PHYSIOTHERAPY IN THE COMMUNITY

A DESCRIPTIVE STUDY OF FOURTEEN SCHEMES

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SUMMARY

Data about the patients being treated, the staff providing the service, and various organisational matters were collected during a two week period in the spring of 1976 from 14 schemes which provided physiotherapy outside hospitals. The schemes were selected to provide a wide geographical distribution and to include examples of schemes based in general practices, health centres, and hospitals, as well as other schemes. As there was no comprehensive national list available of all schemes of community physiotherapy, it was not possible to obtain a random or representative sample of schemes.

The Patients

The 38 physiotherapists working in the selected schemes collected information on 777 patients. The age of the patients varied from under six months to 100 years, 67 per cent were female and 33 per cent male. Only 92 patients (12 per cent) were in full time employment at the time of the study; the largest group 265 (34 per cent) were housewives. Three hundred and twenty eight patients (42 per cent) were visited by one or more official agencies during the study period; the home nurse and the health visitor were the most frequent visitors.

The patients' main diagnoses and conditions covered a wide range: those most frequently found were hemiplegia (106), osteoarthrosis (86), and cerebral palsy (70), these three forming just over a third of all the main diagnoses. Just over half of the patients had one or more additional diagnosis or condition. The main problem with which the patient presented was often more relevant to the physiotherapy than the actual diagnosis; these problems when listed came into eight categories with over two thirds of the patients presenting with four types of problem - pain, stiffness, abnormality of movement, and gait and walking problems. Over a third of the patients were seen within six weeks from the time of onset of the presenting problem.

Referral

Nearly two thirds of the patients were referred by general practitioners, the remainder by consultants. For a third of the patients (257) another person as well as the doctor either instigated (137) or was involved (120) in the referral process. Referral was made verbally for 222 patients and written down for 555. The majority of these written referrals (325) asked for 'physiotherapy' or 'assessment', the remainder made more specific reference to physiotherapy

techniques. General practitioners were available to give advice whenever necessary for 85 per cent (404) of the patients they referred, consultants were available whenever necessary for 66 per cent (201) of the patients they referred; there was difficulty in obtaining advice for 19 patients, 4 (1 per cent) referred by general practitioners and 15 (5 per cent) by consultants. Of the 30 physiotherapists who received referrals from general practitioners nearly two thirds (19) felt that the referrals were appropriate and over a third felt that adequate information was given on referral: of the 35 physiotherapists who received referrals from consultants over three quarters (29) felt that the referrals were appropriate and over two thirds (23) felt that adequate information was given on referral.

Physiotherapy received

The type of physiotherapy received by the patients was grouped into eight categories, the two most frequently used were assessment and advice, on 1,071 occasions during the study, and techniques of movement on 644 occasions. Electrical treatments were used infrequently (185 occasions). A mean physiotherapy time was calculated for each patient, this varied from less than ten minutes to over an hour; but the time for the majority of patients was 30 minutes or less.

Place of treatment and transport

The majority of the patients (422) were seen by the physiotherapist in their own home. Seven main reasons were given for the patient's place of treatment. For nearly a third (245) the fact that physiotherapy related to their environment decided their place of treatment. Other reasons were the nearest place that physiotherapy was available (186), patient medically unfit (140), long delay in getting hospital physiotherapy (75), the long distance from the hospital (62), difficult to get the patient out of the house (38), and other reasons not listed (31). Only 236 patients travelled to see the physiotherapist during the study, over three quarters of these (202) made their own way to the place of treatment, walking, by car, public transport or other means; thirty four patients were brought by ambulance or hospital car service. When asked how each patient would travel to the nearest hospital physiotherapy department the physiotherapists thought that 410 patients would need to go by ambulance (204) or hospital car service (206), that 308 would be able to get to the hospital by some means on their own and 59 would be unable to get to the hospital.

The physiotherapists

The majority of the 38 physiotherapists had considerable professional experience, ten years or more, and none had worked for less than four years since qualification. Twenty one of them had worked in a specific branch of physiotherapy for at least a year in a senior position and had, by our definition, specialised in this area. Over two thirds of the physiotherapists had a break in service since qualification; eight had a break before taking up their present post, this varied from two to fifteen years. Over two thirds of the physiotherapists were married women between the ages of 25 and 54, with children. Only one male physiotherapist took part in the study. The majority of the physiotherapists worked in the selected schemes for 12 hours a week or less; 11 worked full time. Over two thirds had been in their present post for less than three years, just under a third for a year or less. Three superintendents were employed and were professionally autonomous; over two thirds of the physiotherapists (26) were employed at senior II grade. In all 31 of the staff were either under direct supervision (17) or able to go to a superintendent for advice (14). Over two thirds of the physiotherapists (25) used their own cars to travel and visit patients, and received a mileage allowance from their employers. The main reason given by nearly half of the physiotherapists (17) for taking up their present post was that they felt that physiotherapy should be made available to some patients outside hospital and wished to develop community physiotherapy services; other main reasons were that the hours offered suited family commitments (10), and the ability to work near home (9). Thirty six of the physiotherapists felt there were problems associated with their schemes; these included problems of cooperation with others (14), not having enough time to spend with the patient (10), problems in obtaining equipment (5), and transport problems in getting patients into the health centre (4).

Definitions

There is some confusion about the use of certain terms. It is recommended the following terms should be defined as follows:

Domiciliary physiotherapy is the assessment and treatment by means of physiotherapy of patients in their own homes.

Physiotherapy in the community refers to all physiotherapy services outside hospital and therefore includes domiciliary physiotherapy.

A district physiotherapy service refers to the totality of physiotherapy services provided by the National Health Service within an administrative health service district.

Factors affecting choice of site for physiotherapy

Most physiotherapy can be given outside a hospital department so that major factors which decide the place of treatment are the relationship between the physiotherapy and the home environment; the patient's clinical condition; the distance from the hospital; and the type of accommodation and the facilities available.

Conclusions and recommendations

It is concluded that there is a need for community physiotherapy services. The services should be developed gradually; new services should be monitored and established services reviewed. The services should be the responsibility formally of the Area Health Authority discharged through the district management team and district physiotherapist. Physiotherapists who are already qualified need some additional training before working in the community; those qualifying after following the new syllabus (1975) should have at least two years experience before commencing work in the community. It is essential that physiotherapists should collaborate with doctors, nurses, occupational therapists, health visitors, social workers and others in their care of the patient or client and also with other professions and planners and non-professional field workers of various services. In order to achieve this physiotherapists (and, indeed, the others) must understand the roles and contributions of everyone concerned.

General practitioners should be able to refer patients directly to physiotherapists without first obtaining the opinion of a consultant. It is essential that the physiotherapist has the right to decline to undertake treatment of the patient if thought to be inappropriate, and to terminate treatment; and that the head of the department has the right to discuss the needs of the patient with the referring doctor. It is important for doctors to give adequate information to the physiotherapist on referral and for the physiotherapist to supply adequate feedback to the doctors on the patient's progress and the effect of physiotherapy.

Further research should be directed at specific questions; and particularly, those concerning the effectiveness of physiotherapeutic measures, diagnoses and conditions as indicators of the physiotherapy required; and the development of services.

Physiotherapists should be encouraged to initiate and conduct research as well as participate as equal partners in studies. There should be opportunities for them to be trained in research work. This could be encouraged by short courses on research appreciation; research fellowships; and the recognition of a few research centres to provide a consultancy service for physiotherapists wanting to begin research projects. Having been trained, physiotherapists should be given the time and facilities to carry out research.

INTRODUCTION

Physiotherapy is defined by the Chartered Society of Physiotherapy as the use of physical means to prevent injury, to treat both injury and disease and to assist the process of rehabilitation by developing and restoring the function of the body so that the patient may return to as active and independent life as possible. The Chartered Society of Physiotherapy is the largest organisation of physiotherapists in the country. The Society provides rules of professional conduct for its members, outlines the curriculum of study for students of physiotherapy and is also their examining body. Membership of the Society is awarded to successful students and this membership is a necessary condition for state registration by the Council for Professions Supplementary to Medicine. Present subscribing membership of the Society is now over 17,000, this includes practising and non-practising members at home and overseas.

Physiotherapists are employed to work in many situations, including hospitals, health centres, general practice, schools, special schools, institutions, industry and sports clinics, and they also undertake private practice on an individual basis. The McMillan Report on the remedial professions (Department of Health and Social Security, 1973) stated that about three quarters of practising physiotherapists were working in the National Health Service; later figures are not available but though there may have been some changes it is reasonable to assume that the majority of physiotherapists are still employed in the National Health Service. The D.H.S.S. (formerly the Ministry of Health) publish the numbers of physiotherapists employed in the National Health Service in whole time equivalents. In 1975 a total of 5,042 whole time equivalents were employed in the health service in England - 4,462 in hospital and 580 in the community (D.H.S.S., 1977). The total number of physiotherapists employed is not published.

In 1949 the Ministry of Health, the main employer of physiotherapists, stated "The Maximum benefit of modern physiotherapy is to be obtained under specialist supervision in fully staffed and equipped departments. The shortage of adequately trained personnel makes it imperative to concentrate them in the hospital departments where their services can be employed to most advantage" (RHB(49)114; HMC(49)93; BG(49)98). There is still a shortage of trained physiotherapists and the statement of 1949 has, up to now, influenced policy decisions, although it is understood that a revised statement will be issued soon.

Expansion of physiotherapy services in the community

There has been a change in emphasis in physiotherapy practice in recent years. A course of treatment in a hospital department is no longer considered to be the only appropriate physiotherapy. A number of physiotherapists (Hobson, 1972; Compton, 1973; Patrick, 1973; MacMillan, 1974; Jenkins, 1975) have commented on the need to develop physiotherapy services outside hospital, and this development was in line with the increasing emphasis on the care of the patient in the community. A working party set up by the Chartered Society of Physiotherapy (Patrick, 1974) reviewed these trends and supported in principle the development of community physiotherapy services.

Other reports have also drawn attention to the part physiotherapy should play in the care of the patient outside hospital. The Harvard Davis Report on the organisation of general practice (Central Health Services Council, 1971) stated that "There is a widespread desire for physiotherapy either in the home or close to the homes of the elderly and disabled". The Tunbridge Report on rehabilitation (Central Health Services Council, 1972), while stating that physiotherapy should only be provided outside the district general hospital in exceptional circumstances, did support the visiting of a patient's home before his discharge from hospital and immediately afterwards, and the provision of physiotherapy outside district general hospitals in rural areas with scattered populations and poor communications. The MacMillan Report (D.H.S.S., 1973) gave stronger support for the expansion of services into the community. It stated "We welcome the involvement in the community and see a greater scope there for physiotherapists primarily in an advisory and preventive role" and "We see scope for therapists acting as members of primary care teams mainly to make skilled assessment, to give guidance and advice to disabled people living at home and to teach their relatives simple procedures". The Halsbury Report on pay and related conditions of service (D.H.S.S., 1975) also mentioned the treatment of patients by physiotherapists both in the hospital and in the community. In 1973 health visitors carried a resolution at their Annual General Meeting (Hospital Advisory Service, 1973) that "There should be a community based physiotherapy service to cover the unmet needs of the handicapped and post illness patients whatever their age".

A limited number of physiotherapy services for children in schools and nursery groups have been established for some years in England (Patrick, 1974), and since 1971 a small number of physiotherapists have been attached to general practices, for example in London (Pennefather and Tanner, 1971), in Sheffield (Waters et al., 1974), in Newcastle on Tyne (Freedman et al., 1975) and in

Bournemouth (Fisher, 1975). In these services physiotherapists saw patients referred by the practice doctors both at the general practice premises and in their own homes. In 1973 the first comprehensive community physiotherapy service was started in Southampton (Compton, 1973); here patients of all ages were seen by the physiotherapist in many different places outside the hospital. In Scotland physiotherapists were employed in the community in all regions (Scottish Board of Chartered Society of Physiotherapy, 1975) and treated patients of a wide age range in their own homes, in schools, special schools, health centres and other places.

There have been similar developments overseas. For example, in France in Bayonne (Thielley, 1973), and Grenoble and Paris (Elliott, 1974), patients are being cared for in their own homes and physiotherapy is seen as a necessary part of the service for some of them. Similarly reports from Australia (Burnell, 1974), Canada (Pritchard, 1974; Davidson, 1975; Bauer, 1975), South Africa (Runnals, 1975) and in the United States of America (Simpson, 1975), have described the development of physiotherapy services where patients are visited outside the hospital.

THE PRESENT STUDY

Against this background of development and with the expansion of general practice to include other personnel such as home nurses and health visitors in the primary care team, it was thought that the case for attaching members of the paramedical professions, dietitians, occupational therapists, physiotherapists and chiropodists to the general practice team should be examined. Previous studies in the Health Services Research Unit have looked at the scope for the attachment of dietitians (Dawes, 1974) and the role of occupational therapy outside hospitals (Goodworth, 1974). The study reported here is concerned with physiotherapists. The first approach considered was to attach physiotherapists to selected practices and to monitor their work but this was not developed. The present project investigated physiotherapy outside hospital by concentrating on a number of different schemes already in operation. By 1975 there was an increasing number of schemes of physiotherapy outside hospital and since little was known about the work in these schemes it was decided that the first stage should be a descriptive study of current practice.

The Department of Health and Social Security funded the project initially for one year and a research physiotherapist was appointed in July 1975. The time period was later extended by a further year. An advisory committee of 15 members was set up which included representatives from the Chartered Society

of Physiotherapy and the British Association of Occupational Therapists, general practitioners, and consultants both in rheumatology and rehabilitation and in geriatric medicine, an observer from the Department of Health and Social Security and members of the Health Services Research Unit.

OBJECTIVES

A number of important issues related to the possible development of physiotherapy services outside hospitals were discussed by the research workers and the Advisory Committee. It was clearly recognised that a study, such as the one proposed could not take up all of the issues; nevertheless it is useful to refer to at least some of them, so that the study reported here can be seen in perspective.

First and foremost is the question - How effective is physiotherapy in achieving its own objectives? Then there are questions to be answered about which patients should receive treatment and where this should be given - in the home or health centre or group practice or other premises. Are there substantial numbers of patients who could benefit from physiotherapy, who do not now receive such a service? Are there some physiotherapy measures that are unsuitable for use outside the hospital and are there some which are inappropriately given in hospital? How can those which are suitable be given most appropriately outside the hospital? Can the nature, frequency and duration of the treatment schedules be defined in a sufficiently detailed way to enable a service to be planned? Who should manage the service? How can the available manpower be used effectively and efficiently? If services are to be expanded, where is the extra manpower to come from? or is a re-allocation of resources more appropriate? What should be the relationships between hospital physiotherapy departments and physiotherapists working outside the hospital? How can the latter be kept up to date and avoid becoming isolated? What should be the relationships between the physiotherapists and the referring doctors and between the physiotherapist and the many other professional workers in the community?

The study has looked at some aspects of a number of the above questions; but the desire to complete a broad-based descriptive study meant that only certain aspects of community physiotherapy could be investigated within the two year time scale of the project. It was not possible to undertake the research necessary to evaluate the effectiveness of treatment nor to survey a representative sample of the population to estimate unmet 'need' for physiotherapy. In the event the following objectives were agreed with the Advisory Committee:

1. To define those patients and their conditions that were being seen in:

   (a) their own homes or other places of permanent residence;
   (b) general practice premises (other than health centres); and in
   (c) health centres.

   Those patients receiving treatment from private practitioners of physiotherapy were excluded from the study.

2. To find from the selected schemes the nature, duration and frequency of the physiotherapy measures the patients were receiving.

3. To examine the relationship of the physiotherapist to others in the community concerned with the immediate care of the patient.

4. To describe the referral, review and discharge procedures of the patient, the accessibility and source of medical advice, and the physiotherapists' opinions about the adequacy of these procedures.

5. To examine the physiotherapist's relationship to others working in the hospital and in the social services departments.

Then, if the evidence favoured the development of services outside hospital.

6. To consider the future organisation of such services and to estimate the resources required.

7. To outline tentative schemes of physiotherapy outside hospital, indicating priorities.

8. To make recommendations about future training for such a service.

METHODS

At present there is no detailed information available nationally on the work of physiotherapists practising outside the hospitals. It was therefore necessary to select a number of schemes providing physiotherapy in the community, and to seek the cooperation of their staff in recording information. As this was an exploratory study it was necessary to rely on this cooperation and to minimise the extra work involved by limiting the amount of data to be collected.

Selection of schemes for the study

Visits were made to many areas where we had been informed, either directly or indirectly, that physiotherapy was being given outside hospital physiotherapy departments. In all 26 different schemes were visited between July and September 1975. There was considerable heterogeneity in all aspects of these schemes but there did appear to be five concepts for the development of such services.

1. Physiotherapists attached to a general practice accepting referrals from the doctors within the practice, seeing patients at the practice premises (other than in health centres, see 5 below) and visiting them in their own homes.

2. Physiotherapists working within already existing services based outside hospital and run either by the health authorities or by social services departments.

3. Physiotherapists working from a hospital base visiting patients outside hospital.

4. Physiotherapists employed by voluntary organisations to work in mobile physiotherapy services visiting patients in their own homes.

5. Physiotherapists working in health centres and having accommodation there, where patients referred by the doctors in the centre and others from outside are seen, and are visited in their homes as necessary.

Physiotherapists solely engaged in private practice were not included in the study.

No attempt could be made to obtain a representative sample of physiotherapy services at present being offered outside hospital physiotherapy departments, because there was no comprehensive list of such services and the limited scope of the present study did not allow for the collection of such general information.

At the first meeting of the Advisory Committee in September 1975, 15 schemes were selected for the study from those visited; at least one scheme from each of the five basic groups was included. The selected schemes all fulfilled two criteria:

(a) they had been in operation for at least a year, and

(b) the physiotherapists concerned had considerable relevant experience.

The choice of schemes aimed to demonstrate variety and experience, not only in regard to the organisational bases of the schemes but also in their geographical spread throughout the country. The selected schemes were located in Berkshire, Cambridgeshire, Derbyshire, Dorset, Gloucestershire, Hampshire, Kent, Lancashire, London, Middlesex, Oxfordshire and Sussex in England and South Glamorgan in Wales.

One of the 15 schemes was unable to collect any data for us during the recording period and so was reluctantly withdrawn from the study. The remaining 14 schemes, upon which this study was based, were originally grouped according to the premises or organisation from which they operated. However, it was found that as the study progressed, it was necessary to consider the paediatric schemes separately. Therefore, the schemes have been grouped under six headings as follows: attached to a general practice, community-based schemes, paediatric schemes, hospital-based services, mobile physiotherapy services, and schemes in health centres. Some details of each of the 14 schemes are summarised and presented below. Fuller descriptions are given in appendix 1.

SUMMARY OF SELECTED SCHEMES

Schemes	Base from which service developed	Physio-therapy staff	Total hours worked per week	Employer	Doctors who referred patients	Age range of patients	Intentional age emphasis	Place where patients seen	Area covered by the service	Type of area covered	Transport used by physio-therapist
1	General practice premises	1 Part-time	10	A.H.A.	5 General practitioners	5 - 84 years	None	Own home G.P. premises	10 miles from practice	Rural	Own car and mileage
2	General practice premises	1 Part-time	4	General practice (K.F. Grant)	4 General practitioners	30 - 84 years	None	Own home G.P. premises	Approx. 7 miles from G.Practice	Urban	Own car no mileage
3	Community health department	14 Part-time	153	A.H.A.	Consultants G.Ps. Community Health M.Os.	5 - 84 years	None	Own home Nursery group Schools	220 square miles	Rural and Urban	Own car and mileage Bus
4	Child assessment centre	1 Part-time	16	A.H.A.	Paedia-tricians	6 months to 15 years	Children	Own home Nursery group	Up to 30 miles from centre	Rural and Urban	Own car and mileage
5	Specialised dept. of children's hospital	3 Full-time	108	A.H.A.	Paediatrician Paediatric Neurologists	6 months to 16 years	Children	Own home Nursery group Schools, etc.	Covers district & region	Urban and Rural	Own car & mileage and Transport supplied
6	District hospital	2 Part-time	24	A.H.A.	Consultants	6 months to 84 years	None	Own home	3 miles from hospital	Urban	Own car and mileage
7	District hospital	1 Full-time	36	A.H.A.	General practitioner Consultants	6 months to over 85 years	None	Own home Residential home	7 miles from hospital	Rural	Own car and mileage
8	District hospital	1 Part-time	9	A.H.A.	General practitioners Consultants	16 years to over 85 years	Elderly	Own home	20 miles from hospital	Rural and Urban	Own car and mileage
9	Mobile physio-therapy service	4 Full-time	144	Voluntary Committee	General practitioners Consultants	6 months to over 85 years	None	Own home	Area 40 miles x 25 miles	Rural	Transport supplied by employer
10	Mobile physio-therapy service	1 Full-time	36	Voluntary Committee	General practitioners	30 years to over 85 years	Elderly	Own home	11 miles from base	Rural	Transport supplied by employer
11	Mobile physio-therapy service	1 Full-time	36	Voluntary Committee	General practitioners	50 - 84 years	None	Own home	13 miles from base	Rural	Transport supplied by employer
12	Health centre	1 Full-time 5 Part-time	78	A.H.A.	General practitioners Consultants	5 - 84 years	None	Health centre	-	Urban	Own car and mileage
13	Health centre	1 Part-time	12	A.H.A.	General practitioners Consultants	5 - 84 years	None	Health centre	5 miles from H.Centre	Urban	Own car and mileage
14	Health centre	1 Part-time	9	A.H.A.	General practitioners Consultants	5 - 84 years	None	Health centre	5 miles from H.Centre	Rural	Own car and mileage

Initial approaches

The physiotherapists in the selected schemes were approached and asked if they were willing to take part in the study. The amount of work that would be involved in data collection was carefully explained to them. All those approached willingly agreed to take part. Any consultants and general practitioners who were involved in the schemes were contacted and the project was outlined to them. The employing authority, the district administrator or voluntary committee were informed either by us, or the physiotherapist concerned, of the nature of the project and the willingness of the people concerned to cooperate with us. No additional cost on the part of the employing authority was involved, apart from the time spent by the physiotherapist in the collection of data, and even this was sometimes done in the physiotherapist's own time.

Collection of data

The physiotherapists working in the selected schemes were asked to record details of patients seen during two consecutive weeks between February and April 1976. The two weeks were not the same for each scheme as this would have presented administrative problems, i.e. visiting each scheme prior to the recording period. However, as no two week period could claim to be typical of the overall pattern of work it was decided that this method was acceptable.

The physiotherapists collected the information about the patients. It was explained that we would treat all the information as strictly confidential and no patient would be identifiable in any published report. However if any concern was expressed it was suggested that the physiotherapist should use a number on the form instead of the patient's name. The patients' diagnoses and conditions were those given by the referring doctor to the physiotherapist. Other information was obtained either by asking the patients or, with their permission, from their notes.

The physiotherapists participating in the study were also asked to give information about themselves, their careers and professional experience, details of different aspects of their own schemes and their opinions about these aspects.

Questionnaires - details of patients

General information about the diagnoses for which patients were referred for physiotherapy, the main reasons for the patient's place of treatment and the type of physiotherapy the patients were receiving was obtained in initial

visits to the schemes. This information formed the basis from which forms were developed. The patient form was piloted in a scheme not included among those who took part in the main study. The forms were designed to be small, 10" x 8", to make them easier to carry when travelling to see patients.

The first questionnaire (appendix 2) was designed to obtain details about the patient, and to be completed by the physiotherapist. The data to be collected included:

1. The main diagnosis for which the patient was referred for treatment.
2. Additional diagnoses and conditions.
3. Details of the source and type of referral.
4. The patient's presenting problem and level of mobility when referred.
5. The type of physiotherapy measures the patient received.
6. The place of treatment and the reasons for the place of treatment.
7. Other agencies currently visiting the patient.
8. The patient's age, sex, marital status and the composition of the patient's household.

The research physiotherapist explained in detail about the purpose of the form, the meaning of each of the questions, and the way in which information was to be obtained. It was agreed that we wanted the information about the patient which the physiotherapist would normally have when treating that patient. If information was not readily available this could be stated as 'not known'. None of this information was checked against other sources. The idea of checking with the referring doctors on the main diagnosis given to the physiotherapist on referral, was considered, but it was rejected on the grounds that considerable extra work would be involved for the physiotherapist, there would be problems in obtaining the patients' permission, and there was the possibility of disturbing the relationship between the doctor and the physiotherapist.

Each physiotherapist who was going to collect data for us was again visited after the final form of the questionnaire had been agreed. Each question on the form was explained in detail to make sure that the meaning and the information required was clear. Each scheme was visited just prior to the two week recording period, it was thought this would make for more efficient recording. Agreement was also obtained from the physiotherapists to complete a second questionnaire about themselves which would be sent to them by post. The confidentiality with which these forms would be treated was stressed.

Early in the first week of the two week recording period each scheme was contacted by telephone to find if there were any problems with data collection.

It was also made clear that if further problems occurred the physiotherapist could contact the Unit at any time at our expense.

As these data could not provide details about the total length of time over which the patients were being seen by the physiotherapist for a given condition, or the frequency of physiotherapy visits, each scheme was asked to provide retrospective data for a six month period prior to the two week recording period. Since the routine method of recording details and attendances of patients varied greatly between the schemes, it was only possible to obtain a minimum of information about the patients during a preceding six month period; about their diagncses, and the number of visits from the date of the first visit to the date of discharge.

Allocation of time by physiotherapists

To find out the proportion of time spent by the physiotherapists on different activities each physiotherapist was asked to keep a record of the time spent on the different activities during their working hours. As we were already asking the physiotherapists to undertake a considerable amount of paper work it was agreed to limit this part of the recording to one week only. It was thought that this would give an estimate of the relative proportions of time spent on each activity by each physiotherapist. It was stressed that this need not be timed with a stop watch, and was not necessarily accurate to the minute. The form supplied asked for the time each activity started and finished and the type of activity undertaken (appendix 3).

Details of physiotherapists

The questionnaire relating to the physiotherapists was less structured than the first questionnaire, and it asked for:

1. Details of their previous experience and present post and the satisfactions and problems connected with it.

2. The extent and nature of their involvement with others working in the community.

3. Their views about their own scheme and possible improvements.

4. The source and adequacy of referrals and the physiotherapists' opinion about them.

It was thought that a more sensitive way of obtaining information about the physiotherapists' satisfactions with their present post and their opinions about

the source and adequacy of referrals might be obtained by interview. This was not pursued as it was decided that at this stage adequate information could be obtained with carefully designed questions.

Each physiotherapist who had participated in the study by collecting information for us was sent the form by post. It was stressed in the covering letter that the information was absolutely confidential, no name was put on the form but the envelopes in which the forms were to be returned were numbered so that reminders could be sent if necessary. Guidelines were sent with each questionnaire which attempted to clarify any questions that might appear ambiguous. An example was given in the form itself of the type of information required about the physiotherapist's professional career since qualification. The questionnaire is reproduced in appendix 4.

Case models of appropriateness of physiotherapy measures

An all important attribute of any health or remedial service is that the treatments given should be effective. However at present there is little scientific evidence of the efficacy or benefit of different physiotherapy treatments for given conditions. It was decided that the present study could not measure effectiveness, although the importance of doing this cannot be over-stressed. As an interim measure the Association of Chartered Superintendent Physiotherapists, the body representing experienced and knowledgeable opinion within the profession, was asked to cooperate in an effort to decide what treatments could be considered as appropriate for certain conditions. It was hoped to estimate the degree of agreement about the appropriateness of different physiotherapy measures for given conditions, and to relate this to those given by the physiotherapists in the selected schemes. The method used to ask for opinions from the superintendents was one that has been used in medicine (for example, Hampton et al., 1975, in their survey of general practitioners' attitudes to management of patients with heart attacks) where case histories of hypothetical patients are presented and the respondents asked to comment on the management or treatment of these cases.

