Organising a physiotherapy service in general practice

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SUMMARY. This paper describes three years' experience of running a domiciliary physiotherapy service based on general practice and financed by limited voluntary funds.

The need arose from the remoteness of, and lack of, open access to, hospital physiotherapy. This was particularly so for elderly patients who were often frail and mentally confused. In addition there were obvious advantages in properly instructing relatives in management and treatment, especially since many of the patients and their relatives expressed a desire for home treatment.

There was also a desire on the part of the general practitioners, nurses, and ancillary workers to develop further the teamwork in the health services of the four villages involved. Details of the constitution of the voluntary service and its financial arrangements are given.

The results of the service and the nature of its work are described. There were no difficulties experienced in selecting the correct patients for treatment and the type of equipment required was almost all normally available through the health authority nursing service. There was no great need for expensive or heavy equipment and no transport problems arose.

It was found that one hour of physiotherapist's time per 1,000 patients per week was adequate to cover all patients requiring short-term intensive therapy and to allow a small amount of palliative therapy in addition, although this had not been the original intention of the service.

The physiotherapist averaged about 40 hours work per month and under these conditions the travelling and costs averaged 1·54 miles and 83 pence per visit. With self-determined hours of work and flexible timing, these conditions proved ideal for a married physiotherapist with the responsibility of a young family. Expansion of the hours of work in this particular area would have led to wasteful visits devoted to palliative and placebo therapy; and extension of the service beyond the area defined, would have increased travelling time at the expense of working time. Thus there appear to be considerable advantages in keeping general-practice based domiciliary physiotherapy work on a part-time basis and looking for staff living close to the practice.

Physiotherapy

Physiotherapy has been defined 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 a life as possible*" (Chartered Society of Physiotherapists, 1973; our italics).

This paper is concerned with the first three years work of a domiciliary physiotherapy service based on general practice.

A preliminary description of the first two years work indicated that it was possible to run an effective domiciliary physiotherapy service of this type financed out of limited voluntary funds (Waters *et al.*, 1974). This paper gives further information about the service including details of organisation and finance.

The Area

Dunscroft, Dunsville, Hatfield, and Hatfield Woodhouse are four adjoining villages, situated in the South Yorkshire Coalfield about seven miles north-east of Doncaster. They are part of Thorne Rural District (population 42,000) and have a total population of 12,000. The area was mostly agricultural until 1923, when a large mining community developed. Since 1960 there has been a further development of the area as a commuter suburb of Doncaster.

Need for a domiciliary physiotherapy service

For some time before 1971 it had been apparent that there was a need for a domiciliary physiotherapy service in the area, and that this need was compounded by several factors.

(1) *Lack of open access for general practitioners to the hospital outpatient service*

Outpatient physiotherapy services for the area are based at the district general hospital, seven miles away. Access is not available to general practitioners for their patients except through consultant clinics or after a domiciliary visit by a consultant.

(2) *Transport difficulties*

Transport for patients without private cars, attending the physiotherapy department as outpatients, is by public service bus along three routes with a frequency ranging from every 20 minutes to one hour. For patients unfit to travel by bus the area ambulance service is available. The local depot has 12 ambulances, serving 220,000 people in a 200 square mile area, and runs may be up to 14 miles from base. On occasion, therefore, non-urgent patients have to wait a considerable time for transport and may travel quite a circuitous route to the hospital or, more often, on the way home after treatment.

(3) *A preference for home treatment by patients*

To some extent this preference arises through difficulties with transport, but also there is in the longer established parts of the district with close-knit agricultural, mining and ex-mining communities, a tradition for patients to be treated at home, who, in other areas might be admitted to hospital. This tradition is rooted in strong family links and a desire to give social support.

(4) *The specific problems of old people*

It was felt that old people suffering from illnesses which may cause or increase mental confusion such as cerebrovascular accidents, might respond to skilled physiotherapy in their own homes at least as well, and in many cases better, than they would as outpatients after a tiring journey.

