the physician with 'ECGs running round the corner', and there was no hint in the narrative that he felt his esteem threatened by proceeding in this way. Indeed, elsewhere in the interview Doctor 26 explained with candour how he avoided investigating some people whom he intended to refer.

> 'Because often I may not do the things that are necessary and occasionally do things which are totally unnecessary, and I think if they are going to be referred fairly soon . . . then I generally leave it up to the chap the patient is going to see rather than do a whole battery of unnecessary investigations.'

However, the referral letters from this doctor always contained comprehensive accounts of the presenting problems, examination findings and social background.

It is not just the doctor's clinical self-esteem which can be at risk if a referral is made prematurely. Some situations may threaten his internalised moral standards. These can arise when a patient requests

help, perhaps of a prophylactic nature (vasectomy, sterilisation), that the GP cannot fulfil himself but which will cause stress to the patient if rejected. One doctor who appeared to experience little stress in the face of clinical uncertainty and tended to refer early was, nonetheless, in moral conflict when asked to arrange a termination of a pregnancy. In this instance he moved on through the model in an endeavour to find a solution which was more acceptable to himself. It is thus understandable how a general practitioner can feel threatened when confronted by a patient or family member who insists upon being referred. He experiences stress because his esteem – either clinical or moral – is at risk. In contrast, the rare doctor who refers frequently (with 'please see and advise' letters) may have traded his collegial esteem for a less demanding practice life, perhaps as the result of ill health.

The next step in the referral model is reached when the family doctor receives new information about, first, the patient's condition and, second, from the results of any routine diagnostic tests which may have been requested earlier. If it seems that the patient is not improving, the test results are negative, and clinically the situation has evident risks, then the doctor's stress intensifies. One doctor transmitted stress when talking about a hypokalaemic lady whose low potassium levels were not responding to treatment.

> 'This [was] a strange situation . . . So I put her on a large dose of potassium with very little response. I practically had her blood test done every other day, twice a week anyway for two to three weeks . . .'

Thus, according to the model, the doctor confronts Question 3: *Is it realistic to hope to find a better solution (oneself)?* If the answer is No then a strategy of *defensive avoidance* is adopted.

There are two alternative mechanisms of defensiveness which are determined by the answers to two supplementary questions (bearing in mind that the doctor is experiencing intensified conflict or stress and a loss of hope for a better solution). The first question (Question 3a) is: *Could the risks be serious if I postpone the decision?* If the perceived risks of seriousness are low and the decision maker expects minimal penalties (censure) for postponing the decision, then he will be inclined towards *defensive procrastination*. But if there could be serious risks and/or some form of censure against the doctor from the patient if not from colleagues should he procrastinate, then the second

supplementary question (Question 3b) is processed: *Can I turn the decision over to someone else?* If the answer is Yes, the doctor *shifts his responsibility* – the patient is referred. Whatever course of action is adopted at that time, procrastination or referral, the doctor is likely to *bolster* his decision. By bolstering, a decision maker will ward off the stress of his decision by concentrating on selective features of the case and thus distort his information processing.

Now to illustrate these courses of defensive avoidance. Doctor 7 described a case which contained hints of a colleague's defensiveness. He saw for the first time a young man who in the past couple of years had had persistent diarrhoea and mouth ulcers 'and it is known that this association can be due to ulcerative colitis, or at least the bowel symptoms of ulcerative colitis'. The patient was re-presenting with a flare-up of his troubles. 'In the past he'd had various forms of treatment, tablets of one sort or another, preparations for mouth ulcers of one sort or another – all of which hadn't seemed to help.' Furthermore, the patient had never been fully investigated. 'And knowing this association it was worthwhile getting it sorted out and I wasn't prepared to do it myself' (because he was still a colleague's patient). So the man was referred. This narrative suggests that at some stage the colleague may have adopted the defensive avoidance strategy of procrastination. The man continued to reattend with his symptoms, but the colleague failed to search intensively for new information by arranging a barium enema (item 4 on page 126), and to re-evaluate the costs and risks of persistent diarrhoea (item 6). Instead he procrastinated whilst prescribing different palliative medications.

It was suggested earlier that a doctor was likely to bolster his defensiveness by emphasising selected features of the case. This helped to ward off stress. When one doctor talked about a woman who was vomiting blood he bolstered his actions via innuendo – the woman was a long standing alcoholic. He suspected that she probably had 'oesophageal varices secondary to her query hepatitis, query gastric ulcer', and thought that a barium swallow might reveal something at the lower end of the oesophagus. So she was not referred but booked instead for a routine barium study. Now, at the time of this interview the waiting period for non-urgent GP-requested barium meals was 10 to 12 weeks. So later in the interview, when the doctor was asked if the extended waiting period had affected his use of the service, he replied that he might now admit serious conditions without doing prior

investigations. He then elaborated with reference to the lady who was vomiting blood.

> 'In this particular instance she's been drinking for ages, um she's probably had an ulcer for ages. In the circumstances she's prepared to wait and I think I'm prepared to wait also. Um, obviously if she starts getting more and more frequent bleeding . . . I would either try and hurry it up by some means or other, or I would say "Forget the damn swallow, you're going to be admitted and you'll have it quick in there".'

At some time, a doctor who has adopted the defensive avoidance strategy of procrastination may decide instead to move onto Question 3b: *Can I turn the decision over to someone else?* (that is, to shift his responsibility). This action could be triggered by new information about the symptoms or the patient's disquiet about the situation. Again the doctor is likely to bolster his new course of action by stressing selected items and suppressing others. Occasionally in some interviews the doctors would bolster a decision to refer a long standing case by commenting about the patient's disposition. There is on page 47 an account of the referral of a lady of 77 with an enlarged goitre. The doctor had been watching the patient for some time and the goitre was 'confirmed by x-ray', she had 'a thyroid in her chest'. Yet the doctor conveyed a high level of certainty that the thyroid gland was not active, even though he had not done the relevant biochemistry tests. Instead he justified this referral by commenting on the patient's emotional needs.

> 'She's fit for her age but she is complaining of tiredness over and above what she expects . . . this [referral] is more to reassure her that she hasn't got an organic cause to her tiredness.'

If the decision maker has privately bolstered his decision to refer, then he may also convey this spirit in his referral letter. As part of the fieldwork for this study, I observed the outpatient experiences of a small group of new referrals (case studies). This included the witnessing of their first consultation.* One case study was about an immigrant woman in her 60s who had been a patient in the survey hospital

* Readers may wonder why the great majority of illustrative examples in this chapter are about women patients. This bias was not deliberate; rather each example was chosen for its aptness in demonstrating specific decision making processes. It is possible, though, that women are more prone to being the subjects of these processes.

in the past. The referral letter started with a comment about her having voluminous surgery notes. Seemingly she was an extremely anxious and introspective lady who was prone to having 'a bee in her bonnet' about some ailment, and recently it was her heart. And she did have heart trouble. On examination the GP had recognised a harsh systolic murmur and an early diastolic murmur and these combined with abnormalities on an ECG tracing suggested fairly mild aortic stenosis. The letter also listed other symptoms. She had been complaining of pains in the left side of her chest going up into her left axilla. But as they were not related to exercise the doctor thought that they did not sound ischaemic in origin. As well, the lady had fainted several times recently and was taken to casualty on one occasion. The doctor's reason for referring the lady was that she was considering moving away from the district and wanted advice about her heart. 'I do not feel able to give her an absolutely clean bill of health on this score, but on the other hand I do not want to feed her neurosis.' When the lady attended the clinic her manner did convey nervousness and a proneness to chatter. The consultant chose not to take an exhaustive medical history because of her difficulty in recounting a precise narrative. Rather, he moved on quickly to examining the patient and discovered two definite pathologies – aortic valve disease and a gall bladder full of stones.

Not only does this case provide an example of bolstering, it demonstrates how a well-qualified general practitioner can overlook a secondary but significant pathology (gall stones) due to his selective processing of diagnostic cues. This phenomenon has been observed elsewhere. For example, Elstein and his colleagues found that experienced clinicians had noticeably more difficulty in solving multi-solution problems than single-solution problems.[35] One of their simulated medical problems contained symptoms of infection and anaemia, and part of the simulation's complexity was the recognition of two separate diagnostic problems. Most of the inaccurate diagnoses came about as a result of the physicians linking anaemia to infection and not considering anaemia as a separate problem.

In another case where a family doctor bolstered his referral decision by mentioning the patient's consternation, the referral letter was relatively brief. A lady, nearly 60, had been complaining of increased dyspnoea over three weeks after having experienced a particularly severe attack of an anginal-like constriction in the chest. 'She has become rather concerned, as both grandparents died of heart trouble.'

However, the GP could 'find no obvious cause of her dyspnoea'. A current blood test showed a raised ESR. There were no references to medications or blood pressure readings in the letter. In the outpatient clinic the patient described her present problem as 'getting out of breath all the time' when making beds and when out-of-doors. The problem started nearly two years before and at that time she visited the referring doctor. But over the months it had gradually got worse, until four weeks ago when an attack of severe chest pain occurred while she was walking. The pain radiated along the torso and arms and lasted about 15 minutes. The consultant's examination and ECG tracing prompted him to admit her immediately, the diagnosis being incipient congestive heart failure caused almost certainly by ischaemic heart disease.

The last few paragraphs have shown that when a doctor answers No to the third question in the referral model – *Is it realistic to hope to find a better solution?* – the outcome is defensive avoidance. If, however, the doctor believes that Maybe or Yes, a better solution can be achieved, then a new question is faced (Question 4): *But is there sufficient time to search further for more information and deliberate?* While question 3 was about hope (Can I hope to find a better solution?), this new question is concerned with time – I think there is hope but is there time? If a decision maker is very anxious about a situation he is likely to decide No, there is not time. And since his emotions are highly aroused, errors in judgment occur. Thus the decision maker fails to cognitively fulfil most of the seven criteria listed on page 126 and he displays *hypervigilance*.

In the referral model, a doctor who has become hypervigilant will refer the patient with a sense of urgency. This state may have been triggered by a new piece of information which suggested that the risks surrounding the case were far higher than previously suspected, or the doctor may be responding to his own (or the patient's) biased judgment of the likelihood of rare events occurring. There were examples of hypervigilant referrals in the case studies, and they show how the general practitioners failed to assimilate all the available evidence. A lady in her early thirties was seen by a physician after an urgent appointment had been arranged by the family doctor. The referral letter was brief: the patient had presented with fatigue and no other symptom or sign, her Hb result the previous year was 9.4 but now it was 7.1, WCC 5.3, and she had two epileptic children but no other significant history. During the outpatient interview the patient re-

vealed that she had had bouts of anaemia ever since her four children were born 'but it's not been so low'. She had been taking courses of iron over the years. After answering questions on her diet (which was normal), the lady was asked about her periods. These were at three-weekly intervals with heavy bleeding. Thus the underlying cause of the anaemia was probably gynaecological and the lady was transferred to an appropriate specialist after receiving a blood transfusion. This case suggests, therefore, that when the GP received the result of the last blood test he realised the situation was graver than on previous occasions when it had been sufficient to prescribe oral iron to correct the anaemia. But in his concern to obtain an early opinion for the woman, he failed to fully review the symptoms and so she was not referred to the most appropriate specialist.

In a second example, the doctor acknowledged he was being hypervigilant by appending a footnote to his letter – 'I hope there's no cerebral space occupying lesion here.' The referral letter started by asking if the consultant would see the patient quickly because earlier in the week the patient, a woman in her 50s, had fainted four times in an evening. There were no convulsive movements. As well, over the past two weeks, she had tended to be sick twice a day and was getting constant frontal headaches which radiated to the vertex. The doctor's examination showed nothing and her blood pressure and urine were normal. A chest x-ray, a sinus x-ray and a blood count were requested, and medications prescribed. In the outpatient clinic it emerged that the lady had been getting headaches for about a year but they were much worse lately causing her to go to bed and sometimes she was sick. She also got a 'cobwebby' feeling over her eyes. The headaches could last two to three days. Her mother had suffered from migraine headaches. In addition, over the past eight months she had had occasional blackouts, though without convulsive movements. The consultant's view at the end of the consultation was that the lady fell somewhere on the borderline between epilepsy and migraine, and the minor bilateral abnormality on an electroencephalogram (EEG) was consistent with migraine. A brain scan was normal. This case is an apt illustration of hypervigilant behaviour when a rare but life threatening disease is suspected – the GP overlooked the patient's year-long history of headaches *and* misjudged the likelihood of individuals' with headaches to be suffering from cerebral tumours. It is another example of the availability bias (which was described on page 41 with

reference to doctors over-estimating the likelihood of patients having stomach or colorectal cancer).

In contrast to hypervigilance, *vigilant behaviour* results when a decision maker who is facing the question: *Is there sufficient time to search further for more information and deliberate?* concludes that Maybe, or Yes, there is time. In the model of the referral decision, vigilant behaviour is equated with the general practitioner being sufficiently aroused to conduct a thorough search and evaluation of the available evidence (the patient's history and family history, signs, symptoms and examination findings), and any information from relevant investigations which he is able to perform. The doctor may conclude at the end of this search that he is well able to deal with the case himself. Alternatively, he may choose to refer the patient either because he does not have the special expertise/resources to manage the case, or because he requires confirmation that his well researched diagnostic decision is correct (this may be an emotionally-based need).