For this study six model case histories were constructed from the data collected (appendix 5). The details did not refer to specific cases but all were representative of the type of problem presented to the physiotherapists in the selected schemes; and the conditions were those frequently referred by the doctors to the physiotherapists. The information about the six case histories was presented under the following headings:

1. Patient
2. Medical history
3. Present problem

This method of presentation was thought to be clear and concise enough to be acceptable to the superintendents but to involve more consideration of the case history than just giving the patient's diagnosis.

Before sending out the forms, the proposal was explained to the superintendents at a meeting of the Association in October 1976, and their help and cooperation in completing the forms was sought and obtained.

Six case histories and a list of physiotherapy treatments, identical to those included on the forms used by the physiotherapists to record treatments given during the two week recording period, were sent to a one in four systematic sample of members of the Association. One hundred and twenty four superintendents were sent the model case histories and a covering letter explaining why we were asking for their help. The superintendents were asked to indicate on the treatment list those treatments that might appropriately be given for the patient with the stated condition. They were also asked to indicate the preferred place of treatment for the patient if they felt able to do so.

DATA PROCESSING

Questionnaire with patient details

Each scheme returned the forms to us in the envelope provided on the completion of the two weeks' recording. Each form was checked on arrival and missing data or ambiguities were noted and the physiotherapist concerned was contacted by post or telephone and the forms were correctly completed. All forms were returned by April 30th, no reminders were necessary.

A coding frame was constructed so that the data on the forms could be analysed with the help of the computer using the Statistical Package for the Social Sciences Programme (SPSS programme).

Activity recording forms

These forms were returned with the patient forms. An analysis was made for each scheme of the proportions of the total working time that each physiotherapist spent on different activities.

Retrospective data

These details were either collected from the schemes when they were visited or forwarded to us. We had received all the information from 13 schemes by the end of May; one scheme was unable to provide data on all patients seen during a six month period because of their system of medical records. An attempt was made to find from these data the length of time over which the patient saw the physiotherapist for a given diagnosis and the number of times they were seen during this period. However, in any one scheme the number of patients who completed a course of treatment during a six month period was not large and we were not able to distinguish from the data which patients were being seen on a basis of continuing supervision with occasional visits from the physiotherapist, and those who had breaks for some reason during a course of treatment. Most of the physiotherapists in the selected schemes had no clerical help and information in their registers was kept to a minimum. In most schemes full details of the patients were kept on separate cards so that the diagnosis given in the register was often not detailed and we were not able to relate it to the diagnoses and conditions given on the patient forms. We reluctantly concluded that these retrospective data could not provide reliable and adequate information about the duration of a course of physiotherapy for given conditions. It was not used in the analysis, and is not referred to again in this report.

Questionnaire with physiotherapist details

The forms sent to the physiotherapists who had recorded information for us were all returned to us by the end of May. These were checked on arrival and missing data and ambiguities sorted out by contacting the physiotherapist concerned. A coding frame was constructed and an initial analysis obtained with the help of the computer (SPSS programme). Further analyses were done by hand as there was only a total of 38 forms.

Study of the case models

The forms were checked on arrival, the number on the envelope being noted so that reminders could be sent as necessary. The 23 treatments on the form were reduced to nine groups for analysis, and the two places of treatment given were expanded to include two more categories for the preferred place of treatment, viz initially seen in the hospital but later being visited at home and initially being seen at home but later visiting the hospital as necessary. Additional comments about the patient's management were noted. Analyses of these data was done by hand.

THE PATIENTS

The physiotherapists in the 14 schemes returned information on a total of 777 patients, one form being completed for each patient seen during the two week recording period. The number of patients seen by each scheme obviously varied in accordance with:

1. The number of physiotherapists working in the scheme.
2. The number of physiotherapy hours available, i.e. the number of hours per week worked by each physiotherapist.
3. Whether the patients were visited or came to see the physiotherapist.
4. The proportion of patients seen for the first time during the recording period (initial visits usually take more time).
5. The nature of the physiotherapy measures given.

The forms received from each scheme represented the total number of patients seen in that scheme during the two week recording period; a check was made to ensure that only one form was completed for each patient seen. Table 1 sets out the number of forms received from each scheme; because of the factors mentioned above, the number of forms returned by each scheme varied widely, from 15 forms returned by one paediatric scheme to 142 returned by the community scheme.

Age

The age of the 777 patients seen during the study period covered a wide range from babies of under six months to patients of 85 years and over (figure 1 and table 2). Fewer children than adults were seen, only 17 per cent (134) were under 16 years of age. The adult patients were fairly equally divided between those of 64 years or less and those of 65 years and over. Forty three per cent (331) were between the ages of 16 and 64, and 40 per cent (312) of 65 years or over.

There was considerable variation in the age of the patients seen in the different types of scheme and also variation between schemes operating from the same type of base. The two schemes in general practice were similar in their emphasis on adult patients, only one patient under 16 years of age being seen in either scheme. However among the adult patients the emphases differed;

two thirds of the patients in one scheme being between the ages of 16 and 64, while in the other, two thirds of the patients were aged 65 or over. Obviously the two paediatric schemes only saw children; both included children under five years of age, and those between five and fifteen years of age. In two of the hospital-based schemes patients of a similar age range were seen, with over two thirds of the patients over 65 years of age. In two of the mobile services the majority of the patients were also of 65 years or over. The health centre schemes saw patients of a similar age range, no children under five or patients of 85 years or over were seen in any of the three schemes: though a few children between the ages of five and 15 were seen in each scheme, over two thirds of the patients were between the ages of 16 and 64. Three schemes which each saw a large number of patients (70 or more) showed a similar wide age range; the community scheme, one hospital based scheme and one mobile service, all saw patients in each of the eight given age groups, from under 5 years, to 85 years and over with no emphasis on any particular age group.

There did appear to be an age predominance in most schemes; the two paediatric schemes who only saw children, the health centre schemes and one attached to general practice where the majority of patients were between 16 and 64 years of age and five further schemes, two hospital based services, two mobile services and one attached to general practice, where the emphasis was on elderly patients, the majority in each scheme being of 65 years or over.

Sex

About two thirds of all the patients seen during the study were female but the proportion of male and female patients varied in the different age groups (table 2). In those patients under 16 the proportions were approximately equal but in all other age groups at least 60 per cent of the patients were women. The high proportion of women among the elderly reflects demographic data, but this was not so for those between the ages of 16 and 64.

There were approximately equal numbers of male and female patients in both schemes attached to general practice and in the paediatric schemes, but in the four other types of scheme the majority of patients were female. The high proportion of female patients in the health centre schemes is partly explained by the presence in this group of 57 women who attended for ante and post natal classes; but even if this group is excluded almost two thirds of the patients seen in these schemes were female.

Marital status

The majority of the patients (416) in the study were married, just over a quarter (216) were single and the remainder were either widowed (133) or came into the other category of divorced or separated (12). When the patients' marital statis is related to their age (table 3) three quarters of the patients between 16 and 64 were married, but as might be expected the proportion of patients who were widowed increased in those of 65 years and over; just over a third (108) of these older patients coming into this category. The proportion of men and women in the four marital categories reflected the differing proportions of men and women in the study. Table 4 shows the marital status of the patients in each scheme, but as can be seen marital status relates more to age and no particular pattern in relation to the schemes emerges.

Occupational status

An attempt was made to find the patients' occupational status at the time of the study. Seven categories were given on the form; employed full time, employed part time, unemployed, full time education, retired, housewife, and an 'other' category. When the patient's occupational status is related to their age and sex (table 5), the children under five mostly came into the 'other' category, being either at home or attending nursery or play groups and nearly all those between five and fifteen were in full time education. Over half of the men between the ages of 16 and 64 were in employment at the time of the study; nearly a third of the women were also employed but the majority of women in this age group were stated to be housewives. The men of 65 years and over, as might be expected were nearly all retired, and of the women of this age group over half were stated to be housewives and about one third retired.

Table 6 shows the occupational status of the patients in each of the 14 schemes. There does not appear to be a significant pattern in the type of scheme or the individual schemes; occupational status appeared to relate more to the age of the patients in the different schemes.

Household

As part of physiotherapy at home often includes advice to those caring for the patient, we wanted to find the number of patients who were living with others and those who lived alone. However, support for the patient at home by others living in the house may depend on many factors; their age, their physical health, whether they are in employment, their other commitments in the home

such as children or elderly people, their attitudes to sickness generally and to the patient's disabilities in particular, and the level of their motivation for actually keeping the patient at home and caring for them.

Our data did not enable us to consider most of these important aspects, we only aimed to find the number of others in the household and their age group. The household composition of 75 patients was not known; these patients were nearly all children (65) seen in either the paediatric or the community scheme, in nursery or play groups. For a further 95 patients the physiotherapists considered that the question of the household composition was not applicable as the patient was fully independent. Of the remainder (607) over half of the patients (320) lived in a household with more than one person, and just less than a third (194) lived with only one other person; of these three quarters (151) lived with one other person aged 65 or over. Ninety-three patients lived alone (table 7), almost three quarters of these were elderly.

Level of mobility when referred

The physiotherapists in the study were asked to assess the patients' level of mobility when referred for treatment. Five categories were given. The mobility of the children under five years of age was excluded from this classification. The five categories given were bedfast, chairbound, housebound, of limited mobility and independently mobile. The first and last categories were self explanatory but the other three needed clearer definition and the following guidelines were given to the physiotherapists.

Chairbound - is able to get out of bed with help, or be got out of bed, spends the day in a chair or wheelchair but is unable to move about without considerable help.

Housebound - is able to get about in the house with the help of sticks or crutches or in a self-propelled wheelchair or with help from another person, but unable to get out of the house unaided.

Limited mobility - is able to get about both inside and outside the house but has some mobility problems, usually uses some form of walking aid or requires some help from another person.

These five categories can be viewed either from the point of view of the physiotherapy required or the location in which it is given. From the view

point of the physiotherapy required those who were bedfast and chairbound presented similar problems; therapeutic sessions usually included help and advice to those caring for the patient and this may have formed the major part of the physiotherapist's task. Those who were otherwise housebound or of limited mobility presented a different type of problem, and those who were independently mobile formed a third group. However if the patients' level of mobility is related to the place where they receive physiotherapy it is obvious that it would be increasingly difficult to get those who were housebound, chairbound, or bedfast to hospital; those who were of limited mobility or independently mobile would presumably find that travel to the hospital did not present such a problem.

Just over half of all the patients, 59 per cent, were independently mobile or of limited mobility when referred for physiotherapy, and the remaining 41 per cent were housebound, chairbound or bedfast. The details are set out in table 8.

In only one type of scheme, the mobile services,were patients of similar levels of mobility referred to each of the schemes; there was a fairly equal distribution between the more mobile, 53 per cent, and the housebound, chairbound and bedfast, 47 per cent. The community scheme saw patients of a wide range of mobility with a slightly different emphasis, 43 per cent of their patients being more mobile whereas 57 per cent were either housebound, chairbound or bedfast.

There were differences in the level of mobility of the patients referred in all the other types of scheme, sometimes schemes of different types resembling each other more closely than those within the same type. The two schemes in general practice saw patients of very different levels of mobility; in one scheme 33 per cent of the patients were either mobile or of limited mobility, while 93 per cent of the patients in the second scheme came into this category. Of the 41 children who were assessed in the paediatric schemes, 44 per cent came into the categories of bedfast and chairbound, and 56 per cent were either mobile or of limited mobility. Two of the hospital based services saw patients of similar levels of mobility 61 per cent being mobile or of limited mobility, and 39 per cent coming into the categories of chairbound and housebound, but in the third hospital based scheme the pattern was again different; 89 per cent of the patients coming into the more immobile group, 30 of these (41 per cent) were bedfast on referral and only eight patients (11 per cent) were either mobile or of limited mobility on referral.

Agencies visiting the patient

The physiotherapists were asked to indicate which official agencies visited the patient during the two week recording period. Official agencies in this case were defined as those employed by the health or social services; members of voluntary organisations, except the meals-on-wheels service, were not included. It was not always possible for the physiotherapists to find if the patient was being visited during the two week recording period. The details concerning 134 patients (17 per cent) came into the category of 'not known'; these patients came from 11 of the schemes. In only three schemes was this information available for all patients, and these were schemes where less than 30 patients were seen during the study period. The paediatric schemes had the highest proportion of their patients in the 'not known' category; for 64 per cent of the children seen in these two schemes this information was not available, this may have been because most were seen in nursery groups and play groups.

A total of 328 patients were recorded as having received a visit from one or more agencies during the study period and 315 as not having received any official visitors. As might be expected more elderly patients received visits from official agencies (table 9); 54 per cent (170) of those of 65 years and over, 38 per cent (127) of those between the ages of 16 and 64, and 23 per cent of the children (31) received visits (but as already mentioned data for almost half of the children were not available). There was a tendency for more agencies to be involved with the elderly patients.

The number of agencies visiting patients in each scheme is given in table 10 but there does not appear to be any marked pattern in visiting related to any particular scheme or type of scheme. Some patients in each scheme received visits from one or more official agencies during the study.

The actual agencies who visited are given in table 11. The home nurse and health visitor were most frequently involved with the patients in the study. Only 19 patients received visits from occupational therapists; this low figure may be partly explained by the fact that physiotherapists and occupational therapists are often involved at different stages in the patient's illness, physiotherapy at an earlier more acute stage and occupational therapy at a later stage when functional training and aids are needed.

Patients' presenting problems

Each patient referred for physiotherapy presents with a specific problem and it is towards this problem that physiotherapy is directed. The patient's

diagnosis is important and treatment must be given with full knowledge of the patient's condition,bbut patients with the same diagnosis may present with very different problems, and any one patient with a given diagnosis may have different problems at various stages of his illness.

The physiotherapists were asked to state each patient's presenting problem, as they perceived it. These problems were subsequently grouped into eight categories; in only 45 cases, six per cent of the total, was no clear presenting problem given by the physiotherapists, here either a reiteration of the patient's diagnosis or the doctor's note on referral was given on the form.

The main presenting problems as perceived by the physiotherapists were classified as follows:

1. Pain
   In these cases only pain was mentioned as the patient's main problem.

2. Stiffness
   This implied joint stiffness usually localised to one or two joints, and not causing general immobility. Pain was often mentioned as a co-existing problem.

3. Abnormality of movement
   This referred specifically to movement problems associated with spasticity, flaccidity, ataxia and athetosis.

4. Problems of gait and walking
   This referred to gait problems (not related to spasticity, flaccidity, ataxia or athetosis) and not severe enough to cause general immobility.

5. Generalised immobility
   This implied a general inability to get about and cope with the activities of daily living, no more specific problem being mentioned, and not classified in groups 3 or 4 above.

6. Respiratory problems
   This included all problems connected with respiration, poor ventilation, excessive bronchial secretions, etc.

7. Developmental retardation
   The main problems here were those related to slow development and late milestones.

8. Contractures
   This implied some marked soft tissue contracture with resultant deformity.

9. Other problems not clearly stated
   For some patients no presenting problem was given because it was difficult to identify one main problem, for example some patients with a diagnosis of hemiplegia or cerebral palsy had multiple problems, and those patients attending for ante and post natal classes who were not considered for the purposes of this study to have a presenting problem.

Excluding these 57 women who attended for obstetric physiotherapy over 60 per cent of the remaining patients presented with problems in the four categories, pain, stiffness, abnormality of movement and gait and walking problems. Full details are given in table 12 and discussed in relation to the patients' diagnoses and conditions on page 23. Table 13 presents the findings in relation to each scheme and type of scheme. The presenting problems of the majority of children in the two paediatric schemes were either problems of movement or of developmental retardation. In most of the other schemes patients presented with a variety of problems and no particular pattern emerged in relation to the type of scheme.

Main diagnoses and conditions

A main diagnosis or condition was stated for each of the 777 patients in the study. The diagnoses of 624 patients, 80 per cent, were those named on the form. The diagnoses of the remaining 153 patients covered a wide range 100 different diagnoses and conditions were given and these are listed in appendix 6. Some diagnoses and conditions were found more frequently than others; the three most frequently given diagnoses of hemiplegia (106), osteoarthrosis (86) or cerebral palsy (70) together formed just over one third of the total (table 14).

There were marked differences in the diagnoses of the patients seen, between schemes within the same type and some similarities between schemes of different types. Only the two paediatric schemes saw patients with similar conditions, both seeing patients with a limited range of conditions, almost entirely made up of cerebral palsy, other diseases of the nervous system, and congenital abnormalities. Five schemes, the community scheme, one hospital based scheme, one mobile service and two health centre schemes saw patients

with many different diagnoses including musculoskeletal conditions, and diseases of the nervous system, circulatory and respiratory conditions, fractures, recent injuries and other orthopaedic conditions. In two schemes one in general practice and one mobile service, the majority of patients had musculoskeletal conditions, and in one health centre scheme, if the 37 women attending for ante natal classes were excluded, over two thirds of the remaining patients also had musculoskeletal conditions. The diagnoses and conditions of the patients in the remaining two shcmes did not show any particular emphasis each seeing some patients with musculoskeletal conditions, diseases of the nervous system, respiratory conditions and recent injuries (table 15).

Diagnosis by age

The patients' main diagnoses and conditions are related to the different age groups in table 16. As already mentioned the most frequently occurring conditions in the children under 16 were cerebral palsy, developmental retardation and congenital abnormalities. Between the ages of 16 and 64 there appeared to be two groups, the majority of those between the ages of 16 and 29 being women in the obstetric group or patients with recent injuries; and between the ages of 30 and 64 low back pain, multiple sclerosis, and again, recent injuries predominated. For those patients of 65 years and over, diagnoses of hemiplegia, osteoarthrosis and respiratory conditions were more numerous.

When the patients' main diagnostic category is related to their presenting problem, as might be expected, those patients with musculoskeletal conditions and sprains presented most frequently with pain as their major problem, and those with diseases of the nervous system with related movement and gait problems. However, the problem of general immobility was given for patients with a wide range of conditions among them those with arthritis and arthrosis, hemiplegia, orthpaedic conditions and developmental retardation (table 17).

Other diagnoses and conditions

We asked the physiotherapists to note all the patients' other diagnoses and conditions that would be considered relevant, either to the type of physiotherapy given or to the place of treatment. The check list here was

essentially the same as that for the main diagnostic categories with a few additions. The details here were either obtained from the doctor on referral, from the patients' notes or from the patients themselves. Any number of additional diagnoses could be given on the form but when we coded the information details were only given for three additional conditions. However the total number of additional conditions was noted and these are given in table 18 related to the patient's main diagnosis. Three hundred and sixty patients (46 per cent) had no additional conditions listed and only 76 patients (10 per cent) had three or more additional diagnoses or conditions. All the patients' additional diagnoses and conditions are listed in appendix 7.

When the patients' main diagnoses are related to the number of additional diagnoses listed only one group of patients, the obstetric group, had no additional conditions listed. Over three quarters of the patients with sprains and those with a diagnosis of multiple sclerosis, also had no additional diagnoses listed. But over two thirds of the patients with hemiplegia, developmental retardation or cerebral palsy had one or more additional diagnosis; the majority of patients with osteoarthrosis and congenital abnormalities also had additional diagnoses or conditions listed.

REFERRAL OF PATIENTS

The Rules of Professional Conduct laid down by the Chartered Society of Physiotherapy state that 'no physiotherapist shall treat a patient unless that patient has been referred to him by a registered medical or dental practitioner'. A resolution was put forward and carried at the 57th Annual General Meeting of the Society held in September 1976 to amend these rules and to add 'except in an amergency or for some other exceptional reason or unless he has direct access to the patient's doctor'.

At present most patients are referred to hospital physiotherapy departments by consultants in different specialties. General practitioners rarely have open access to these departments although this facility was available in two areas where schemes in the study were operating. However, in this study the pattern was reversed and general practitioners referred 475 patients. 61 per cent of all those seen during the study period (table 19). Of the remaining 302 patients, 95 were referred by consultants in paediatrics, 75 by orthopaedic consultants and 51 by consultants in rheumatology and rehabilitation; 75 patients were referred by consultants and registrars in other specialties and three by district nurses (the general practitioner being informed).

The way in which the patients were referred to physiotherapists working outside hospital often involved other professional people. Sometimes these other people instigated the referral, and sometimes they were involved in the referral process. Instigating referral in this instance implied that the person concerned felt that the patient would benefit from physiotherapy and she therefore either contacted the doctor concerned or the physiotherapist. If the physiotherapist was approached directly she always contacted the patient's own doctor, but occasionally made an initial assessment visit first. 'Involved in referral' here means that another person in contact with the patient was involved together with the doctor in sending the patient to the physiotherapist. In all a total of 137 people, in addition to the doctor, instigated the referral of patients to the physiotherapist, and a further 120 people were involved in the referral process. The hospital physiotherapist instigated the referral of 40 patients in this study, and the health visitor and midwife each instigated the referral of 31 patients. The home nurse instigated 12 referrals and was involved in the referral process of 35 patients, the largest number in this group (table 20).

Request on referral

Written referrals were received for 555 patients, for the other 222 patients the referrals were given verbally. The physiotherapists were asked on the patient form to give the actual wording of the written referral and these 555 referrals were subsequently grouped into five categories. No attempt could be made to analyse the verbal referrals as the actual words used and the context in which they were given was not known.

The categories used need some explanation as the type of referral can reflect the type of relationship between the physiotherapist and the referring doctor; for example, if they work closely and see each other frequently there may be mutually agreed methods of treating various conditions, this is particularly the situation with orthopaedic surgeons where clear schedules of treatment for specific conditions may be agreed. A simple request for 'physiotherapy please' which was given for 270 patients in the study may have reflected clear understanding on the part of both the physiotherapist and the referring doctor of the implications of the condition and the nature of treatment that will be given; it could also have reflected the absence of knowledge of physiotherapy techniques on the part of the referring doctor. Unfortunately our data do not enable us to sub-divide this category along these lines. Specific treatment was requested for 151 patients (27 per cent), here the actual method of treatment was mentioned; the most frequent requests were for 'exercises' or some form of electrical treatment, either short wave, infra red, ultrasound or microwave.

In the category where there was a more general reference to the aims of treatment and the type of treatment that might be given: phrases such as 'please mobilise', 're-education of walking', and 'maintain mobility' were used. Sixty-one referrals came into this category. The request for assessment was given on 55 referrals (10 per cent); this request asked the physiotherapist to assess the patient and decide whether physiotherapy was appropriate or not; if she decided that physiotherapy was appropriate she commenced treatment, otherwise no treatment was given.

In the miscellaneous group for eight patients there was no original referral available as treatment had been started by another physiotherapist, for three patients there was just a request for equipment and for the remaining seven there was either a reiteration of the diagnosis, or remarks such as 'rather weak', 'frail', or 'another one for you'.

Table 21 relates the type of referral to the referring doctor. The first difference here is between those who sent written referrals, and those who referred patients verbally. The fact that the doctor spoke to the physiotherapist about each patient implied a close working relationship and frequent communication, though of course a written referral by no meals excluded this. Nearly a third of the patients referred by general practitioners were referred verbally, and about a quarter of the consultants used this method.

The important distinction between the written referrals were those which just asked for 'physiotherapy please', or assessment and those which made a specific, or more general reference to the actual physiotherapy treatment required. Excluding the 18 referrals in the miscellaneous group the majority of all the written referrals asked for 'physiotherapy' or 'assessment'. There were slightly different proportions of general practitioners and consultants using the different types of request. General practitioners asked for physiotherapy or assessment for just over half of their patients; but this type of request was used for just under two thirds of the patients referred by consultants.

Availability of medical advice for patients seen during the study

The physiotherapists were asked on each patient form to state whether the doctor who had referred that patient was available to give advice about the patient, if necessary. Three categories were given:

(a) Advice available whenever necessary.
(b) Advice available at specified times.
(c) Advice only available with difficulty.

For 605 patients (78 per cent) the physiotherapists stated that they could get advice whenever it was necessary: for a further 153 patients (20 per cent) advice could be obtained from the referring doctor at specified times, and for only 19 patients (2 per cent) was advice only obtainable with difficulty.

When the availability of advice for patients seen during the study is related to the specialty of the referring doctor (table 22), general practitioners were available to give advice whenever necessary for 404 patients, 85 per cent of the patients they referred for physiotherapy. They were available at specified times to give advice for 67 patients (14 per cent) and for only four patients (1 per cent) was there difficulty in obtaining advice.

Consultants were stated to be available to give advice whenever necessary for 147 patients (67 per cent). For 65 patients (29 per cent) they were available to give advice at specified times, and for nine patients (4 per cent) there was some difficulty in obtaining advice.

The results here refer to the availability of advice for each patient and not to the number of doctors in any one specialty who were available to give advice.

In this study general practitioners were more readily available to give advice, for over three quarters of the patients they referred; consultants were only readily available for two thirds of the patients they referred.

On the second questionnaire the physiotherapists were asked to give an indication of the availability of medical advice from all the doctors who referred patients to them. As this was a general impression it did not necessarily link up with the statements on the availability of medical advice for the particular patients seen during the two week study period.

Twenty one physiotherapists stated that general practitioners who referred patients to them were readily available to give medical advice if it was needed, eight stated that the referring doctors were usually available, and one stated that the doctors who referred patients to her were not available to give advice when needed. Eight physiotherapists received no referrals from general practitioners.

Thirteen of the physiotherapists stated that the consultants who referred patients to them were readily available to give advice if it was needed, a further five stated that they could usually obtain advice from consultants if it was necessary. Seven physiotherapists stated that the referring consultants were often not available to give advice when it was necessary and a further ten stated that it was always difficult to get advice about the patient from consultants. Three physiotherapists did not receive referrals from consultants.

Overall there were some differences between the availability of advice from general practitioners and consultants. Of the 30 physiotherapists who received referrals from general practitioners over two thirds reported that the general practitioners were readily available to give advice, and only one physiotherapist reported consistently finding difficulty in obtaining advice. Only one third of the 35 physiotherapists who received referrals from

consultants reported that they found the consultants readily available to give advice and over a third usually found difficulty in obtaining advice from the consultants who referred patients to them.

Appropriateness of patients referred

The physiotherapists were asked to state whether the referrals they received were in their opinion usually appropriate; that is that the patients' problems were those that might reasonably be expected to benefit from physiotherapy. Of the 30 physiotherapists in the study who received referrals from general practitioners, 19 felt that the referrals they received were usually appropriate. The remaining 11 felt the referrals they received were usually appropriate though a few doctors often referred patients inappropriately, and some doctors occasionally referred patients for whom physiotherapy was not appropriate. Five in this group of 11 stated that the number of 'inappropriate' referrals decreased after the schemes had been in operation for 6-12 months.

Twenty nine physiotherapists felt that the patients referred by consultants were those for whom physiotherapy was appropriate. A further five physiotherapists thought that the referrals from consultants were usually appropriate, but that sometimes patients were inappropriately referred by individual consultants. Only one physiotherapist thought the referrals she received from consultants were often inappropriate. Three physiotherapists out of the total of 38 did not receive any consultant referrals.

A higher proportion of physiotherapists found that referrals from consultants were usually appropriate but nearly half of those who found that referrals from general practitioners were often inappropriate noted that referrals became more appropriate with time.

Adequacy of information given on referral

The physiotherapists were also asked if adequate information was given to them when patients were referred. This information could either be written on the referral form of given verbally. Of the 30 physiotherapists who received referrals from general practitioners 12 felt that the information given to them was always adequate for them to treat the patient, and 13 felt that the information was usually adequate but sometimes had to be checked or further information asked for. Three physiotherapists stated that they rarely got adequate information to treat the patient properly and a further two felt that there were many occasions when they did not get adequate information.