(5) *The need to instruct relatives in simple techniques of management and treatment*

In many cases, and particularly in the elderly, it was felt that instruction of the relatives by the physiotherapist in simple techniques of management and treatment of the patient, would supplement the physiotherapist's treatment to a significant extent. It seemed also that it would be sensible to give this instruction in the surroundings in which the patient was to be managed and encouraged to return to optimum activity.

(6) *Teamwork*

The introduction of the physiotherapist into a team which already consisted of general practitioners, S.R.N.s, S.E.N.s, health visitors, midwives and ancillary staff, must increase the efficiency of the team as a whole to the benefit of the patients, and particularly since the district nurses were already involved in simple physiotherapy as part of their general nursing care, and the midwives in their antenatal and postnatal care.

History and development

From a reading of the relevant Acts (National Health Service Act, 1946; Health Service and Public Health Act, 1968), and from enquiries made to the statutory authorities, it seemed highly unlikely that a general-practice based service would be created in the foreseeable future as part of the National Health Service. In addition, if such a service is to be effective, it must be run at no cost (at the time) to the patient. Consequently it was decided that the only way in which the service could be made available in this area was by forming a voluntary organisation to pay for and to administer it.

A search of the literature failed to reveal details of any such scheme or any guidelines for the development of one, either on a voluntary basis or run by a local authority. A similar difficulty in obtaining details of local authority services was later reported by Ben and Wood (1972).

An offer to one of us of a donation of £100 from the charities committee of a local public house (Flarepath Hotel (1971), personal communication) made it possible to consider starting such a service, and a voluntary committee was formed and a constitution drawn up (appendix 1).

The constitution defined the area to be served and stated that the service would be given free of charge to patients within this area at the request (and only at the request) of their own doctor, who would remain in full clinical control of his patient.

It was also agreed that the committee would employ, on a sessional basis, a fully-qualified and registered physiotherapist to undertake the treatment and that the treatment would, in the main, be rehabilitation therapy of the patient and education of the patient's relatives in management. It was not intended that valuable physiotherapy time should be offered for palliative or placebo therapy. This policy was endorsed wholeheartedly by the physiotherapist who was subsequently employed.

Paying for the service

It was apparent that to organise an effective service the sums of money required would be quite large. It was decided, therefore, that the committee should attempt to attract donations from already established charitable organisations, and from the statutory authorities, rather than organising many minor fund raising exercises. It was felt that small efforts would fail to produce the necessary income. This policy has been successful so far and the income is shown below (appendix 2). One interesting donation is that from the Hatfield Trust, which is money from the income of the investments of the original District Nursing Fund for the area, and the trustees of this fund rightly interpret the physiotherapy service as being a specialised part of the service to the community originally pioneered by district nurses.

Operation of the service

The service started on 1 June 1971 and results are now available for the first three years.

It was fortunate that a physiotherapist, trained at Guy's Hospital, married and with two young children, was living in one of the villages. Her family commitments prevented any work at the district general hospital, but local part-time work with flexible timing was feasible.

The time devoted each week by the physiotherapist to the service was determined by the needs of the patients in the area and was not related to any preconceived ideas about availability of the physiotherapist or cost. This was because the committee wished to fulfil the need for domiciliary physiotherapy and also wished to gain a true picture of the total needs of the area, measured in hours of physiotherapy time per week, per 1,000 patients at risk.

The needs of the patients were decided by direct consultation between the medical adviser and the physiotherapist. Good fortune prevailed, since the physiotherapist discovered that she had enough time to cover the needs of the area and the committee was able to raise enough money to meet the expenses. Had the situation proved less favourable, a decision would have had to be made whether to seek more funds and attempt to expand the volume of the service or cut down or even stop the service.

The terms of the physiotherapist's appointment were that she should be paid the Whitley Council rates of pay for a physiotherapist working single-handed, and that she should be paid a mileage allowance. For the purposes of National Insurance she is considered to be self-employed.

Results of the first three years' work

During the first three years a total of 80 cases were considered for treatment. In five cases treatment was found to be unnecessary and in seven cases treatment was still continuing, leaving a total of 68 completed courses of treatment.