Unfortunately, because the data collected in this survey were about patients who were referred, we have no evidence of doctors' vigilant searches which did not result in referral. Recall, though, how in Chapter 3 a small group of doctors claimed that they chose to diagnose and manage certain endocrine conditions (mature onset diabetes, hypothyroidism and even hyperthyroidism in some instances) and the pathology data confirmed that these doctors were regular users of the biochemistry services. This suggests vigilant behaviour. Amongst the outpatient case studies there were referral letters which conveyed the impression that the cases were prepared in a diligent way, and the patients' accounts in the clinics supported this. Two examples are cited, each with a different reason for referral.

A man aged 73 was referred for a routine outpatient appointment. His family doctor stated in the letter how he had first seen the patient six weeks before with symptoms of chest tightness and shortness of breath on exertion, especially on hills. The examination showed no physical signs (blood pressure 170/90); it seemed that the patient was suffering from angina so he was prescribed Trinitrin and advised to lose weight. As a result the man felt considerably better, but then another problem came to light. The patient explained that he was unable to turn well without shuffling and he had difficulty over the last year in writing with his right hand. 'I wonder in fact whether he has early Parkinson's disease . . .' Six weeks later in the outpatient clinic the patient confirmed that he had difficulty in taking off when

walking, that his handwriting was very reduced, creepy, and he had difficulty in getting his wrist across the page. In addition his voice had changed recently and he had buzzing in one ear. An ECG showed ischaemic changes. So the family doctor's assumption that the patient was suffering from both angina and Parkinson's disease was confirmed. This case study may not appear to represent vigilance; after all, the GP merely observed and reported seemingly straightforward symptoms of two diseases and did not do any investigations. But in another case study a family doctor in his referral letter was so preoccupied by a patient's gastric symptoms and past occupation as a publican, that he failed to observe marked manifestations of Parkinson's disease.

In the second case study the family doctor was unable to confirm ischaemic heart disease, so he wanted a second opinion. The full referral letter described the patient as a lady in her mid-fifties, rather overweight, who had attended two months before complaining of a recurrent pain across her chest which occurred each evening. There was no reaction to either food or exercise. The initial examination showed her blood pressure as 140/80, the heart sounds were normal, JVP (jugular venous pressure) was normal and there was no ankle oedema. However, the heart rate was 120 per minute, which was confirmed on an ECG, but she was in sinus rhythm with no sign of atrial fibrillation. The doctor prescribed a small dose of Trasicor and requested a full blood count and a thyroid profile, both of which were normal. Yet although her heart rate was now 80 per minute she still complained of chest pain, persistent fatigue, and was becoming increasingly dyspnoeic on exertion. 'Her symptoms do suggest ischaemic heart disease but since this could not really be confirmed by a cardiograph done here I would appreciate your advice.' It was a routine referral. The patient's account of her symptoms was consistent with the referral letter. The chest pain had now been going on for about three months and it was brought on by rushing about. Eating could affect it. There were, though, days when she was pain free. Four members of her family had heart trouble. The consultant then remarked 'You've been weighed here at 13 stone. Is that a normal weight for you?', and her reply was 'Yes, it's very difficult to get anything off'. The examination did not reveal any abnormalities apart from obesity and slight epigastric tenderness. Furthermore, the resting and exercise ECGs were normal, likewise a chest x-ray and a barium meal. Thus the general practitioner's vigilant search was

endorsed – the consultant found no new information suggestive of ischaemic heart disease or a disease of the upper gastrointestinal tract.

All of the referral decisions from the interviews and case studies used to illustrate this model were made by separate doctors. What we do not know, however, is whether these specific examples were in any way typical of the doctors' decision behaviour over time. For instance, did the doctors who demonstrated vigilance ever succumb to hyper-vigilance? Moreover, we still do not understand why some general practitioners more frequently exit from this model by referring their patients than other doctors.

High and low referral patterns

Ad hoc studies of referral rates have always produced a startling range in the numbers of referrals made by individual doctors. In this study there was a fifteen-fold range in the 65 GPs' general medicine referrals and the numbers spanned from zero referrals for four doctors to three doctors making 14–15 over three months. Usually when discussing these patterns, commentators have focussed on the high utilisers of the referral service. But the low referrers are also of interest. Why was it that nine of this survey's general practitioners made fewer than two referrals each?

In Chapter 3 a system for classifying referral letters according to their diagnostic development was described. The exercise showed that there is a uniformity in the styles of letters from individual doctors which suggests that they have internalised standards of case presentation. And even if a doctor is writing under pressure and produces a letter which is not, in his judgment, up to his usual standard, the letter will only be marginally different. For instance, a doctor who routinely systematically develops a diagnostic hypothesis (the equivalent of a vigilant information search) is unlikely to write a letter which just summarises the symptoms or merely passes the problem over because it would put his esteem at risk. The indices also showed that diagnostic development is not directly related to the doctor's decision making about whether or not to refer. The doctors who were high referrers had differing letter writing standards. Ten general practitioners made eight or more general medicine referrals over the 13 survey weeks. Their indices (average scores for the letters) ranged from 2 (three doctors) through to 5 (one doctor). So, while it has been possible to model the referral decision and to classify the

contents of the referral letters in a manner which is in accordance with the model, we still have to explain the differing propensities of doctors to exit from the decision model by referring their patients.

The interviews contained only glimpses of why this might be so, notably in the transcripts of two doctors known to be very high referrers. They conveyed a sense of insecurity, of anxiety in their dealings both with patients and hospital staff. It was worth noting, too, that they had very different letter writing standards. To underline the conflict in these doctors' narratives, extracts from interviews with two doctors matched in experience and known to be low referrers are also cited.

When vigilant behaviour within the referral decision model was explained, a case study about a lady with possible ischaemic heart disease was described. It was referred by a relatively young man, Doctor A. As well, all the general medicine referral letters from this doctor were given a score of 5 when classified according to diagnostic development. Moreover, he was a frequent user of the full range of pathology and radiology services. So together, the data suggest that he routinely searched for and evaluated information about his patients. Yet this doctor was a very high referrer. This was apparent in the outpatient statistics and in the week-long referral figures derived from the interviews. Doctor A was aware of his propensity to refer. 'I tend to get, to work into things fairly deeply and then . . . end up passing them onto the hospital, and so I tend to refer quite a number I think.' Throughout the interview he made anxiety-laden asides. When talking about patients with lumbar back problems he confessed

> 'I always find this very difficult, because some people in certain physical occupations are very unwilling to chance their back at work . . . or else they want to have a bit longer off work. And these, I find I am often pushed to get a consultant opinion when probably a consultant opinion isn't really necessary . . .'

Again, when talking about medical domiciliary consultations, he conveyed uncertainty about his clinical judgment.

> 'Well . . . the patient is ill and clearly deteriorating . . . but you don't feel has reached the stage of requiring an acute medical admission. You can't in all honour ring and say "Look this chap has got to come in today".'

In contrast, young Doctor B spoke assertively about his use of medical domiciliary consultations.

> 'I'm trying to think of medical domiciliaries in the first instance – I think I've only ever done one . . . If they're acutely ill and I know what's wrong with them, then they should be in hospital.'

He, too, was a high user of the full range of pathology services, and his referral letters all scored 5 in the diagnostic hypothesis classification, thus suggesting vigilance in searching for and evaluating information. Yet Doctor B was a very low referrer to general medicine – three referrals over 13 weeks. He explained this trait. 'I've got a particular enjoyment in medicine, so I tend to cling to my medical patients, but if things go wrong obviously then I refer them.'

Returning to high referring Doctor A, this doctor did not appear to be fearful that the consultants would become disrespectful of his clinical acumen because he referred so frequently. Moreover, the consultants' comments suggested that this self-confidence in his 'scientific' acumen was justified. In contrast, another very high referring GP was anxious about the hospital doctors' judgment of his referral behaviour. He did not want to be criticised for wasting the consultants' time. Doctor X was a senior partner. When his many letters were scored according to their diagnostic development, the index was 3. This doctor made relatively little use of the pathology services (biochemistry being especially low) although his x-ray request figure was well above average. So Doctor X's 'scientific' acumen was not as sophisticated as Doctor A's. Indeed in the interview Doctor X discounted the need for ECGs for patients who have had a heart attack. 'I mean it is pretty well clear cut obviously. By clinical examination you can tell that. Having an ECG is a refinement which I don't think is required.'

This doctor admitted to using the referral service frequently. For instance, when asked if there were any medical conditions which he preferred to manage on his own, he replied: 'I could manage all of them on my own but I find I never can so what's the point. So I refer them fairly early on.' He too found painful backs one of the more difficult problems. Doctor X's anxiety about making inappropriate use of the referral service emerged when he was talking about urgent outpatient appointments.

> '. . . if there is an urgent case we put urgent on the letter to the consultant and it is up to him then. [He might think] the GP's

making a fuss. Which is a thing which hangs over me all the time. I hate having to think that I'm wasting somebody's time.'

Compare now the following extracts from an equally senior doctor who considered himself to be a low referrer, and this was borne out in the outpatient statistics. Doctor Y made four general medicine referrals in 13 weeks. His radiology rate was above average but, like Doctor X, his biochemistry figures were very low. Doctor Y who had a large list size, held strong views about 'scientific' medicine – he saw himself as 'an old fashioned GP' believing in using his ears, eyes and hands as much as possible. His two most valued tools were his stethoscope and the prescribing manual *MIMS*. Doctor Y was aware of his propensity to be a low referrer – he thought his figures were smaller than his colleagues. Furthermore, the figures would be much smaller, he believed, if he did not acquiesce to patients' expectations.

'If you were to ask me I would say that four out of five patients who I refer to the hospital I'm referring not because I want to, it is just to cover myself if the patients want it, or just to get shot of a . . . nuisance.'

He then made a pertinent generalisation about general practitioners' referral propensities – it depended on their self-confidence.

'. . . How many you refer and who you refer, the main thing which determines it in each particular doctor, is how confident the doctor is in his ability to diagnose and his preparedness to justify his behaviour should anything ever go wrong.'

This discussion of general practitioners' propensities to refer has been atheoretical, unlike the previous section which described how referral decisions are reached according to a model of decisional conflict. Instead, fuzzy expressions such as anxiety, lack of self-confidence and insecurity have been offered as reasons for some doctors being high referrers. However, there are behavioural decision theory explanations for these manifestations of anxiety in situations of uncertainty.

Certain doctors' propensities to be high users of the diagnostic services may be the result of *conservatism* in their judgment. Seemingly, if a doctor processes simultaneously several sets of probabilistic data about a case, the general outcome is conservatism. This leads to the ordering of more tests than are necessary to reach any desired level

of diagnostic certainty.[33] This may be caused either by the doctor's limited capacity for inference – his making less than full use of each of the datum to revise his probabilities about alternative diagnoses, or an emotionally based desire for security in his judgment. He 'knows' he could derive the answer with fewer tests but feels emotionally more satisfied by having the extra amount of data behind him, even though they are technically redundant. Equally, it could be this emotionally-based need for reassurance which prompts a vigilant diagnostician to refer frequently.

Low investigators may be prone to a different judgmental error – *over prediction*. Apparently, when data such as clinical symptoms and signs are processed sequentially (one after the other), there is a common tendency for the decision maker to over predict. The uncertainty in the data is ignored and each cue is treated as perfect or nearly perfect information.[33] Thus a doctor will close prematurely on a diagnosis (and perhaps fail completely to consider the likelihood of a co-existing disease). Recall the doctor with the elderly woman patient with an enlarged goitre: he was convinced she did not have thyrotoxicosis even though thyroid function tests had not been performed. 'No I'm quite certain she hasn't . . . She's fit for her age but she is complaining of tiredness over and above what she expects . . .' It is also possible that this doctor was affected by a *representativeness bias* – he may have underestimated the probability of women aged 77 in the community not becoming overtired. In other words, he was inclined to think that women of this age usually did suffer from tiredness. This bias is similar to the bias held by people in Tversky and Kahneman's study.[116] In one experiment an individual, Mr X, was described as being meticulous, introverted, meek and solemn, and participants were asked to assess the probability that he was one of the following: a farmer, a salesman, a pilot, a librarian and a doctor. Most ascribed the highest probability to librarian – he seemed most representative of the stereotype of that occupation. What they ignored was the relative numbers of these five occupations in the population – there are many more farmers than librarians and, as a result, more farmers are meticulous, introverted, meek and solemn. The base rate frequencies (or prior odds in Bayesian terms) were being ignored.

Doctors can also misjudge the base rate frequencies of individual diseases in the community as a result of an *availability bias*. When reaching a diagnosis, a doctor is not only observing the presenting signs and any changes in an individual patient, he is also making

assumptions about the probability of likely diseases in the community. It has been estimated that in a practice population of 2500 there will be only one new case of stomach cancer every two years, or a brain tumour every ten years.[42] There could be shortcomings in these figures, but nonetheless, it is important to ask: How reliable are the family doctors' predictions of these events happening? Rare events are likely to be heightened, not only in a doctor's mind but in his patients' too, by reports by the media or any recent contacts the individuals have had with such an event. This has been identified as the availability bias in cognitive research. Slovic and colleagues[105] showed that people greatly over-estimate the frequencies of accidents, cancer, botulism and tornadoes, all of which get heavy media coverage, while deaths from silent killers such as asthma and diabetes are events most underestimated. It is, therefore, understandable how a family doctor can show a heightened awareness towards life threatening diseases if he has recently been closely involved in a fatal case. And, of course, their training inclines doctors towards the more serious diagnosis rather than the lesser one.

However, rather than passing judgment upon the seeming inefficiency of certain doctors as decision makers we should recognise that in the role of an interpreter of clinical data a doctor must contend with the limited size of his working memory.[33] Experienced clinicians are undoubtedly aware of the probabilistic, uncertain character of much of their data. What they need, therefore, are aids to help them to interprete these data efficiently, and behavioural decision theory has much to offer.[68] It is hoped that this chapter about general practitioners' decision making will be insightful to those in the profession who wish to accept (on behalf of their patients) the help that more formal decision procedures can offer.