Twenty three of the physiotherapists felt that adequate information was always given to them on referral by the consultants and a further nine thought that they usually received adequate information about the patients referred to them. One physiotherapist felt she did not receive adequate information from the referring consultants and a further two felt that the information they received was usually inadequate for them to treat the patient properly.

Over two thirds of the physiotherapists who received referrals from consultants felt they were given adequate information but only just over a third of those who received referrals from general practitioners thought the information adequate.

The physiotherapists were asked on the second questionnaire about the usual methods of review and discharge of patients in their schemes (table 23). In relation to referrals from general practitioners, 21 physiotherapists stated that they usually both reviewed the patient's progress during treatment and discharged them at the end of a course of treatment. Three physiotherapists stated that they reviewed the patient's progress jointly with the general practitioner but they made the decision to discharge. For one physiotherapist the usual procedure was that both she and the general practitioner reviewed the patient's progress during treatment and made decisions about discharge. For three physiotherapists the usual procedure was for the general practitioner to undertake both review and discharge of the patients, and for one the review procedures might be undertaken either by the physiotherapist or the general practitioner with the physiotherapist discharging the patient.

In relation to referrals from consultants only six physiotherapists stated that they usually both reviewed the patient's progress and made the decision to discharge. For 11 physiotherapists the usual procedure was for the consultants to both review the patient's progress and to decide when they should be discharged; for two the procedure was for the physiotherapist to review the patients' progress but the consultant usually made the decision to discharge. The usual procedure for two physiotherapists was for the consultant to review and the physiotherapist to discharge the patient; and for a further two the consultant and the physiotherapist together reviewed the patient's progress and the physiotherapist made the decisions about discharge. For nine physiotherapists where the usual procedure was for the consultant and the physiotherapist to review the patients' progress, seven also made a joint decision about discharge, for one the consultant discharged, and for one the decision was made by either the consultant or the physiotherapist. One physiotherapist

stated that decisions about both review and discharge might be made either by the consultant or the physiotherapist. For two physiotherapists, when the consultant reviewed the patients' progress both made decisions about discharge and for the physiotherapist who reviewed the patients' progress either she or the consultant made decisions about discharge.

There did appear to be a difference in the review and discharge procedures of general practitioners and consultants. The standard procedure for almost three quarters of the physiotherapists who received referrals from general practitioners was to both review the patient's progress and discharge the patient themselves but this was the standard procedure for less than a sixth of those who received referrals from consultants. The consultants both reviewed and discharged the patient themselves more frequently - nearly one third of the physiotherapists reported this procedure but it was used only infrequently by general practitioners.

Access to patient's clinical notes

The question of access by the physiotherapist to the patient's clinical notes could be important. Nineteen of the physiotherapists felt that there were some problems in getting adequate information about the patient from referring general practitioners and six physiotherapists mentioned this problem in relation to some of the consultants who referred patients to them. The patient's notes might be a possible source of further information though there is some doubt about the adequacy of patient's notes in general practice (Dawes, 1972; Warren, 1976).

Of the 30 physiotherapists who received referrals from general practitioners 23 had easy access to the patient's notes and a further two stated that access was usually possible. Five physiotherapists stated that they did not have access to the patient's notes.

Of the 35 physiotherapists who received referrals from consultants 17 said they had easy access to the patient's notes, and a further four were usually able to obtain the notes. Eleven of the physiotherapists stated that they did not have access to the clinical notes, and a further three stated that access to the notes was difficult.

PHYSIOTHERAPY MEASURES

The types of physiotherapy measures being used by physiotherapists working outside hospital were discussed when schemes were visited at the beginning of the study, and from the measures that we were told were being used, a list of 23 treatments or physiotherapy measures was drawn up for the questionnaire (appendix 2, page 5). In working outside hospital physiotherapists often use many skills beyond the specific treatment techniques practised in hospital and it was thought the term 'measure' was often a more appropriate term to describe these activities. The list did not attempt to describe the measures in detail but only gave an indication of the type of physiotherapy used. The physiotherapists were asked to note on the patient form the physiotherapy measures given to the patient on each occasion during the study period. Therefore as patients may have received more than one type of measure on any one occasion and may have attended for physiotherapy on more than one day during the study, the actual number of physiotherapy measures used in any one group may exceed the total number of patients. For the purposes of analysis the physiotherapy measures have been grouped into seven main types and these are shown in table 24 relating them to the patient's main diagnosis. Some explanation is needed of the actual physiotherapy that might be given under these seven headings:

Assessment and advice

To an extent assessment and advice are integral parts of physiotherapy; assessing the patients' abilities and problems and advising them how these problems can be overcome forms part of any therapeutic session but in some cases this is the full extent of the physiotherapy contribution. The patients' problems are discussed and assessed and advice given to the patient and to the people caring for him, both relatives, the district nurse or others. In all, physiotherapy measures of this type were given either on their own or in conjunction with other measures on 1,071 occasions. It was, therefore, the commonest activity carried out during the period of study.

Techniques of movement

A number of physiotherapy techniques fall under this heading which includes exercises performed under the direction of the physiotherapist, techniques for strengthening muscle, improving joint mobility or stability, facilitation techniques and all methods which are used to improve the patient's functional ability. On 644 occasions during the study measures of this type were used.

Electrical treatment, wax and ice

This section included the use of all electrical equipment and also other means of applying heat or cold to the body, on 185 occasions measures within this category were used.

Group exercises

In some cases where space was available patients with similar conditions performed exercises together under the direction of the physiotherapist. Ninety one patients took part in group exercises in the study, 57 of these were women attending ante and post natal classes.

Massage

This included not only massage of the limbs and trunk but percussion techniques used on the thorax, and was used on 48 occasions during the study period.

Postural drainage

This included all techniques where the body was positioned so that gravity assisted drainage from specific areas of the lungs; on 42 occasions this type of physiotherapy was given, often combined with percussion techniques.

Traction and manipulation

Traction was applied to different areas of the spine, either manually or using apparatus. Manipulative techniques were applied to the spine and other joints of the body. These techniques were used infrequently in this study on only 22 occasions.

In relating the physiotherapy measures to the patient's main diagnosis, in table 24 there may appear to be some inconsistency in the measure given for a particular condition, however though most of the measures related to the patient's main diagnosis, others may have related to other conditions from which he was suffering at the time, patients often received more than one type of measure.

When the type of physiotherapy measures used were related to the 14 schemes (table 25) the majority of the measures used in all the schemes came within the two categories of assessment and movement. In the two paediatric

services only measures within these two groups were given and for one scheme attached to general practice, the community scheme, three hospital based, and two health centre schemes over 90 per cent of the physiotherapy measures used were within the assessment and movement groups. Over 80 per cent of the measures given in one scheme attached to general practice and two mobile services were also within these two groups and in only two schemes, one mobile service and one health centre scheme did the proportion of measures in the assessment and movement groups fall below 70 per cent. In both these schemes electrical treatments formed nearly a quarter of all measures given during the study.

Physiotherapy time

Physiotherapy time was calculated for each patient by taking the average of the times spent with the physiotherapist over the two week recording period. If a patient only saw the physiotherapist once, this was counted as their physiotherapy time.

There appeared to be some differences in the physiotherapy time of the patients in the 14 schemes. In three schemes, one general practice, one hospital and one health centre, no patient's physiotherapy time was over 40 minutes, but in three other schemes, one hospital, one mobile service and one health centre the meantime for over 50 per cent of the patients was over 40 minutes (table 26).

The physiotherapy time is related to the main diagnostic categories of the patients in table 27. Patients with conditions coming under the heading of musculoskeletal conditions, diseases of the nervous system, traumatic and orthopaedic conditions and congenital abnormalities showed a wide variation in physiotherapy time, some patients coming into each of the seven time groups from under ten minutes to over an hour. Over 80 per cent of the patients with respiratory diseases had a physiotherapy time of 30 minutes or less and no patient with these conditions had a time of more than 50 minutes. The high physiotherapy time for patients in the obstetric and gynaecological group was explained by the fact that 51 of these patients attended ante and post natal group physiotherapy and the group time was noted as each individual's time. All these results must be regarded with caution as the amount of time the physiotherapist spent with the patient on each occasion was affected by many different factors; for example, the type of problem with which the patient presented, different aspects of the patients' diagnoses and conditions, and whether the visit or visits during the two week study period

were initial visits, subsequent visits during a course of physiotherapy, or more in the nature of continuing supervision.

Place of treatment

The place where the patients received their physiotherapy is shown in table 28 related to the 14 schemes. The majority of patients (422) were seen in their own homes; one hospital based scheme and two mobile schemes saw patients exclusively in their own homes. The community scheme and one paediatric scheme saw patients in four or more different places and thirteen patients were seen in two different places during the two week study period.

Reasons for place of treatment

Physiotherapists were asked to give the main reason for the patient's place of treatment and also to list additional reasons which might have been important. Six of the reasons most frequently mentioned by the physiotherapists working in the community were given on the patient form, and a space was provided for giving reasons other than those listed. The main reason most frequently given for the patient's place of treatment, for nearly a third of the patients (245), was that their physiotherapy was specifically related to their environment; either their own home, their place of residence, or the school or play group where a major part of the day was spent. For about a quarter of the patients (186) the main reason was that it was the nearest place to their home or work that physiotherapy was available: many patients in health centres came into this category. The patients who were stated to be medically unfit and therefore unable to travel formed less than a quarter of the total (140). The number of patients giving other main reasons were, the long delay in getting hospital physiotherapy (75), the long distance from the hospital (62) and the difficulty in getting patients out of the house (38) (table 29).

An additional reason for the patients' place of treatment was given for 256 patients and a third reason given for a further 43 patients. Again, here the most frequently given reason was that the physiotherapy was specifically related to the patients' environment. It would seem that though one reason tends to predominate there may be a combination of factors which result in the patient being seen outside the hospital.

Length of time from the onset of the presenting problem to the physiotherapist seeing the patient

We wanted to find out how quickly the patient was seeing the physiotherapist after the onset of the problem for which they were referred and the physiotherapists were asked to state the length of time for which the patient's presenting problem had been present prior to referral to them. This information was gained either from the referring doctor or by asking the patient. In the case of progressive or chronic conditions we wanted to know about the present incident, not the length of time since onset of the disease. There could be a number of reasons why referral was delayed. The patient may have waited before contacting the general practitioner, the doctor may have delayed in referring to the physiotherapist, and in cases where the patient was referred by a consultant there may have been delays in waiting for a consultant appointment. Delay would not have been likely to have occurred in the selected schemes themselves as they stated that they did not have a waiting list for their service, patients usually being seen within a week of referral.

Over a third of the patients (278) were referred to the physiotherapist in under six weeks, 140 of these in under two weeks. A smaller group of 138 patients were referred from between six weeks and 25 weeks, and for a quarter (196) the period between onset and referral was over six months. One hundred and twelve patients had problems which had been present since birth and for 53 patients the time of onset was stated to be unknown (table 30).

Again here there were some differences both between the different types of scheme and between schemes of the same type. Nearly two thirds of the patients seen in the two general practices were seen in under six weeks from the onset of their problem, but by contrast over three quarters of the patients in the two paediatric schemes had problems which had been present since birth. In the community scheme only a few patients (30) were referred in under six weeks, over a third had either had the problem since birth or for over six months.

In all the other groups there were differences between the individual schemes. In the hospital based services two schemes saw the majority of their patients in under six weeks, the third saw only a quarter of their patients in this time. There were differences too between the three mobile services, one scheme seeing nearly all their patients in under six weeks, one seeing about half, and the third scheme only seeing a third of their patients within this time. Two of the health centre schemes saw about a third of their

patients in under six weeks but the third saw only about a sixth of their patients within the same time.

If the length of time is looked at in relation to the patient's presenting problem (table 31) when pain is a major part of the presenting problem as in the first and second categories, these 128 patients formed a large proportion (46 per cent) of those 278 patients referred to the physiotherapist in under six weeks. For congenital conditions and other long term diseases it was sometimes difficult to fix a time at which the presenting problem had first occurred and this is reflected in the large number of patients, 196 (25 per cent), in the section, over six months.

Travel

In those schemes where patients travelled to see the physiotherapist rather than being visited by her, the mode of travel or transport was noted. This was applicable for 236 patients. Over a third of these patients (94) travelled to the place of treatment in their own or their family car. Less than a third (68) walked; these came mainly to the health centres, as did the 23 patients who travelled by hospital car service or ambulance (table 32).

The physiotherapists were also asked how the patients would travel to attend the nearest out-patient hospital physiotherapy department if they were unable to have physiotherapy in the present place. Over half of the patients (410) would have to be taken to the hospital by ambulance or hospital car service. More than a third would have been able to travel in their family or friends' car (195) or public transport (113). Only 59 patients would have been unable to attend the hospital outpatient department (table 33). The decision to include patients in this category may have been problematic as presumbly any patient can be brought to hospital by ambulance, and the difficulty and inappropriateness of doing so may have been assessed at different levels.

PHYSIOTHERAPY STAFF

The 38 physiotherapists who had completed the patient forms for us, also filled in a second questionnaire with details about themselves, aspects of their work and their opinions about their own schemes (appendix 4). All the information in this section is related to this second questionnaire, although some details from these forms have already been discussed in the section on referrals.

Age and sex, marital status and family

Thirty three of the physiotherapists were between the ages of 25 and 54, only one being under the age of 25 and four over the age of 55. In the middle age groups, 11 were between 25 and 34, 13 between 35 and 45 and nine between 45 and 54 years. There was only one male physiotherapist in the study. Nine of the physiotherapists were single and 29 were married. In all, 25 of the physiotherapists in the study had children of school age and under. Six had children under school age, four had children under school age as well as children of school age, and 15 had children of school age. The majority of the physiotherapists in the study were therefore married women between the ages of 25 and 54, with a family.

Professional experience

To make some assessment of the professional background of the physiotherapists working in the selected schemes each was asked to state the year of qualification and their professional experience, both full time and part time. There was considerable variation in the number of years since qualification among the physiotherapists, the range being from 38 to four years. There were approximately equal numbers of physiotherapists in the four ten-year groups, eight having been qualified for 30 years or more, nine for between 29 and 20 years, 12 for between 19 and 10 years and nine having been qualified for nine years or less.

Only 13 physiotherapists appeared to have worked continuously since qualification and as might be expected eight of these were in the group of those qualified for under ten years. The remaining 25 physiotherapists all had breaks in service since qualification, the breaks ranged from one to 17 years. If the physiotherapist's experience is related to the time since qualification seven of the physiotherapists in the group with over 30 years since qualification had 24 years or more of professional experience and one had worked for

15 years. Of those qualified for between 20 and 29 years, six had ten or more years experience and three had between nine and five years. In the group who had been qualified for between ten and 19 years, eight had over ten years experience and four had between nine and seven years. In the group of those qualified for under ten years, six physiotherapists had five or more years of working experience, the remainder had all worked for four years. The working experience given here includes both full and part time experience but table 34 gives details of each physiotherapist's full time and part time experience. Many of these physiotherapists had considerable professional experience,none had less than four years.

Specialisations

Specialisation and specific skills in physiotherapy tend to be related to working in a specialised unit rather than to courses undertaken. Courses can be important; and two notable examples in this country are courses organised by Dr. and Mrs. Bobath and manipulation courses organised by the Chartered Society; but many different courses are run throughout the country by people of varying skills and attendance at these courses does not imply skill in the specialty concerned. Since there is no easy objective way of assessing the skills in any particular specialty, for the purposes of this study a physiotherapist was considered to have specialised in a specific branch of physiotherapy if she had worked full time in a senior position in a specialised unit for at least a year.

Using this categorisation 21 of the physiotherapists had areas of specialisation; the areas of specialisation of these 21 physiotherapists are listed below:

Physiotherapists' areas of specialisation

Specialty	Number
Paediatric	9
Orthopaedic	6
Chests	1
Geriatric	4
Neurological	1

Of those who had one area of specialisation, nine had paediatric, four had geriatric, two orthopaedic and one neurological specialisation. One physiotherapist had specialised in chest conditions. Those who had two

specialisations all had orthopaedics as one area of specialisation, and in addition one had specialised in paediatric conditions, one in geriatric, one in neurological conditions and one in chest conditions.

Present post

Eight of the physiotherapists working in the selected schemes had a break in service prior to taking up their present post. The break was four years or less for five physiotherapists, between seven and nine for two physiotherapists, and one physiotherapist had a break of 15 years.

The length of time the 38 physiotherapists had been in their present post varied from six months to 17 years. Twelve had been in post for one year or less, and 13 had been in post for less than three years. Five had been in their present post for between four and five years, and eight for six years or more.

Hours worked

Just over a quarter (11) of the physiotherapists worked for 36 hours a week, i.e. full time, five worked for between 15 and 24 hours a week and the remaining 22 physiotherapists (58 per cent) worked for 12 hours a week or less.

Of the 27 physiotherapists who worked part time in the selected schemes six held other posts in the National Health Service, one treated private patients regularly, and 13 treated private patients occasionally. Only seven physiotherapists in the study worked part time in the selected schemes and did not undertake any other professional work.

Whether the physiotherapists worked full time or part time in the selected schemes may have related to the availability of staff, the number of hours offered or definite decisions about the suitability of full time or part time physiotherapists for this type of work. The six schemes which employed full time staff had made a definite decision, and only advertised full time posts; in one of these schemes part time staff were also employed in addition to the full time member. In two schemes the policy was to employ part time staff, and in the remaining six the number of hours offered in each scheme were under 36 hours a week.

Grading

The grades of the physiotherapists are given in accordance with the Whitley implementation of the Halsbury Report. Five of the physiotherapists

were at basic grade, two thirds (26) were graded at Senior II level, three at Senior I level, three at Superintendent grade, and one was a physiotherapy teacher. This wide variation reflects the variety and different levels of skill and responsibility of the physiotherapists practising in the community.

Supervision

Seventeen of the physiotherapists in the study worked under direct supervision and were professionally responsible to a superintendent physiotherapist, 14 were not responsible to a superintendent physiotherapist but were able to go to a superintendent for help and advice, only four of the physiotherapists were neither professionally responsible to a superintendent nor able to go to one for advice. The three superintendents were professionally autonomous.

Over three quarters of the physiotherapists either worked under the direction of a superintendent or were able to go to one for advice when necessary.

Only three schemes employed a superintendent physiotherapist but as most of the physiotherapists had considerable professional experience supervision would not have been necessary.

Transport

Twenty five physiotherapists used their own cars to visit patients and received a mileage allowance from their employer. A van was supplied to seven of the physiotherapists for travelling, to carry both the equipment used for physiotherapy treatment, and aids which were being supplied to the patient; the van was the property of the employer who maintained it and supplied the petrol. One physiotherapist used her own car with no mileage allowance, and one physiotherapist travelled by bus, the fares being paid by the employer. Only four of the physiotherapists in the study did not travel to visit patients.

The physiotherapists were asked to state their average monthly mileage based on the claim forms which they normally completed. There was great variation in the amount of travelling undertaken: this varied with the number of hours worked, the type of patients seen and the area covered by the service. Three gave their average as five miles a week or less, and ten gave their average as between 13 and 25 miles a week. Eleven physiotherapists stated their average was between 30 and 60 miles a week and five physiotherapists between 200 and 240 miles a week. The average weekly mileage by scheme is given in table 35 and an average mileage per hour worked, given for each scheme. Again

here there was considerable variation from 0.4 miles per hour in one scheme to over seven miles per hour working in another: but it must be stressed again that these figures can only give some idea of the different patterns of work in the community.

Activity analysis

Forms were provided for the physiotherapists on which they were asked to record the starting and finishing time of all the different activities undertaken during their working time for a period of one week during the two week recording period (appendix 3). Where physiotherapists travelled to see patients in their own homes it was not difficult to record the time spent with the patient and the time spent travelling. But where the physiotherapists visited residential homes, schools and nursery groups and saw a number of patients on one visit, it was not always possible to record the time spent with each patient and for 11 of the physiotherapists the actual number of patients seen during the recording period is not known.

These results must be regarded with caution as they can only give some idea of how time may be divided when working in the community. They are not representative of work outside hospital, nor do they represent a typical work period for those who kept records of their activities for us during a limited period.

Twenty seven of the physiotherapists who visited patients during the study period returned details of the time they spent during their working hours on travelling, being with the patients and on other activities (table 36). Some kept records for only part of their working time as they only travelled to see some patients, the remainder coming to them at the health centre or general practice. Other physiotherapists were ill or had transport problems during the recording time. A few physiotherapists recorded their activities for a two week period.

The percentage of the physiotherapists' total recorded working time spent with patients varied between 85 per cent and 26 per cent. Five physiotherapists spent over 75 per cent of their working time with the patients, 17 spent between 74 per cent and 50 per cent, and only five physiotherapists spent less than 50 per cent of their total working time with the patient. The variation in the time spent on travelling varied from one physiotherapist who only travelled for seven per cent of her working time, to one who spent 50 per cent of her time

travelling. The mean percentage time spent on travelling for the 27 physiotherapists was 23.9 per cent and the median 23 per cent. Less than half of the physiotherapists were able to supply information on the actual number of patients seen;for these 16 physiotherapists it was possible to calculate the average time spent with each patient - the physiotherapy time - and the average travelling time per patient. The average physiotherapy time varied between 64 and 16 minutes with a mean of 33.7 minutes and a median of 34.5 minutes. The travelling time per patient varied between 26 minutes and 6 minutes with a mean of 14.5 and a median of 13 minutes.

Five physiotherapists only recorded physiotherapy time and travelling times during their working period but the remaining two physiotherapists spent time, varying between 62 per cent to 2 per cent of their total time, on other activities. These activities were given as administrative and clerical duties, case conferences, working lunches, collecting and modifying equipment and discussing patients with doctors, social workers and occupational therapists.

Reasons for taking up present post

The physiotherapists were asked to give the reasons why they had taken up their present post. Four reasons were suggested on the form, and space provided for other reasons. The reasons given on the form were those mentioned most frequently by the physiotherapists in preliminary discussions; some clarification of these categories is needed and this is given below:

Wanted to work in the community

Physiotherapists felt that physiotherapy should be given to some patients outside hospital and wanted to develop physiotherapy services in the community. Seventeen physiotherapists gave this as the main reason for taking up their present post and five gave it as a secondary reason (table 37).

Hours suited family commitments

An advantage was seen in being able to work only a few hours a week and fitting in these hours to suit other family commitments. This was the main reason for ten physiotherapists and an added reason for 12.

Able to work near home

An advantage was seen in being able to work near home, avoid travelling, and work in an area where one is known. Nine physiotherapists gave this as the main reason for taking up their present post and five gave this as an additional reason.

Able to work without supervision

Some physiotherapists preferred not to be professionally responsible to a superintendent physiotherapist. This was not given as the main reason for taking up the post by any of the physiotherapists but was given as an additional reason by 11.

The additional reasons given came into two categories, both relating to the patients. One category of five physiotherapists felt that by working outside hospital, patients could be seen without delay, and the second category of six physiotherapists felt that by seeing patients in their own homes, physiotherapy could be more adequately given in relation to the patients' problems.

The physiotherapists were also asked about contact and liaison with hospital physiotherapy departments. Eighteen of the physiotherapists had close links with the local hospital physiotherapy departments, 16 had occasional contact and only four had no contact at all with any hospital physiotherapy department. Nearly all the physiotherapists stressed the importance of good relationships with local hospitals both for themselves and for the patients. For themselves it could provide a centre to go to for advice when necessary and a means of keeping up to date with new developments; and for the patients an easy transfer from hospital to home physiotherapy, and the ability to be transferred back to the hospital for a course of physiotherapy if the community physiotherapist thought it desirable.

Contact with others

Physiotherapists working outside hospital come into contact with members of other professions working in the community. We asked the physiotherapists to state if they came into contact with others either frequently, infrequently or not at all. We did not define these categories further. The results are shown in table 38.

Seventeen physiotherapists stated that they were in frequent contact with home nurses, and 13 had some contact. Only eight physiotherapists said they did not meet home nurses at all in the course of their work. Fifteen physiotherapists often came into contact with health visitors, 16 had some contact and seven did not meet health visitors in the course of their work. There appeared to be more frequent contact with social services than hospital occupational therapists, twelve physiotherapists often came into contact with the social services occupational therapist while only six physiotherapists were often in contact with hospital occupational therapists. A larger number, 18, saw the hospital occupational therapists occasionally and 16 saw the social services occupational therapist infrequently. In all, 31 physiotherapists were in contact with social workers, 11 frequently and 20 occasionally.

Areas of overlap

There are acknowledged areas of overlap between different professional groups working in the community and this aspect needs consideration if duplication of services and function between the groups is to be avoided.

Nurses

There is little doubt that the patient receives maximum benefit from therapy where there is close cooperation and understanding between nurse and therapist, this is emphasised in the 1973 McMillan Report.

If members of the nursing profession are to work closely with physiotherapists and play a part in deciding which patients might benefit from physiotherapy it is obviously important that they should be aware of the skills the physiotherapist has to offer. This can be done in a formal way, talking to groups of home nurses and health visitors, and on an individual basis advising on the problems of a particular patient. Seven physiotherapists in the study talked to groups of nurses on a regular basis, about physiotherapy, and simple remedial procedures which could help the patient and those looking after him.

Social workers

The aims of social workers in the provision of aids and the resettlement of patients at home have much in common with those of physiotherapists and the McMillan Report mentions the areas of overlap which may occur. Again here, a close liaison between physiotherapists and social workers is in the patients' best interests.

In the study only seven physiotherapists stated that they had no contact with social workers, 11 were in frequent contact and 20 were occasionally involved with social workers in their care of the patient. But when the physiotherapists were asked to state what they considered the problems were in their physiotherapy service, ten gave the difficulty of obtaining equipment from the social service departments and relationships with social workers as their main problem.

The physiotherapists in the selected schemes appeared to be less involved in talking either formally or informally to social workers. Only one physiotherapist mentioned talking on a regular basis to groups of social workers and one had discussions with a social services department during the two week study period. Some of the problems may arise from each profession's lack of knowledge of the other's professional skills and their role in relation to the patient in the community. Acknowledged areas of overlap here obviously need careful consideration.

Occupational therapists

Until recently very few physiotherapists in the National Health Service worked with patients outside hospital departments, but occupational therapists have been working in the community within social services departments for many years. Physiotherapy and occupational therapy are closely allied professions and have many overlapping areas of professional activity. These areas of overlap which might have been expected to cause problems did not appear to do so in the selected schemes. When the physiotherapists were asked to state the problem areas in their schemes none mentioned relationships with occupational therapists as a problem.

In our study only six physiotherapists working in the community did not come into contact with any occupational therapists in the course of their work and three of these noted that there were no occupational therapists in post at the time of the study. Twenty of the physiotherapists were in touch with both social services and hospital based occupational therapists and 12 with occupational therapists from one of these bases.

Both physiotherapists and occupational therapists supply equipment to patients, but in the study there appeared to be a different emphasis on the type of equipment - when physiotherapists indicated on the check list that they had supplied equipment to the patient they usually indicated that these were mobility aids and appliances or in the case of chest patients, respiratory aids.

In the superintendents' study of case models some superintendents not only indicated on the check list what physiotherapy might appropriately be given but also commented on the total management of the patient. Twenty four superintendents suggested it would be appropriate to contact an occupational therapist in connection with the patient with hemiplegia, for aids to daily living assessment and other adaptations that might be necessary, and 18 stated that consultation with other professions including occupational therapists was important for the child with cerebral palsy.

Both the superintendents and the physiotherapists in the study appeared to see their role and that of occupational therapists as complementary and would consult an occupational therapist when they thought the skills were more appropriate to the patient's needs.

In situations where one type of therapist is not available it would be reasonable for either therapist to move temporarily into the overlapping areas of professional activity.

