the 539 patients referred with menstrual disorders, 210 were referred for diagnosis, 75 for a specific investigation, and 146 for an operation. The investigation and the operation probably both entailed a request for dilatation and curettage for diagnosis. Referrals for deafness seemed to be similarly diverse: the reason for referral could have been for diagnosis (of the cause of the deafness), specific investigation (auditory test), or an operation (for example, if the deafness was attributable to otitis media); in some cases the general practitioners could have had all three objectives. For other disorders—for example, varicose veins and hernia—the reasons for referral were generally uniform, as expected, although surprisingly a small number of referrals for these disorders were for diagnosis.

Discussion

The advantage of this type of large scale collaborative study is that it permits analysis of patterns of referral across several different health districts and general practices. It can therefore provide a large, fairly representative picture of referrals. Depending on the speciality between 60% and 80% of new appointments in outpatient clinics originate from general practice, so these referrals constitute a major proportion of the workload of outpatient departments.

Our findings underline the diversity of outpatient referrals and the considerable differences in the reasons for referral and general practitioners' expectations, which vary according to the patient's disorder. The range of factors that influence the decisions to refer, some of which were explored by Dowie in her qualitative study of general medicine referrals, indicates the complexity of assessing the appropriateness of referrals. Numerical monitoring that treats all decisions on referrals as essentially similar is too simplistic.

We suggest that programmes designed to monitor and evaluate general practitioners' patterns of referral to outpatient clinics might have three main stages. The first would entail collecting descriptive data (as in this study) to indicate the scale, nature, diversity, and objectives of referrals and which particular disorders or reasons for referral are worth following up in more detailed studies. A second stage would entail monitoring the outcomes of referrals for particular disorders against stated objectives; we are now conducting such a follow up study, in collaboration with the general practitioners, that is designed to identify the outcomes of the referrals for some of the disorders recorded in this study by an audit of general practice records. We will examine whether, for example, specialist departments provided the treatments and did the investigations that the general practitioners expected, and whether they provided advice and referred the patients back to the general practitioners or took over management as expected. A third and more complex stage would assess the extent to which the expectations of all three parties who participate in a referral—the patient, the general practitioner, and the specialist—were satisfied with the outcome of the referral. As Grace and Armstrong showed, patients, general practitioners, and consultants differ commonly in their expectations of the visit to the outpatient clinic. Such evaluations could not be conducted by using routine sources of data and would require specially designed prospective studies. They may, none the less, be important in assessing and improving the referral process.

Examining patterns of use of outpatient departments raises questions of whether more efficient support could be provided for general practitioners and their patients and whether more treatment could be contained in general practice without referral. Possible improvements might include collaboration between general practitioners and specialists to develop protocols for managing specific common disorders to reduce the need for referral for advice; extension of training for general practitioners in using minor procedures, such as treating varicose veins by injection or removing warts; direct booking to inpatient or day case care for some common operations, by consent between general practitioners and consultants, to obviate the need for an intervening outpatient appointment; and increasing direct access to tests and investigations and for appliances such as hearing aids. Such changes could be introduced, possibly in controlled experimental ways, and their impact on patient care and the economics of using the services evaluated.

In view of the huge number of outpatient appointments (nearly 40 million a year in England and Wales) and the often long waiting times for appointments with specialists such approaches are worth exploring.

II. Locations of specialist outpatient clinics to which general practitioners refer patients

Abstract

Although linkage by computer of hospital administration systems across all clinics in a health district is becoming a practical possibility, complete records of general practitioners' referrals to outpatient clinics will be difficult to achieve. Data from a large study of general practitioners' referrals to such clinics were used to calculate the proportion of referrals that crossed district boundaries, the proportion that were made to the private sector; and the number of locations that each practice referred patients to. Of the 17 601 referrals from practices in Oxford Regional Health Authority, 13 857 (78-7%) were made to NHS outpatient clinics within practices' own districts, 1524 (8-7%) to clinics in other districts in the same region, 420 (2-4%) to NHS clinics in other regions, and 1800 (10-2%) to the private sector; but these proportions varied considerably among the practices. The mean number of different NHS hospitals or clinics that each practice referred patients to was 15-8 (range 4-42).

These findings have important implications for implementing systems to monitor patterns of referral and establishing service contracts among districts, general practitioners, and hospitals.

Introduction

The concern to monitor patterns of care in the health service has developed ahead of the technical capacity to do so routinely. This is particularly so in general practice and at the interface between primary and secondary care. Systems capable of monitoring the complete range of general practitioners' referrals to outpatient clinics have not yet been implemented widely. Although computerised hospital administration systems are being installed in health districts and linkage across all clinics within a district is gradually becoming possible, complete records of referrals that include those that cross districts, general practitioners, and those made to the private sector will not be achieved easily.
The government’s white paper on the NHS requires district health authorities to develop service contracts with hospitals “which satisfy most referral decisions.” General practitioners will be encouraged to refer patients within the terms of the contract, and they will be provided with “up to date information on their referral patterns, akin to that already provided on prescribing patterns.” This implies that the government expects information systems to be implemented that will provide data for routine monitoring and feedback of information on patterns of referral. A pilot project, based on patient administration systems in hospitals, has been established in East Anglia to monitor referrals to outpatient clinics within that region.

Health authorities throughout the country will need to establish what existing patterns of referral are before arranging the hospital service contracts. They will also have to determine the feasibility of establishing routine monitoring systems. Establishing how widely general practitioners from each practice refer their patients will be crucial, and whether the choice of hospitals to refer patients to will be increased or diminished after the proposals in the white paper are implemented is currently being debated.