9 *Outpatient outcomes*

Although data were not collected to measure specifically the outcomes of the medical referrals in such terms as the success or otherwise of the outpatient treatments, or the views expressed by the patients, nonetheless we can match the contents of the survey referral letters with decisions reached in the outpatient department. The material illustrates both the screening process of the incoming referral letters by the consultants, and the diagnostic and disposal decisions taken in the clinics.

Screening the referral letters

During the period of industrial unrest among hospital medical staff in the mid-1970s, the survey consultants (and many of their colleagues) adopted the practice of reading incoming referral and transfer letters to assess the urgency of each case. In the interviews with the general practitioners, at least six doctors spoke of this screening process. One GP went on to say 'As ye sow, so shall ye reap!' But what are the criteria that the consultants are using when judging letters as urgent or routine, and are the criteria and judgments reasonably consistent between consultants? Moreover, do they ever misjudge the urgency? On various occasions I asked three general physicians to express their thoughts about their letters in terms of the urgency. They then went through each batch without interruption. As well, a consultant in a surgical specialty assessed one of his batches of letters in this way.

The recurring theme in all of these evaluations was the consultants' prior knowledge of the referring general practitioner. They read each letter for its clinical description and the GP's own hinted or explicit views about the urgency (or otherwise) of the case. These 'messages' were then interpreted according to the clinician's judgment of outpatients and inpatients referred by the doctor in the past. This is best demonstrated by examples from the transcripts of the three physicians.

> 'Well the first one here . . . the factors that I am looking at will be GP's name and I know this GP . . . the age of the patient and then the content of the letter . . . So from that letter and knowing the GP

to be a good one, I'd be quite happy to leave this for a bit . . . Well now this is another one, again I know the GP to be a good one, he doesn't send anything that doesn't really require it.'

'. . . part of it undoubtedly is that you know the GPs and you know the sort of things they refer um, and it's an interesting phenomenon that there's undoubtedly patterns of patients from different GPs. Some will send you a whole stream of worried patients without much wrong with them, whereas others, whatever they send, it's always something very serious and significant and you gradually get to realise which are which.'

(Reading from the letter) '"About to go on holiday and I'm going off at less than half cock on this one. Apologies in advance." Good relationship with the GPs – they can express their anxieties . . . Doctor Z is a good GP. He's found nothing but . . .'

The consultants were never explicit about their criteria for evaluating general practitioners as 'good'. Rather, it was hinted at. These doctors were caring. They were reliable over examining patients and reporting signs and symptoms and it is noteworthy that good GPs were not just doctors who did a lot of investigations. Furthermore, the consultants held similar views about individual doctors. Two physicians commented on letters from a doctor who was a relatively low investigator according to the diagnostic data – 'It's just a GP with a feeling that something's not quite right with the chap, and it's a good GP . . .' and 'This is Doctor G, yes, who's a very good GP, but strangely I seem to get from him a lot of sorting out, worry-type patients.' The third physician and the surgeon assessed two letters from another reliable doctor.

'He'll be all right as a routine. Now he might not be, er Doctor H one can be pretty certain has in fact done an examination . . . which has made it unlikely.'

'. . . well he tells me all about her previous diseases but doesn't say anything about her, whether there's any blood or mucus. And since it's Doctor H I would assume that there isn't any blood or mucus, I think that can most probably wait . . .'

Occasionally, though, even a reliable doctor might miss a significant symptom causing the consultant to misjudge, from the referral letter, the urgency of the case.

The assessments cited so far have been about 'good GPs', but there were other general practitioners whom the consultants did not rate so highly. And these doctors often were amongst the high referrers.

> 'There's the other end of the spectrum again. This is from a well known GP in the area who is known to tend to have a low threshold for referring things. He doesn't have much selection . . .'

Letters from these doctors could be difficult to assess, either because they contained poor accounts of the case, or the GP was known to have a poorly calibrated judgment of urgency. The next examples illustrate the difficulty. In the first case the physician could not afford to under-estimate the risks and classified the patient as semi-urgent.

> 'I am asked to see somebody who's got severe colic pain. It doesn't tell me where the pain is particularly. One is not really sure what to do with this sort of letter . . . Knowing the sort of things that this particular GP sends up, quite often it doesn't matter very much but one never can tell. I shall tell my secretary to get it in fairly soon.'

With the second case, this physician reversed the general practitioner's assessment of urgency (and in the clinic this judgment of non-urgency was confirmed).

> 'This one, the story doesn't seem to fit well. I know the particular source so despite this category [the GP had marked the letter urgent], I'll put it as a 3.'

The transcripts suggest, therefore, that the consultants were like-minded in their judgments about certain general practitioners. But would they be like-minded when assessing identical letters? To test this, I asked the three general physicians to grade four *fictitious* referral letters of varying standards which had been specially written by two academic general practitioners. Three of these have been reproduced because they were typical of letters received during the survey.

The first letter was about a woman complaining of undue tiredness whom the doctor had not investigated.

> Dear Doctor,
>
> re: Mrs Peterkin aged 40
>
> This patient, a happily married woman with two sons aged 12 and 9, was extremely well until two months ago when she began to complain of tiredness, tension and a lack of energy. She also

complains of palpitations at times, particularly when feeling anxious. She had a happy and uneventful childhood and appears to be a good wife and mother, her three bedroomed bungalow being very well kept and she gets on well with her neighbours. She does not admit to any problems and cannot account for her change of mood. Apart from some tremors of her hands and a rapid pulse, probably due to her anxious state, I can find nothing wrong, and would be grateful if you would see her and advise.

The consultants' initial reactions were closely alike although they proposed different strategies.

'Well, one feels from looking at this the GP is rather leaning on the social psychological side of this a bit, um, but there is also the risk that she has something which could be provoking that problem . . . one would want to see her a bit early.'

'The possibility is that she has thyrotoxicosis . . . that woman could be organically ill and er, and yet you've been lent on that this may be a psychological problem . . .'

'What I would certainly do is write a note to the GP saying "I'm going to see Mrs Peterkin whenever the non-urgent appointment comes up; I wondered if in the meantime you could take some blood for a TFT and send it in, as her story could suggest thyrotoxicosis and let me have a copy of the results".'

The second fictitious letter was handwritten and terse.

Dear Doctor,

re: James Samson

This patient complains of abdominal pain, shortage of breath on exertion and loss of appetite. The symptoms have been present for 2 months and are not responding to probanthine and multivite. I would appreciate your advice.

Needless to say, all the doctors found the letter to be confused, lacking in information and potentially serious, and each classified it as fairly urgent. The comments offer glimpses of the relevance of written information in their diagnostic hypothesising.

'Doesn't say what age he is. Actually that one sounds as if there's something quite nasty going amiss there . . . but there's not enough information to say what it is. It could be absolutely anything from

some problem of carcinoma of the stomach to just a simple heart failure . . . You've got to start from scratch.'

'There's no age on that is there? Well the age would make an awful difference I think. If this was somebody of 84 then thoughts would tend towards gastric carcinoma with anaemia and such like. That's an awfully difficult one isn't it because there isn't really enough information . . .'

'Now he's confused a whole series of things. He hasn't sorted it out and one would have to start completely from square one.'

They were unanimous, too, in their views about the third letter which has not been reproduced. It was a long, detailed letter about a woman whose blood pressure became elevated during two pregnancies and then returned to 'normal'. Now her BP was 170/105 and there was protein in a urine specimen. The GP had done biochemistry tests and an IVU was requested. He wanted advice about starting long-term antihypertensive treatment. All the physicians thought it to be a very good letter – one even wondered if it was from a consultant and felt that 'if you trusted the chap who referred it to you, you wouldn't need to see the patient. You could advise on the basis of this letter in a conversation over lunch.' All three assessed the letter as non-urgent.

The fourth letter produced the only division of opinion over urgency.

Dear Doctor,

re: Norman Paul aged 60 years

This patient, a master builder, first saw me 2 weeks ago complaining of epigastric pain radiating to the sternum, unrelated to meals or exercise. He has returned today saying that antacid therapy has not helped and that the pain appears to be related to effort. His twin brother died of coronary infarct 5 years ago. Physical examination is essentially negative. His pulse is 74, regular and his BP is 152/85. Hb is 10.9 mgm/100 ml, otherwise blood count and film normal. Ba meal shows a fixed hiatus hernia.

I would appreciate your opinion and advice re? diagnosis of coronary artery disease with mild iron deficiency anaemia resulting from hiatus hernia ulceration.

Two physicians wondered about the source of the patient: 'A 60 year old man from [a nearby] town . . . one would wonder if there had been

some problems with the local consultant', and 'I think that it's the sort of thing that if you knew the GP it would make an awful difference.' Again, two consultants assessed the case as fairly urgent. One would have even been tempted to phone the GP to 'sort it out a bit more'. However, the third consultant was not so anxious and this presumably reflected his special experience in the area of cardiology – his base rate probabilities of the case being cardiologically threatening were calibrated differently from his colleagues. To him this was 'a very common sort of problem which gets sent up . . . whether it's an ulcer pain or a coronary pain. And from this letter it could be either . . . This would need looking at, but there's no great urgency about it.'

We must ask, though, how often does a mismatch occur between the consultants' assessments of the letters and the patients' condition when seen in the outpatient clinic? The case material suggests that under-estimations of urgency are very infrequent. They may occur in 1 to 2 per cent of all referrals. It is not surprising that, relatively speaking, there were so few under-estimated urgencies (false negatives). As one consultant explained: 'I doubt if most of the good ones [GPs] anyway would leave a very ill patient just to a letter. They'd directly contact you.' What we do not know, however, is the proportion of patients whose referral letters were assessed as being urgent or fairly urgent but who were found in the clinics to be routine cases (the false positives). Since individual doctors' standards of referral letters are so varied, the over-estimated urgency rate could be quite high.

Finally, to what extent are these consultants' perceptions of the strengths and weaknesses of general practitioners commonly felt by specialists? This last quotation is from a consultant in the American group practice studied by Freidson and it is so apposite despite the health care systems in the two countries being administratively different.

> 'I would say close to 80 percent of my referrals are unnecessary . . . [Behind some of] these overreferrals is a tremendous feeling of insecurity. Some of them come out of hospital practice very young and feel inadequate. But furthermore, there are men already in the group for a long time who have personal problems with respect to having a certain amount of self-assurance and belief in their own capacity. Both of these groups, when I get their patients I have an attitude of, "Well, nothing again". However, when I get referrals by another group of physicians, I take it very seriously and study it thoroughly because I know those men. If he sends them over to me

he must have some good reasons, some well-founded suspicion. Even if nothing turns up, his reasoning was good . . . (#34-Consultant)'[41] (pages 81/82)

Reinvestigating new outpatients

In the *British Medical Journal* of 21 July 1979, Haslam[59], a general practitioner in Cambridgeshire, replied as follows to a paper by Sandler[103] about the cost of unnecessary tests performed in medical outpatient clinics.

'The unnecessary investigations performed by the doctor in outpatients have already probably been unnecessarily performed by the GP, and the results given in the referral letter. Discussions with colleagues from around the country suggest that it is very rare for such preferral tests not to be repeated in the clinic.'[59] (page 207)

But is this really so? This survey's data suggest otherwise, at least in one part of the country. (It should be borne in mind though that only just over a quarter of the medical referral letters actually mentioned x-ray examinations, and pathology tests were mentioned in even fewer letters.)

One-third of the new patients who had had GP-radiographs were reinvestigated in this manner at their first attendance. More significantly, only 13 per cent of the individual types of x-ray examinations were duplicated, virtually all being chest radiographs. None of the four types of contrast media studies were repeated (barium meal, barium enema, cholecystogram, and IVU), and for those patients with certain digestive system disorders, the completion in advance of a barium meal meant that the outpatient doctors could book a gastroscopy at the time of assessing the referral letters for urgency. The films of the GP-requested radiographs were available to the consultants and in some instances the referrals had been prompted by the radiologists' observations when reporting on the films. (The interviewed family doctors nearly always took the radiologists' advice to re-refer patients.)

Work from the individual pathology departments was reordered for fewer than half of the patients who had already been investigated in this way (biochemistry 46 per cent and haematology 41 per cent). Furthermore, the tests requested in the outpatient clinics may not have been identical to those done by the family doctors. Conventional

ECGs were performed on more than a third of the newly referred patients at their first attendance, and this was a predictable figure in view of the numbers of patients diagnosed as having heart diseases or symptoms referable to the cardiovascular system. Nineteen general practitioners included details or tracings from their own ECGs in 29 referral letters, but in 22 cases the ECGs were repeated or further cardiac tests were performed. Occasionally they were redone because there were reasons to doubt the reliability of the GPs' recordings or interpretations, while some doctors wished to have their tracings returned. Finally, special investigations (which family doctors were unable to request) were performed on almost 30 per cent of the patients.

These data confirm the impression given in the interviews that there was a close liaison between many of the general practitioners and the general physicians and radiologists. This factor has been overlooked by some researchers who have criticised hospital doctors for their patterns of use of diagnostic investigations when seeing new patients. Forsyth and Logan[39] were surprised to find in their 1962 national survey that the proportion of new general medical outpatients discharged after only one consultation with neither radiology nor pathology investigations having been done, was 38 per cent. In their opinion, British consultants could not be accused of over-investigating. Yet 15 years later the situation was unchanged – this survey's figure being 37 per cent. In fact the rates according to the types of investigations for these discharged patients were even lower than in the early 1960s; 81 per cent had no pathology tests compared with 69 per cent in 1962, and 75 per cent were not examined radiologically compared to 48 per cent 15 years previously. However, over two-fifths of this 1977 group of discharges received some other form of hospital investigation, such as an ECG in the outpatient clinic or a gastroscopic examination before attending the clinic.