Problem areas in the selected schemes

Thirty six of the 38 physiotherapists mentioned some problem areas in their work and these are listed below. One of the most frequently mentioned problems was liaison with others working in the community. In all 18 physiotherapists mentioned this type of problem, some mentioning more than one problem in this area. Twelve of the physiotherapists found some of the doctors who referred patients to them difficult to contact. "Many of the doctors who send patients to me are so forgetful about form filling that I have to waste a lot of time getting the necessary information." Ten felt there were problems in explaining about appropriate physiotherapy for patients. "The doctors expected me to stand over the patients while they performed exercises." Seven physiotherapists mentioned liaison with non-medical personnel. "Great tact is needed in liaising with others and taking time to explain what you do." "There seems to be some resentment from other services if they feel we are encroaching on their territory."

The amount of time that had to be spent on paper work was mentioned as a problem by 11 physiotherapists, "time spent on paper work is time taken away from patients". Twelve physiotherapists mentioned problems associated with the supply of equipment, especially when this was obtained through the social services department. Travelling and distance was a problem mentioned by ten physiotherapists. There were problems for some in travelling long distances

to see patients and for others the problem was getting the patients in for physiotherapy. Five physiotherapists mentioned lack of contact with other physiotherapists as a problem.

Problem areas mentioned by 36 physiotherapists

	Number mentioning problem
Liaison with others in the community	18
Too much clerical work	11
Difficulty in obtaining equipment	12
Travelling to patients	10
Lack of contact with other physiotherapists	5

Professional isolation

Physiotherapists working in hospital are usually able to meet and discuss professional problems with their colleagues. Physiotherapists working outside hospital may be working on their own with no official links with other physiotherapists and we asked them if they felt professionally isolated in their present posts. Twenty nine replied that they did not feel isolated. Many reasons were given for this, those who were aware that this might be a problem made an effort to form unofficial links with nearby physiotherapy departments, in some of the schemes ten of the physiotherapists were working with one or more other physiotherapists in the community, and in others eight physiotherapists were either based in a hospital or had official links with the district general hospital. Nine physiotherapists stated that they did feel isolated in their present posts, not all of these were working single handed, but felt that working outside hospital made it difficult to keep up to date with the latest developments and approaches to treatment.

Suggested improvements

Physiotherapists were asked if they could suggest ways in which their service might be improved. The suggestions put forward by 25 physiotherapists were in five main areas and are listed below. Seven physiotherapists felt that improved relationships with the referring doctors, making them more aware of the particular skills of physiotherapists, would result in a more appropriate use of the service, and seven thought that if more physiotherapists were available, a greater area could be covered by the service. Closer liaison with others working in the community, home nurses, social workers and

occupational therapists and others was considered by five physiotherapists to be an area where there was room for improvement. Thirteen physiotherapists did not give any suggestions for improving their service.

	Suggested improvements	Number
1.	Improved relationship with referring doctors	7
2.	Present service extended	7
3.	Closer liaison with others in the community	5
4.	Able to refer patients to hospital physiotherapy department if necessary	4
5.	Earlier referral of patients	2
		25 Physiotherapists

Benefits to the patients

The physiotherapists were asked to state what specific benefit the patients gained through their type of service. Again here some physiotherapists stated more than one type of benefit. The most frequently stated was that the patient was seen in familiar surroundings, and the physiotherapy was immediately related to the patients' problems; practical advice could also be given to those caring for the patient - 29 physiotherapists mentioned this. Twenty physiotherapists mentioned that patients did not have to travel and undertake uncomfortable journeys or wait for hospital transport. Sixteen physiotherapists thought immediate treatment with little or no waiting was beneficial for the patients. Seeing handicapped children in their homes was seen as important by ten physiotherapists and nine thought continuing care and supervision available through a community service was beneficial. Eight physiotherapists said many of their patients would receive no physiotherapy if their service was not available and six mentioned that physiotherapy at home could prevent admission to hospital.

Satisfactions

The physiotherapists were asked to state which aspects of their present post they found most satisfying, these were grouped within seven categories and are given below. All 38 physiotherapists stated one area of satisfaction and 20 gave an additional aspect which they found satisfying.

The aspect most frequently mentioned by the physiotherapists was that the physiotherapy given was really appropriate to the patient's immediate problems. Assessment of functional problems where they actually occurred made the physiotherapy more 'realistic and relevant'. Fifteen physiotherapists gave this as their main area of satisfaction and seven gave it as an additional satisfaction. In all eight physiotherapists mentioned being treated as a professional person in their own right as important to them; to be asked to assess patients, discuss their problems and decide on the appropriate physiotherapy was said to give satisfaction. Six physiotherapists said they were aware of fulfilling a need in the community and they found this satisfying. The fact that they had more autonomy and that this made the work more challenging was mentioned by five, and the greater variety of work in the community was mentioned by three.

Aspects giving satisfaction	Main aspect	Secondary aspect
Physiotherapy more appropriate to the patient's needs	15	7
Treated as a professional working with others	7	1
Better contact with patients	4	4
Immediate treatment gives better results	4	2
Awareness of fulfilling a need in the community	4	2
Work more challenging as more autonomy	2	3
Variety of work offered in community	2	1

STUDY OF CASE MODELS

The third part of the data collection was the presentation of the case models (appendix 5) to members of the Association of Superintendent Physiotherapists asking for their opinions on appropriate physiotherapy. Forms were sent to 124 superintendents, a one in four systematic sample. One hundred and sixteen completed forms were returned, one form had been sent to a superintendent who had left her post and had not yet been replaced, and one refused, giving pressure of work as the reason for refusal. Six superintendents did not reply. This gave a response rate of 94 per cent. The enthusiasm and interest shown by most of the superintendents was most encouraging, many not only indicated on the check list what physiotherapy measures might appropriately be given, but went on to give detailed suggestions about appropriate management for the patient in the case model.

The aim of the study of the case models was two-fold; first to find if there was agreement between superintendents on the type of physiotherapy measures that might appropriately be given in each case; secondly, to find if the physiotherapy measures used by the physiotherapists in the study, for patients with the same conditions as the case models, were within the range of measures suggested as appropriate by the superintendents.

The check list of physiotherapy measures given to the superintendents with the case models was that used by the physiotherapists during the study period. Measures of the same type have been grouped together in the results of this study. Replies are summarised in table 39.

There was general agreement between the superintendents on the physiotherapy measures which might appropriately be given to the patients in the six case models. These results are discussed for each case model and the physiotherapy measures suggested by the superintendents are related to those used by the physiotherapists in the selected schemes for patients with the same diagnosis. It must be emphasised when comparing these results that the superintendents were suggesting all the measures that might appropriately be given for the patient, whereas the physiotherapists in the study were reporting the actual physiotherapy given to the patient during the two week study period. However, the physiotherapy measures used during the two week study period for patients with similar problems and diagnoses were within the range of measures suggested as appropriate by the superintendents.

It was interesting to note the different suggestions of the superintendents for the patient's place of treatment. Since only a small amount of inform- information was given on each patient this was not an easy decision to make and superintendents may have been influenced by the facilities available in their own areas when deciding whether home or hospital physiotherapy was most appropriate.

However, the superintendents obviously found it possible to consider each case model individually as only three superintendents thought all the patients should be seen in one place, one superintendent suggested the hospital as the appropriate place for all the patients in the six case models and two superintendents suggested the patient's home as appropriate. Since 115 superintendents felt that some of the patients should be seen in their own homes this does seem to indicate that at least some physiotherapy could appropriately be given outside hospital.

Case 1

Patient with diagnosis of bronchitis

One hundred and sixteen superintendents returned completed forms for this patient. All suggested that the patient should first be assessed and advised about the management of their condition, and 94 superintendents (81 per cent) would have taught and supervised breathing exercises. One hundred and ten superintendents (95 per cent) advised postural drainage, and 68 considered some sort of continuing supervision would be desirable for this patient. Twenty five superintendents would have discussed the patient's management with the district nurse, and 33 suggested that equipment might be necessary. There was agreement among these superintendents that some sort of intermittent positive pressure ventilation such as the Bird or Bennett would be suitable, possibly with humidification or a nebulizer.

Sixteen patients with a diagnosis of bronchitis were seen by the physiotherapists during the study period and the physiotherapy measures they received were assessment and advice on patient management, breathing exercises and postural drainage. These were the measures most frequently mentioned by the superintendents.

When asked to comment on the preferred place of treatment for this patient in these circumstances, 59 superintendents (51 per cent) thought the patient should be seen at home, 34 (29 per cent) thought the patient should

have physiotherapy in a hospital outpatient department. Seventeen superintendents thought the patient should have physiotherapy treatment in hospital but also be visited at home, four thought the patient should be treated at home but visit hospital as necessary. Only two superintendents felt unable to comment on this patient's place of treatment.

Case 2

Patient with a diagnosis of hemiplegia

Completed forms were returned from 115* superintendents for this case model, and all suggested that the patient should be assessed, and advice given to his wife on patient management. Ninety three superintendents (81 per cent) thought it would be helpful to have a discussion with the district nurse and 101 (87 per cent) thought it might be necessary to supply some form of equipment, 90 superintendents (78 per cent) thought some form of continuing supervision would be advisable for this patient. All 115 superintendents thought some form of mobilisation, exercises or facilitation of movement were appropriate and 112 specifically mentioned training in independence and mobility. Thirty seven superintendents indicated that they would use ice if the patient had severe spasm of the affected side or a painful shoulder.

The 106 patients with a diagnosis of hemiplegia seen during the study period received physiotherapy measures within the groups suggested as appropriate by the superintendents. All received assessment or re-assessment and advice during the study period and some form of exercise, movement or mobilisation techniques were also used. On seven occasions during the study period hemiplegic patients received some form of heat treatment.

Forty eight superintendents (42 per cent) thought that this patient should be seen at home by the physiotherapist, and 36 (31 per cent) thought hospital the most appropriate place. Hospital treatment but with visits being made to the patient's home was the suggestion of 23 superintendents, while eight thought home physiotherapy with occasional visits to the hospital was more appropriate.

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*Case 2 was inadvertantly omitted from the forms sent to one superintendent.

Case 3

Child with a diagnosis of spastic diplegia

A total of 116 superintendents returned forms for case 3, but four said they were unable to comment on this case model because of their lack of experience in working with children. Though 112 superintendents completed the form, of these 31 (28 per cent) stated that they thought specialised knowledge would be important when treating this type of child.

All the superintendents stated that assessment and re-assessment as necessary was appropriate in this case. Though 22 superintendents indicated that they would discuss the child's problems with a nurse they felt the health visitor rather than the district nurse was the appropriate person to contact. One hundred and one superintendents indicated on the form that they would consider some form of movement and mobilisation techniques important for this child. The terms used on the check list were broad, indicating areas of physiotherapy rather than the skilled techniques which might be used by individual physiotherapists, but Bobath techniques were mentioned specifically by 12 superintendents and proprioceptive neuromuscular facilitation by four.

The 52 children with a diagnosis of cerebral palsy received advice and assessment and techniques of movement, measures suggested as appropriate by the superintendents.

Fifty three superintendents (47 per cent) thought the child should be seen by the physiotherapist in a hospital department, preferably one having special facilities for children. Thirty one superintendents (28 per cent) thought the child's home the most appropriate place for physiotherapy, 23 thought that hospital physiotherapy with visits to the child's home was advisable and two thought home physiotherapy with occasional visits to hospital would be most suitable. Three superintendents felt unable to comment on the most appropriate place for physiotherapy.

Case 4

Patient with a diagnosis of a right fractured femur and osteoarthrosis of her left hip

The 116 superintendents who returned completed forms for this case suggested assessment and advice as appropriate. Eighty seven (75 per cent) indicated that they would discuss the patient with the district nurse if she

was visiting the patient, 95 (82 per cent) felt that the patient might need some equipment, and continuing supervision of the patient was thought to be advisable by 67 (58 per cent). All the superintendents thought some form of movement or mobilisation would be appropriate. Seventy one superintendents (61 per cent) advised the application of some form of heat to the left hip, 50 recommending infra red, and 21 short wave diathermy.

Ten patients with fractured femur were seen during the study period and all received measures of the types suggested as appropriate by the superintendents - assessment, advice to the patient, and exercises, movement and mobilisation.

Almost equal numbers of superintendents thought the patient should be seen in the hospital department and at home. Forty three (37 per cent) suggested the hospital, 40 (34 per cent) the patient's home. Thirty superintendents thought hospital treatment appropriate with visits also being made to the patient at home. One superintendent thought the patient should be seen at home but also visit the hospital occasionally. Two superintendents felt unable to comment on this patient's place of treatment.

Case 5

Patient with osteoarthrotic changes in both knees

Superintendents returned 116 completed forms for this case model, again here all suggested assessment and advice. Only 24 (21 per cent) stated that they thought discussions with the home nurse would be appropriate, 52 (45 per cent) indicated that some form of continuing supervision might be helpful. All felt that some movement and mobilisation techniques should be used with this patient. Some form of heat to the knees was thought to be appropriate by 109 superintendents, 82 suggesting short wave diathermy and 27 infra red.

Eighty six patients with a diagnosis of osteoarthrosis were seen during the study period. All received assessment and advice and some form of movement and mobilisation techniques. On 46 occasions during the study period these patients received some form of heat to the affected joints.

Sixty six superintendents (57 per cent) thought this patient would benefit most from being seen in a hospital department, 24 (21 per cent) thought physiotherapy could appropriately be given at home. Eighteen advised hospital treatment but with visits being made to the home and seven recommended home treatment with occasional visits to hospital. Only one superintendent felt unable to comment on this patient's place of treatment.

Case 6

Patient with a diagnosis of multiple slcerosis

All 116 superintendents would assess this patient and give advice about management. Sixty two (53 per cent) would advise discussion of the patient's problems with the district nurse, and 91 (78 per cent) thought some form of continuing supervision would be advisable. All the superintendents thought some movement and mobilisation techniques would be appropriate. Forty superintendents suggested that some form of cryotherapy might help this patient, 13 suggested infra red might be appropriate.

Thirty three patients with multiple sclerosis were seen during the two week study period. They received assessment, re-assessment and advice, and techniques of movement and mobilisation.

Forty six superintendents (40 per cent) thought home physiotherapy appropriate for this patient, 30 (26 per cent) suggested treatment in hospital and 36 (31 per cent) suggested treatment in hospital but with visits being made to the patient's home. Two superintendents suggested home treatment with visits to the hospital as necessary. Two superintendents felt unable to comment on this patient's place of treatment.

DISCUSSION AND RECOMMENDATIONS

Definitions

Various terms have been used by different authors to describe the practice of physiotherapy outside a hospital department of physiotherapy. We suggest that the terms should be defined as below. These definitions seem to reflect the usual meanings attached to the terms, and have regard to the dictionary meaning of the words (Concise Oxford Dictionary, 1976).

Domiciliary physiotherapy is the assessment and treatment by means of physiotherapy, of patients in their own homes.

Physiotherapy in the community refers to physiotherapy services outside the hospital. It therefore includes domiciliary physiotherapy and physiotherapy provided at health centres, general practice premises, special schools, nursery groups, residential homes, etc.

District physiotherapy service refers to the totality of physiotherapy services provided by the National Health Service within an administrative health district. A district physiotherapy service might include, therefore, the departments of physiotherapy in the district general hospitals, psychiatric and other specialist hospitals, day-hospitals, and the staff (and the related facilities) working in health centres, and other general practitioner premises, and those providing domiciliary services and services in residential homes. This definition is in line with the recommendations of the D.H.S.S. Circular HSC(IS)101, para. 4 which outlined a job description for a Designated District Physiotherapist.

Representativeness of the selected schemes

In the section describing the methods used in this study, we drew attention to the lack of any list of all community physiotherapy services being provided by the N.H.S. or independently by general practitioners. It was, therefore, neither possible to obtain data from all schemes nor to draw a representative sample of schemes. An attempt to develop a complete national list of schemes would have meant approaching all area and district health authorities and all general practices. As the study was begun only one year after the reorganisation of the N.H.S. and as it was seen as an exploratory study to be completed within two years, it was decided not to attempt the compilation of a national list of schemes. The question therefore arises -

to what extent can the 14 schemes examined be said to be representative of the current (1976) practice of physiotherapy in the community? No attempt was made to examine the private practice of physiotherapy, of physiotherapy provided by some industrial and commercial firms for the benefit of their employees, or of physiotherapy provided in special schools. The focus of our study was on domiciliary physiotherapy and physiotherapy provided in conjunction with general practice.

The selected schemes were in different geographical areas of the country, with a preponderance of schemes situated in the southern half of England; there was no scheme included from a midland or northern conurbation. In terms of organisational bases, schemes based at hospitals, health centres and general practice premises and other arrangements were included. During the study we heard about more than 150 schemes but we have not become aware of any special type of scheme that is at all common, an example of which was not included in the study.

In the absence of details about all schemes operating in England and Wales, it is not possible to check how representative, in terms of age, sex, diagnosis and treatment of patients, our findings are of the total activity of physiotherapy in the community. However, patients of all ages from infancy to elderly people aged 85 years or more were included in our study and the range of diagnoses and conditions referred for treatment was very wide and included those conditions which previous reports (see pages 2, 3) had mentioned and those to which textbooks give prominance (e.g. Krusen et al., 1971; Rusk, 1971; Cash, 1971; Scrutton and Gilbertson, 1975; Nichols, 1976; Cash, 1977).

Quantification of needs for physiotherapy in the community

Our study was concerned with the utilisation, staff and organisation of the selected schemes and therefore cannot quantify the 'needs' for physiotherapy outside hospital departments, whether the 'needs' be defined as the perceived needs of patients or the professionally defined needs as assessed by physiotherapists or doctors. In any such estimation of needs many factors will be involved and very little, if any, information is available about most of the factors and the quantitative relationships between them. Although estimates can be given of the number of people in a community with certain conditions, and of the number consulting their general practitioner, it would be necessary to know what proportion of those people with a particular diag-

nosis or condition required treatment, and to specify the nature, duration and frequency of treatments, given that the effectiveness of the treatments has been established. In deciding on the place of treatment, whether in hospital, health centre, day hospital, patient's home or wherever, yet other factors have to be brought into consideration such as the distance between hospital and the patient's home, the mobility of the patient, home circumstances, the precise objectives of treatment, the feasibility and safety of providing treatments outside the hospital to say nothing of the need to use efficiently the limited resources available.

However, it is undeniable that only persons with the designated condition could need treatment for it. It is, therefore, possible to estimate an upper limit to the numbers of people who might need treatment for certain conditions and to the numbers of patients likely to develop the condition for the first time during any year by examining the prevalence and incidence figures of the main conditions at present being treated by physiotherapists in the community. Table 39 sets out figures for the main conditions (i.e. each condition which accounted for more than 3.5 per cent of all patients) based on three general practice studies and other surveys. It must be emphasised that only a proportion of the patients with these conditions will 'need' physiotherapy at any particular time. The gaps in the table illustrate the paucity of data and lack of correspondence between terms used in physiotherapy practice and general practice. Nevertheless anyone planning an expansion of a district physiotherapy service should seek what data there are about the possible load of additional work that might accrue from alternative plans, given explicit assumptions about the amount and kind of treatment required by patients with the designated condition. The community physician should be able to help in obtaining incidence, prevalence and utilisation data.

Criteria for selecting patients for community physiotherapy

Most physiotherapy techniques can be adapted for use outside hospital departments. The only techniques that are not available at all to patients in their own homes are those associated with hydrotherapy. There is also, of course, no opportunity for any group work for patients seen individually in their own homes.

Facilities

The facilities available at the place of treatment influence the physiotherapy that can be offered. Thus some large health centres provide accommo-

dation and services which closely resemble a hospital physiotherapy department and here a comparable range of physiotherapy measures can be given. By contrast in smaller health centres a multipurpose room is only available for physiotherapy for a set number of hours each week, so that the amoung of equipment available is limited and consequently the variety of physiotherapy techniques which can be used. Similarly, space is usually limited in group practice premises; though one general practice in our study had a treatment room available where the physiotherapist was able to give a limited range of treatments. The relatively small number of patients that would be seen in any general practice would not justify the outlay on an extensive range of equipment but the space available is usually the deciding factor in general practice premises.

Clinical condition

The patient's clinical condition may be the deciding factor; patients with acute and serious respiratory conditions or in the early stages following a cerebrovascular accident may be medically unfit to travel but might benefit from physiotherapy. Both doctors and physiotherapists in the selected schemes stressed the importance of early assessment of stroke patients and the early treatment of certain musculoskeletal conditions.

Home and family environment

The purpose of referring patients for domiciliary physiotherapy may be closely linked to their immediate environment, for example, visits following discharge from hospital, assessments of the patient's ability to manage at home and the giving of advice to parents, home nurses and those caring for the patient. Children seen at school or in nursery groups are seen within the context of their daily routine and it is the physiotherapist's help which is required in the management of the child within this routine. For over 45 per cent of the patients seen during the study, the reason given for their place of treatment was that physiotherapy was related to their environment.

Distance

Travelling to the hospital may be the deciding factor: some patients who might benefit from physiotherapy find the distance from the hospital too great or the transport available inappropriate. Fourteen per cent of the patients in our study gave the distance from the hospital as a deciding factor in their place of treatment. Other patients may find that their disabilities or their

family ties (e.g. mothers with young children), compounded with distance or a difficult journey made regular attendance at hospital very difficult.

Physiotherapy in the community

The examination of the work of the 14 schemes in this study and the responses of the superintendent physiotherapists to our questions about the 'model cases' point to the need for some form of community physiotherapy service (at the very minimum for certain housebound patients, home assessments, home training and in certain areas to bring physiotherapy nearer to the population). Other data (e.g. the evidence presented to the Tunbridge Committee and the findings of some of the community surveys of handicapped people, D.H.S.S., 1972; Harris, 1971; Warren, 1974) have demonstrated the inadequate use of physiotherapy and rehabilitation services in general practice. We believe that there is a need for community physiotherapy services although we cannot quantify this need. Our data support and extend some of the recommendations of the Tunbridge and Harvard Davis sub-committees.

Tunbridge Report

The Tunbridge Sub-Committee accepted that physiotherapy facilities should be provided outside the district general hospital in areas where the population is scattered and journeys to the district general hospital are difficult; they recommended that such facilities should be based at peripheral hospitals or at group practice or health centres, but only when they would serve a community of 20,000 or more. In regard to domiciliary services the views of the Tunbridge Sub-Committee were somewhat restrictive. Their Report states "We consider it to be an uneconomic use of scarce skills for physiotherapists to give treatment in patients' homes. The only home visiting which should be undertaken by hospital physiotherapists is shortly before or after a patient's discharge from hospital to give advice to patients or their relatives or to make arrangements, in conjunction with the community team, for simple remedial exercises, home aids or equipment". Our findings suggest that the scope of domiciliary physiotherapy should be wider than these recommendations. It should not be limited to 'simple remedial exercises', and home-bound persons who cannot be easily transported to hospital departments should not be denied appropriate physiotherapy in their own home. Furthermore, we can find no reasons from our data to suggest that domiciliary physiotherapy should be limited to patients discharged from hospital; some patients, for example, may require a combination of out-patient treatment and surveillance with domiciliary physiotherapy, and others may be recommended domiciliary physiotherapy following an assessment in outpatients.

Harvard Davis Report

At the same time that the Tunbridge Sub-Committee was considering rehabilitation services, another sub-committee of the Standing Medical Advisory Committee under the chairmanship of Professor R. Harvard Davis (D.H.S.S., 1971) was discussing the organisation of group practice. This Sub-Committee found a lack of evidence on which to base any firm recommendations about the development of physiotherapy in general practice; it believed that there was "a need for some physiotherapy services outside the hospital, and that these could probably be best provided in association with the group practice team, with well-established links with the hospital department of physical medicine". In regard to physiotherapy the Sub-Committee concluded that:

"(i) Too little is known for us to make any firm recommendations as to the exact way in which the physiotherapy services might be provided in group practice.

(ii) Nevertheless, the attractions and advantages of providing such a service close to the patient's home seem obvious.

(iii) There is a very real need to provide training for general practitioners and, for that matter, hospital doctors as well, in the modern concepts and uses of the physiotherapy services.

(iv) There is a place for grant-aided research into the development of physiotherapy in group practice under stringent cost benefit control .....

(v) There is an obvious need for the closest integration of physiotherapeutic services in hospital and in the community .....

(vi) To build up and maintain such integration, close consultative relationships must be built up between family doctors and their hospital colleagues specialising in physical and geriatric medicine ....."

Reorganisation of N.H.S.

Both the Tunbridge and Harvard Davis sub-committees were working in the period of preparation for the reorganisation of the National Health Service in 1974. The major objective of the reorganisation was stated by Sir Keith Joseph in his foreword to the government's white paper (D.H.S.S., 1972) to be to create a single named authority to provide for the population of a given area of a comprehensible size the best health service that the money and skills available can provide, to balance needs and priorities rationally and to plan and provide the right combination of services for the benefit of the public. Sir Keith went on to state "the plans must therefore be effective in providing what patients need: primarily, treatment and care in hospital; support at home; diagnosis and treatment in surgery, health centre or out-patient clinic; or day care". He recognised that the domiciliary and other community services

were under-developed. Sir Keith Joseph saw reorganisation as bringing gains to the professional workers who "will retain their clinical freedom - governed as it is by the bounds of professional knowledge and ethics and by the resources that are available - to do as they think best for their patients .... (and) will have the opportunity of organising his or her own work better and of playing a much greater part than hitherto in the management decisions that are taken in each area".

Although the structure of the reorganised health service is frequently criticised, there is little argument about the desirability of achieving the underlying objectives set out by Sir Keith. Indeed the development and expansion of community services has been accepted as a priority for the health and personal social services in England even during this present period of financial stringency (D.H.S.S., 1976). It is with these objectives in mind that we make the following suggestions about future developments.

Development of district physiotherapy services

The two fundamental questions regarding the use and development of physiotherapy services are, first, what benefits are desired from physiotherapy and related to this, does physiotherapy produce these benefits effectively and efficiently? And, second, what should be the structure of the services provided? Our study has not attempted to examine the effectiveness and efficiency of physiotherapy, but we have repeatedly emphasised the need for research in that field, and comment on this, again, below. In regard to the second question above, our study suggests that community physiotherapy services, for which we have argued that there is a need, should be developed as part of a comprehensive district physiotherapy service. We have found no evidence to support a case for the development of publicly financed community or domiciliary physiotherapy services independently of area and district health services; either as part of the independent contractor arrangements of general practices or entirely divorced from the health services, for example, as part of the social services departments of local government authorities. Indeed, our data emphasise the need to develop community services in conjunction with the hospital services.

The criteria that determine the choice of patients to be treated in community and domiciliary services are clinical, social, and geographical factors. The determinants in respect of any particular patient may change during the course of an illness so that the patient may require treatment at the hospital

at one time and in the community at another time. Therefore, in the interests of comprehensive care, there must be close collaboration between if not integration of, the hospital and community services. Our data suggest that hospital, community and domiciliary physiotherapy are not separate entities but parts of a whole interacting system, the weakest points of which are likely to be the interactions between the parts and the interrelations between the 'physiotherapy system' and the other 'health and social systems'.

Most of the physiotherapists in our study maintained and valued professional links with their colleagues in the local hospital department. Some physiotherapists working outside the hospital thought that some of the hospital physiotherapy staff did not understand or accept the value of community physiotherapy; we accept that there is a need for further education (see below), but we were encouraged by the returns we received from the superintendents in regard to the 'model' cases which seemed to show widespread acceptance of some need for community physiotherapy.

The lack of widespread experience on which to base detailed proposals for community and domiciliary physiotherapy services and the limited knowledge of modern physiotherapy possessed by members of the caring professions in the community, also point to the need for future developments, and future local innovations, to be within the compass of a district service so that experience can be shared and the limited resources used effectively.