A survey of general practitioners patterns of referral that was coordinated by the Oxford community health project included data on the locations of all of the outpatient clinics to which participating practices referred patients, including referrals to the private sector. We used these data to calculate the proportion of referrals made to hospitals in different districts, the proportion that were made to the private sector, and the number of different locations of hospitals that each practice referred patients to.

**Methods**

We used the same records of referrals made by general practitioners that we used in the study reported above. The district health authorities that the practices were in were Oxfordshire (10), Milton Keynes (11), Northampton (two), Kettering (five), West Berkshire (three), East Berkshire (one), and Warwickshire (one) (figure). We excluded the practice in Warwickshire, which is outside the Oxford region, from the analysis. This study also took place from October 1983 to December 1984. We counted the number of referrals made to NHS hospitals or clinics that are run independently—for example, a child guidance clinic. Private hospitals and clinics were excluded from counts of the numbers of locations of hospitals that patients were referred to.

**Results**

During the study the 32 practices in the Oxford region recorded details of 17,691 referrals to outpatient clinics. Complete data on the locations of the clinics were available for all but 90 of the referrals. Most of the referrals (13,857, 78.7%) were to NHS outpatient clinics within the district in which the practice was located; a further 1524 (8.7%) were to NHS clinics in other districts within the Oxford region; 420 (2.4%) were to NHS clinics outside the Oxford region; and 1800 (10.2%) to private hospitals and clinics. These proportions varied according to the district in which the practice was located. For the practices in Kettering and Oxfordshire the proportion of referrals that were made to NHS clinics or hospitals within their own districts was 90%; for the practices in West Berkshire and Northampton the proportion was 85%; for the one practice in East Berkshire it was 62%; and for those in Milton Keynes it was 60%. There was no district general hospital in Milton Keynes District Health Authority for the first half of the study (the hospital opened in April 1984), although a limited outpatient service was provided within the district at various peripheral clinics. Practices in Milton Keynes therefore referred a high proportion of their patients to outpatient clinics in Northampton and Aylesbury District Health Authorities. Table IV shows the locations of the hospitals to which each practice (except practices in Milton Keynes) referred patients. The locations varied widely—for example, only 62.3% of the referrals from one practice (practice 21) compared with 96.6% from another practice (practice 1) were to NHS hospitals for clinics within their own districts.

Most (395) of the referrals made to regions outside Oxford Regional Health Authority were to the four Thames regions and the London postgraduate teaching...
hospitals. A small number of patients, however, were referred to hospitals in other English regions, including West Midlands (one), East Anglia (four), South Western (four), Wessex (nine), Trent (five), and North Western (one); one patient was referred to a hospital in Scotland.

The mean number of different NHS hospitals or independently run clinics to which practices referred their patients ranged from 42 by a practice with three partners that participated in the study for 15 months to only (four) by a practice with one doctor that participated for the same amount of time (table V). The practices in the Milton Keynes district referred their patients to a wider range of hospitals and clinics than those in the other districts.

Discussion

Establishing monitoring systems to provide data on patterns of referral from each general practice to all outpatient clinics will be complex. It will be necessary either to pool data from many different hospitals and clinics or to obtain data directly from practices. If data on referrals are collected from hospitals each hospital will have to maintain coding directories that identify general practitioners both in their own district and in all of the districts from which they receive referrals. In some places these will include general practitioners located not only in other districts but also in other regions. Compatible data will be needed, at least in terms of coding the identities of general practitioners, between districts and regions so that data obtained from hospitals can be pooled, analysed, and fed back to the general practitioners. The alternative, of monitoring systems in which data are obtained at the general practices, obviates the need to pool data from hospitals that are widely separated; but the financial and organisational investment required to implement practice based systems, to input data and perhaps audit the input of data on referrals, and to provide analyses of referrals relating to each hospital would none the less be substantial.

Decisions will have to be made about whether data on referrals to the private sector are required. Even if all of the data from NHS hospitals and clinics can be obtained an appreciable proportion of all referrals to outpatient clinics—those to the private sector—will be missed. In our study referrals to private hospitals accounted for 10-2% of all referrals and ranged from 1% to 32% of referrals from individual practices. Admissions of patients in private hospitals have risen in this region since we conducted our study of outpatients, and our figures on referrals to private outpatient clinics probably underestimate substantially the present volume of such referrals. Given considerable variation among practices in referrals to private outpatient clinics, any system that aimed to provide general practitioners with a means of comparing their overall referral rates with an average rate would be of limited value unless the extent of referrals to all hospitals and clinics was known.

General practitioners in our study referred their patients to hospitals in a large number of different locations. They were not asked to record the reasons for their choice of hospital, but we can speculate that these included proximity to the patients’ home, patients’ convenience, practitioners’ knowledge about waiting times, knowledge of particular services or facilities, and working relationships between general practitioners and specialists. The number of different locations used will no doubt vary from district to district according to local circumstances. For example, referrals from Milton Keynes would have been influenced by the relative lack of specialist facilities in the first phase of our study, and they remain influenced by the availability and ease of transport by road and rail to London. Special local circumstances of one kind or another may be surprisingly common across the country. Even with no obvious local circumstances such as those in Milton Keynes, however, the number of different locations used by practices in other parts of the region was high.

It remains to be seen whether the current flexibility and freedom of choice in hospitals to which patients can be referred will be reduced in an era of service contracts among districts, general practitioners, and hospitals. If they are to match current patterns of referral district health authorities will either have to establish a wide range of service contracts or have to allocate sufficient contingency funds to meet a potentially large number of non-contractual referrals.

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