The research by Hampton and colleagues[57] and Sandler[103] suggests that the diagnostic decisions for the uninvestigated survey outpatients would be reliable. Both studies found that routine tests modified the diagnoses developed from the history taking and examination in only 5 to 10 per cent of cases. But these researchers did not mention how often the general practitioners' referral letters contained relevant investigation results, nor did they consider whether a diagnostic hypothesis in a referral letter influenced the hospital doctor when he was formulating his own diagnosis during the history taking.

It is in picking-up secondary diagnoses that routine investigations can be most useful. In Sandler's study[103], abnormal results from routine tests* revealed 'unexpected co-existent but clinically significant' conditions in a quarter of his firm's patients, there being little difference in the proportions revealed by the pathology or radiology or ECG procedures. This secondary diagnosis figure would have been even higher if, like Brod[13], Sandler had widened his range of routine biochemistry tests. When examining 200 patients, Brod found unexpected abnormalities in just over a tenth of both the uric acid tests and the cholesterol tests. In this survey too, nearly one-quarter of the new patients were diagnosed as having a secondary condition (that is, an additional condition not already known to their general practitioner). But these diagnoses were established without systematically doing routine investigations, and, unlike Sandler's patients who were all seen first by junior doctors (medical registrars or SHOs), the survey patients were seen first by a consultant in 84 per cent of the cases.

Requesting radiographs

Concern has been expressed in papers by various radiologists (see Brindle[12], Goldberg[46] and Sherwood[104]) about the scarcity of radiology resources, especially manpower, in the face of a seemingly unending demand for their services. Each of these writers identified outpatient doctors as a group capable of resources restraint. Goldberg[46] was critical of the excessive numbers of x-ray examinations of the lumbar and cervical spine for backache or pain in the neck in patients over 50 years, and of the increasing tendency to request plain films of the abdomen in any patient whose symptoms relate territorially rather than radiologically to the gastrointestinal tract. To this list Sherwood[104] added outpatient chest x-ray examinations, especially those requested at follow-up visits to the cardiac or hypertension clinic, and the use of IVUs or radioisotope renograms in patients with high blood pressure. Brindle's department coped with the problem of 'excessive' demands on the radiology manpower in 1977 by introducing rationing, and non-urgent outpatient work and GP requests went into a queuing system.[12]

The survey's radiological data did not support the assertions of

* The routine investigations performed for each patient were haemoglobin, white cell count, erythrocyte sedimentation rate, blood urea and serum electrolytes, blood sugar estimations, chest radiograph, and ECG.

Goldberg[46] and Sherwood[104] that plain films of the abdomen and IVUs tended to be requested excessively in general medicine outpatient clinics. (These data could not, of course, test the claim that there are too many lumbar and cervical spine requests.) No more than 18 out of 1699 patients were booked for plain film examinations of the abdomen. Indeed, only four of the 83 newly referred patients diagnosed as having a disease of the digestive system (including neoplasms), or symptoms referable to the gastrointestinal tract, were examined in this way. The figures for IVUs were equally tiny, partly owing to a policy operated jointly by the survey radiologists and physicians. They had agreed that IVUs would not be requested for hypertensive patients over the age of 40 unless there were indications of renal disease or damage, and/or a failure so far to control the hypertension. Thus, only four of the 46 GP-referred patients diagnosed as suffering from hypertensive heart disease were booked for IVUs at their first attendance. The overall outpatient request figure was 16 IVUs over three months, but these data excluded the renal medicine clinics conducted by one survey consultant.

Although chest x-ray examinations comprised half the radiology work generated in the clinics, in reality these films were requested at only 9 per cent of all the survey attendances. Furthermore, the proportion of review attendances at which chest x-ray examinations were booked was 5 per cent. Once again, the survey data did not confirm Sherwood's suggestion that cardiac or hypertensive follow-up visits tend to be an automatic signal for repeat examinations.[104] When the 623 attendances of the review or transferred patients whose first diagnoses were ischaemic, hypertensive, or other forms of heart diseases were considered separately, it emerged that chest radiographs were ordered on 26 occasions.

Diagnostic and disposal decisions

The results from this study and Sandler's Barnsley inquiry[103] suggest that for just over one-third of new patients seen in general medicine clinics, the hospital diagnosis will be the same as the diagnosis indicated by the referring general practitioner. (The proportion in this study was 37 per cent.) However, in both studies there was no mention of a diagnosis in many of the referral letters. So when the letters without a diagnosis were excluded from this survey's data, 56

per cent of the diagnostic suggestions made by the family doctors were confirmed in the outpatient clinic, but the accuracy was related to the structure of the referral letters. Table 2 on page 55 contained a classification of the survey letters according to their diagnostic development. These categories are matched in Table 6 with the diagnostic conclusions reached in the outpatient clinics. (Unconfirmed clinic decisions have been omitted from the table.)

Where a GP did not have a prior confirmation of a diagnosis and so was hypothesising from the available evidence, a diagnosis based on a 'full' hypothesis in the letter was far more likely to be confirmed in the clinic than a 'weakly' hypothesised diagnosis. The respective figures were 61 per cent and 22 per cent and they were statistically significant ($p < 0.01$). Conversely, there was a greater likelihood that the outpatient diagnosis would be different from a 'weakly' argued diagnosis than from a 'fully' developed hypothesis ($p < 0.05$).

No ICD diagnoses were found for over 20 per cent of the new referrals. (These patients were thought to be suffering from symptoms and ill-defined conditions.) But again the frequency with which this diagnostic decision was reached varied according to the nature of the referral letters. For example, of all the patients whose letters lacked a diagnosis, 28 per cent did not have a diagnostic cause identified and it made little difference if the GPs had merely outlined the symptoms or described them in detail (Table 6). In contrast, there was less than a 10 per cent chance that a patient accompanied by a letter with a 'full' diagnostic hypothesis would not have a diagnostic

Table 6 Final outpatient diagnostic decisions for the referral letters

Diagnostic development in letters†	Final outpatient diagnosis was same as letter	similar to letter	different from letter	cause not found
	%	%	%	%
Weak hypothesis	22*	26	20**	24
Full hypothesis	61*	13	3**	7
Outlines symptoms	–	–	–	29
Details symptoms	–	–	–	26
Diagnosis already established	69	19	–	7

* Chi square test $p < 0.01$

** $p < 0.05$

† See page 55 for a description of these groups.

cause confirmed in the clinic. This was a much smaller chance than that of 24 per cent for patients with 'weakly' hypothesised letters.

It is possible that when the clinicians were confronted with letters containing fully hypothesised diagnoses, they were influenced by a *hindsight bias*. During their own diagnostic formulations, they may have assigned higher probabilities to the diagnoses stated in these letters than they would have done otherwise. Arkes and his colleagues demonstrated this bias.[3] They gave a case history to five groups of hospital clinicians and asked them to assign probabilities to four likely diagnoses. Four of the groups – the hindsight groups – were told in advance what the final diagnosis was but each group was given a different 'correct' diagnosis. The fifth group, the foresight group, was merely given four alternative diagnoses. The main result was that the hindsight groups gave far greater weighting to 'incorrect' diagnoses than the foresight group. The individuals tried to make sense out of what they knew had happened rather than analysing the available data independently. The research team believe that this is a risk facing specialists who are asked to give a second opinion – hindsight bias could result in second opinions corroborating first opinions.

Although it was to be expected that new patients with symptom-only referral letters would be discharged *more often* at the first outpatient attendance than patients with a referral diagnosis, the frequency of this happening was, perhaps, surprising. Almost 51 per cent of patients with letters which merely outlined the symptoms and 44 per cent of the full descriptions of symptoms were discharged immediately, whereas the discharge rates for the groups of letters containing diagnoses ranged between 20 and 30 per cent.

One reason for the lower discharge rates for the letters containing diagnoses, including those tentatively stated, was that the consultants tried to answer the questions posed by the referring doctors. So they possibly carried out more advanced investigatory work to prove or disprove a GP's diagnosis than would have otherwise been done if the letter had just contained symptoms. Recall the case in the previous chapter where the GP hoped there was no cerebral space occupying lesion. The consultant's view at the end of the consultation was that the lady fell somewhere on the borderline between epilepsy and migraine, and yet he performed both an EEG and a brain scan. The outpatient data support this proposition. Forty-four per cent of the

patients with fully or weakly hypothesised diagnoses returned for special investigations or advice from other consultants, compared to 20 per cent of the patients with symptom-only letters. This was statistically significant (chi square test $p < 0.01$).

Patients with psychological traits

There was in the data another example of the way the contents of the referral letters can affect what happens in the outpatient clinic. In 22 per cent of the referral letters the general practitioners made some reference to the psychological state of the patient. The suggestions could have been that the patient was under stress either at home or at work, had hypochondriacal tendencies, exhibited symptoms of depression, had a psychiatric history, or was generally an anxious person. (The first of the fictitious referral letters cited earlier is an example.) So certain decisions taken in the outpatient clinics were examined according to whether the referral letters did or did not contain references to the emotional state of the patients. Excluded, though, from the emotional state group were remarks about senility, and alcohol or drug related problems.

There was virtually no difference in the proportions of patients in the two groups for whom *no diagnostic cause* was finally found (about 17 per cent for both groups). Furthermore, other diagnostic decisions in the clinics were almost the same for both groups, bearing in mind that 5 per cent more of the emotional state letters contained just symptoms. However, the proportion of patients said to display anxiety or stress, who were *not investigated* at their first outpatient attendance was 34 per cent and this was double the proportion for the group with no anxiety-type comments (chi square test $p < 0.01$). The latter group received many more special investigations. These lower investigation rates could not be explained by the emotional state patients having been investigated prior to referral, as the GPs reported rather fewer investigations in the letters of these patients compared to the other group. Needless to say, patients showing anxiety or stress were *discharged* more frequently at their first attendance – the figures being 46 per cent for this group and 31 per cent for the emotion-free patients.

The reason for these outpatient findings may lie in the greater severity of the conditions experienced by the patients who were not ascribed these traits. Alternatively, some commentators might argue

the reason as being emotionally-based. The hospital doctors (perhaps at a subconscious level) were trying to distance themselves from patients whom they feared might make excessive demands on their time and emotional resources. And these doctors' role is that of a specialist rather than a practitioner of 'whole person' medicine. But there is a more likely cognitive explanation, that of *representativeness bias*. It was pointed out in the previous chapter how people tend to ignore base rate frequencies relative to case-specific information. There were the experimental subjects who under-estimated the likelihood of a meticulous, introverted, meek and solemn man being a farmer rather than a librarian.[116] A clinical example of this biasing factor was provided by Sturdevant and Stern who observed the accuracy of physicians' predictions of cholecystography results.[110] People with gallstones often have abdominal pain, but most people with abdominal pain do not have gallstones. Using abdominal pain as a criterion to select patients for cholecystography will result in an overestimation of the probability of gallstones.

The same representativeness biasing may well be operating in the outpatient clinic. The consultant reading the referral letter prior to calling in the patient learns that he or she is of an anxious, stressful, depressed disposition. The letter may also give a comprehensive account of the patient's medical problems – letters with fully hypothesised diagnoses contained marginally more references to psychological factors than any of the other categories of diagnostic development. Since there exists a stereotype of the clinging patient who is difficult to reassure that there is nothing amiss (the cancer or heart phobias), the consultant may well ignore the base rate frequency of anxious people with genuine disease in the population (whether his knowledge of this base rate is accurate or not).

Yet, did it matter that patients who were anxious or under stress, or depressed in their GP's estimation tended to be investigated less and discharged more rapidly than the emotion-free group, especially as there was almost no difference in the diagnostic decisions reached in the clinic? To find out it would have been necessary, first, to question the two groups of patients about their views of what happened in the outpatient clinics and, second, to follow up the patients at some later date to see if there had been any changes in their health status which might have been attributable to either the clinics' or the family doctors' management.

Letters from health centres

In Chapter 3 it was found that doctors who were working in premises which performed the functions of health centres sent letters containing more technical information (investigations, ECG readings) and 'fully' hypothesised diagnoses than their colleagues practising in conventional premises within the same geographical areas. So the referrals from these groups of doctors were analysed to see if there were any variations in certain decisions taken in the outpatient clinics. Almost one-quarter of the health centre referrals were not investigated at their first outpatient attendance, 6 per cent more than the non-health centre referrals. This slightly higher rate of non-investigated attendances was predictable because of the greater tendency of the doctors practising in health centres to do comprehensive investigations prior to referral.

The most noteworthy feature about the two groups of letters was the variation in the outpatient diagnostic decisions. (Diagnoses were mentioned in 68 per cent of the health centre letters and in 58 per cent of letters from other premises.) The diagnostic propositions in the health centre letters were confirmed in the clinics significantly more often.

	Final outpatient diagnosis	
	same as letter	cause not found
	%	%
Health centre diagnoses	65*	5**
Non-health centre diagnoses	41*	18**

*,**Chi square test $p < 0.01$

And conversely, significantly more of the diagnoses in the letters from conventional premises were not established by the hospital doctors. So, not surprisingly, the proportion of patients from conventional premises in the four towns and environs who were discharged at their first attendance (39 per cent) was slightly larger than the figure for health centre attenders (33 per cent).