Responsibility for a district service

The responsibility for developing a comprehensive district physiotherapy service will, formally, be that of the area health authority discharged through the district management team and district physiotherapist. Whilst general stimulus and enquiry may come from the area to the district, we hope that initiatives for development of services will arise at district, sector, departmental and general practice levels, and, not least, from physiotherapists seeing the needs of patients. We hope that where the proposals are sound and have clear objectives, they will normally be supported.

It is neither possible nor desirable to produce a detailed blue-print for the development of a community physiotherapy service, because of the variations and differences between districts. However there are issues common to all schemes that should be considered in developing services outside the hospital; most of these have been discussed in this report and are summarised in the form of questions in appendix 7 reproduced from an earlier paper (Partridge, 1976).

Physiotherapy staff working with N.H.S. patients in general practice premises or in the patients' homes will formally be employees of the area health authority; schemes at present run by voluntary bodies that are seen to be part of a district service might collaborate with the district service, with the voluntary body either acting as 'agent' for the health authority in the same way as other voluntary body schemes are used to supplement other aspects of the health and social services, or remaining as a supportive body to the district community service.

Gradual and monitored development

The development of community physiotherapy services will have to be gradual-evolutionary rather than revolutionary. There are many reasons for this, in addition to the obvious one of lack of money, and, perhaps, lack of manpower, for any rapid expansion. There is a massive job to inform very many people in a number of professions about modern physiotherapy, as well as the further education of physiotherapists themselves to be undertaken. There is the need to establish the effectiveness of many physiotherapeutic measures and to understand in more detail the interrelationships between domiciliary, and other community and hospital physiotherapy. Developing a district physiotherapy service may itself produce or accelerate other changes in the physiotherapy profession such as the introduction of further specialisation and the reconsideration of the functions of physiotherapists. For all these reasons controlled and monitored growth is indicated.

Within the development that we are advocating there are a number of points that will need detailed consideration. These include manpower and terms and conditions of service, education and training for physiotherapists, collaboration with other professions and services, access to the physiotherapy service, including the referral of patients, communication and development of records, and further research.

Manpower

It is said that, overall, there is a shortage of trained physiotherapists in the hospital service which is aggravated by increasing demand for their services. Whilst a comprehensive district service must have regard to the economic deployment of staff, this must be done taking into account the needs of all patients, that is including those requiring a domiciliary service, and to the place of domiciliary visits in the total care of patients. In addition, the wishes of those staff who prefer to work in the community must be respected,

and consideration should be given to the necessary details of their terms of service. It is sometimes suggested that there are a substantial number of married physiotherapists who would like to return to the practice of their profession; whether this is so or not, and if so what conditions of service would be most likely to attract them, need examining.

Education and training for physiotherapists

The basic training of most of the physiotherapists practising today included little formal instruction about the resettlement of the patient at home and the role of those caring for him there, and about the relevant aspects of the behavioural sciences such as the psychological and social aspects of illness, disability and patient care. The new training curriculum which was implemented in 1975 requires some basic knowledge of these areas and hopefully physiotherapists who qualify after completing the new syllabus will be better equipped to take their place as members of the primary care team. Many schools of physiotherapy provide opportunities for students to work outside hospital departments under close supervision during their final year of training. This should be encouraged; giving students the opportunity to observe work outside hospital will enable them to appreciate the different aspects of this type of work and the ways in which it differs from hospital practice.

Physiotherapists who work outside hospital both in this country and overseas stress the need for those working in the community to be experienced and mature members of their profession. The physiotherapist in the community must cooperate closely with others caring for the patient. To do this she must be clear about her own role and also about the role of others caring for the patient and the structure of the organisations within which they work. The community physiotherapist must make decisions about treatment and management of the patient on her own but should be able to contact colleagues at the local hospital for advice when necessary. However other important decisions may also have to be made; if the physiotherapist is the only regular visitor she may be expected to make decisions about the patient's general condition, such as assessing if there is deterioration to an extent which should be reported to the doctor. The physiotherapist will be consulted on many matters, medical, social and domestic, and she must decide which are within her sphere of responsibility and which should be referred to others. This may often involve considerable tact and a mature experienced approach is essential in maintaining good relations with all those caring for the patient.

It is unlikely that the newly qualified physiotherapist will have the necessary muturity and experience to cope with independent work in the community. The 1975 Halsbury Report defined the basic grade physiotherapist as one working under supervision, and supervision is not usually available in the community setting. The exact period of professional experience necessary cannot be stated as this would vary both with the individual and with the type of professional experience, but at least two years general experience would be desirable, together with some special training. In addition, the majority of physiotherapists now in practice or returning to practice will need some further training before starting work outside hospital. As already stated, there is a difference in emphasis on certain aspects of physiotherapy in the community and it is in these areas that further education should be given.

In the community the physiotherapist must work closely with others. The ability to work closely and communicate clearly with others caring for the patient cannot be overstressed. The physiotherapists should have the opprtunity to learn about the work and the role of others caring for the patient. Talks from and discussions with general practitioners, health visitors, home nurses, social workers, and others, explaining the role they fulfil in looking after the patient, their expectations of physiotherapy, the structure of the organisations within which they work, and their different areas of responsibility are essential.

In the work outside hospital there is more emphasis on the educational role of the physiotherapist both on an individual and a group basis. On an individual basis, techniques of teaching physical management to those caring for the patient at home, including home nurses, the patient's relatives, and others are required, and on a group basis the work includes instructing nurses, wardens in residential homes, helpers in nursery groups and others in simple remedial procedures, techniques of physical management and the principles of rehabilitation. The physiotherapist's educative role in relation to the referring doctors needs emphasis. The physiotherapist must be able to indicate clearly those conditions which might reasonably be expected to benefit from physiotherapy and the results which might be achieved by treatment. She must also understand the importance of detailed feedback on the patient's progress to the referring doctor.

For the physiotherapist to function efficiently in the differing environments into which her work will take her, she must be aware of the psychological as well as the physical aspects of the situation. She must be sensitive to the patient's reactions to his illness or disability, to those of his family and to the interactions between them. A clear understanding of illness

behaviour and different coping strategies and an appreciation of some of the psychological and sociological aspects of disability is necessary for the physiotherapist to fulfil her role in the care of the patient.

It is urgent to organise training for physiotherapists to work in the community as services outside hospital are developing in many parts of the country. The Chartered Society of Physiotherapy should take a lead in this training and having defined the objectives initiate pilot courses without delay. Attachment to already existing services that have considerable experience could be linked to the courses organised by the Society. A certificate of proficiency after attending such a course could be considered a desirable requirement for any physiotherapist seeking a senior post in the community.

Collaboration with other professions and services

Many commentators on the health and social services point to the need for collaboration between the various professions - doctors, nurses, physiotherapists, occupational therapists, speech therapists, health visitors and social workers - who may have a particular professional contribution to make to the assessment and care of the patient or client, and to collaboration between the professions and the planners and the non-professional field workers of various services - health, social (including home-help services, day centres and residential homes), housing, employment, education and social security. It is customary to talk of 'team work', although what this implies is usually left vague; at worst, it seems to suggest a hierarchical arrangement with one professional group as the hereditary captain or leader giving instructions to the other members of the team. Other possibilities that are suggested are the use of case conferences and joint committees. Whilst these can be useful and have their place, they are not solutions to all the problems of collaboration - not least because they are expensive in time (and therefore salaries) and inappropriate for the majority of situations where collaboration is required. Whatever formal methods of collaboration are required, and some are, essential pre-requisites for personal collaboration are confidence on the part of each participant about his own role and contribution to the care of the patient and an understanding, acceptance and appreciation by each collaborating person of the role and contribution of all the others concerned. In short, every effort must be made to inform and educate the professions and representatives of the services mentioned above about the scope of modern physiotherapy and to teach some of the skills and expertise to certain colleagues in other professions (e.g. nurses). Some of these points have been discussed in the Report of the

Working Party on The Remedial Professions under the chairmanship of Mr. E.L. McMillan (D.H.S.S., 1973).

Access and referral

One reason given for the development of physiotherapy in general practice is the sheer difficulty and delay in obtaining a service from the district general hospital (often, we might add, because of their own shortages of staff and consequential long waiting lists). The Tunbridge Sub-Committee was against the direct referral of patients to the physiotherapist in hospital on the grounds that "at the present time many general practitioners are out of touch with the modern concepts of remedial treatment and departments might become over burdened with patients for whom unnecessary or inadequate treatment has been prescribed". We would argue that these difficulties can be overcome and must be if a comprehensive district physiotherapy service is to be developed. The general practitioner will expect to be able to call in the skills of the physiotherapist as part of his treatment schedule for appropriate patients in general practice without first obtaining the opinion of a consultant. Without this right, pressure will continue for the separate employment of physiotherapists in general practice. Safeguards that could be introduced in offering open-access are first the education of the referring doctors (and access may have to be limited initially to doctors who have acquainted themselves with the scope of modern physiotherapy); second, the right of the physiotherapist to decline to undertake treatment for a patient if the request is inappropriate, and to terminate treatment if it is no longer of value; and, third, as is the case in pathology and radiology departments that offer open-access services to general practitioners, the right of the head of the department to discuss the needs of any of the patients with the referring doctor.

Norman, Clifton, Williams and Nichols (1975) have described a successful experiment of offering access by general practitioners to the physiotherapy department of a district general hospital. The authors concluded that the department worked well and that limited resources were "used to greatest advantage to maintain a prompt assessment and treatment service, which relies heavily on the competence of the therapists and their adherence to departmental policy. Such a service is not only of great help to general practitioners and their patients but may also be expected to reduce the pressure on hospital-based outpatient clinics".

Communication

Some of the physiotherapists in our study felt that they were given inadequate information about the patients referred to them and a few that some of the referrals they received were inappropriate. The Tunbridge Sub-Committee reported that they received what they considered to be "justifiable complaints from remedial staff about the inadequate prescriptions for treatment that are given to them by many doctors". Scrutton and Gilbertson (1975), have also remarked "that mistaken referrals do occur and this is partly due to a lack of time for the medical profession to enquire further ..... but it is equally because because the findings, treatments and results of physiotherapy are seldom reported back to the doctor. The lack of feedback from the physiotherapist fosters mistaken referrals and does nothing to put her in touch with those whom she might have treated effectively".

The problem is partly one of education and partly of a clarification of the roles of the referring doctor and the therapist. Nichols (1976) emphasised that the prescribing of physical therapy should be as precise as the prescribing of drugs and that such detailed prescribing pre-supposes detailed knowledge of the agencies employed, and a willingness to monitor the patient's progress very closely and to re-prescribe at frequent intervals. He saw the need to encourage the therapists to assume greater responsibility in the detailed prescribing. However, if this is to happen the therapist must be given adequate information from the doctor. This information, Nichols suggested, must include:

(1) An accurate diagnosis
(2) Clear indications of the aims of the treatment
(3) Clear indication of the likely outcome
(4) Indications where drug therapy or disease characteristics may necessitate particular care in the administration of various treatments.

An aid to better communication can be the use of purpose-designed forms for referral, record of progress and follow-up. The introduction of referral forms requesting the information under the headings suggested by Nichols and the requirement of physiotherapists to report back to the referring doctor about progress might of themselves make a substantial impact on improving the use of physiotherapy services and limiting their abuse.

Further research

We have stated in a number of places in this report that there is need for further research. We believe that such research should be directed at specific questions. The previously published studies and our study convey the general picture of what has been developed and is currently going on. Now the need is to examine specific issues in the following three fields.

(a) The effectiveness of physiotherapeutic measures

Cochrane (1972) has challenged the medical profession to submit all aspects of their work to scientific appraisal, to establish the effectiveness of their advice and treatments, to measure the costs and to reject those aspects of their work shown to be ineffective or inefficient. This challenge applies equally to physiotherapy - and all physiotherapy, not only to community physiotheraphy. Zinovieff (1973), Nichols (1975) and others have called attention to the need to evaluate the effectiveness of physiotherapy and to measure its costs more precisely. A number of attempts have been made to evaluate certain procedures often with equivocal results (for bibliography, see appendix 8). The evaluation procedures are necessarily complex when applied to physiotherapy as so many psychological and social factors are frequently involved. In straightforward drug trials, it is usual to allow for the interplay of these factors by the random allocation of patients to a treatment or control group, the latter receiving placebo treatments and neither the treating doctors nor the patients being aware who is receiving active treatment or placebo. This is not usually possible in physiotherapy practice, yet it is important to separate the psychological and social effects of receiving treatment from a sympathetic physiotherapist from the extent to which the physiotherapy has had any beneficial effect on the course of their physical disorders.

(b) Presenting problems, diagnoses and conditions of patients

Our study has highlighted the inadequacy of the diagnosis of the patient's primary condition as an indicator of the physiotherapy that might be required. The presence of other diagnoses, the severity of the conditions, their sequelae, and social and family conditions are all significant. Work is required to examine this complex area as it is critical to improving communication between physiotherapists and doctors, to understanding the rationale of some physiotherapeutic measures, and to the evaluation of the effectiveness of treatment.

(c) Development of services

Many aspects of the development of services require researching. We are not yet able to measure need and as physiotherapy is a treatment well accepted by patients, the demand for the expansion of services could be considerable. Alas, the fact that the therapists enjoy treating patients and feel that it is worthwhile and that patients appreciate the treatment and are grateful, does not mean that such a service is in fact a cost effective way of spending limited health service money. As we have already suggested, developments should be controlled and monitored and developments with a defined objective rather than a general expansion of a service should be favoured. We have suggested that there should be more experiments of open access by general practitioners to hospital based physiotherapy departments. Other possibilities are examinations of the contributions of physiotherapists to the early treatment of a number of acute conditions seen in general practice, to the care of frail elderly people living at home, of her role in day hospitals and residential institutions, of the help she might give, often in association with an occupational therapist, to handicapped people living at home (Goodworth, 1974), and of her role in schemes of early discharge from the hospitals such as the proposals for XYZ scheme (or hospital-at-home) put forward by Cang (1977).

Then there are a number of organisational details about a comprehensive district service that require attention. What criteria should be used in deciding on the appropriate place of treatment of individual patients? What should be the referral procedure? What administrative arrangements should be made? How many and what grades of staff are required? What records should be used and kept? What about problem orientated records? What management data, including costs, are required?

But, underlying these questions, we return again to the over-riding importance of establishing effectiveness and indicators of normative needs. The questions that have to be answered in relation to each medical condition are:

(1) To have physiotherapy or not?
(2) Who should have physiotherapy? Everyone with a given condition or a sub-group?
(3) What physiotherapy to use?
(4) What purpose is the physiotherapy intended to achieve?
(5) Has the effectiveness of the physiotherapy been established?
(6) Where should the physiotherapy be given?
(7) How often and for how long should the physiotherapy be given?
(8) When should the physiotherapy be terminated?

In the planning of a service it is necessary to know how many people in the community have the conditions, how many need physiotherapy, what physiotherapy is needed and the consequential requirements for staff and facilities. It is only at this stage that real decisions about priorities can be taken.

Research training

Physiotherapists should be encouraged to initiate and conduct research as well as to participate as equal partners in studies. This involvement in research will help to deepen their understanding of their specialty, and should enhance the prospect that research findings will be implemented. There should be "opportunities for them to be trained in research work and having been trained they should be given the time and facilities to work on research projects and to be members of research teams" to quote McMillan's report. Short courses on research appreciation could help to develop interest and longer courses and research fellowships should be introduced. The recognition of a few research centres as providing a consultancy service to physiotherapists developing and conducting research could also be helpful. The Chartered Society of Physiotherapy already keeps a register of research projects in physiotherapy; every effort should be made to keep this up to date and accurate by regularly seeking details about progress and the commencement of new projects. It is important that those physiotherapists actually undertaking research should come together to provide a nucleus for the development of research expertise within the profession.

TABLE 1

NUMBER OF FORMS RETURNED BY EACH SCHEME

Schemes		Number of forms	Per cent	Group total	
				Number	Per cent
General practice	1	39	5.0	67	8.6
	2	28	3.6		
Community	3	142	18.3	142	18.3
Paediatric	4	15	1.9	75	9.6
	5	60	7.7		
Hospital based	6	16	2.1	118	15.2
	7	77	9.9		
	8	25	3.2		
Mobile	9	115	14.8	156	20.1
	10	24	3.1		
	11	17	2.2		
Health centre	12	129	16.6	219	28.2
	13	28	3.6		
	14	62	8.0		
Total		777	100%	777	100

FIGURE 1

AGE SEX DISTRIBUTION OF 777 PATIENTS IN THE STUDY

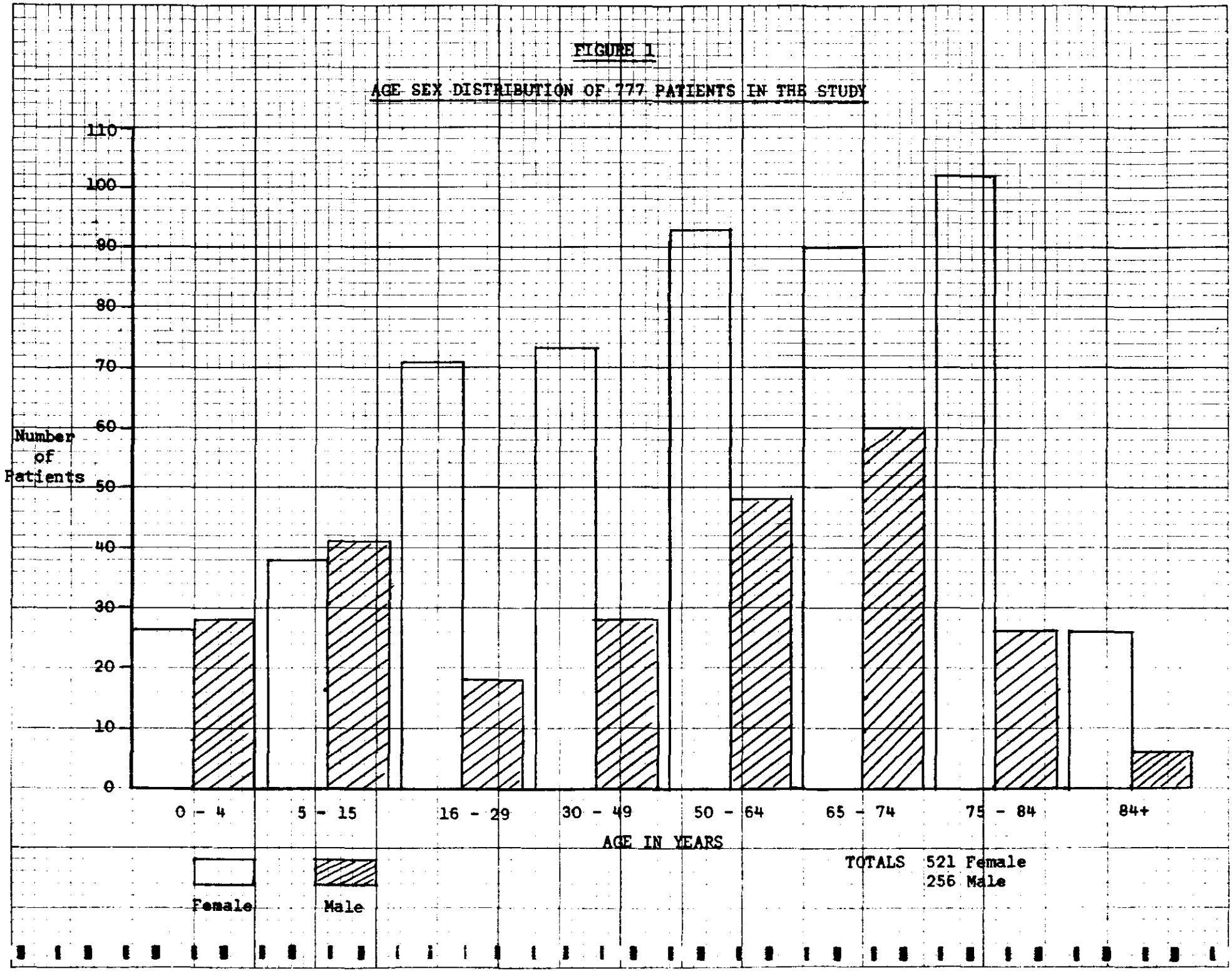

TABLE 2

AGE AND SEX OF PATIENTS BY SCHEME

Schemes		Age groups in years by sex																Total	Group total
		0-4		5-15		16-29		30-49		50-64		65-74		75-84		85+			
		F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M		
General practice	1	0	0	0	0	0	0	1	2	5	5	4	8	7	4	3	0	39	67
	2	0	0	0	1	1	2	4	4	6	2	4	1	1	1	1	0	28	
Community	3	11	4	10	13	8	3	12	4	12	10	10	9	23	6	6	1	142	142
Paediatric	4	4	5	4	2	0	0	0	0	0	0	0	0	0	0	0	0	15	75
	5	10	15	15	19	1	0	0	0	0	0	0	0	0	0	0	0	60	
Hospital based	6	0	0	0	0	0	0	0	2	2	1	4	2	3	1	1	0	16	118
	7	2	2	1	2	1	1	6	0	19	4	12	10	12	2	1	2	77	
	8	0	0	0	0	1	0	2	1	1	1	7	3	3	2	3	1	25	
Mobile	9	0	2	2	1	1	2	9	2	13	5	23	12	26	4	11	2	115	156
	10	0	0	0	0	0	0	3	0	5	3	5	4	3	0	1	0	24	
	11	0	0	0	0	0	0	0	0	1	1	4	2	7	2	0	0	17	
Health centre	12	0	0	4	1	25	8	21	6	23	9	13	5	9	5	0	0	129	219
	13	0	0	0	1	0	1	5	4	3	6	3	2	3	0	0	0	28	
	14	0	0	2	1	33	1	10	3	3	1	1	2	5	0	0	0	62	
Total		27	28	38	41	71	18	73	28	93	48	90	60	102	27	27	6		777

TABLE 3

MARITAL STATUS BY AGE AND SEX

Marital status	Age groups in years																Total
	0-4		5-15		16-29		30-49		50-64		65-74		75-84		85+		
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Single	27	28	38	41	13	13	3	4	10	3	10	2	15	3	6	0	216
Married	0	0	0	0	58	3	61	22	61	44	58	51	32	18	4	4	416
Widowed	0	0	0	0	0	0	3	0	21	1	22	6	55	6	17	2	133
Other	0	0	0	0	0	2	6	2	1	0	0	1	0	0	0	0	12
Total	27	28	38	41	71	18	73	28	93	48	90	60	102	27	27	6	777

TABLE 4

MARITAL STATUS BY SCHEME

Schemes		Marital status				Total	Group total
		Single	Married	Widowed	Other		
General practice	1	3	19	16	1	39	67
	2	6	19	3	0	28	
Community	3	59	57	21	5	142	142
Paediatric	4	15	0	0	0	15	75
	5	60	0	0	0	60	
Hospital based	6	2	10	4	0	16	118
	7	14	40	22	1	77	
	8	3	16	6	0	25	
Mobile	9	20	64	29	2	115	156
	10	1	15	8	0	24	
	11	2	10	5	0	17	
Health centre	12	23	94	11	1	129	219
	13	3	18	6	1	28	
	14	5	54	2	1	62	
Total		216	416	133	12		777

TABLE 5

OCCUPATIONAL STATUS BY AGE AND SEX

Occupational status	Age groups in years																Total
	0-4		5-15		16-29		30-49		50-64		65-74		75-84		85+		
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Employed full time	0	0	0	0	18	9	13	18	10	20	0	2	0	2	0	0	92
Employed part time	0	0	0	0	9	1	12	1	13	2	1	2	0	0	0	0	41
Unemployed	0	0	0	0	3	3	4	7	4	17	0	0	0	0	0	0	38
Full time education	0	4	32	35	3	3	1	0	0	0	0	0	0	0	0	0	78
Retired	0	0	0	0	0	0	0	1	7	7	27	56	41	25	17	6	187
Housewife	0	0	0	0	37	0	42	0	55	0	62	0	60	0	9	0	265
Other	27	24	6	6	1	2	1	1	4	2	0	0	1	0	1	0	76
Total	27	28	38	41	71	18	73	28	93	48	90	60	102	27	27	6	777

TABLE 6

OCCUPATIONAL STATUS BY SCHEME

Schemes		Occupational status							Total
		Employed		Unemployed	Full time education	Retired	House-wife	Other	
		Full time	Part time						
General practice	1	8	0	2	0	24	5	0	39
	2	10	6	0	2	3	6	1	28
Community	3	4	1	19	19	34	40	25	142
Paediatric	4	0	0	0	4	0	0	11	15
	5	0	0	0	36	0	0	24	60
Hospital based	6	1	0	0	0	10	4	1	16
	7	4	6	4	2	19	37	5	77
	8	2	0	1	0	7	14	1	25
Mobile	9	7	1	3	4	53	43	4	115
	10	2	1	0	0	9	12	0	24
	11	2	0	0	0	5	9	1	17
Health centre	12	31	13	7	7	15	55	1	129
	13	5	5	2	1	6	8	1	28
	14	16	8	0	3	2	32	1	62
Total		92	41	38	78	187	265	76	777

TABLE 7

HOUSEHOLD COMPOSITION

Type of household	Number of patients
Family household (more than one other adult)	320
One other adult	194
Lives alone	93
Not applicable	95
Not known	75
Total	777

TABLE 8

LEVEL OF MOBILITY OF PATIENTS WHEN REFERRED FOR PHYSIOTHERAPY

Schemes		Level of mobility					Total	Group total
		Bed-fast	Chair bound	House bound	Limited mobility	Mobile		
General practice	1	10	1	15	1	12	39	67
	2	2	0	0	1	25	28	
Community	3	15	29	28	25	30	127	127
Paediatric	4	0	4	0	2	0	6	41
	5	1	13	0	12	9	35	
Hospital based	6	0	4	4	8	0	16	114
	7	30	14	21	3	5	73	
	8	0	5	3	11	6	25	
Mobile	9	12	9	30	23	39	113	159
	10	3	3	9	5	4	24	
	11	4	1	2	8	2	17	
Health centre	12	0	4	2	24	99	129	219
	13	5	3	6	8	6	28	
	14	0	2	1	4	55	62	
Total		82	92	121	135	292		722

55 children under 5 were excluded from this table

TABLE 9

NUMBER OF AGENCIES VISITING THE PATIENTS BY AGE

Age groups in years	Number of agencies visiting						Total	None	Not known	Total
	1	2	3	4	5	6				
0-4	8	7	0	0	0	0	15	16	24	55
5-15	12	4	0	0	0	0	16	32	31	79
16-29	21	30	1	0	0	0	52	29	8	89
30-49	11	9	5	0	0	0	25	55	21	101
50-64	27	13	7	1	1	1	50	75	16	141
65-74	51	15	6	4	1	0	77	55	18	150
75-84	35	21	13	3	0	0	72	44	13	129
Over 85	12	5	3	1	0	0	21	9	3	33
Total	177	104	35	9	2	1	328	315	134	777

TABLE 10

NUMBER OF AGENCIES VISITING PATIENTS DURING THE STUDY

Schemes		Number of agencies						Unknown	None	Total
		1	2	3	4	5	6			
General practice	1	7	9	6	2	0	0	15	0	39
	2	3	1	0	0	0	0	2	22	28
Community	3	30	20	5	2	1	0	22	62	142
Paediatric	4	2	2	0	0	0	0	11	0	15
	5	10	1	0	0	0	0	37	12	60
Hospital based	6	1	3	1	0	0	0	1	10	16
	7	30	11	7	1	0	0	0	28	77
	8	12	1	1	0	0	1	10	0	25
Mobile	9	30	9	2	1	0	0	10	63	115
	10	4	4	6	0	0	0	1	9	24
	11	7	1	3	1	0	0	0	5	17
Health centre	12	31	5	1	2	0	0	6	84	129
	13	4	4	3	0	1	0	0	16	28
	14	6	33	0	0	0	0	19	4	62
Total		177	104	35	9	2	1	134	315	777

TABLE 11

TYPE OF AGENCIES VISITING PATIENTS DURING THE STUDY

Visits by	Number of visits	Per cent
Home nurse	163	30
Health visitor	114	21
Home help	90	16.5
Social worker	60	11
Meals on wheels	41	7.5
Occupational therapist	19	3.5
Other agencies	57	10.5

This table refers to 328 patients who were visited during the study.