Procedures were taught to relatives in 26 cases (38 per cent). The people involved are shown in table 1

TABLE 1

INVOLVEMENT OF RELATIVES

Relatives taught simple procedures during 26 completed courses of physiotherapy

Wife or husband	9
Mother	5
Daughter or daughter-in-law	5
Husband and daughter	3
Wife and daughter	1
Grand-daughter	1
Sister	1
Mother and father	1
TOTAL	26

Equipment was lent in 38 cases (56 per cent). In all but one instance the equipment was of the type that is available through the health authority nursing service and there was consequently no financial burden on the physiotherapy service, except that a few items had to be purchased for immediate use while the official procedures were completed. The one item of equipment not normally available through the health authority nursing service was the wax bath, the wax for which is prescribable on the National Health Service form F.P.10. The loan of equipment continued after the course of treatment ended. Other equipment used, but not lent, consisted of a progressive treatment unit (three cases) and an infra-red lamp (four cases). The progressive treatment unit was donated by a grateful patient who had bought it for himself in the past. The infra-red lamp was the personal property of the physiotherapist. It was clear that there was no great need for expensive or heavy equipment, and no transport problems arose. Details are shown in table 2.

TABLE 2

ITEMS OF EQUIPMENT LENT IN 38 COMPLETED COURSES OF PHYSIOTHERAPY

Tripod	11
Sticks	8
Sticks and tripod	6
Quadrapod and tripod	2
Wheelchair, tripod and sticks	3
Elbow crutches and stick	1
Walking frame	1
Wheelchair and sticks	1
Wheelchair and crutches	1
Wheelchair and walking frame	1
Wheelchair	2
Wax bath	1
TOTAL	38

TABLE 3

AGES, EQUIPMENT LENT, AND RESULTS OF TREATMENT IN 32 CASES OF HEMIPLEGIA

	Males	*Females*	*Total*
Cases	14	18	32
Completed courses of treatment	13 No treatment required 1	15 No treatment required 2 Still under treatment 1	28 No treatment required 3 Still under treatment 1
Mean age	63 years	69 years	67 years
Median age	65 years	70 years	69 years
Age range	46–75 years	56–81 years	46–81 years
Equipment lent			
Sticks	2	2	4
Tripod and sticks	3	2	5
Tripod	3	4	7
Quadrapod and tripod	0	2	2
Wheelchair and sticks	1	0	1
Wheelchair and walking frame	0	1	1
	9	11	20
Results			
Improved. Discharged.	11	7	18
No change, discharged or admitted to hospital.	1	3	4
Worse, discharged, died or admitted to hospital.	1	5	6
TOTAL	13	15	28

Details of the completed courses of treatment

Thirty-nine (57 per cent) of the cases improved, and were discharged from treatment. A further 18 (26 per cent) showed no change and were either discharged or admitted to hospital. Nine cases (13 per cent) became worse and were either discharged, admitted to hospital, or died. In two cases it was not possible to judge a change since the patients

were children with pes planus, and the physiotherapist's task was to teach the mothers the necessary exercises.

The nature of the work

The largest single group consisted of 32 hemiplegics, 14 men and 18 women. Details are given in table 3 and indicate that the women, on the whole, were older than the men and, judging by the equipment lent and the poorer results of treatment, more severely handicapped than the men.

The remaining 48 cases covered a wide range of diagnoses over an age range extending from two years to 89 years. There were six children between the ages of two and 12 years suffering from spina bifida, bronchitis, asthma, head injury with quadriparesis, and the two cases of pes planus. The next youngest patients were a woman of 23 years suffering from spastic diplegia and a man of 40 years with chronic bronchitis, who received breathing exercises as a prophylactic procedure when a prolapsed intervertebral disc required his immobilisation in a plaster jacket.

The other end of the age range consisted of an 81 year-old with a fracture, an amputee aged 82 years, two patients with osteoarthrosis aged 82 and 86 years, two 87 year-olds, who were becoming bedfast, and an 89 year-old with a frozen shoulder. The middle-age range included cases of disseminated sclerosis, rheumatoid arthritis, fractures, pneumonia, and amputation (table 4).