To draw conclusions from these data about the effectiveness in resource terms of the health care offered by doctors inclined towards health centre practice (the 'technologically oriented' GPs) vis à vis those in traditional practice, would be unwise. It is conceivable that technologically oriented doctors, by making greater demands on the investigatory facilities and outpatient consultative services, have re-

latively low utilisation rates of acute inpatient services. Thus, more research is needed to gain a comprehensive picture of the total use these doctors are making of the acute hospital services, the outpatient and diagnostic services, and the general practitioner-hospital services where they exist.

Finally, to what extent are the findings of this study into referral decision making and the general medical outpatient system generalisable? The fieldwork covered only one district general hospital, its peripheral outpatient clinics and the general practitioners in its catchment area. Comparisons have been made wherever possible with other relevant studies carried out in England and Scotland. Although they are few in number, and there are not many overlaps between the information presented in each report, there has been, nonetheless, a consistency between the results. Where contrasts emerged in the comparative findings, the explanations were attributable to either the different manpower structures of the outpatient departments which affected discharge rates, or in the changes in medical practice over time giving rise to improved referral letter standards. It is not unreasonable, therefore, to assume that the results from this study are both reliable and generalisable to similar hospital situations. The issues raised by the findings are discussed in the next chapter.

10 *Reflections*

This study set out with two main aims. One was to learn more about referral decision making, in particular, the manner in which the general practitioner arrives at his or her decision to refer and conveys this decision in the referral letter. The other aim was to gain an understanding of the relationship between hospital doctors and general practitioners in the outpatient sector. For if improved decision making in this area of medical care is to be sought, we must first understand how doctors are selecting and combining information, and what goals they are personally trying to reach.[34] The contribution of this research has been its exploration of issues which have hitherto been barely documented and in this final chapter the most noteworthy of the findings and their implications are discussed. Signposts for future research are also erected.

Family doctors and information from investigations

It was serendipity in the great research tradition when the survey's statistical data revealed that doctors in health centres or similar premises were much more likely to request biochemistry tests than doctors in conventional premises. The interviews then confirmed that GPs are not uniform in their reliance on these tests. This finding that such differentials in use of the biochemistry services exist came as a surprise, since relevant references are both rare in the literature and briefly stated.[54,98] They had provoked little discussion, although a 1978 editorial in the *Journal of the Royal College of General Practitioners* on 'The clinical laboratory and general practice' noted that

> 'Most of the laboratory investigations arranged by general practitioners are for 'routine' haematology or urine tests, or for cervical cytology. The number of biochemical estimations requested is, by comparison, small. The need for biochemical investigations in general practice is less than the need for haematology and urine tests, but it is possible that the advantages of biochemical investigations are not sufficiently appreciated by general practitioners.'[112]

Usually when studies have looked at doctors' investigation rates, they have singled out a specific service (for instance, all radiology

requests) or single examinations such as barium meals, or else they have added together the usage figures for different services. The next step in these analyses has been to correlate the usage figures with broadly stated doctor-related variables such as practice size, years of experience, and place of training, with the result that no significant causal relationships have been observed, except a tendency for younger doctors to be more frequent users of the total pathology services.

A clue to the inconclusiveness of such studies may well lie in the form and function of the investigations themselves. For example, pathology tests, radiological examinations and electrocardiography measure different phenomena, and therefore have differing diagnostic functions. Furthermore, the results of these investigations are made available to the diagnostician in contrasting formats. The general practitioner will receive a written account of the radiological findings, most pathology results will be in a numerical format which the doctor has to interpret, while an ECG tracing requires pattern recognition. A doctor not formally trained in the interpretative skills of new kinds of numerical data or pattern recognition may be inhibited from acquiring these skills in a vocational setting, or lack confidence in applying them.

There are several glimpses in the transcripts of how the GPs assessed their own capacities for using ECGs and biochemistry tests. Twenty-six of the 45 interviewed doctors explained that they could do ECGs in their practice premises, while five other doctors had access to an ECG machine in a nearby general practitioner hospital. However, what was noticeable in many answers from doctors, with and without such access to machines, were reservations about their ability to interpret ECG tracings. Some had learnt to limit the medical conditions for which they could interpret the tracings confidently.

> 'Yes I think the great thing about reading ECGs is that you must know your limitations. And you know, one does really. Every GP's knowledge of reading ECGs must be strictly limited because we just don't get the same experience . . .' (Doctor 22)

To overcome this problem, some doctors sought the advice of colleagues. Six doctors mentioned that if they were uncertain about a tracing then they would seek advice from hospital colleagues, either by referring the patient or showing the tracing to a consultant. On the other hand, four doctors in two group practices commented that while

they were not sufficiently skilled at interpreting all ECG tracings, their partners *were* experienced.

> 'Well ECGs we can do here. I'm not very good at reading them but fortunately I've got two partners who are . . .' (Doctor 30)

And another doctor remarked that his practice requested noticeably fewer domiciliary consultations once they obtained their own ECG machine. But it was the doctors without easy access to an ECG machine who made the most telling comments about acquiring expertise in this type of pattern recognition.

> '. . . it's a question of familiarity with what you're doing. A lot of us are rusty about things like ECGs and it takes a great deal of study to understand what's going on.' (Doctor 4)

General comments in the transcripts about biochemistry use were far fewer and more elliptical. (It should be remembered that I did not become aware of the doctors' varying propensities towards biochemistry work until after the interviewing was completed, so that any relevant comments were unprompted.) One doctor mentioned that he was not terribly investigation-minded in a biochemical sense, but supposed he was 'changing a little bit now'. Another spoke of hospital letters which were vast and contained 'the results of a whole mass of investigations many of which mean very little to us'. One senior doctor, though, did touch on the problems of interpreting biochemistry results, especially since the conversion to standard international (SI) units. He wished the result forms had the normal ranges printed on them.

The thrust of this discussion about the GPs' use of investigations leads to two fundamental questions: How do family doctors keep up-to-date about investigations which can be useful in general practice (as opposed to 'sophisticated' hospital diagnostics)? and, Does it matter if the family doctors do not incorporate technical information into their diagnostic decision making? So first, how do family doctors keep up-to-date about investigations? The survey's data suggest that certain doctors keep abreast via the assimilation of ideas from colleagues, rather than by private reading or formal tuition at refresher courses. Two senior partners attributed their familiarity with biochemistry work to the discussions they had had with younger colleagues.

> 'From my partner I think . . . Almost all that I do know about sort

> of vitamin levels of the blood is from what [X] tells me; most of the up-to-date biochemical tests I think he's taught me. I see them in the letters and I say "What's this all about [X]?" and he tries to explain to me.' (Doctor 16)

The data about the biochemistry use over the 13 survey weeks lend support to this informal mechanism of assimilation. Doctors who had been qualified for over 20 years were more likely to be regular users of the biochemistry services *if* one of their partners had relatively high usage figures. On the other hand, senior doctors who were infrequent users tended either to have like-minded colleagues or else were single handed. Furthermore, some partners in these low-use practices were young, which suggests that recently qualified doctors have differing thresholds of receptivity. Indeed the assimilation process may be reversed in certain practices, with the older doctors impressing on younger colleagues the need to rely on their 'clinical judgment'.

This leads us onto the second fundamental question: Does it matter if general practitioners do not embrace technical innovations, or rather, the information which these innovations provide? In the minds of certain interviewees the answer would seem to be No, because these senior doctors placed great store on their clinical judgment.

> 'As a GP, and an old fashioned GP, I believe in using my ears, my eyes and my hands as much as possible. And I was taught this way . . . haemoglobin or something like that is useful but you've got to bear in mind that it might be wrong and if you decide clinically that there is something [wrong] with the patient and the test doesn't confirm this, treat your diagnosis as right until proved otherwise.' (Doctor 32)

> '. . . You come to rely more on clinical judgment which I've discovered over the years is often much more reliable than the actual tests that you get done.' (Doctor 26)

There is no doubt that the clinical judgment or acumen of each of these senior doctors *could* be excellent. There have been experiments to match actuarial (stepwise) computer diagnostic programmes against clinical and artful (non-logarithmic) human judgments, but to develop these computer programmes the researchers have had to depend upon authoritative clinicians' views on the appropriate sequential steps for solving the diagnostic problems. These exercises

have revealed interesting variations between specialists in their own artful judgments. In a thyroid example[111], three specialists were pitted against a computer programme. There were three possible causes for the clinical manifestations and the doctors were permitted to use a full range of tests. Widely different diagnostic paths were taken by the clinicians. One doctor reached the correct diagnosis after selecting four tests, the second doctor needed nine tests, while the third had still not reached the correct diagnosis after twelve. (The computer made it in six steps.)

But there is also evidence which suggests that, in general, family doctors' diagnostic decision making based solely on clinical judgment is not as reliable as decision making which incorporates information from investigations. The diagnosis of myocardial infarction (MI) was tested in a trial in Rotterdam.[119] Fourteen practices participated and 1343 patients with relevant symptoms were included in the study. The general practitioners reached an initial diagnosis after assessing the patients' history and symptoms and carrying out a simple physical examination. All the patients were then seen at least twice by a technician who recorded standard ECGs and took blood samples to measure the enzyme levels. What was remarkable were the false positive and false negative rates for the diagnoses made using clinical judgment only. According to the technical criteria, the GPs as a group 'misdiagnosed' 30 per cent of the 130 patients who had definite or possible MIs (the false negative rate). In addition, they 'misdiagnosed' MIs as acute or imminent in 29 per cent of the 1213 patients who were subsequently cleared after investigation (the false positive rate).

The researchers, van der Does, Lubsen and Pool noted that the findings pointed 'to an unexpectedly low diagnostic accuracy'. They observed that the GPs were attaching too much weight to abnormal signs in making a diagnosis of acute myocardial infarction. Thus they concluded

> '. . . the variability of presentation of acute myocardial infarction in general practice is so great that the senses and few simple tools on which the average practitioner has to rely in making his diagnosis are insufficient regardless of the skill and experience with which they are used.'[119] (page 408)

This phenomenon of prematurely closing on a diagnosis after observing abnormal symptoms is almost certainly a reflection of what has

become known as the *representativeness bias* in behavioural decision theory. People tend to ignore base rate frequencies relative to case-specific information, exhibiting over-confidence in their ability to draw inferences from the sample (often of one) which they encounter.[116] Surveys of GPs' strategies for managing hypertension have likewise found that some doctors are prone to treating raised blood pressures after a single reading[90], especially if the patient has symptoms such as headaches, vertigo or dyspnoea.[60] Yet the convention in screening programmes is to take multiple readings before confirming that a patient is hypertensive.[58,113] Furthermore, two studies of population samples (one in Glamorgan[121], the other the Health Examination Survey in America[122]), have shown that the prevalence of headache or migraine among hypertension sufferers is no greater than in patients with 'normal' blood pressures. The same applies to symptoms of tinnitus and nose bleeds.

The above studies have been cited because of their direct relevance to the question posed earlier – Does it matter if general practitioners do not utilise the information provided by technical innovations? The data in the present referral study cannot answer the question but they contain formidable hints. In the interviews we learnt how GPs not only work up their referred patients in contrasting ways, but that some of the doctors also manage themselves certain endocrine conditions traditionally referred to hospital. These doctors are regular users of the biochemistry services. The outpatient statistics then showed that GPs' provisional diagnoses in the referral letters which were based on investigatory workups (the 'full' hypotheses) were much more likely to be confirmed in the outpatient clinics than provisional diagnoses determined by clinical judgment alone (the 'weak' hypotheses). Moreover, almost one-quarter of the latter group of patients were not given a diagnosis by the hospital doctors, compared with only 7 per cent of patients in the 'full' hypothesis group. If, however, the question, Does it matter? is to be answered, criteria have to be selected against which alternative patterns of practice can be evaluated. In view of the financial state of the National Health Service, the criteria must surely include cost-effectiveness. What are required, therefore, are two complementary lines of inquiry. The first needs to look at the effectiveness of general practitioners' unaided clinical judgment compared with clinical judgment in conjunction with investigations. The second needs to evaluate the effectiveness of managing specific conditions in general practice (with comprehensive investi-

gatory and advisory back-up services) as opposed to hospital-based management.

Judging patients' preferences

In 1981 an editorial in *The Lancet* characterised the patient-doctor-consultant relationship in the following way.

> 'Most consultations in medicine bring a patient who is seeking help into contact with a doctor who is able and willing to provide such help. There is thus a mutually agreed contract in which the patient requests that his chances of death or disability shall be reduced and the doctor agrees to do his best to bring this about. The doctor of first contact then uses his or her professional judgment to decide whether to ask a named colleague for advice.'[89]

Apparently unexceptional, but note the implicit assumption: that the patient has simply requested help to have the chances of death and disability reduced and has no preferences about *how* this should happen. If he or she does have such preferences how does the doctor of first contact take these into account?

It was not within the scope of the present inquiry to interview patients who had been referred. Over the years there have though been numerous studies of attitudes towards sickness and towards the health services. Two noteworthy recent publications are the national survey of 836 people and 365 doctors by Cartwright and Anderson[16], and a phenomenological study by Locker[74] who personally interviewed a small group of mothers on up to six occasions. Neither study explored the referral process, but the patients in the national study were asked about hospital attendances. Morgan, though, in his interviews with 106 psychiatric outpatients[85] did pursue their expectations regarding the referral. The great majority of the patients suffered from persistent and troublesome problems which affected their daily life, and most were given little information about the referral being for a psychiatric opinion. Some did not discover this until they arrived at the clinic. Morgan felt that the lack of preparatory information probably had a deleterious effect on the consultation with the specialist. Since the psychiatry specialty is notable for having by far the highest rates of defaulting new and review outpatients[30], such adverse experiences may be frequent.