TABLE 12

THE PRESENTING PROBLEM OF 720 PATIENTS

Type of problem	Number of patients	Per cent
Pain	135	18.8
Stiffness	120	16.7
Abnormality of movement	112	15.6
Gait and walking	104	14.4
Generalised immobility	91	12.6
Respiratory	50	6.9
Developmental retardation	47	6.5
Contractures	16	2.2
Others not clearly stated	45	6.3
Total	720	100

57 women attending for ante and post natal classes were omitted from this table.

TABLE 13

PATIENTS PRESENTING PROBLEM BY SCHEME

Type of Scheme		Pain	Stiffness	Movement	Gait	Immobility	Respiratory	Developmental retardation	Contracture	Other	Total
General practice	1	3	8	8	0	10	9	0	0	1	39
	2	17	5	3	1	0	1	0	0	1	28
Community	3	6	6	32	34	28	7	9	10	10	142
Paediatric	4	0	0	15	0	0	0	0	0	0	15
	5	0	0	18	3	0	0	37	0	2	60
Hospital based	6	1	2	0	7	4	0	0	0	2	16
	7	3	3	8	21	26	10	0	3	3	77
	8	5	8	0	5	4	1	0	0	2	25
Mobile	9	30	28	17	11	9	8	1	3	8	115
	10	3	9	1	8	3	0	0	0	0	24
	11	2	11	4	0	0	0	0	0	0	17
Health centre	12	47	32	4	6	2	8	0	0	10	109
	13	9	1	2	2	4	4	0	0	6	28
	14	9	7	0	6	1	2	0	0	0	25
Total		135	120	112	104	91	50	47	16	45	720

57 Patients attending ante and post natal classes omitted from this table.

TABLE 14

MAIN DIAGNOSES AND CONDITIONS OF 777 PATIENTS

Main diagnoses and conditions	I.C.D. Number	Patients		Total	Per cent
		Female	Male		
Musculoskeletal system and connective tissue					
Rheumatoid arthritis	(712)	26	3	29	3.7
Osteoarthrosis	(713)	69	17	86	11.1
Cervical spondylosis	(713.1)	21	8	29	3.7
Prolapsed intervertebral disc	(725.9)	3	1	4	0.5
Frozen shoulder	(717.1)	9	3	12	1.6
Low back pain	(727.7)	23	9	32	4.1
Other musculoskeletal conditions		17	8	25	3.2
Nervous system					
Hemiplegia	(344)	58	48	106	13.6
Parkinson's disease	(342)	4	4	8	1.1
Multiple sclerosis	(340)	26	7	33	4.3
Paraplegia	(344)	1	0	1	0.1
Cerebral palsy	(343)	34	36	70	9.0
Epilepsy	(345.9)	1	0	1	0.1
Muscular dystrophy	(330.3)	1	3	4	0.5
Other diseases of nervous system		8	4	12	1.6
Circulatory system					
Cerebrovascular disease	(438)	3	1	4	0.5
Other circulatory conditions		6	2	8	1.1
Obstetric and gynaecological conditions					
Ante and post natal	(Y60Y61)	57	0	57	7.4
Gynaecological conditions		4	0	4	0.5
Respiratory system					
Bronchitis	(491)	8	8	16	2.1
Asthma	(493)	2	0	2	0.3
Bronchiectasis	(518)	7	3	10	1.3
Pneumonia	(483	5	6	11	1.4
Other respiratory conditions		0	6	6	0.7
Trauma and orthopaedics					
Fractured femur	(N820)	6	4	10	1.3
Fractured humerus	(N812)	11	2	13	1.6
Other fractures		19	2	21	2.7
Sprains knee	(N844)	8	10	18	2.3
Other sprains	(N848)	8	10	18	2.3
Amputations		7	3	10	1.3
Total hip replacements	(S811)*	6	1	7	0.9
Other trauma		8	10	18	2.3
Congenital abnormalities					
Cystic fibrosis	(273.0)	1	2	3	0.4
Spina bifida	(741)	6	3	9	1.2
Developmental retardation	(796.0)	14	17	31	4.0
Other congenital abnormalities		10	3	13	1.6
Other conditions not listed					
Malignant conditions		2	5	7	0.9
Other disease and condition		21	7	28	3.6
Obesity	(277)	1	0	1	0.1
	Total	521	256	777	100

(I.C.D. codes in brackets)

*The classification of surgical operations O.P.C.S. 1971 has been used to classify surgical conditions.

TABLE 15

MAIN DIAGNOSTIC CATEGORIES OF PATIENTS IN THE 14 SCHEMES

	Schemes														Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Rheumatoid arthritis	1		10			3	2	1	4	1	2	1	2	2	29
Osteoarthrosis	3	4	8			1	2	7	24	5	5	18	3	6	86
Cervical spondylosis			2				3	1	6		1	9	2	5	29
Frozen shoulder		2					1	1		1		5		2	12
Low back pain		10					1		4	2		7	5	3	32
Musculoskeletal conditions		4	2			1	1	2	10		2	6	1		29
Hemiplegia	10	3	34			3	22	2	18	5	3	3	2	1	106
Parkinson's disease			4						1	2			1		8
Multiple sclerosis	2		9			4	3	1	9	1		3	1		33
Cerebral palsy	0		22	9	33		3		2			1			70
Other diseases of nervous system	1		4	1	2		2	2		1		3	1	1	18
Circulatory conditions			4				1		3		1	3			12
Ante and post natal												20		37	57
Gynaecological conditions		1										2	1		4
Bronchitis	2		2				4		3			5			16
Respiratory diseases	7	1	3				5	1	4	1		2	3	2	29
Fractured femur	2					1	5			1		1			10
Other fractures	2		3			1	1	3	9	2	2	8	1	2	34
Sprains	5	3						2	8			17	1		36
Amputations			3			1	4					2			10
Other orthopaedic conditions	1		4				6		2	2		8	1	1	25
Spina bifida			4	3	2										9
Developmental retardation			8	1	20		1		1						31
Congenital abnormality			8	1	2		3		1				1		16
Malignant condition			1		1				2			1	2		7
Other conditions	3		7			1	7	2	4		1	4			29
Total	39	28	142	15	60	16	77	25	115	24	17	129	28	62	777

Key to Schemes

1, 2	Attached to General Practices
3	Community Scheme
4, 5	Paediatric Services
6, 7, 8	Hospital Based Schemes
9, 10, 11	Mobile Services
12, 13, 14	Health Centres

TABLE 16

MAIN DIAGNOSIS OF PATIENTS BY AGE GROUP

Main diagnosis	Age groups in years								Total
	0-4	5-15	16-29	30-49	50-64	65-74	75-84	85+	
Rheumatoid arthritis	0	0	0	4	10	6	9	0	29
Osteoarthrosis	0	1	1	5	15	20	33	11	86
Cervical spondylosis	0	0	0	7	10	5	5	2	29
Prolapsed disc	0	0	0	3	1	0	0	0	4
Frozen shoulder	0	0	0	2	7	2	1	0	12
Low back pain	0	1	3	17	4	4	3	0	32
Other musculoskeletal conditions	0	2	2	3	6	5	5	2	25
Hemiplegia	0	0	0	8	21	52	21	4	106
Parkinson's disease	0	0	0	0	0	4	3	1	8
Multiple sclerosis	0	0	0	13	13	6	1	0	33
Cerebral palsy	20	40	8	2	0	0	0	0	70
Other nervous diseases	0	3	2	3	5	5	0	0	18
Cerebrovascular disease	0	0	0	0	0	2	2	0	4
Other circulatory conditions	1	0	0	1	0	3	3	0	8
Obstetric & Gynaecological	0	0	49	12	0	0	0	0	61
Bronchitis	0	1	0	0	1	7	5	2	16
Other respiratory diseases	0	2	2	4	8	6	6	1	29
Fractured femur	0	0	1	0	3	3	2	1	10
Other fractures	0	1	0	2	10	7	11	3	34
Sprains	0	3	8	11	9	2	2	1	36
Other orthopaedic conditions	0	1	5	2	8	8	8	3	35
Congenital abnormalies	14	10	1	0	0	0	0	0	25
Developmental retardation	18	11	2	0	0	0	0	0	31
Other diseases and conditions	2	3	5	2	10	3	9	2	36
Total	55	79	89	101	141	150	129	33	777

TABLE 17

MAIN DIAGNOSTIC CATEGORIES OF PATIENTS BY PRESENTING PROBLEM

Main diagnostic categories	Presenting problems									Total
	Pain	Stiffness	Move-ment	Gait	Immobility	Respir-atory	Develop-mental	Contrac-tures	Other	
Rheumatoid arthritis	2	7	0	7	10	1	0	0	2	29
Osteoarthrosis	32	28	0	12	7	0	0	0	7	86
Cervical spondylosis	14	10	0	2	1	0	0	0	2	29
Frozen shoulder	4	8	0	0	0	0	0	0	0	12
Low back pain	31	1	0	0	0	0	0	0	0	32
Other musculoskeletal conditions	16	10	0	0	1	0	0	0	2	29
Hemiplegia	0	7	37	26	31	0	0	3	2	106
Parkinson's disease	0	0	1	3	3	0	0	1	0	8
Multiple Sclerosis	0	0	10	8	8	0	0	1	6	33
Cerebral palsy	0	0	39	6	2	0	17	5	1	70
Other nervous diseases	2	1	6	3	4	0	0	0	2	18
Circulatory conditions	0	1	1	2	1	0	1	0	6	12
Gynaecological conditions	0	0	0	0	0	0	0	0	4	4
Bronchitis	0	0	0	0	0	16	0	0	0	16
Other respiratory diseases	0	0	0	1	0	28	0	0	0	29
Fractured femur	0	1	0	4	5	0	0	0	0	10
Other fractures	4	24	0	5	1	0	0	0	0	34
Sprains	25	9	0	2	0	0	0	0	0	36
Amputations	0	1	0	6	2	0	0	1	0	10
Other orthopaedic conditions	1	9	1	8	3	0	1	1	1	25
Spina bifida	0	0	4	2	1	0	2	0	0	9
Developmental retardation	0	0	6	0	3	0	21	0	1	31
Other congenital abnormalities	0	0	2	1	1	3	3	4	2	16
Malignant conditions	0	0	1	1	1	2	0	0	2	7
Other diseases and conditions	4	3	4	5	6	0	2	0	5	29
Total	135	120	112	104	91	50	47	16	45	720

57 women attending ante and post natal classes omitted

TABLE 18

THE NUMBER OF ADDITIONAL DIAGNOSES OF PATIENTS BY MAIN DIAGNOSIS

Diagnostic categories	Number	Patients with additional diagnoses and conditions							
		None	1	2	3	4	5	6	7
Rheumatoid arthritis	29	15	12	1	1	0	0	0	0
Osteoarthrosis	86	35	33	13	3	1	1	0	0
Cervical spondylosis	29	12	11	2	2	1	1	0	0
Prolapsed disc	4	2	1	1	0	0	0	0	0
Frozen shoulder	12	6	5	1	0	0	0	0	0
Low back pain	32	23	6	3	0	0	0	0	0
Other musculoskeletal conditions	25	13	5	4	1	2	0	0	0
Hemiplegia	106	39	41	16	9	0	1	0	0
Parkinson's disease	8	4	3	0	1	0	0	0	0
Multiple sclerosis	33	26	6	0	1	0	0	0	0
Cerebral palsy	52	13	5	20	10	4	0	0	0
Infantile hemiplegia	18	7	7	2	1	0	0	1	0
Other diseases of nervous system	18	5	9	3	1	0	0	0	0
Circulatory conditions	12	3	4	3	0	2	0	0	0
Ante and post natal	57	57	0	0	0	0	0	0	0
Gynaecological	4	3	1	0	0	0	0	0	0
Bronchitis	16	4	8	2	1	0	0	1	0
Pneumonia	11	1	8	1	1	0	0	0	0
Other respiratory diseases	18	7	8	2	1	0	0	0	0
Fractured femur	10	2	4	2	2	0	0	0	0
Fractured humerus	13	6	5	1	1	0	0	0	0
Other fractures	21	8	9	2	2	0	0	0	0
Sprains	36	30	6	0	0	0	0	0	0
Amputations	10	3	3	3	1	0	0	0	0
Total hip replacement	7	1	4	2	0	0	0	0	0
Other orthopaedic conditions	18	8	6	1	3	0	0	0	0
Spina bifida	9	5	4	0	0	0	0	0	0
Developmental retardation	31	2	9	7	8	3	1	0	1
Congenital abnormality	16	7	3	5	1	0	0	0	0
Other diseases and conditions	36	13	9	9	2	0	2	1	0
Total	777	360	235	106	53	13	6	3	1

TABLE 19

SPECIALTIES OF DOCTORS REFERRING PATIENTS

Doctors	Number of patients	Per cent
General practitioner	475	61.1
Paediatrician Paediatric neurologist	95	12.2
Orthopaedic consultant	75	9.7
Consultant in rheumatology and rehabilitation	51	6.6
Other specialties* (for details see below	81	10.4
Total	777	100

*List of other 'specialties' referring patients	Number of Patients referred
Consultant in subnormality	13
Neurologist	9
Community health doctor	9
Consultant physician	8
Chest physician	7
Clinical assistant subnormality	5
Community physician	4
District nurse (patient visited, G.P. informed)	3
Surgical registrar	3
Geriatrician	3
Doctor to children's convalescent home	3
Consultant psychiatrist	2
Consultant surgeon	2
Casualty department	2
Medical officer, local authority	2
Plastic surgeon	1
Neurosurgeon	1
Cardiologist	1
Gynaecologist	1
Gastroenterologist	1
Registrar in subnormality	1

TABLE 20

THOSE INSTIGATING OR INVOLVED IN REFERRAL

Others involved or instigating	Numbers instigating	Numbers involved	Total
Hospital physiotherapist	40	19	59
Home nurse	12	35	47
Health visitor	31	12	43
Midwife	31	0	31
Speech therapist	8	8	16
Hospital occupational therapist	1	13	14
Social worker	6	8	14
Other persons*	8	25	33
Total	137	120	257

*Others instigating or involved in referral

Instigating	Number
Superintendent physically handicapped centre	3
School matron	1
Sister maternity ward	1
Community occupational therapist	1
S.R.N. in health centre	1
Casualty nurse	1
	8

Involved	Number
Matron old people's home	5
Assessment service spina bifida	2
Medical officer in baby clinic	1
Physician	1
Paediatrician	1
School medical officer	1
Friend of patient	1
Orthopaedic consultant	11
Home help	2
	25

TABLE 21

TYPE OF REQUEST ON REFERRAL BY REFERRING DOCTOR

Type of request	Referring doctors					Total
	General practitioner	Consultants				
		Paediatric	Orthopaedic	Rheumatology & rehabilitation	Other specialities	
"Physiotherapy please"	159 (33.5)	66 (69.5)	16 (21.3)	7 (13.7)	22 (27.2)	270
Specific treatment	93 (19.6)	6 (6.3)	26 (34.7)	10 (19.6)	16 (19.8)	151
General reference to treatment	41 (8.6)	4 (4.2)	6 (8.0)	6 (11.8)	4 (4.9)	61
Please assess	28 (5.9)	10 (10.5)	1 (1.3)	7 (13.7)	9 (11.1)	55
Miscellaneous	8 (1.7)	0	0	0	10 (12.3)	18
Verbal referral	146 (30.7)	9 (9.5)	26 (34.7)	21 (41.2)	20 (24.7)	222
Total	475 (100)	95 (100)	75 (100)	51 (100)	81 (100)	777

TABLE 22

ACCESSIBILITY OF MEDICAL ADVICE FROM REFERRING DOCTORS

Referring doctor	Total No. of Patients	Advice available					
		Whenever necessary		At specified times		With difficulty	
		Number	Per cent	Number	Per cent	Number	Per cent
General practitioner	475	404	85.0	67	14.0	4	1.0
Paediatrician	95	66	69.5	27	28.4	2	2.1
Orthopaedic consultant	75	41	54.7	30	40.0	4	5.3
Consultant in rheumatology & rehabilitation	51	40	78.4	8	15.8	3	5.8
Other	81	54	66.7	21	25.9	6	7.4
Total	777	605		153		19	

TABLE 23

STANDARD REVIEW AND DISCHARGE PROCEDURES

REPORTED BY PHYSIOTHERAPISTS

Patients reviewed by	Procedures adopted for patients of general practitioners discharged by			
	Physiotherapist	General practitioner	General practitioner & physiotherapist	General practitioner or physiotherapist
Physiotherapist	21			
General practitioner	1	3		
General practitioner & physiotherapist	3		1	
General practitioner or physiotherapist	1			

Based on replies from 30 physiotherapists

Patients reviewed by	Procedures adopted for patients of consultants discharged by			
	Physiotherapist	Consultant	Consultant & physiotherapist	Consultant or physiotherapist
Physiotherapist	6	2		1
Consultant	2	11		
Consultant & physiotherapist	2	1	7	1
Consultant or physiotherapist				1

Based on replies from 35 physiotherapists

TABLE 24

PHYSIOTHERAPY MEASURES BY PATIENT'S DIAGNOSTIC CATEGORY

Main diagnostic category	Physiotherapy measures							
	Advice and assessment	Movement	Electrical	Group exs.	Massage	Postural drainage	Traction	Total
Rheumatoid arthritis	40	21	7	0	0	0	0	68
Osteoarthrosis	95	85	46	2	4	0	1	233
Cervical spondylosis	44	22	14	0	9	1	8	98
Prolapsed disc	6	3	2	0	0	0	1	12
Frozen shoulder	12	11	8	0	3	0	0	34
Low back pain	54	18	10	10	3	0	5	100
Other musculoskeletal conditions	43	27	17	3	7	0	1	98
Hemiplegia	160	111	7	11	4	0	1	294
Parkinson's disease	18	13	0	0	0	0	1	32
Multiple sclerosis	45	27	2	0	3	0	1	78
Cerebral palsy	107	37	1	1	0	1	0	147
Infantile hemiplegia	33	16	0	0	0	0	0	49
Other diseases of nervous system	33	17	3	0	0	0	0	53
Circulatory conditions	12	10	1	0	3	0	0	26
Ante and post natal	20	0	0	57	0	0	0	77
Gynaecological conditions	5	2	1	0	0	0	0	8
Bronchitis	16	10	1	0	0	13	0	40
Pneumonia	13	5	0	0	0	8	1	27
Other respiratory conditions	15	7	0	0	0	13	0	35
Fractured femur	14	12	1	0	0	1	0	28
Fractured humerus	10	14	2	0	0	0	0	26
Other fractures	30	26	13	1	3	0	0	73
Sprains	40	34	32	5	4	0	0	115
Amputations	13	11	1	0	0	0	0	25
Hip operations	13	5	0	1	0	0	0	19
Other orthopaedic conditions	23	21	9	0	2	0	0	55
Developmental retardation	76	33	0	0	0	0	0	109
Spina bifida	20	12	0	0	0	0	0	32
Congenital conditions	16	12	0	0	0	3	0	31
Other diseases	45	22	7	0	3	2	2	81
Total	1071	644	185	91	48	42	22	2103

TABLE 25

TYPE OF PHYSIOTHERAPY GIVEN BY SCHEME

Schemes		Physiotherapy measures						Total
		Assess-ment	Techniques of movement	Trac-tion	Mass-age	Postural drainage	Electrical treatment	
General practice	1	26	17	0	0	6	0	49
	2	76	28	0	0	0	1	105
Community	3	196	139	4	1	2	0	342
Paediatric	4	28	18	0	0	0	0	46
	5	157	30	0	0	0	0	187
Hospital based	6	20	10	1	0	0	0	31
	7	131	65	1	3	12	4	216
	8	77	31	0	0	1	2	111
Mobile	9	76	127	4	23	7	74	311
	10	36	27	0	1	0	11	75
	11	6	19	0	4	0	0	29
Health centre	12	113	153	9	12	8	89	384
	13	88	27	3	1	4	4	127
	14	41	44	0	3	2	0	90
Total		1071	735	22	48	42	185	2103

TABLE 26

PATIENTS' PHYSIOTHERAPY TIME BY SCHEME

Schemes		Time in minutes							Total
		0-10	11-20	21-30	31-40	41-50	51-60	61+	
General practice	1	4 (10.3)	35 (89.7)	0	0	0	0	0	39 (100)
	2	2 (7.1)	5 (17.9)	8 (28.6)	11 (39.3)	2 (7.1)	0	0	28 (100)
Community	3	12 (8.5)	36 (25.4)	41 (28.9)	34 (23.9)	11 (7.7)	6 (4.2)	2 (1.4)	142 (100)
Paediatric	4	0	3 (20.0)	4 (26.6)	3 (20.0)	1 (6.7)	3 (20.0)	1 (6.7)	15 (100)
	5	20 (33.3)	14 (23.3)	8 (13.3)	5 (8.3)	4 (6.6)	6 (10.0)	3 (5.0)	60 (100)
Hospital based	6	1 (6.2)	0	4 (25.0)	2 (12.5)	5 (31.3)	4 (25.0)	0	16 (100)
	7	17 (22.0)	27 (35.0)	23 (30.0)	5 (6.5)	2 (2.6)	2 (2.6)	1 (1.3)	77 (100)
	8	0	12 (48.0)	10 (40.0)	3 (12.0)	0	0	0	25 (100)
Mobile	9	3 (2.5)	15 (13.0)	48 (42.0)	36 (31.5)	11 (9.6)	2 (1.4)	0	115 (100)
	10	0	0	2 (8.3)	11 (45.9)	10 (41.6)	1 (4.2)	0	24 (100)
	11	0	1 (5.9)	1 (5.9)	6 (35.3)	6 (35.3)	3 (17.6)	0	17 (100)
Health centre	12	0	7 (5.5)	25 (19.5)	24 (18.6)	26 (20.1)	39 (30.2)	8 (6.2)	129 (100)
	13	0	13 (46.4)	12 (42.9)	3 (10.7)	0	0	0	28 (100)
	14	3 (4.8)	19 (30.7)	8 (12.9)	0	32 (51.6)	0	0	62 (100)
Total		62	187	194	143	110	66	15	777

TABLE 27

PHYSIOTHERAPY TIME BY MAIN DIAGNOSTIC GROUP

Main diagnostic categories	Number of patients	Time in minutes						
		0-10	11-20	21-30	31-40	41-50	51-60	61+
Diseases of nervous system	235	23 (9.8)	58 (24.7)	64 (27.2)	39 (16.6)	21 (8.9)	20 (8.5)	10 (4.3)
Musculoskeletal	217	14 (6.5)	52 (24.0)	46 (21.2)	63 (29.0)	33 (15.2)	7 (3.2)	2 (0.9)
Orthopaedic conditions	115	4 (3.5)	25 (21.8)	36 (31.3)	25 (21.7)	11 (9.6)	12 (10.4)	2 (1.7)
Obstetric and gynaecological	61	0	2 (3.3)	8 (13.1)	0	31 (50.8)	20 (32.8)	0
Congenital abnormalities	56	11 (19.6)	14 (25.0)	12 (21.4)	9 (16.1)	2 (3.6)	7 (12.5)	1 (1.8)
Respiratory conditions	45	3 (6.7)	21 (46.7)	16 (35.6)	2 (4.4)	3 (6.6)	0	0
Circulatory conditions	12	1 (8.3)	4 (33.3)	3 (25.0)	2 (16.7)	2 (16.7)	0	0
Malignant conditions	7	0	1 (14.3)	3 (42.9)	2 (28.5)	1 (14.3)	0	0
Other disease and condition	29	6 (20.7)	10 (34.5)	6 (20.7)	1 (3.5)	6 (20.7)	0	0
Total	777	62	187	194	143	110	66	15

TABLE 28

PATIENT'S PLACE OF TREATMENT BY SCHEME

Schemes		Place of treatment							Total
		Own home	General Practice	Health Centre	Residential home	School	Other Place	Combination	
General practice	1	33	6	0	0	0	0	0	39
	2	3	25	0	0	0	0	0	28
Community	3	73	0	13	11	13	25	7	142
Paediatric	4	11	0	0	3	0	1	0	15
	5	12	0	0	0	35	11	2	60
Hospital based	6	14	0	0	2	0	0	0	16
	7	71	0	0	0	0	6	0	77
	8	25	0	0	0	0	0	0	25
Mobile	9	111	0	0	2	1	0	1	115
	10	24	0	0	0	0	0	0	24
	11	17	0	0	0	0	0	0	17
Health centre	12	3	0	126	0	0	0	0	129
	13	14	1	9	1	0	0	3	28
	14	11	1	50	0	0	0	0	62
Total		422	33	198	19	49	43	13	777

TABLE 29

REASONS GIVEN BY PHYSIOTHERAPISTS FOR PLACE PATIENTS RECEIVED PHYSIOTHERAPY

Reasons	Main	Additional	
		1	2
Physiotherapy related to environment	245 (31.5)	76	32
Nearest place physio-therapy available	186 (23.9)	26	1
Patient medically unfit	140 (18.0)	14	0
Long delay in getting hospital physiotherapy	75 (9.7)	26	3
Long distance from the hospital	62 (8.0)	42	5
Difficult to get patient out of house	38 (4.9)	53	2
Other reasons	31 (4.0)	19	0
Total	777 (100)	256	43

Percentages in brackets

TABLE 30

THE LENGTH OF TIME THE PATIENTS' PROBLEMS WERE PRESENT BEFORE REFERRAL TO THE PHYSIOTHERAPISTS BY SCHEME

Schemes		Length of time							Total
		Weeks				Over 6 months	Since birth	Unknown	
		Under 2	2 - 5	6 - 11	12 - 25				
General practice	1	11 (28.2)	8 (20.5)	3 (7.7)	1 (2.6)	14 (35.9)	2 (5.1)	0	39 (100)
	2	13 (46.4)	10 (35.8)	2 (7.1)	1 (3.6)	2 (7.1)	0	0	28 (100)
Community	3	12 (8.5)	18 (12.7)	12 (8.5)	14 (9.8)	32 (22.5)	31 (21.8)	23 (16.2)	142 (100)
Paediatric	4	0	0	0	1 (6.7)	0	12 (80.0)	2 (13.3)	15 (100)
	5	0	1 (1.7)	0	0	6 (10.0)	52 (86.6)	1 (1.7)	60 (100)
Hospital based	6	0	4 (25.0)	2 (12.5)	1 (6.2)	4 (25.0)	0	5 (31.3)	16 (100)
	7	34 (44.2)	17 (22.0)	6 (7.8)	7 (9.1)	10 (13.0)	3 (3.9)	0	77 (100)
	8	5 (20.0)	3 (12.0)	5 (20.0)	1 (4.0)	11 (44.0)	0	0	25 (100)
Mobile	9	30 (26.1)	27 (23.5)	14 (12.2)	8 (6.9)	29 (25.2)	6 (5.2)	1 (0.9)	115 (100)
	10	3 (12.5)	5 (20.8)	4 (16.7)	2 (8.3)	9 (37.5)	1 (4.2)	0	24 (100)
	11	8 (47.1)	8 (47.1)	1 (5.8)	0	0	0	0	17 (100)
Health centre	12	16 (12.4)	23 (17.8)	10 (7.8)	9 (7.0)	47 (36.4)	4 (3.1)	20 (15.5)	129 (100)
	13	7 (25.0)	4 (14.3)	8 (28.6)	4 (14.3)	4 (14.3)	1 (3.5)	0	28 (100)
	14	1 (1.6)	10 (16.1)	6 (9.7)	16 (25.8)	28 (45.2)	0	1 (1.6)	62 (100)
Total		140	138	73	65	196	112	53	777

TABLE 31

LENGTH OF TIME PROBLEM WAS PRESENT BEFORE REFERRAL

BY PATIENTS' PRESENTING PROBLEM

Presenting problems	Length of time							Total
	Weeks				Over 6 months	Since birth	Unknown	
	Under 2	2 - 6	6 - 12	12 - 26				
Pain	39	34	18	9	34	1	0	135
Stiffness	21	34	22	14	26	2	1	120
Movement	23	5	3	6	21	46	8	112
Gait and walking	11	21	13	12	32	6	9	104
Generalised immobility	21	17	11	6	26	5	5	91
Respiratory	20	8	1	1	13	5	2	50
Developmental retardation	0	2	0	0	6	38	1	47
Contracture	2	1	0	0	6	3	4	16
Other	3	16	5	17	32	6	23	102
Total	140	138	73	65	196	112	53	777

TABLE 32

HOW PATIENTS TRAVELLED FOR PHYSIOTHERAPY IN THE 6 SCHEMES WHERE THIS WAS APPLICABLE

Mode of travel	Schemes						Total	Per cent
	General practice		Community	Health Centre				
	1	2	3	12	13	14		
Own car	3	16	1	41	3	30	94	39.8
Walk	3	7	1	35	5	17	68	28.8
Hospital car service	0	0	11	19	0	0	30	12.7
Public transport	0	1	2	15	1	1	20	8.5
Friend's car	0	1	0	8	3	3	15	6.4
Ambulance	0	0	0	4	0	0	4	1.7
Other	0	0	0	5	0	0	5	2.1
Total	6	25	15	127	12	51	236	100

541 patients in the study were visited by the physiotherapist and did not travel to obtain physiotherapy.