TABLE 4
DISEASE CATEGORIES OF THE 80 CASES CONSIDERED FOR TREATMENT

Hemiplegia	32	
Injuries	9	(Fractures 7, head injury with quadriparesis 1, torn hamstring muscle 1).
Arthritis	9	(Osteoarthrosis 7, rheumatoid arthritis 2).
Respiratory	6	(Chronic bronchitis 2, asthma 1, asthma and bronchitis 1, pneumonia 1, lung abscess following operation for duodenal ulcer 1).
Amputees	5	
Becoming bedfast	5	
Disseminated sclerosis	3	
Congenital conditions	3	(Spina bifida 1, pes planus 2).
Spastic diplegia	2	
Frozen shoulder	2	
Parkinson's disease	2	
Carcinoma (breast)	1	
Bell's palsy	1	
TOTAL	80	

Number of home visits and duration of treatment

The 68 completed courses of treatment accounted for 1,445 visits, giving a mean of 21 visits and a median of eight visits per completed course. The mean length of a course of treatment was 83 days with a median of 36 days. It was apparent that the figures were being weighted by a small number of cases where treatment had involved a large number of visits and had continued for a long period of time.

Developments

During the past two years the physiotherapist has given instruction at 40 antenatal relaxation classes and in the past year she has also done 35 home visits to teach postnatal exercises. This work was started at the request of the district midwife and with the permission of the Medical Officer of Health. She has also done ten home visits for the purpose of assessing requirements for equipment.

Hours of work, mileage, and cost

The number of hours worked by the physiotherapist totalled 1,421. Details are shown in table 5.

The total mileage for the three years was 3,107 (972, 943 and 1,192 miles in each year respectively).

The total number of home visits carried out during the three years was 2,014 (completed courses of treatment 1,445, continuing courses of treatment 519, postnatal 35, assessments for equipment ten, treatment not necessary five). Each visit thus averaged 1·54 miles.

The total cost of the service was £1,729. Of this sum, £21 was for equipment and telephone calls and the remainder (£1,708) was professional services and mileage payments to the physiotherapist. If the cost of the antenatal classes (£46) is subtracted from this sum the total cost of the home visits becomes £1,662. The cost per visit, therefore, amounts to 83 pence.

This relatively low sum results from a lack of administrative expenses, since these services were given voluntarily, and from the limited mileage expenses and travelling time.

TABLE 5
HOURS WORKED BY THE PHYSIOTHERAPIST

	1971-72	*1972-73*	*1973-74*	*Total*
June July August	103	116	114	333
September October November	70	99	113	282
December January February	135	121	136	392
March April May	127	135	152	414
TOTAL	435	471	515	1,421

Discussion

The main advantage of the service is the early treatment of frail patients in their homes with the help of relatives. Examples are the patient who suffers a cerebovascular accident not requiring hospital admission yet needing early rehabilitation, or the patient suffering an exacerbation of disseminated sclerosis, again nor warranting hospital admission, but certainly requiring rehabilitation therapy. Further examples are patients with fractures, arthritis, and pneumonia.

From the staff point of view, the physiotherapist enjoyed selecting her patients and deciding their treatment. She also enjoyed getting to know the patients and their relatives personally, and found that by visiting them in their own homes, she obtained a better understanding of their problems. She found her direct contacts with doctors, nurses and social workers, much more satisfactory than the second-hand contacts via the head of a physiotherapy department that she had been used to in hospital practice.

Indeed her conditions of service were much nearer to those recommended by the Working Party on the Remedial Professions (1973), than to those experienced by most physiotherapists working in the hospital service today.