While it must be stressed that these particular comments cannot be

generalised to other specialties, there is reason to believe that in the medical and surgical specialties patients may also be disappointed, even disturbed, because the type of treatment chosen by the consultants did not match their preferences. Experimental research suggests that there are significant differences in the values of hospital doctors and patients regarding disability and death (Rosser and Kind[69,99]), and treatment alternatives (McNeil and colleagues[79,80]). The latter assessed risk preferences for the treatment of lung, and laryngeal cancers. They found that some people were risk averse to such an extent that they would, by implication, have preferred radiotherapy to surgical extirpation. These pioneering studies suggest that if patients' preferences (formally, utility functions over life expectancy) were to be incorporated into clinical decision making, they might have a substantial effect on therapeutic decisions.

The contribution of the present study in this general area has been to show that, as a rule, a general practitioner selects the consultant for each referral in an earnest fashion. First, he or she will decide on which specialty is appropriate. This may not always be clear. Next, the attributes (personal and clinical or technical) of the known specialists will be matched against the patient's temperament and medical requirements. However, family doctors are idiosyncratic in the knowledge they have about the specialties and specialists and, therefore, in the criteria they apply when selecting consultants for individual patients. Some favour the surgical specialties for certain conditions, while others refer similar cases to physicians. Again, doctors tend to have a 'portfolio' of consultant colleagues to whom they regularly make referrals and they can be slow to incorporate a new appointment into this portfolio.

In choosing a specialist the general practitioner has a critical role in interpreting the patient's preferences and expectations. This applies particularly when no concordance exists between specialists about the management of life threatening diseases *or* indications for surgical procedures. (The breast cancer literature is now referring to 'treatment hawks' and 'treatment doves'.[97]) Although it is well recognised that inexplicable variations in surgical rates for specific operations exist within localities[45], and between regions and countries[81], there is now evidence confirming that surgeons individually have differing constructs about indications for operations. Bloor established this in his ethnographic study of ENT surgeons in Scotland.[10] But local information of this kind is elusive and so the general practitioner has

to rely upon personal impressions and hearsay when formulating judgments about surgical specialists. As one young interviewee remarked

> 'Technical competence in a surgeon is obviously very important. But you only hear that on the grapevine.'

At the moment, though, there is no way of telling if the general practitioners' preferred referral pathways are always in accordance with the patients' values and preferences. This is clearly an area deserving extended research and discussion.

Relations between family doctors and consultants

In his final column of 'By the London Post' in the *New England Journal of Medicine*[73], Lister expressed regret that general practitioners and hospital consultants in Britain appeared to be drifting apart.

> 'The increasing emphasis on the importance of primary care in the community by general practitioners has been accompanied by a tendency to denigrate the role of the hospital and the specialists. This development may have been quite unintentional, but there is a distinct danger that general practitioners are drifting apart from consultants and specialists – a very unhealthy situation for profession and patients. There is an urgent need to encourage these two major components of the medical profession to work in harmony.'[73] (page 1530)

Writing this late in 1980, Lister may well have taken his cue from editorials, essays and lectures published in journals dealing with general practice, notably the *Journal of the Royal College of General Practitioners*.[62,91] Only two months earlier Lister[72] had reported an essay by Pereira Gray[92] in which it was proposed that postgraduate education for general practitioners should be decentralised from the postgraduate medical centres based in district general hospitals to local general practices. Lister thought that many physicians would regret the decline of the centre as the focus for *all* doctors in the district.

Most certainly the doctors interviewed in this survey did not in any way denigrate the hospital nor the specialists. The transcripts conveyed a collegial spirit. These general practitioners valued their hospital ties for two professional reasons: first, they were able to share

with the hospital the responsibility for providing care for their patients and, second, the consultants played an educative role. In addition, personal friendships existed between many of the family doctors and the hospital staff. The family doctors were protective of their relationships, hence the strategy of conveying self-doubt or abasement in the letter when a referral was primarily to placate the patient or family. In similar vein, these doctors in general tended to be hesitant in expressing their discontent when an 'unhappy hospital situation' arose, as they did very occasionally. Any criticisms which the doctors expressed about, for example, delays in receiving in-patient correspondence, were mainly attributed to organisational deficiencies. As one doctor summed up

> 'The rapport with the consultants is really so good, so that if you need help you get it. I can understand why the problems are there and I can't apportion blame. It's just lack of money and manpower.' (Doctor 37)

The educative role of the consultants occurred in two ways: via the hospital correspondence, and in personal discussions. In the closing questions of the interviews the doctors were asked from which sources would they most likely hear about an innovation in the treatment of, say, hypertension. Nearly half mentioned the feedback in the hospital letters. In fact, for some, this was their primary source or cue for amending their prescribing habits.

> 'I try not to prescribe new stuff unless it's being prescribed by the hospital . . .' (Doctor 11)

> 'I mean often one would be influenced in the possible use of certain hypertensive drugs by the knowledge that one's colleagues at the hospital have respect for and are using them.' (Doctor 44)

Other doctors valued the advice in the letters on how to manage individual conditions.

> 'This chap is very interesting because . . . his replies are much more a sort of discussion document. He will say "I have seen this patient and the possibilities are between this and that but I think on the surface for these reasons it is that and therefore . . . I think we ought to pursue this line".' (Doctor 42)

Face-to-face contact also occurred. Clinical assistantships were held by 18 of the interviewed doctors and, for some, these posts

provided opportunities for discussing clinical problems and subsequently feeding their knowledge back to practice colleagues. However, the holders of certain clinical posts did not have such regular contact with the consultants. Other doctors were often in the survey hospital to see patients and again conversations were held about treatments. But the most highly praised forum for face-to-face contact with a consultant was a peripheral outpatient clinic located in a health centre. A general physician held sessions there, and the enthusiasm of the local doctors for this scheme was clear.

> 'Oh it's extremely useful . . . You may have a certain line of investigation and it's useful to have somebody with much more experience, with wider breadth of knowledge in a specialty to bounce ideas off . . .'

Other enthusiastic reports exist about outpatient clinics held in health centres. Papers about 13 schemes were reviewed in the Interim Report to this study.[30] The success of these schemes lends weight to Pereira Gray's proposal that postgraduate education for general practitioners be decentralised[92], so long as hospital specialists *are* involved.

General medical outpatient workloads

The national trend in general medical outpatient workloads has been one of a fall in the numbers of new patients offset by increases in old (review) patients. In England, over the 22-year period 1958 to 1980, the average decrease in new patients was about 1 per cent per annum whereas the old patient increase averaged over 1.5 per cent per annum.[48,50] So by the end of this period, the ratio of new to old patients had widened from about 1:3.4 in 1958 to the 1980 figure of 1:5.8. During these years pronounced changes also occurred in the manpower structure of the general medicine specialty.[49,50] The ratio in England of whole-time equivalent consultants to senior house officers shifted from 1 consultant to 0.57 SHOs in 1963 to 1 consultant to 1.09 SHOs by 1981. However, the ratio of consultants to senior registrars/registrars fell from 1:1.09 to 1:0.83 by the end of the period. So, the rising trend in old outpatients coincided with a steeply rising trend in the numbers of SHOs entering the specialty. Furthermore, this survey's findings suggest that there is probably a direct relationship between staffing structures and outpatient clinic loads.

The rising trend in old outpatients also coincided with rapid advances in certain branches of medicine. To quote Dollery,

> '. . . when the scientific revolution hit medicine, its impact was overwhelming. Diagnostic methods, therapeutic procedures, and drugs changed beyond recognition, then changed again and again, sometimes within a decade. The medicine of 1978 would be almost unrecognizable to the physician of 1938.'[27] (page 1)

Writing in the same vein, Black[8] identified three broad categories of medical advances. The first category was advances that can be applied at modest cost to prevent or actually cure disabling or fatal diseases. His examples included lobar pneumonia, subacute bacterial endocarditis, tuberculosis, diphtheria and smallpox. Another category covered advances which allow reasonable levels of health to be maintained but at the cost of considerable resources (human and/or material), and here Black was thinking of organ transplantation, coronary artery surgery and so forth.

It is Black's third category of advances which is of particular relevance to this discussion – the advances that allow health and efficiency to be maintained at a modest cost, although the condition is not 'cured' and would reappear as a cause of ill-health were treatment to be discontinued. In this group he listed the management of pernicious anaemia; early-onset diabetes; other endocrine diseases of Addison's disease, myxoedema, and hypogonadism; the coagulation diseases of the blood, both haemophilia and heightened coagulation; and hypertension. To this list of effective palliative advances can be added the treatments for hyperthyroidism and gout, the procedure to implant pacemakers, and certain malignancies of the blood and lymphatic systems via chemotherapy treatments. The brevity of the histories of these advances is really emphasised when it is realised that most of the major developments occurred during the careers of the older general practitioners who participated in this study.

Knowledge about the technicalities of these advances (that is, a working understanding of the special drugs and the methods of monitoring their effects on patients) spread from the hospitals to general practice at varying speeds according to the complexity of each medical advance and the willingness of the individual general practitioner to adapt his or her patterns of practice. (The wide variations in the use the survey GPs made of the biochemistry services are indicative of the differing propensities of family doctors to take up certain

innovations.) So to safeguard the medical state of patients with these diseases, many physicians have maintained policies of keeping the patients on long-term surveillance even though the conditions may have been stabilised.

Evidence of these policies could be seen in the survey outpatient data. There was a group of patients for whom the consultants and the SHOs did not perform any 'clinic activities' because the conditions were stable; neither were the patients discharged. Within this group, hypertension, thyrotoxicosis, and manifestations of epilepsy were the commonest of the individual diagnoses for which palliative treatments now exist. Both the survey consultants and many of the interviewed general practitioners believed that the long-term outpatient follow-up of such diseases (especially for hypertension and myxoedema) was unnecessary. Yet for the hospital doctors, the obstacle to discharging the patients was their lack of confidence that adequate supervision would be provided by some family doctors. This point was appreciated by the interviewed GPs.

The recent advances in cardiothoracic technology was another reason why a proportion of the surveyed outpatients – those suffering from angina, chronic ischaemic heart disease, and valvular diseases – were kept on surveillance. Some of these patients had already experienced surgery (coronary by-pass grafts or valve replacements) or had pacemaker implants, while others were being observed in case their cardiac condition deteriorated (or improved) under drug treatment to the point where surgery was warranted. This is a group of patients for whom hospital surveillance does seem desirable because, in resource terms, the sophisticated equipment and technical know-how to monitor cardiac states needs to be centralised.

Another technological breakthrough of the 1970s was fibreoptics. Gastroscopy and colonoscopy for gastrointestinal problems are usually undertaken by physicians.[18] So the development of this technique, together with the pharmacological discoveries, caused certain diseases which were traditionally cared for by surgeons to be transferred to the medical specialties or else be jointly managed.

In the survey's gastroenterological workload there was a larger number of patients suffering from 'diseases of the oesophagus, stomach and duodenum' than persons with 'diseases of the intestine and peritoneum' but this latter group was much more likely to be kept on long-term surveillance even when the conditions were stable. Ulcerative colitis was the commonest of these diseases followed by Crohn's

disease and, unlike the endocrine diseases, their treatments cannot be satisfactorily monitored by biochemistry tests. Rather, the physician has to rely upon the sufferer's account of his or her symptoms and the physical examination. However, once again, physicians believe that too few general practitioners are experienced in the monitoring and management of these conditions, and neglect can lead to extensive surgery. (There will probably be only a tiny number of such cases in any family doctor's practice.) So the follow-up attendances for these diseases have also swelled the statistics for old general medical outpatients.

This gastroenterological policy can, though, be self-defeating if an experienced hospital doctor is not able to see these patients at each attendance because of the pressures from new or more urgent review patients. In one of the interviews a general practitioner described how he had re-referred a review outpatient who was on long-term immunosuppressive therapy for Crohn's disease. The senior house officer who examined the patient for the first time at his previous clinic attendance did not realise that a permanent mass in the abdomen had increased in size over several months. Thus the GP was 'a bit concerned there could be a developing carcinoma'. This anecdote prompts two questions: Who should see these long-term patients when they attend the outpatient clinics? and, more importantly, Is it inevitable that their surveillance be carried out by hospital doctors?

In the survey hospital during the fieldwork, there were four general medicine firms and *no* registrar appointments. Thus the SHOs attached to these firms saw nearly half the outpatient attendances, the great majority being review patients. While it was not possible to compare the diagnostic skills of the outpatient doctors, the data did show that the SHOs were far heavier investigators than the consultants. There were, however, marked individual variations between the junior doctors, and lack of confidence in their own clinical judgment seemed to be part of the reason. This insecurity was typified by the comment of one high investigator to a review patient who was about to be discharged. 'I'd like to check your blood . . . for my own peace of mind really.' Undoubtedly another reason for the SHOs' high investigation rates for review patients lay in the chaotic state of some medical records, especially those belonging to patients with long hospital histories. Occasionally it was better for a doctor to order new base line tests than to try to interpret old reports in a disorganised bulky file. These doctors also 'misspent' valuable clinic time while

familiarising themselves with the case histories of review patients whom they were about to see for the first time.