TABLE 33

HOW PHYSIOTHERAPISTS THOUGHT PATIENTS WOULD TRAVEL TO THE NEAREST HOSPITAL PHYSIOTHERAPY OUT PATIENT DEPARTMENT IF UNABLE TO HAVE PHYSIOTHERAPY IN THE PRESENT PLACE

Mode of travel	Number of patients	Per cent
Hospital car service	206	26.6
Ambulance	204	26.3
Own car	162	20.8
Public transport	113	14.5
Not possible to get to hospital	59	7.6
Friend's car	33	4.2
Total	777	100

TABLE 34

PROFESSIONAL DETAILS OF 38 PHYSIOTHERAPISTS IN THE STUDY

Years since qualification	Years of experience		Specialisations	Breaks in service (years)	Break prior to present post (years)	Hours worked per week	Time in present post (years)	Average weekly mileage
	Full time	Part time						
38	12	12	Orth. Paed.	14	0	6	12	0
36	29	5	Paed.	2	2	4	5	5.0
34	30	2	Paed.	2	2	6	2	30·0
34	24	0	Orth. Ger.	10	0	36	8	200·0
34	34	0	Orth. Neu.	0	0	36	17	232.5
34	26	0	Paed.	8	0	36	6	237.5
32	10	5	Orth.	17	0	12	3	21.3
31	31	0	Chests	0	0	36	16	200.0
25	2	9	None	14	0	8	1	54.0
24	2	10	None	12	6	9	3	57.5
23	12	4	Paed.	7	0	16	2	125·0
23	13	5	Geri.	5	0	12	2	37.0
21	6	5	Geri.	10	0	9	3	25.0
21	1	9	None	11	0	36	1	3.7
21	5	6/12	None	15	15	6	6/12	17.5
20	5	4	Paed.	11	0	15	3	87.5
20	2	7	None	11	0	12	6/12	34.3
19	2	7	None	10	0	12	6	20.0
18	2	14	None	2	0	9	4	50·0
18	12	2	None	4	4	6	1	22.5
18	7	7	Orth.	4	3	6	6	0
17	17	0	None	0	0	36	9	225·0
17	7	1	None	9	9	36	4	150.0
16	9	5	Neuro.	2	0	22	5	50.0
15	12	3	Paed.	0	0	36	3	25.0
15	2	9	Paed.	4	0	5	1	0
13	1	6	None	6	2	12	4	2.0
11	2	7	None	2	0	10	3	57.5
10	2	8	None	0	0	12	1	32.5
9	6	2	Orth. Chest	1	0	9	2	40.0
7	4	3	None	0	0	6	3	15.0
6	3	3	Geri.	0	0	6	1	25.0
5	5	0	Paed.	0	0	36	3	37.5
5	5	0	Paed.	0	0	36	1	22.0
5	3	2	None	0	0	24	1	13.8
4	4	0	None	0	0	36	2	150.0
4	2	2	Geri.	0	0	15	1	75·0
4	0	4	None	0	0	6	1	0

TABLE 35

AVERAGE MILEAGE BY SCHEME

Scheme	Number of Staff	Totals		Weekly averages per physiotherapist		
		Weekly hours	Weekly mileage	Weekly hours	Weekly mileage	Mileage per hour worked
1	1	10	57.5	10	57.5	5.75
2	1	4	5	4	5	1.25
3	13	148	501.5	11.3	38.6	3.40
4	1	16	125	16	125	7.80
5	3	108	72	36	24	0.6
6	2	24	66.7	12	33.3	2.77
7	1	36	150	36	150	4.16
8	1	9	57.5	9	57.5	6.39
9	4	144	857.5	36	214.4	5.9
10	1	36	237.5	36	237.5	6.5
11	1	36	150	36	150	4.1
12	3	60	25.3	20	8.4	0.4
13	1	12	37.5	12	37.5	3.1
14	1	9	25	9	25	2.7
Total	34					

4 physiotherapists did not travel to see patients

TABLE 36

ACTIVITY ANALYSIS FOR 27 PHYSIOTHERAPISTS

Scheme	Hours	Mins.	Per cent treatment	Per cent travel	Per cent admin.	Per cent other	No of treatments	Average treatment mins.	Average travel mins.
1	18	16	66.9	31.3	1.8	-	39	18	8
2	4	06	77.3	22.7	-	-	4	42	12
3	13	09	62.9	22.1	7.8	7.2	19	29	10
	9	06	77.8	14.0	8.2	-	7	64	11
	27	04	85.5	9.0	3.4	2.1	-	-	-
	17	00	59.4	32.8	-	7.8	-	-	-
	23	40	61.0	24.9	5.6	8.5	25	34	14
	10	50	49.2	6.9	-	43.9	-	-	-
	12	40	67.1	28.9	4.0	-	18	28	12
	11	45	68.6	18.2	11.1	2.1	-	-	-
	29	55	81.1	9.5	4.2	5.2	-	-	-
	15	33	38.4	21.4	23.5	16.7	-	-	-
4	16	10	54.7	31.9	-	13.4	-	-	-
5	25	15	45.5	29.7	20.8	4.0	-	-	-
	31	56	25.6	12.4	33.3	28.7	-	-	-
	34	58	43.8	8.0	41.8	6.4	-	-	-
6	11	15	50.4	34.8	14.8	-	9	37	26
	8	24	54.1	27.3	9.5	9.1	7	36	18
7	77	20	70.2	19.1	8.6	2.1	134	24	6
8	24	45	50.2	49.8	-	-	28	24	24
9	36	25	54.1	40.2	4.1	1.6	39	30	22
	32	30	66.0	29.0	4.6	-	37	35	15
	24	25	63.5	36.5	-	-	26	35	20
	46	12	77.0	23.0	-	-	56	38	11
10	38	15	68.2	24.4	-	-	39	45	14
11	66	35	70.2	20.8	7.3	1.7	66	42	12
14	21	40	57.6	17.6	-	25.4	-	-	-

TABLE 37

REASONS GIVEN FOR TAKING UP PRESENT POST

Reasons	Main	Secondary	Additional
Wanted to work in the community	17	5	
Hours suited family commitments	10	12	
Able to work near home	9	1	4
Able to work without supervision		6	5
Other	2	6	6
Total	38		

TABLE 38

FREQUENCY OF CONTACT WITH MEMBERS OF OTHER PROFESSIONS

	Frequent contact	Infrequent contact	No contact
Home nurse	17	13	8
Health visitor	15	16	7
Social services occupational therapist	12	16	10
Social worker	11	20	7
Hospital occupational therapist	6	18	14

TABLE 39

PHYSIOTHERAPY MEASURES AND PLACE OF TREATMENT SUGGESTED BY SUPERINTENDENTS

Diagnosis of Case Model	Number	Physiotherapy										Place of treatment				
		Assessment & advice	Health visitor home nurse	Equipment	Supervision	Exercises movement mobilisation	Training in independence	Postural drainage	Infra red	Short wave	Ice	Hospital	Home	Hospital/ home	Home/ hospital	Unable to comment
1 Bronchitis	116	115	25	33	68	94	0	110	0	0	0	34	59	17	4	2
2 Hemiplegia	115	115	96	101	90	100	112	0	14	0	37	36	48	23	8	0
3 Cerebral palsy	112	112	22	62	97	101	90	0	0	0	6	53	31	23	2	3
4 Fractured femur	116	116	87	95	67	92	111	0	50	21	3	43	40	30	1	2
5 Osteo-arthrosis knees (Bronchitis)	116	116	24	50	52	110	77	22	27	82	31	66	24	18	7	1
6 Multiple sclerosis	116	116	62	115	91	92	105	0	13	0	40	30	46	36	2	2

TABLE 40

NUMBERS OF PATIENTS WITH MAIN HANDICAPPING CONDITIONS CONSULTING GENERAL PRACTITIONERS PER YEAR

Main diagnosis	Per cent of all patients in the study with diagnosis	Number of patients consulting in one year per 1000 registered patients in the practice			Sex ratio F:M
		Hodgkin	Fry	O.P.C.S.	
Osteoarthrosis	11.1	22.6-32.6	NA	18.2	2:1
Rheumatoid arthritis	3.7	5.9- 9.4	NA	5	3:1
Cervical spondylosis	3.7	NA	NA	7.1	3:2
Low back pain	4.1	NA	25	12.8	1:1
Hemiplegia, C.V.A.	14.1	5.3-10.0	6-7	5.3	1:1
Cerebral palsy	9.0	(NA (Incidence of 2.5 per (1000 births (Davie et al)	NA	NA	-
Multiple sclerosis	4.3	0.2- 0.7	NA	0.7	2:1
Developmental retardation	4.0	NA	NA	NA	-
Pregnancy	7.4	Birth rate, 1975, 12.2 per 1000 population			

Notes - (1) NA = Not available

(2) The average number of patients registered with each general practitioner is about 2,500

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APPENDIX 1

Description of schemes

APPENDIX 1

BRIEF DESCRIPTIONS OF EACH OF THE SELECTED SCHEMES

SCHEMES ATTACHED TO GENERAL PRACTICE

Scheme 1

This scheme started in 1972 was one in which a part-time physiotherapist was attached for ten hours a week to a general practice of five doctors in a rural area. The physiotherapist was responsible administratively to the area nursing officer and clinically to the referring doctors in the practice. She was not under the direction of a superintendent physiotherapist, but there were close links with the district general hospital; the initiative for starting the scheme having come from the superintendent.

The catchment area was that of the general practice, extending up to ten miles from the practice. Patients were referred by the general practitioners in the practice. There was not usually a waiting list in this scheme though urgent cases took priority.

The general practitioners did not have direct access to the physiotherapy department at the local district hospital which was seven miles away; patients had first to be seen by the consultant in rheumatology and rehabilitation or the orthopaedic surgeon, and there were waiting lists of three months to see these consultants. There was a day hospital within ten miles of the practice at which physiotherapy was available.

Scheme 2

This scheme was started in March 1970 with one physiotherapist working for approximately three hours a week attached to a general practice of four doctors. Both the doctors and the physiotherapist concerned felt that certain types of patients did not need to attend the hospital physiotherapy department and would benefit from early treatment within the practice. The project was funded by a grant from the King's Fund. The physiotherapist was responsible administratively and clinically to the referring doctors and was not under the direction of a superintendent physiotherapist. All patients were referred by the four doctors in the practice. There was no waiting list for this physiotherapy service, patients were seen by the physiotherapist within a week of referral. The district general hospital did not provide open access to the

physiotherapy department for general practitioners. There was a waiting list to see the consultants, of seven weeks for the consultants in rheumatology and rehabilitation, and between four to ten weeks for the orthopaedic consultant. There was a day hospital within ten miles of the practice where physiotherapy was available.

COMMUNITY SCHEME

Scheme 3

This scheme started as a community physiotherapy service in 1971. Originally one physiotherapist worked part time seeing pre-school children, school children and adults in their own homes, nursery groups or residential homes. By 1976 the service employed 14 part-time staff, one superintendent and 13 other staff who worked a differing number of hours: two worked for over 20 hours a week, seven for between eight and 15 hours a week, and five worked for six hours a week or less.

The 13 physiotherapists were responsible administratively and professionally to the superintendent physiotherapist. All physiotherapists were clinically responsible to the referring doctors. Referrals were mainly from general practitioners; each physiotherapist had been allotted an area and received referrals from the doctors in that area. There was not usually a waiting list for this service.

General practitioners did not have open access to the physiotherapy department but referred patients to the appropriate consultant. There was a 12 to 14 week waiting list for patients to see the consultant in rheumatology and rehabilitation, and four months to see the orthopaedic consultant. There was a day hospital within ten miles of the service and a geriatric rehabilitation ward at one of the district hospitals; physiotherapy was available in both.

PAEDIATRIC SCHEMES

Scheme 4

This scheme was part of a paediatric service and was based at a child assessment centre. The scheme was started in 1974 because some children who were thought to need physiotherapy could not be brought in to the centre regularly for treatment. Selected children were seen in their own homes, in play groups and nursery groups. There was not normally a waiting list for this service.

One part time physiotherapist was employed for 16 hours a week. She was accountable administratively to a superintendent physiotherapist, clinically to the referring doctors, but was not professionally under the direction of a superintendent physiotherapist. The children were referred to the physiotherapist by consultant paediatricians at the assessment centre. Advice on management and handling was given to parents, nursery school staff and helpers in play groups. More specific treatments were given when this was considered necessary. Children were not often discharged as the policy was to continue supervision over a long period with visits at longer intervals over a number of years.

Scheme 5

This scheme was a hospital based paediatric physiotherapy service separate from the main hospital physiotherapy department. Physiotherapy outside hospital was seen as part of total patient care, the patient being seen in the most suitable place, be it the hospital, the child's own home, school, day nursery or play group. Patients were referred by paediatric neurologists and paediatricians. The service in this form had been evolving since 1966. A superintendent physiotherapist and two full time senior physiotherapists were employed. They were all clinically responsible to the referring doctors, the senior physiotherapists were responsible to the superintendent and worked under his direction. Patients were visited within a wide area as the hospital had both district and regional responsibilities. There was not usually a waiting list for this service.

HOSPITAL BASED SERVICES

Scheme 6

This was a hospital based scheme started in November 1974 where two part time physiotherapists, each working 12 hours a week, went from the hospital to visit patients in their own homes. The physiotherapists were responsible administratively to the superintendent physiotherapist, clinically to the referring doctors, and were professionally under the direction of the superintendent physiotherapist. The patients were all referred by a consultant, and they were mainly those for whom transport to the hospital presented problems, or for whom physiotherapy was specifically related to the home environment. The patients were visted within the normal catchment area of the hospital which was approximately three miles from the hospital.

Urgent referrals were seen immediately and there was not usually a waiting list for the service. General practitioners wanting to use this service had to first refer patients to the consultant. There was more than one day centre in the district, within a short distance of the hospital.

Scheme 7

This scheme was based in a hospital in a rural area where one full time physiotherapist visited patients in their own homes, up to approximately, seven miles from the hospital. The scheme had been operating since November 1974. The superintendent physiotherapist felt that some patients were not getting any treatment, and some of those who did come in for treatment had to endure long and tiring ambulance journeys. The district administrator was keen to establish links between the hospital and the community and gave full support to the project.

The physiotherapist working in the scheme was responsible administratively to the superintendent physiotherapist, clinically to the referring doctors but did not work under the direction of the superintendent physiotherapist. Patients were usually referred by general practitioners, though a small number of consultants also used the service. Referrals came through the hospital physiotherapy department and were collected daily by the physiotherapist. At the time of their participation in the study general practitioners did not have open access to the hospital physiotherapy department. There was no consultant in rheumatology and rehabilitation at the hospital. There was not normally a waiting list for this service, patients were usually seen within a few days of referral, if there was a heavy case load urgent cases were given priority. There was a day hospital within five miles where physiotherapy was available.

Scheme 8

This scheme was a hospital based service which was started in 1972. The hospital physiotherapists, consultants and general practitioners were concerned about the many elderly patients who had to spend so much time travelling and waiting for transport, when they attended the outpatient hospital physiotherapy department. It was also felt that many patients with acute conditions being cared for by their general practitioners would benefit from this type of service. The service was initially confined to the city limits but in 1976 extended to persons living within 20 miles from the hospital.

The work was covered by a senior part time physiotherapist, responsible administratively to the district superintendent physiotherapist and clinically to the referring doctors but not professionally responsible to a superintendent physiotherapist. Referrals were originally mainly from consultants but the emphasis had changed to general practitioner referrals by 1976. Patients referred were those for whom travel to the hospital was too difficult, or whose problems were specifically related to the home environment.

General practitioners did not have open access to refer patients to the hospital physiotherapy department. There was a day hospital for geriatric patients within ten miles of the hospital where physiotherapy was available.

MOBILE PHYSIOTHERAPY SERVICES

Scheme 9

This mobile physiotherapy service was started by a voluntary body in a rural area in 1948. It was thought that the long journey to hospital was detrimental for the more acute cases, and that it was more appropriate to visit children needing physiotherapy in their own homes. The service covered a large area of approximately 40 miles by 25 miles. This was divided into four sections, one full time physiotherapist was responsible for each section. The voluntary organisation employed the four physiotherapists, who were administratively responsible to the committee and clinically responsible to the referring doctor. Each physiotherapist worked on her own and was not under the direction of a superintendent physiotherapist.

Patients were referred by both general practitioners and consultants. The criteria for acceptance by the service was that the patient could not afford private physiotherapy treatment, and that the referring doctor had a specific reason for preferring home to hospital treatment for the patient. This could be that travelling was considered detrimental, that treatment was related to the home environment, or that mothers with young children found it difficult to come themselves, or bring children, for treatment to the hospital.

There were general hospitals within the area covered by the service and some of them provided open access to the physiotherapy department for general practitioners. There were also day hospitals within some of the areas covered by the service where physiotherapy was available.

Scheme 10

This mobile physiotherapy service was started in 1970 by a voluntary organisation to bring physiotherapy treatment to the elderly and disabled in their own homes. The service extended to patients approximately 11 miles from the base. One full time physiotherapist was employed by the organisation, she was supplied with a van fully equipped with physiotherapy apparatus. She was responsible administratively to the voluntary committee, clinically to the referring doctors and was not professionally under the direction of a superintendent physiotherapist.

The service was intended for housebound patients, younger patients were seen but the majority were over 65 years of age. Patients were referred mainly by general practitioners. There was no waiting list and patients had usually started treatment within three days of referral. Referrals were sent to the physiotherapist's home which served as an office.

There was no general hospital within the area covered by the service. There were two day hospitals within ten miles of this service where physiotherapy was available.

Scheme 11

This service, a mobile physiotherapy service operating in a rural area, was started in 1972 and was run by a voluntary committee. Patients were accepted from an area up to 13 miles from the base. One full time physiotherapist was employed. She was accountable administratively to the voluntary committee, clinically to the referring doctors, but was not professionally accountable to a superintendent physiotherapist.

Patients were referred mostly by general practitioners, 17 of whom had used the service in the year preceding our study. Patients were only referred to the service if they were at the time housebound. The physiotherapist was supplied with a van equipped with physiotherapy apparatus, and visited patients in their own homes. There was not normally a waiting list; urgent cases were always seen within 24 hours of referral. Referrals were sent either to the physiotherapist's home or were collected from the doctors' surgeries.

The nearest general hospital was seven miles away and there was no regular bus service to the town. There was a small local hospital within two miles of the centre of the area, physiotherapy was available here and general

practitioners had access to the physiotherapy department but there was generally a waiting list for physiotherapy treatment. There was no day hospital within ten miles of this area.

SCHEMES IN HEALTH CENTRES

Scheme 12

This physiotherapy service was situated within a health centre and operated in a similar way to a hospital department. It was situated in a small town 12 miles from the nearest district general hospital. There was a superintendent physiotherapist with a staff of five part time physiotherapists. Patients were referred to the department by the general practitioners within the health centre and by consultants both from the district hospitals, and from the consultant sessions at the health centre. Patients were seen mainly at the health centre but acute chest cases were visited at home when this was considered necessary. The physiotherapists were responsible clinically to the referring doctors, and administratively and professionally to the superintendent physiotherapist.

There was not usually a waiting list for this service, the maximum waiting during a busy period was two weeks.

Most of the patients who came to the health centre either walked or came by public transport but about one patient in six was brought to the centre either by ambulance or hospital car service.

The general practitioners did not have open access to any of the physiotherapy departments of the main hospitals. There was no day hospital or day centre within five miles of the health centre.

Scheme 13

This scheme was based in a health centre which was attached to a University and a physiotherapy training school. A clinical tutor worked for approximately 12 hours a week at the centre, seeing patients herself and also supervising the work of third year students. The students treated patients in the Centre and visited them in their own homes. The clinical tutor was responsible administratively to the School of Physiotherapy and clinically to the referring doctors. Patients were usually referred for physiotherapy by

the general practitioners in the health centre, occasionally consultants referred patients, three did so in the six months prior to this study.

This was a pilot project which had been in operation for two years, the number of referrals was limited by the hours of physiotherapy available at the centre. The patients referred were those thought to be able to obtain most benefit from early treatment.

Scheme 14

This scheme was attached to a health centre which was five miles from the nearest general hospital. One part time physiotherapist worked nine hours a week, seeing patients at the health centre and in their own homes. Patients were only visited in their own homes if they were within five miles of the health centre. The physiotherapist was responsible administratively to the district administrator, clinically to the referring doctors but was not under the direction of a superintendent physiotherapist. There was not usually a waiting list for this service but the doctors would like to be able to refer more patients for treatment at the health centre if more physiotherapy treatment time were available.

The nearest general hospital did not have open access for referrals from general practitioners and there was usually a waiting list of at least five weeks to see a consultant, and possibly a further two to three weeks for physiotherapy. There was not a geriatric day hospital within five miles of the health centre.

APPENDIX 2

Patient form - Questionnaire 1

Patient's name or number

.....

Physiotherapist's name

.....

Scheme number

1. The diagnosis of the main condition for which the patient was referred for physiotherapy. Please tick ONE

Musculo-skeletal system and connective tissue

- Rheumatoid arthritis ☐
- Osteoarthrosis, please specify main joints affected ☐
  .....
- Cervical spondylosis ☐
- Intervertebral disc lesion ☐
- Frozen shoulder ☐
- Low back pain ☐
- Other disease of these systems - please specify ☐
  .....

Nervous system

- Hemiplegia (adult acquired) ☐
- Paralysis agitans (Parkinson's) ☐
- Multiple sclerosis ☐
- Paraplegia ☐
- Cerebral palsy ☐
- Hemiplegia (infantile) ☐
- Muscular dystrophy ☐
- Other disease of nervous system - please specify ☐
  .....

Circulatory system

- Cerebrovascular disease (other than hemiplegia) ☐
- Other disease of circulatory system - please specify ☐
  .....

Obstetric and gynaecological conditions

- Ante-natal ☐
- Post-natal ☐
- Pelvic floor weakness ☐
- Other obstetric and gynaecological conditions - please specify ☐
  .....

Respiratory system

- Bronchitis - acute ☐
  - chronic ☐
- Asthma ☐
- Bronchiectasis ☐
- Emphysema ☐
- Pneumonia ☐
- Other disease of respiratory system - please specify ☐
  .....

Trauma and orthopaedics

- Fractures - please specify ☐
  .....
- Sprains and strains (soft tissue injury) - please specify ☐
  .....
- Amputation - please specify ☐
  .....
- Other traumatic or orthopaedic condition - please specify ☐
  .....

Congenital abnormalities

- Cystic fibrosis ☐
- Spina bifida ☐
- Developmental retardation ☐
- Congenital dislocation of hip ☐
- Other congenital abnormality - please specify ☐
  .....
- Other condition not listed above - please specify ☐

2. Please indicate here all the patient's other diagnoses and conditions that are considered relevant either to the type of physiotherapy given or to the place of treatment.

Musculo-skeletal conditions

- Rheumatoid arthritis ☐
- Osteoarthrosis, please specify main joints affected ☐
  .....
- Cervical spondylosis ☐
- Intervertebral disc lesion ☐
- Frozen shoulder ☐
- Low back pain ☐
- Other diseases of this system - please specify ☐
  .....

Nervous system

- Hemiplegia (adult acquired) ☐
- Paralysis agitans (Parkinson's) ☐
- Multiple sclerosis ☐
- Paraplegia ☐
- Cerebral palsy ☐
- Hemiplegia (infantile) ☐
- Epilepsy ☐
- Muscular dystrophy ☐
- Other diseases of nervous system - please specify ☐
  .....

Circulatory system

- Cerebrovascular disease (other than hemiplegia) ☐
- Hypertension ☐
- Ischaemic heart disease ☐
- Congestive heart failure ☐
- Other diseases of circulatory system - please specify ☐
  .....

Respiratory system

- Bronchitis - acute ☐
  - chronic ☐
- Asthma ☐
- Bronchiectasis ☐
- Emphysema ☐
- Pneumonia ☐
- Other diseases of respiratory system - please specify ☐
  .....

Trauma and orthopaedics

- Fractures - please specify ☐
  .....
- Post orthopaedic surgery - please specify ☐
  .....
- Other traumatic or orthopaedic conditions - please specify ☐
  .....

Congenital abnormalities

- Cystic fibrosis ☐
- Spina bifida ☐
- Developmental retardation ☐
- Other congenital abnormalities - please specify ☐
  .....
- Severe visual impairment ☐
- Deaf ☐
- Psychiatric disorder ☐
- Mentally subnormal ☐
- Any other condition not listed above - please specify ☐
  .....

3. By whom was this patient referred to you:-

General practitioner ☐

Consultant in rheumatology and rehabilitation ☐

Other consultant or registrar ☐
(please specify) .....

4. What was requested on referral? Please give actual wording, if possible

.....

.....

5. Others involved in referral:-

District nurse ☐

Health visitor ☐

Hospital physiotherapy department ☐

Hospital occupational therapy department ☐

Community occupational therapist ☐

Social worker ☐

Home help ☐

None ☐

Other - please specify ..... ☐

6. Did any of those mentioned in the previous question instigate referral, if so please specify .....

7. What was the patient's presenting problem? .....

.....

8. Please indicate length of time this problem was present before the start of this course of treatment.

Under 2 weeks ☐

Over 2 weeks - 6 weeks ☐

Over 6 weeks - 12 weeks ☐

Over 12 weeks - 26 weeks ☐

Over 6 months ☐

Since birth ☐

Unknown ☐

9. Are you able to get medical advice about this patient?

Whenever necessary ☐

At specified times ☐

Only with difficulty ☐

Comments .....

10. Physiotherapy measure given to the patient. Please tick as appropriate

	Week 1					Week 2				
	Mon	Tue	Wed	Thur	Fri	Mon	Tue	Wed	Thur	Fri
Assessment										
Re-assessment										
Advice to patient and exercise programme										
Advice to caring person on patient management										
District nurse support										
Supply and/or fit equipment										
Continuing supervision										
Exercises - group										
- individual										
Training in independence/mobility										
Movement and mobilisation techniques										
Traction										
Manipulation										
Massage										
Postural drainage										
Infra red, heat pads and packs										
Wax										
Short wave diathermy										
Ultrasound										
Ice										
Ultraviolet light										
Electrical muscle stimulation										
Others not indicated - please specify										

11. Total time spent with patient in minutes

12. Please indicate place of treatment

	Week 1	Week 2		Week 1	Week 2
Patient's own home			Residential home		
General practice premises			School		
Health centre			Other - please state		

.....