The presence of a number of patients receiving many visits, spread over a long period of time, suggested that there had been some departure from the policy of refusing time for palliative therapy. The physiotherapist pointed out, however, that where patients had received a large number of visits, the pattern was that only the early assessment and treatment visits were prolonged thereafter the visits were supervisory in nature and usually very brief. It was certain, however, that all the cases likely to benefit from short-term treatment were receiving the necessary attention and it is of interest, therefore, to examine the number of hours worked by the physiotherapist to cover the needs of the 12,000 population. The total number of hours worked during the first three years were 1,421. This indicated that approximately 40 hours per month are adequate for 12,000 patients at risk, i.e. just under one hour per 1,000 patients per week.

It would be interesting to know how many married physiotherapists with young families would be prepared to work these hours in general practice. In this study it was only because the hours were short, flexible and self-determined, and the patients close by, that the physiotherapist could work at all.

Given more hours of work available we suspect the open-ended nature of the work would soon become apparent. It would be only too easy to expand into the field of palliative therapy, piling up large numbers of visits and achieving little in the way of rehabilitation. Both the physiotherapist and the medical adviser were well aware of this danger and scrutinised their own and each others' selection of patients carefully. It would also be easy to expand the area covered, so that travelling time absorbed treatment time and transport costs rose. Consequently there appear to be considerable advantages in keeping work of this nature on a part-time basis and looking for staff living close to the practice.

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Appendix 1

THE CONSTITUTION OF THE DUNSCROFT, DUNSVILLE, HATFIELD AND HATFIELD WOODHOUSE DOMICILIARY PHYSIOTHERAPY SERVICE, 24 MAY, 1971

A voluntary committee shall be formed to administer the Domiciliary Physiotherapy Service. The committee shall consist of a Chairman, Vice-chairman, Secretary, Treasurer and up to ten other members. A quorum shall be one of the officers of the committee and 30 per cent of the appointed members. The committee may, if it so wishes, appoint a President. The officers will be elected annually at the Annual General Meeting which will be held in May each year.

The committee will administer the service, which will be given to patients throughout the villages of Dunscroft, Dunsville, Hatfield and Hatfield Woodhouse. The service will be given free of charge

to patients in these areas at the request (and only at the request) of their general practitioners. Donations to the service may be accepted from these patients if they are so offered.

The committee will be responsible for soliciting suitable donations to fund the service from interested bodies and individuals and if necessary will undertake fund raising activities. The committee will, if possible, obtain the voluntary service of a senior physiotherapist to act as professional adviser to the committee. The physiotherapist adviser and the medical adviser are *ex officio* members of the committee, but this does not exclude them from other office on the committee.

The committee will employ, on a sessional basis, a fully qualified and registered physiotherapist to undertake the actual treatment of patients. The treatment will in the main be rehabilitation therapy of the patient and education of the patient's relative in management. The physiotherapist will be responsible directly to the patient's own doctor as to the treatment to be carried out so that the doctor may continue to have full clinical responsibility for the patient.

The committee are responsible only for the administration of the service and the payment of the physiotherapist for the sessions undertaken. An honorary auditor will be appointed to audit the accounts yearly. The committee shall meet at least three times a year.

The domiciliary service shall be run in as close liaison with the hospital service as possible.

Appendix 2

INCOME

First year	*Source*	£
June	Flarepath Men's Club	100
June	Private donation	5
August	Dunscroft Social Club	50
September	Flarepath Men's Club	100
December	Hatfield Brownies, 47th Troop	35
December	Hatfield Trust	100
February	Flarepath Men's Club	50
February	Thorne Rural District Council	50
May	Dunscroft Social Club	10
		500
Second year		
June	Patient's donation	10
June	Patient's donation	11
July	Hatfield Trust	50
August	Thorne Rural District Council	250
October	Thorne Rotarians	25
October	Hatfield Brownies, 47th Troop	15
December	Hatfield Brownies, 47th Troop	41
December	Patient's donation	6
January	Patient's donation	2
January	Flarepath Men's Club	100
March	Thorne Rural District Council	400
April	Hatfield Trust	100
		1,010
Third year		
June	Patient's donation	5
December	Flarepath Men's Club	100
December	Regal Social Club	20
December	Thorne Rotarians	25
January	Patient's donation	5
May	Hatfield Trust	100
May	Patient's donation	20
		275
	TOTAL	1,785