So in terms of *outpatient* work, the senior house officers were found to be more 'costly' to the NHS than the consultants when making management decisions, because of their greater dependency on diagnostic investigations and their seeming reluctance to discharge patients. This evidence[31] was considered by the Social Services Committee (chaired by Mrs Renée Short) which reviewed the future of medical education with special reference to the number of doctors and the career structure in hospitals. Amongst the recommendations in the Committee's report[52] were that health authorities should be urged to increase consultant numbers, while the senior house officer grade should be frozen at its present level pending further review. And indeed, a further review is desirable. We cannot generalise about the cost-effectiveness of the SHO grade throughout the hospital service from these medical outpatient data alone. Systematic research really is needed to quantify the staffing costs of all grades of doctors in all specialties which carry heavy emergency loads in teaching and in non-teaching hospitals.

Whatever manpower ratios are finally adopted, the problem remains of training *outpatient* doctors to be more efficient decision makers. There have been many trials using more formally structured medical records, especially the problem oriented medical record (POMR), in hospital inpatient and outpatient departments and in general practice (see the review chapters in Petrie and McIntyre[94]). The consistent finding has been that the information collected on these records is more comprehensive than in traditional records. In terms of clinical management the definite advantage of the standardised recording system is the ease in which relevant information can be retrieved by whoever uses the file, for example, the case notes of long-term follow-up patients who are usually seen by the 'rotating' doctors. It would be necessary, however, for the SHOs to become familiar with such a recording system prior to being appointed to a district general hospital, as there is too little free time in the outpatient sessions for consultants in a DGH to train successive SHOs to adapt to a new system. 'The most obvious place to teach POMR is in the medical school, not only to avoid the difficulties and antagonisms of unlearning one way of recording and learning another, but to take advantage of the conceptual emphasis in this environment.' (Fernow, McColl and colleagues, page 346[36])

In resource terms, surely there is also a need for widespread experimentation with systematic programmes to teach medical students when to collect and how to evaluate information provided by investigations, this being a fundamental skill in management decision making. The students will become knowledgeable about the prevalence and severity of individual diseases in the community, and, perhaps, appreciate the monetary costs of the different investigations. In the longer term this expertise will be advantageous to both the hospital service and to general practice. However, the success of such programmes seems to be dependent, in part, on the participation of respected senior clinicians.[87]

There has been some experimentation with computer-assisted follow-up schemes, particularly in the management of thyroid diseases.[5,67] Unfortunately, the logistics of establishing a monitoring programme in a DGH for thyroid disease or hypertension is daunting. Apart from the facilities and time needed to set up such a scheme, there is the problem of coordinating multiple consultants and their firms assuming that consensus can first be reached about the monitoring and treatment programmes. (These two diseases appeared in the caseloads of the four survey consultants and other thyroid patients were under long-term surveillance by the endocrinology clinic.) Without the full cooperation of the relevant consultants a scheme like this would be of diminished value as a learning aid for the 'rotating' doctors. Nonetheless, these schemes deserve further consideration.

Even if the management skills of outpatient doctors are sharpened, the consultants are unlikely to abandon their policies of keeping certain diseases on long-term surveillance until they develop greater confidence in the family doctors' diagnostic and management skills. One method of achieving this may emerge from the current experimentation with computer-based diagnostic aids. The short-term effect of the hospital computer-based diagnostic programmes has been the marked improvement in the clinical performance of the junior doctors, coupled with a high level of consistency between them. Their false negative and false positive rates have matched those of computers programmed with routinely up-dated data bases.[25] But when the computer systems have been withdrawn the clinicians' performances have drifted back towards their pre-trial levels.[26,76] This suggests that the clinical thinking processes have not been changed during the computer trials. Rather, the doctors have become more aware of the base rate probabilities of certain diagnoses occur-

ring. In other words, their stock of clinical knowledge has been expanded at an accelerated rate – normally this happens through 'experience', hence the greater diagnostic acumen of the older hospital consultant vis à vis his junior staff.

Experimental computer-based studies are now underway aimed at improving general practitioners' diagnostic skills. Dr G P Crean and colleagues at Southern General Hospital, Glasgow, have developed a dyspepsia programme[20] and Mr F T de Dombal and his team now have a programme to diagnose acute chest pain. An additional advantage of both programmes is that they make the ordering of some diagnostic tests redundant in certain circumstances. There are other mechanisms for continuing the medical education of family doctors. One is a formal dissemination of information by specialists about diagnostic indications. Mr A A Gunn and his surgical colleagues at the Bangour General Hospital, West Lothian, have been providing general practitioners with proforma to be completed for patients presenting with acute abdominal pain.[55] Another way to reorientate the general practitioner could be via consultants holding consultative clinics in health centres and other practice premises on a 'circuit' principle. (This suggestion was made by my colleague, Professor Michael Warren.) Clinical assistantships rotating through hospital specialties might be a further option. One family doctor who valued the educational aspect of his clinical assistantship, hinted at the potential of such a scheme. 'I didn't know anything more about eyes than the next man until about four years ago. I started the job from scratch.'

We return, finally, to the general question underlying this study. Why do family doctors make such varied demands on the investigatory services and the referral services? While it has not been possible to quantify the reasons for these variations, the material suggests that a substantial part of the answer probably lies in the doctors' cognitive processes – including their confidence in their clinical judgment and their awareness of the base rate probabilities of the occurrence of life-threatening events. They also have differing policies about managing chronic conditions.

What is now needed is not further study of the determinants of variations in referral and investigation rates in the traditional style. What is needed is research that takes notice of the substantial advances which have recently been made in our understanding of the logical and psychological aspects of medical decision making.[34,96] These link readily with the crucial question from the social point of

view, Are the differing patterns of medical practice, which include the doctors' dependency on diagnostic and outpatient services *and* in-patient services, more or less cost-effective? It is apposite to end with the words of a young general practitioner.

> 'Of course, if a practice does a lot of investigations and manages the problems themselves, then that's a very cost-effective way of doing things, providing of course they get the answer right. But if they also have a very high referral rate then it's perhaps not so cost-effective. It's probably very difficult to find out.'

We must try.

Appendix *The research methods*

The outpatient data

The outpatient survey was based on clinics held by four general physicians. All of their main hospital and peripheral clinics (apart from the renal sessions of one physician) were covered for 13 weeks between March and June 1977. These consultants were similar in age, having been appointed to the survey hospital since 1970. They were assisted by 12 SHOs during the survey weeks. The junior doctors – with one exception – rotated six-monthly between various consultants' firms, and almost all were from two London teaching hospitals.

When designing the outpatient fieldwork it was decided *not* to ask the survey consultants and junior doctors to do any data recording. The reason was simple. When doing pilot observational fieldwork in the outpatient clinics, it became clear very quickly that the pressures on the doctors were too great for them to complete a survey form about each attender. Even if time had permitted the filling-in of the proforma, there was still the problem of comprehensiveness across the three months, as goodwill inevitably begins to flag especially if a survey has not been initiated by the hospital doctors themselves. Reliability as to the contents is another problem for it would have been necessary to use precoded recording forms. These have the disadvantage of forcing complex and sometimes elliptical information into simple categories (boxes) which do not take account of exceptional circumstances (see Garfinkel[44]).

The outpatient data collection was, therefore, undertaken by myself. A form was completed for each attendance from the case folder of the patient. (A sample form appears at the end of this appendix.) The case folders from the clinic sessions were abstracted after the medical secretaries had completed the correspondence. Gathering the required information was time-consuming. It took each week day and some evenings over 16 weeks, but also during this period there were weekly journeys to the peripheral clinics in two towns to collect data, and observations were made in some of the outpatient sessions held in both the DGH and the peripheral clinics.

Data were collected about virtually every attendance during the 13 survey weeks. This achievement was due to the exceptional support from the medical secretaries of the survey consultants and the en-

couragement extended by the staff in the medical records department. In fact, the survey attendances were slightly in excess of the official SH3 statistics (by 11 attendances) because by handling the case folders it was possible to pick up the occasional slotted-in emergency patient whose name had not been entered onto the clinic sheets. Likewise, the survey figure of 442 new patients (GP-referrals and transfers) did not correspond with the SH3 figure of 391 new patients because some patients were misclassified as old according to the SH3 definitions.[50] This sometimes happened when a patient was booked for an investigation prior to his first outpatient attendance. Also re-referred patients who had been discharged quite recently were often classified as old whereas for SH3 purposes they should have been new. Finally, the number of unobtainable survey case folders was tiny; a very few were missing while others had been transferred to different hospitals.

The data on the proforma were coded by three experienced coders and myself. The first step was the sorting of the recording forms into alphabetical and clinic date order so as to link multiple attendances by individual patients. This sorting was done manually and it enabled summary data about the patients (source, episode length, age, and so on) to be coded in conjunction with the information for each attendance. This meant that tables including basic summary items could be easily prepared for two denominators – 1699 patients or 2402 attendances. The coded data were punched onto cards and then by using the SPSS survey computer package the information was processed on one of the University of London's computers via the computing facilities at the University of Kent.

There were two particular concerns overshadowing the assembling of the diagnostic data. The first was the conviction that coding only one diagnosis per patient (the convention in the vast majority of British hospital studies) masks the true prevalence of conditions presented and treated, especially in the outpatient situation where patients can be under long-term surveillance. And, in fact, more than one-third of the patients (and attendances) had two or more identifiable four-digit ICD diagnostic labels. The second concern lay in my own inexperience in collecting and processing diagnostic material. However, for most patients, the diagnoses were clearly stated in the case folders (the argument about the validity of diagnostic labelling notwithstanding). Occasionally a series of letters would offer continuing advice about the management of a set of symptoms only, but these were usually indicative of more common conditions such as

hypertension. The International Classification of Diseases, 8th revision[123], was used when coding the data, and advice was given by various specialists. To computerise the data using the SPSS package, it was necessary to allocate a new number to each of the ICD four-digit codes then group these recodes on the computer to achieve the three-digit categories. In all, almost 600 four-digit codes were identified. Detailed tables about this diagnostic material are included in the First Report.[31]

When recording the information from the referral letters it became evident that there were patterns in the structure of the letters, and general practitioners had individual styles of letter writing. The fieldwork also indicated that the survey consultants had differing reactions to these writing styles when classifying the incoming letters into their urgent/non-urgent appointment categories. However, the problem was how to classify these unstructured patterns. The previous research about referral letters (see Chapter 3) had merely concentrated on the items of information included therein, as well as the length and legibility of the letters.

It was not until the coding frame for the referral letters was being prepared that a solution emerged, and it was triggered by a review of an American book *Medical Problem Solving* written by Elstein and others.[35] The reviewer, Fischhoff, listed some research findings from the book including: one, experienced physicians generate hypotheses early, and two, nondiagnostic information is often treated as supporting an already preferred hypothesis, suggesting that physicians might reach closure prematurely.[37] It is indeed likely that most requests for help about diagnostic problems will contain some hypothesising since classical psychological research shows that hypothesis generation and testing adequately describes adult thinking processes in general.[43] So the patterns observed in the referral letters were about hypothesis development.

The next problem was how to classify these patterns in such a way that the assessments could be computerised, since it was desirable to relate hypothesis development to other doctor-related variables. As there was such a range in the types of clinical problems in the general medicine referral letters, it was not possible to adopt a decision-tree approach across the letters according to whether or not certain examinations and investigations had been performed prior to referral. For example, endocrinal conditions such as thyroid gland malfunctions and diabetes can be diagnosed from biochemistry results alone, whereas certain neurological disorders are diagnosed on the basis of

the history and physical examination and backed up perhaps by sophisticated investigations to which general practitioners do not have open access.

So, after repeatedly reading the information extracted from the referral letters and the outpatient replies, nine categories of diagnostic development were formulated and these consolidated categories are outlined in Table 2. Fortunately the letters had been abstracted in considerable depth so that words or phrases indicating uncertainty, the writer's personal estimation of the patient, and so forth, had been copied out. The categories were of a phenomenological nature in that they tried to encapsulate the implied meanings in the letters. Of course, this necessitated a shared understanding on the part of myself. Although I am not medically trained, after many hours of listening to consultations in outpatient sessions, talking with hospital doctors and general practitioners, and reading more than 1700 case folders, a certain knowledge was acquired about the types of work-ups for differing diagnostic problems which could be carried out by a general practitioner. But this knowledge would never be fully comprehensive.

In addition, during the fieldwork, three of the survey consultants expressed their thoughts whilst assessing the urgency of batches of incoming referral letters, including the fictitious letters in Chapter 9. These thoughts provided a base line for the coding of the survey letters. Sometimes a letter contained a negative diagnostic proposition, that is, the general practitioner was wanting reassurance that he was not missing perhaps a tumour or multiple sclerosis. These letters were assessed for their hypothesis development just as if the writer was presenting the evidence for a positive diagnosis. It must be remembered, though, that what were being scored were the overt levels of hypothesis development about the diagnosis in the letters, *not* the diagnostic acumen of the general practitioners themselves. However, later analyses did show that letters with 'fully' developed hypotheses were much more likely to have a diagnosis confirmed in the outpatient clinics than the other types of letters. It would be interesting to repeat and possibly refine the exercise with another sample of letters being assessed by a panel of observers.

The interviews

General practitioners who were in full-time practice during the outpatient survey months and referred patients routinely to the survey

physicians formed the sample for the interviews. They numbered 64 when the interviews were carried out between May and October 1978.

To achieve a relatively high response rate it was planned that I would personally approach each general practitioner to explain the purpose of the survey and, if the doctor agreed to be interviewed, a further appointment could then be arranged. So all the practice premises in the catchment area of the survey hospital were visited and efforts were made to see the sample doctors briefly. This meant that the purpose of the visit had first to be explained to the reception or secretarial staff who relayed the request to the doctors. In some practices, however, the staff were unwilling to convey the request for a brief meeting to the doctors or else they were uncertain that such requests would be favourably received. So they recommended explanatory letters be sent.