13. Do any of the following statements indicate the reason for the place of treatment? If so, please tick as appropriate.

	Main Reason tick one only	Secondary reasons
Patient medically unfit to travel	☐	☐
Difficult to get the patient out of the house	☐	☐
Treatment related to home environment	☐	☐
Long distance from nearest physiotherapy department	☐	☐
Long delay in getting hospital physiotherapy	☐	☐
Nearest place to patient's home where physiotherapy available	☐	☐

14. If these do not include the reason for this patient's place of treatment, please give reasons

.....

.....

.....

15. Please indicate all other agencies currently visiting the patient

- District nurse ☐
- Health visitor ☐
- Occupational therapist ☐
- Social worker ☐
- Home help ☐
- Meals on wheels ☐
- None ☐
- Not Known ☐
- Other - please state ☐

16. Please indicate patient's level of mobility (excluding children under 5) when referred for physiotherapy.

- Bedfast ☐
- Chairbound ☐
- Housebound ☐
- Limited mobility ☐
- Independent/mobile ☐

17. If applicable, by what means did the patient travel to place of treatment?

Walk	☐	Hospital car service	☐
Own car	☐	Ambulance	☐
Friend's car	☐	Not applicable	☐
Public transport	☐		

18. Does the patient live alone?

Yes ☐

No ☐

19. IF NO, please indicate number of other persons in the household in the following age groups:-

0 - 4 years ☐

5 - 15 years ☐

16 - 64 years ☐

65 years and over ☐

Not applicable ☐

20. Patient's age last birthday ☐☐

21. Sex - female ☐

male ☐

22. Marital status - single ☐

married ☐

widowed ☐

other ☐

23. Is patient at present

Employed - full time ☐

part time ☐

Unemployed ☐

Full time education ☐

Retired ☐

Housewife ☐

Other - please state ☐

24. If this patient attended hospital outpatient physiotherapy, how would they travel?

Own car ☐

Friend's car ☐

Public transport ☐

Hospital car service ☐

Ambulance ☐

Not possible for this patient to attend for outpatient physiotherapy. ☐

APPENDIX 3

Activity Analysis Form

ACTIVITY ANALYSIS FORM

Date

Session

For office use

Activity start	Type	Activity finish

APPENDIX 4

Physiotherapist form - Questionnaire 2

We would be most grateful if you would complete this form for us. The information will be treated as strictly confidential, we are hoping for an overall picture and nothing will be attributable to any individual.

1. Year of qualification as a Chartered Physiotherapist.

2. Any other qualifications.

3. Please give brief details of posts held since qualification to the present time.

Year		Place	Please state if General or Specialised (stating (Specialty)	Grade	Full-time	Part-time
From	To					

4. What is the title of your present post which involves work outside hospital?

   If a newly created post, could you send a copy of the job description or advertisement.

5. If this is a part-time post, could you give the number of hours worked per week.

6. If you hold another physiotherapy post, could you please give details.

	REGULARLY	OCCASIONALLY	NOT AT ALL
7. Do you also treat private patients?	☐	☐	☐

8. Halsbury grading of your present post (or posts)

9. What authority employs you in your post involving work outside hospital?

10. Do you work under the direction of a superintendent physiotherapist?

Yes ☐

No ☐

11. IF NO

Is there a superintendent physiotherapist to whom you can go for advice or to discuss problems if necessary?

Yes ☐

No ☐

12. Where do you see your patients?

	MOSTLY	SOMETIMES	OCCASIONALLY
In: Their own home			
Residential homes			
Q Health Centre			
Nursery group			
Other places, please state			

13. If you are involved in visiting patients, how do you travel?

Own car with mileage allowance ☐

Transport supplied by employer ☐

Other means, please state ☐

14. How many miles do you travel, on average, in a month? | | | |

15. Do you come into contact with any of the following people or departments in the course of your work?

	Frequently	Infrequently	Not at all	If not at all, please comment
District Nurses				
Health Visitors				
Social Workers				
District Community Physician				
Hospital Physiotherapy Department				
Hospital Occupational Therapy Department				
Social Services Occupational Therapist				

16. Could you indicate your reasons for taking up your present post involving work outside hospital

Because it:- was near your home ☐

enabled you to work in the community ☐

fitted in with family commitments ☐

enabled you to work on your own without supervision ☐

Other reasons

17. What are the particular problems associated with your work outside hospital?

(a) In the general running of the scheme

(b) For you as a physiotherapist

(c) For the patients

18. Which aspects of your present post do you find most satisfying?

19. Do you feel professionally isolated in your work outside hospital?

Yes ☐

No ☐

Comments -

20. Can you suggest how any aspects of your physiotherapy service outside hospital might be improved?

21. What specific benefit to patients is provided by your physiotherapy service outside hospital?

22. Please make any further comments if you wish, on the advantages or disadvantages of your present physiotherapy service, both for the patients, and for you as a physiotherapist.

23. A few personal details would be helpful

Age - Under 25 years ☐

25 years - 34 years ☐

35 years - 44 years ☐

45 years - 54 years ☐

55 years - 64 years ☐

65 years + ☐

24.

Sex - Male ☐

Female ☐

25. Marital Status -

Single ☐

Married ☐

Other ☐

26. If you have children, please indicate numbers in the following age groups

0 - 4 years ☐

5 - 15 years ☐

16 years and over ☐

SOME QUESTIONS ABOUT MEDICAL REFERRAL OF PATIENTS

27. What proportion of your patients are referred by:-

Approximate Percentage

General Practitioners ☐

Consultants ☐

In Relation to Referrals from GENERAL PRACTITIONERS

28. How many general practitioners have referred patients to you in the past six months?

☐

29. Are there other general practitioners who could refer to you but do not use the service?

Yes ☐

No ☐

30. IF YES

How many? ☐

31. Do you consider that the patients referred to you are usually those for whom physiotherapy is appropriate?

No ☐

Yes ☐

Comments -

32. Is adequate information usually given to you on referral for you to treat the patient effectively?

Yes ☐

No ☐

Comments -

33. Do you have easy access to the patients' clinical notes?

No ☐

Yes ☐

34. Are the general practitioners who refer patients to you readily available to give medical advice if it is needed?

Yes ☐

No ☐

Comments -

35. Who usually reviews the patients' progress during a course of treatment?

Physiotherapist ☐

General Practitioner ☐

Comments -

36. Who usually discharges the patients from physiotherapy?

General Practitioner ☐

Physiotherapist ☐

Comments -

In Relation to Referrals from CONSULTANTS

37. How many consultants have referred patients to you in the past six months?

Please state specialties ☐☐

38. Do you consider that patients referred to you are usually those for whom physiotherapy is appropriate?

Yes ☐

No ☐

Comments -

39. Is adequate information usually given to you on referral for you to treat the patient effectively?

No ☐

Yes ☐

Comments -

40. Do you have easy access to the patients' clinical notes?

Yes ☐

Comments - No ☐

41. Are the consultants who refer patients to you readily available to give medical advice about the patients on treatment if it is needed?

No ☐

Comments - Yes ☐

42. Who usually reviews the patients' progress during treatment?

Consultant ☐

Comments - Physiotherapist ☐

43. Who usually discharges the patients from physiotherapy?

Physiotherapist ☐

Comments - Consultant ☐

THANK YOU VERY MUCH FOR YOUR CO-OPERATION. WE WOULD BE MOST GRATEFUL IF YOU COULD NOW POST THIS BACK TO US IN THE ENVELOPE PROVIDED.

APPENDIX 5

Case Models

CASE 1

Patient — Man of 61 years who lives with his wife in a council house.

Medical history — The patient has had a productive cough for the past ten years and is away from work on average three times a year with acute exacerbations of his respiratory problems. His diagnosis is given as chronic bronchitis.

Present problem — The patient is now cyanosed and breathless and is having difficulty expectorating sticky sputum.

Assessment
Re-assessment
Advice to patient and exercise programme
Advice to caring person on patient management
District nurse support
Supply and/or fit equipment
Continuing supervision
Exercises - group
- individual
Training in independence/mobility
Movement and mobilisation techniques
Traction
Manipulation
Massage
Postural drainage
Infra red, heat pads and packs
Wax
Short wave diathermy
Ultrasound
Ice
Ultraviolet light
Electrical muscle stimulation
Others not indicated - please specify

Preferred place of treatment for this patient in these circumstances

Physiotherapy Department in hospital or other premises ☐

Patient's own home ☐

Feel unable to comment ☐

Please tick in appropriate box.

CASE 2

Patient A man of 76 years who lives with a rather frail wife in a modern bungalow six miles from the nearest town.

Medical history The patient was fit and active until three weeks ago when he suffered a C.V.A. Following this he developed a spastic right hemiplegia with dysphasia and some sensory loss on the affected side.

Present problem The patient is now mentally alert, continent, and wants to help himself. Moderately severe spasticity and sensory loss are grossly interfering with normal function. The patient's wife is having difficulty getting him out of bed and walking him from room to room. The district nurse calls every morning.

Assessment
Re-assessment
Advice to patient and exercise programme
Advice to caring person on patient management
District nurse support
Supply and/or fit equipment
Continuing supervision
Exercises - group
- individual
Training in independence/mobility
Movement and mobilisation techniques
Traction
Manipulation
Massage
Postural drainage
Infra red, heat pads and packs
Wax
Short wave diathermy
Ultrasound
Ice
Ultravoilet light
Electrical muscle stimulation
Others not indicated - please specify

Preferred place of treatment for this patient in these circumstances

Physiotherapy Department in hospital or other premises ☐

Patient's own home ☐

Feel unable to comment ☐

Please tick in appropriate box.

CASE 3

Patient A girl aged 2 years. Family consists of mother, father, two older children 7 and 9 years and a baby of 3 months. They live in a small terraced house.

Medical history A premature baby with late milestones diagnosed at 6 months as cerebral palsy with moderately severe spastic diplegia. The child does not appear to be mentally retarded.

Present problem The child is becoming frustrated by her inability to move around and the mother is worried by the lack of progress in her child's development. She has so far had little advice on correct management.

Assessment
Re-assessment
Advice to patient and exercise programme
Advice to caring person on patient management
District nurse support
Supply and/or fit equipment
Continuing supervision
Exercises - group
- individual
Training in independence/mobility
Movement and mobilisation techniques
Traction
Manipulation
Massage
Postural drainage
Infra red, heat pads and packs
Wax
Short wave diathermy
Ultrasound
Ice
Ultraviolet light
Electrical muscle stimulation
Others not indicated - please specify

Preferred place of treatment for this patient in these circumstances

Physiotherapy Department in hospital or other premises ☐

Patient's own home ☐

Feel unable to comment ☐

Please tick in appropriate box.

CASE 4

Patient A partially sighted woman of 70 years who lives alone in a flat on the second floor.

Medical history The patient has moderately severe osteoarthrosis of the left hip. She fell and fractured the neck of her right femur, was admitted to hospital and a pin and plate were inserted the following day. The patient was discharged home three weeks after operation walking with a Zimmer frame.

Present problem The patient has limited and painful movements of both hips. She is having difficulty in getting up and down stairs and into the bath, also in standing while attending to chores in the kitchen.

Assessment
Re-assessment
Advice to patient and exercise programme
Advice to caring person on patient management
District nurse support
Supply and/or fit equipment
Continuing supervision
Exercises - group
- individual
Training in independence/mobility
Movement and mobilisation techniques
Traction
Manipulation
Massage
Postural drainage
Infra red, heat pads and packs
Wax
Short wave diathermy
Ultrasound
Ice
Ultraviolet light
Electrical muscle stimulation
Others not indicated - please specify

Preferred place of treatment for this patient in these circumstances

Physiotherapy Department in hospital or other premises ☐

Patient's own home ☐

Feel unable to comment ☐

Please tick in appropriate box.

CASE 5

Patient An overweight woman, 58 years of age. Lives with an unmarried sister in a basement flat.

Medical history Gradual onset of pain and stiffness in both knees nine years ago. Since then the patient has had increasing pain and a decreasing efficiency of function. Recent x-rays show moderately severe osteo-arthrotic changes in both knees. The patient has recently had an attack of bronchitis and been in bed for a week.

Present problem Following the time in bed the patient is now unable to get up or down stairs and knee movements are very limited and painful. The left knee is worse than the right.

Assessment
Re-assessment
Advice to patient and exercise programme
Advice to caring person on patient management
District nurse support
Supply and/or fit equipment
Continuing supervision
Exercises - group
- individual
Training in independence/mobility
Movement and mobilisation techniques
Traction
Manipulation
Massage
Postural drainage
Infra red, heat pads and packs
Wax
Short wave diathermy
Ultrasound
Ice
Ultraviolet light
Electrical muscle stimulation
Others not indicated - please specify

Preferred place of treatment for this patient in these circumstances

Physiotherapy Department in hospital or other premises ☐

Patient's own home ☐

Feel unable to comment ☐

Please tick in appropriate box.

CASE 6

Patient A woman aged 38 years. She lives with her husband and two children aged 9 and 6 years, in a ground floor flat.

Medical history Since a diagnosis of multiple sclerosis was made seven years ago the patient has had increasing difficulty in walking. She is at the moment in remission following an acute exacerbation.

Present problem The patient is very keen to maintain her independence and to continue to run her home despite her disability. Increasing spasticity of both legs is making independent walking more difficult, and poor balance in standing is causing functional problems related to home management and care of the children.

Assessment
Re-assessment
Advice to patient and exercise programme
Advice to caring person on patient management
District nurse support
Supply and/or fit equipment
Continuing supervision
Exercises - group
- individual
Training in independence/mobility
Movement and mobilisation techniques
Traction
Manipulation
Massage
Postural drainage
Infra red, heat pads and packs
Wax
Short wave diathermy
Ultrasound
Ice
Ultraviolet light
Electrical muscle stimulation
Others not indicated - please specify

Preferred place of treatment for this patient in these circumstances

Physiotherapy Department in hospital or other premises ☐

Patient's own home ☐

Feel unable to comment ☐

Please tick in appropriate box.

APPENDIX 6

List of main diagnoses and conditions not included in table 14

LIST OF MAIN DIAGNOSES AND CONDITIONS NOT INCLUDED IN TABLE 14

(Those stated by the referring doctors)

Diagnoses and conditions	I.C.D. code	Number
OTHER MUSCULOSKELETAL CONDITIONS		
Postural dorsal backache	728.5	1
Acute back strain	N847.8	2
Osteochondritis	722.9	1
Lumbar spondylosis	713.1	2
Synovitis, knee	713.0	1
Fibrositis	717.9	5
Acute stiff neck	N847.0	1
Sciatica	725	2
Osteoporosis following steroids	723.0	2
Rotator cuff lesion	717.1	1
Capsulitis, shoulder	729	6
Steroid myopathy	N962.0	1
		25
OTHER DISEASES OF THE NERVOUS SYSTEM		
Peripheral neuritis	355	1
Bell's palsy	350	1
Tube syndrome	341	1
Polyneuritis	354	1
Late effects of poliomyelitis	044	1
Spinal muscular atrophy	733.1	1
Meningitis (post pneumococcal)	324	2
Progressive paralysis	348.2	1
Quadriplegia	344	1
Neuropathy	357	1
		11

Diagnoses and conditions	I.C.D. code	Number
OTHER CIRCULATORY CONDITIONS		
Chilblains	443.2	1
Arteriosclerosis	440.9	1
Varicose ulcer (post operative)	454.9	1
Varicose ulcers	454.0	1
Poor circulation right leg	458.9	1
Vertebro-basilar insufficiency	432.9	1
Subarachnoid haemorrhage	430.9	3
		9
OTHER GYNAECOLOGICAL OR OBSTETRIC CONDITIONS		
Unhealed hysterectomy scar	N998.5	1
Weak anal sphincter	785.6	1
Weak pelvic floor	786.2	2
		4
OTHER RESPIRATORY CONDITIONS		
Acute chest infection	465	3
Congestion of lungs	519.9	1
Collapsed lower lobe	519.0	1
Emphysema	492	1
		6
OTHER FRACTURES		
Pott's	N824	3
Pelvis	N808	1
Tibia and fibula	N823.0	3
Scapula	N811	1
Lumbar spine	N805.2	2
Compound, tibia and fibula	N823.9	1
Colles'	N813.4	5
Elbow	N813.0	1
Smith's	N813.4	1
Anterior margin C2	N805.0	1
Multiple crush	N827	1
		20

Diagnoses and conditions	I.C.D. code	Number
OTHER SPRAINS AND STRAINS		
Sprained ankle	N845	6
Stiff and painful shoulder	N840	2
Strain, tensor fascia lata	N843	2
Trochanteric bursitis	731	2
Sacro-iliac strain	N846	2
Pelvic strain	N848	1
Dislocated shoulder	724.9	1
Strain, lumbar spine	N847.8	2
		18
OTHER TRAUMATIC AND ORTHOPAEDIC CONDITIONS		
Dislocated shoulder	724.9	2
Traumatic paraplegia C4/5	N806.9	1
Patellectomy	S7932	1
Synovectomy	S821	1
Bruising, foot	N928	1
Unsuccessful T.A. lengthening	S840	1
Stiff shoulder following burns	N943.8	1
Synovectomy, M.P. joint	S8421	1
Carpal tunnel release	S041	1
Trauma to finger	N925.9	1
Fall on shoulder	N923	1
Crushed foot	N928.9	1
Recurrent dislocation patella	N836	1
Osteotomy,hip	S7911	1
Head injury	N854	1
Pelvic injury	N848	2
		18

The classification of surgical operations O.P.C.S. 1971 has been used to classify surgical conditions.

Diagnoses and conditions	I.C.D. code	Number
OTHER CONGENITAL ABNORMALITY		
Encephalocele	743.0	1
Talipes	754	1
Congenital torticollis	756.8	1
Congenital myopathy	733.1	1
Microcephaly	743.1	2
Kippel Feil Syndrome	756.1	1
Down's Syndrome	759.3	2
Hydrocephalus	742	2
Congenital abnormality N.O.S.	759.9	2
		13
OTHER DISEASE AND CONDITION		
Flat feet	736	1
Post-gastrectomy	S422	1
Hysterical manifestations of multiple sclerosis	300.1	1
Post-mastectomy	S382	3
Clumsy child	780.4	1
Senile dementia	290.0	1
Pressure sore	707	2
Acne	706.1	1
Loss of movement following shingles	733.1	1
Post-operative excision of neuroma	S0553	1
Post-overdose (drugs)	N9779	1
Torticollis	717.2	1
Paresis neck and shoulder	781	2
General debility	790.1	3
Violent jerks	348.9	1
Pain in neck, shoulder, legs	787.1	5
Failure to thrive		1
Old, apathetic, becoming flexed	794	1
		28

APPENDIX 7

Other additional diagnoses and conditions

Patient's additional diagnoses and conditions

Diagnoses and conditions	I.C.D. code	Number
Rheumatoid arthritis	712	11
Osteoarthrosis	713	63
Cervical spondylosis	713.1	10
Prolapsed intervertebral disc	725.9	1
Frozen shoulder	717.1	5
Low back pain	727.7	8
*Other musculoskeletal conditions		6
Hemiplegia	344	10
Parkinsons disease	342	2
Multiple sclerosis	340	1
Paraplegia	344	1
Cerebral palsy	343	12
Epilepsy	345.9	16
Muscular dystrophy	330.3	1
*Other diseases of nervous system		12
Cerebrovascular disease	438	3
Hypertension	401	19
Ischaemic heart disease	412	8
Congestive cardiac failure	427.0	4
*Other circulatory conditions		12
Other gynaecological conditions		1
Bronchitis	491	29
Asthma	493	6
Bronchiectasis	518	2
Emphysema	492	2
Pneumonia	483	1
*Other respiratory conditions		7
Fractured femur	N820 N821	4
Other fractures		4
*Other sprains		2

*Listed on following pages

Patient's additional diagnoses and conditions (continued)

Diagnoses and conditions	I.C.D. code	Number
Total hip replacement	S811	6
Other traumatic conditions		19
Spina bifida	741	1
Developmental retardation	796.0	14
Congenital dislocation of the hip	755.6	1
*Other congenital condition		8
Visual impairment	379.0	16
Deaf	389.9	9
Psychological problems		11
Mental deficiency	315	12
Malignant condition		3
*Other diseases and conditions		50
Obesity	277	6

*Listed on following pages

Other additional diagnoses and conditions not listed

Diagnoses and conditions	I.C.D. code	Number
OTHER MUSCULOSKELETAL		
Sciatica	725	1
Osteoporosis	723.0	1
Spasmodic torticollis	717.2	1
Pagets'disease	721	1
Fixed deformity hips, knees	738	1
Scoliosis	756.1	1
OTHER NERVOUS SYSTEM		
Post neuritis pain, shoulder	352	1
Post herpetic neuritis	053	1
Bulbar palsy	348.1	1
Polio (late effects)	044	4
Unspecified neurological condition	348.9	1
Recurrent meningitis	320.9	1
Hypotonia	780.4	2
Wasting leg muscles following P.I.D.	329.9	1
OTHER CIRCULATORY		
Hole in heart	429	1
Mitral valve disease	394	1
Ulcer sole of foot, poor circulation	707	1
Angina	413.9	2
Thrombosis - (femoral)	451.0	1
Arteriosclerosis	440.9	1
Coronary artery disease	412	1
Ideopathic lymphodema	457	2
Varicose veins	454.9	1
Auricular fibrillation	427.9	1

Refers to * on previous pages

Other additional diagnoses and conditions not listed (continued)

Diagnoses and conditions	I.C.D. code	Number
OTHER RESPIRATORY		
Post 'flu	790.1	2
Recurrent chest infections	472	3
Pulmonary oedema	514	1
Old thoracoplasty	S332	1
OTHER SPRAINS AND STRAINS		
Chronic sprain, ankle	N845	2
OTHER CONGENITAL ABNORMALITIES		
Hydrocephalic	724	2
Microcephalic	743.1	1
Absence of retina	744.8	1
Genu valgum	755.7	1
High dorsal scoliosis	756.1	1
Limb shortening	755.4	1
Down's syndrome	759.3	1
OTHER DISEASE AND CONDITION		
Diabetic	250	7
Pressure sores	707	1
Very frail	794	1
Two weeks post partum	790.1	1
Incontinent urine	306.6	4
Ileostomy	S453	1
Debility following peritonitis	790.1	1
Post 'flu debility	790.1	1
Colitis (chronic)	563.9	1
Pressure sores	707	2
Cellulitis, foot	682.4	1
Appendicectomy	S444	1
Colostomy	S462	1

Refers to * on previous pages

Other additional diagnoses and conditions not listed (continued)

Diagnoses and conditions	I.C.D. code	Number
OTHER DISEASE AND CONDITION (continued)		
Pulmonary embolus	450	1
Skin grafts	S935	2
Dysphasia	781.5	6
Dyspraxia	780.4	5
Shingles	053	1
Chronic sinusitis	503	1
Cirrhosis of liver	571.9	1
T.B. meningitis	019.1	1
Recurrent meningitis	324	1
Post hallux rigidus	S816	1
OTHER VAGUE CONDITIONS		
Dizzy	780.5	1
Has blackouts	782.5	1
Frail	790.1	3
Language delay	781.5	2

Refers to * on previous pages

Second and third additional diagnoses and conditions

Diagnoses and conditions	I.C.D. code	Frequency		Total
		Second	Third	
Low back pain	727	2		2
Other musculoskeletal conditions		1		1
Hemiplegia	344	2		2
Cerebral palsy	343	1		1
Epilepsy	345.9	6		6
Other diseases of nervous system		1		1
Hypertension	401	6	2	8
Ischaemic heart disease	412	4		4
Congestive cardiac failure	427.0	3		3
Other circulatory conditions		6	1	7
Bronchitis	491	11	7	18
Emphysema	492	2	1	3
Pneumonia	483	1		1
Other respiratory conditions		1		1
Fractured femur	N821	3		3
Other fractures		1	2	3
Total hip replacement	S811	1		1
Other trauma		7	2	9
Developmental retardation	796.0	5	2	7
Other congenital abnormalities		8	2	10
Visual impairment	379.0	24	6	30
Deaf	389.9	14	7	21
Psychological problems		6	2	8
Mental deficiency	315	31	21	52
Other disease and condition		23	16	39
Social problems		6	1	7
Obesity	277	5	5	10
Malignant condition			1	1

APPENDIX 8

Planning for Physiotherapy in the Community

APPENDIX 8

Planning for Physiotherapy in the Community*

Cecily Partridge, M.C.S.P.,
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The Health Services Research Unit at the University of Kent at Canterbury is at present undertaking a project to look into the value of domiciliary physiotherapy. Fourteen different schemes are being studied in depth. They include schemes where patients are seen not only in their own homes but in general practice premises, health cnetres, residential homes and nursery groups. We are most grateful to the physiotherapists working in these schemes for their enthusiastic cooperation in collection of data for the study.

The objectives of this stage of the project are to find from selected schemes the types of patients that are being seen, the conditions from which they are suffering, and the physiotherapy that they are receiving. Information is also being collected about the referral procedures used and the role of the physiotherapist in relation to others in the community. The report on this first stage of the research should be available by the middle of 1977.

Many people who are planning to start a community service have asked us for advice. We cannot answer queries from the data we are collecting as these have still to be analysed. However, from the many people who have written to us with helpful information about their work in the community, and from schemes that have been in operation overseas for some years, it appears that there are common problems which can be summarised in the form of questions.

1. What is the geographical catchment area of the proposed service? This must be clearly defined because of implications for costing.

2. What types of patient should be seen outside hospital? Which patients are at present not receiving an optimum physiotherapy service?

These might include:

(a) Those patients who cannot attend hospital and so receive no treatment.

(b) Those who are at present attending physiotherapy out-patient departments but the hours of travelling and waiting nullify the beneficial effects of treatment.

(c) Those for whom physiotherapy is specifically related to their environment, be it in their own home, residential home, nursery group, etc.

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3. What type of physiotherapy service is to be offered?

This must be clearly defined. It may consist of:

(a) An assessment and advice service.

(b) A treatment service which may involve equipment.

(c) Both a treatment and advice service.

4. What types of conditions can be adequately treated within the limits of this service?

Neurological conditions, arthritic conditions, recent injuries, respiratory conditions or others. Those that can be managed must be clearly defined.

5. Who is going to refer patients?

(a) General practitioners.

(b) Consultants in rheumatology and rehabilitation.

(c) Consultants of other specialties.

It is important to know not only which groups of doctors but which individual doctors within these groups will refer.

6. Who is going to work in this service?

It is important that all physiotherapists working in the community should be experienced, up-to-date members of their profession, capable of establishing a mature working relationship both with the patient, the caring person, and other members of the community services. An established base is essential from which the physiotherapist can collect referrals.

7. To whom will the physiotherapist be accountable?

Administratively:

(a) To the Area Health Authority, either directly or through a Superintendent Physiotherapist, a District Physiotherapist or with some other arrangement.

(b) To other agencies.

Professionally:

(a) To a Superintendent Physiotherapist.

(b) To a District Physiotherapist.

(c) To a consultant in rheumatology and rehabilitation.

Each area has different existing services in the community and different problems. It is essential that the physiotherapy service which develops is in line with the particular needs of the community and that the physiotherapist finds an effective place working with others in already established services.

APPENDIX 9

Clinical trials of physiotherapy

Clinical trials of physiotherapy

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Note: The authors would be grateful to be informed of reports of clinical trials of physiotherapy that are not included in the above list.