It is of interest that the interview rates varied according to the ways the initial contacts were made. In the 37 instances where the receptionists or secretaries interceded with the GP on my behalf by booking an appointment or conveying a message, 34 interviews were conducted including two interviews with newly appointed doctors (92 per cent). However, where the initial contact was via a letter the interview rate fell to 38 per cent (29 letters and 11 interviews). It would seem that, in general, staff who felt unwilling to intercede had fairly judged their doctors to be non-respondents. But occasionally they were surprised – some doctors who disliked talking with drug company representatives were prepared to be interviewed. The doctors who were interviewed were younger than the non-respondents – by about five years. Furthermore, there was a high representation of doctors practising in health centre-type premises. The 45 interviewed doctors were members of 24 practices, four were women and 24 practised in towns where peripheral outpatient clinics were held.

Two factors influenced the content of the interview schedule. First, it was essential that when the GPs were asked for their cooperation they could be assured that the interviews were of a reasonable length (about 45 minutes). Second, it was clear from the preparatory reading and fieldwork that the issues impinging on referral decision making are complex, yet it was desirable to touch on as many as possible during the interview. So although the interview schedule was structured (as can be seen in the pages at the end of this appendix), I did not attempt to pursue precise answers to the questions which

would enable statistical analyses to be done. Rather the interviews were shaped around these questions, the order being changed and some occasionally being overlooked so as to allow the dialogue to flow around each topic. But whenever a new topic was introduced I endeavoured to phrase the questions according to their format in the sample schedule; that is, to standardise biases as much as possible.

At the commencement of the interviews the doctors were asked to recall the circumstances which surrounded each of the referrals made in the past week. (They had been asked to keep a note of their week's referrals when the interview appointments were being arranged. This part of the interview had been piloted with five doctors.) I tried not to interrupt the doctors' narrative about each of the referral decisions. There were two advantages in opening the interview in this way. First, the doctors, by being able to speak freely without interruption seemed to relax (and so did I) – the interview became less threatening. Second, the referral narratives often revealed information and ideas about which I was unaware or had misconceptions. So it was possible to discuss these more fully elsewhere in the session and in later interviews.

When analysing the verbatim transcripts of the interviews I tried to tease out the internal elements of doctors' professional behaviour which are commonly labelled as 'personality factors', whilst at the same time extending further our knowledge of the 'social variables' impinging upon the referral process. I wanted to identify the background 'rules' or assumptions which general practitioners (as members of an organisation – the medical profession) take for granted when making referral decisions. To do this, the method of searching for meaning known as ethnomethodology in the sociology literature was adopted.[28] It was also important to reassure the reader that the assumptions and themes which were recognised were, in fact, grounded in the data.[14] That is to say, the phenomena had been observed in more than one transcript and therefore could be held to be generalisable at least in a limited sense.

The initial step in the analysis was to cut up the transcripts and interview notes according to the questions asked. Then all the answers to each question in the interview schedule were pasted together on large sheets of paper (A3 size). (The doctors' code numbers had been stamped down the margin of the transcript pages so the separated questions and answers could always be identified. Also, carbon copies

had been made of the transcripts and these remained intact for reference purposes.) Of course, the doctors when answering one question often made comments relating to subsequent questions. So these comments were cross-referenced on the large sheets of paper. I had already developed the framework of referral decision making (in Figure 4) after transcribing the first eight or so interviews, and this framework provided the order of the analysis. Thus some questions which appeared to be related in the interviews were analysed in quite a different order. For example, the questions on investigations in the schedule were analysed in Chapter 2 (waiting times for barium contrast studies, and open access to gastroscopy services), Chapter 7 (registrars seeing open access patients), and Chapter 10 (the use of ECGs).

Each question in the schedule was analysed in a systematic fashion. First the transcript answers were read to recognise repetitive broad themes. Next they were reread and, using fluorescent pens of different colours, the various themes within the answers were marked. Then the coloured key statements were copied onto sheets of pad paper which were headed according to the broad themes. Parts of one doctor's answer could be copied onto three or more sets of paper. The second stage was to go through the themes on the sheets of pad paper, this time looking for underlying meanings or assumptions and again the fluorescent pens were used to identify the differing groups of statements. Finally the sub-section of the chapter was drafted and transcript extracts were used to illustrate the themes and assumptions being described. Care was taken to indicate the number of doctors who conveyed these meanings in their answers, and if only one doctor made a particular point, this was stated. Of course other doctors could have shared these meanings but not revealed them in the transcripts.

The process was painstaking and time consuming. Whether or not it or, indeed, all the research was successful only the reader can judge. But hopefully, this exercise has been a step in the direction signposted by Elstein in his review paper on research into clinical judgment.

> 'Studies of the behavior and decision-making of clinicians in more phenomenological terms might help determine the best fit of model to task. While there is ample reason to believe that clinical decision-making can be improved, there is also warrant for continued study of the aims and behavior of clinicians.'[33] (page 699)

The general practitioner interview schedule

Referrals in the past week

Can you tell me the circumstances which surrounded each referral made over the past week? Was this a typical week?

Did the patient or their family ask specifically or precipitate the referral decision in any of these referrals?

Were there any patients whom you considered for referral but in the end decided against or chose to delay the referral decision?

Were any of the patients referred over the past week already investigated by either pathology tests and/or x-ray?

Please, can you go back over the week's referrals and explain how you made your selection of consultants (without necessarily disclosing their names).

Outpatient waiting times

To what extent are you aware of the probable waiting times for an outpatient appointment when you

i make your decision to refer, and
ii choose your consultant?

How do you keep in touch with the waiting times? Are the hospital's lists helpful?

Do you have any specific comments about the waiting periods for medical appointments at the survey hospital (and peripheral clinic sites where appropriate)?

Investigations

The waiting time for barium contrast studies has now risen to 10–12 weeks for GP-referred patients. Has this affected

i the number of patients you now investigate by barium meals or enemas?
ii made any difference to your referral pattern for patients who you think should have a barium meal or enema?

Do you ever make a medical referral mainly because you would like a special investigation done which you cannot order yourself (namely, ECGs, gastroscopies, EEGs)?

Would you like open access to any of these services?

If it were possible to operate such a service to, for example, the ECG department, but it meant that these specific patients might first be seen by a registrar rather than a consultant, how would you feel?

Referral letters

How do you go about writing your referral letters?

If a patient does request a referral or intimates that he would like to be referred, is this usually indicated in the referral letter? Does this also apply when another specialist (for example, a radiologist) has made a suggestion?

If the consultant's advice or opinion is all that is wanted, and you would like the patient back to manage yourself, how do you finish your letter to indicate this reason for referral?

Do you ever feel, having finished the letter, that something relevant has been left out (for example, drugs, results of investigations, or other medical or social details)? Would a more structured referral letter form overcome this problem?

If a patient needed to be seen urgently, how would you indicate this?

Relations with the hospital

In what circumstances would a domiciliary consultation be requested?

Are there any medical conditions which you would prefer to manage on your own once the diagnosis has been established and the treatment started?

Do you ever find follow-up letters are ambiguous about whether or not the hospital doctor has actually written a prescription for the drugs he's recommended for a patient?

Has the content or absence of letters (either outpatient or inpatient) from a consultant's firm ever influenced your choice of consultant in subsequent referrals?

If you are not happy about the way the hospital doctors are managing one of your patients, do you let them know?

Are you generally happy about the outpatient communications from the medical firms and how do they compare with other specialties?

How do you usually get to know that a new consultant has been appointed, and do you like to learn something about him or her before making any referrals?

Do you use consultants or departments in any other hospitals?

Personal and practice characteristics

Are you a clinical assistant? Does this affect your referral pattern?

Do you have any special clinical or other interests? And again, do these affect your referral pattern?

Do you ever consult with your practice colleagues prior to deciding finally whether or not to refer?

In your practice, do you see only the patients on your list? And what is your list size?

How long have you been practising in this district?

If there was a new innovation in, for example, the treatment of hypertension, in what medical papers and journals would you be likely to read about it? Is there anywhere else you might hear about it?

Lastly, are there any other comments that you would like to make about the outpatient system?

Figure 7 The outpatient data recording form

Hospital Number _____ Surname _____ Forename _____ Sex ____ Clinic Site _____ Clinic Type _____

Date of Birth _____ Town/Village _____ Marital Status _____ General Practitioner _____ Clinic Date _____

SOURCE

new referral ☐
review (OP only) ☐
discharged INPAT ☐
date discharged _____

TRANSFER FROM

other local consult. _____
other hospital _____
peripheral clinic/ other source _____

New referrals

Was Patient a disch OP in year past? YES/NO
Has patient been INPAT for invest/treatment YES/NO

ATTENDANCES

Hosp. OP Class. _____

since 1st as OP
date _____ no. _____
in past year no. _____
since survey began no. _____
dates _____

NEW PATIENTS' LETTERS

GP/other writing letter _____ Date _____ Typed Yes/No

URGENCY

GP's _____
Consult's _____

Presenting problems _____

Diagnoses mentioned _____

EXAM READINGS MENTIONED	INVESTS DONE RECENTLY	INVESTS ORDERED	Stated or implied reason for referral
Any mention of drugs Yes/No			

ALL CLINIC PATIENTS - FROM CASE FOLDERS

TESTS/EXAMS DONE IN CLINIC

weight ☐ urine ☐ BP ☐
pulse ☐ temp ☐ ECG ☐
sigmoid ☐ peak flow ☐ other _____

INVESTIGATIONS ORDERED

Pathology _____
Radiology _____

DIAGNOSTIC DESCRIPTION

SOURCE OF INFORMATION

ACTIONS TAKEN

Return OP review ☐
Discharged ☐
Emergency INPAT ☐
Waiting list INPAT ☐
Return special invest - type _____

Advice to patient _____
Advice to GP _____
Other referrals _____
Transferred to _____ Clinician _____

Prescription issued
Yes / No / D.K.

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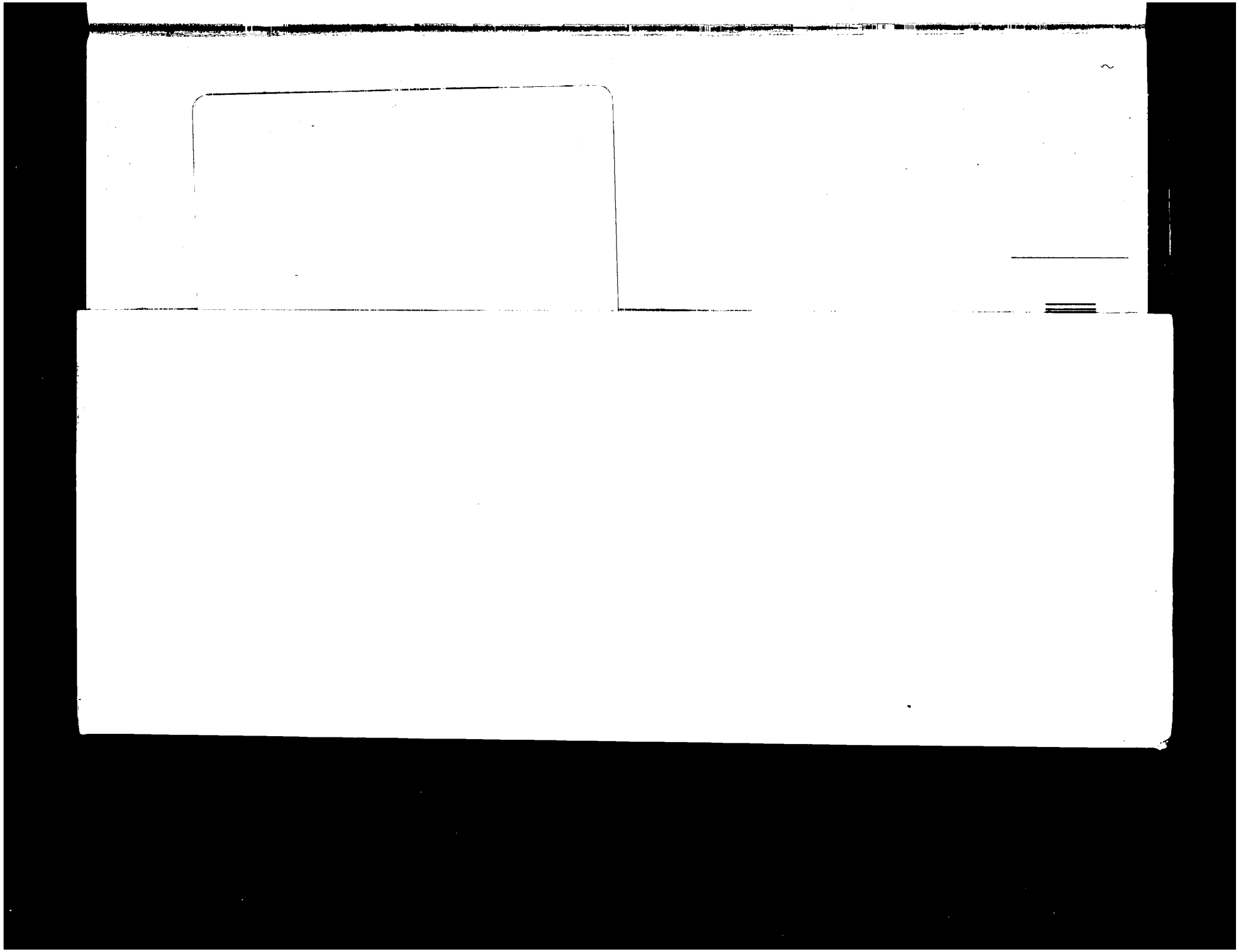

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