

Should general practitioners refer patients directly to physical therapists?

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SUMMARY

Several advantages have been claimed for general practitioners having direct access to physical therapy (defined as having a practice-based physical therapist or open access to a hospital-based physical therapist), and general practice fundholders are increasingly committing resources to ensure such services are available to their patients. This may lead to potential increases in costs as a larger total number of patients are treated owing to improved access and awareness of such services. A review of the available published literature found eight studies that compared two or more models of providing physical therapy services. Analysis of the studies revealed that there are several advantages for patients who are referred directly for physical therapy. The main advantages are significant reductions in waiting times, convenience, reduced costs for the patient and a lower cost per treated patient. There is also some evidence that the recovery time may be slightly better for patients who have direct access to a physical therapist.

Introduction

PHYSICAL therapy is defined as the treatment of disorders with physical agents and methods to assist in rehabilitating patients and in restoring normal function after an illness or injury.¹ The term is often used synonymously with physiotherapy, although it includes interventions undertaken by physiotherapists, osteopaths or chiropractors. Many British physiotherapists regularly employ techniques that overlap with or originate from osteopathy and chiropractic.² Parliamentary assent is now in the process of ensuring official recognition of osteopathy and chiropractic.

Physical therapy is commonly used for a variety of acute and chronic conditions that are encountered in general practice. Back injuries, neck injuries, and shoulder injuries are the principal affected sites for which patients are referred to physiotherapy.³ A two-year study⁴ of a physiotherapy unit at one primary care health centre reported that 39% of referrals were for vertebral column syndromes (which includes back pain) and 15% were for fractures and sprains. The proportion of people who consulted their general practitioner (GP) at least once for disorders of the musculo-skeletal and connective tissue increased from 13% in 1981–1982 to 15% in 1991–1992.⁵

Estimates of the number of patients requiring physical therapy vary enormously.^{3,4,6,7} An approximate annual referral rate for all conditions of 22 per 1000 patients on a group practice list has been reported (rates varied from 8 to 41 per 1000 in six practices studied⁴), with marked variations in the number of referrals by individual GPs (ranging from 3 to 301 per 1000 patients on a practice list).

Against this background of increasing awareness of physical therapy and rising consultation rates for musculo-skeletal disorders,⁵ GP fundholders are increasingly committing resources to improving their patients' access to physical therapy, and other models of service provision are being developed.⁸ Some practices are funding on-site physical therapists, while others are channelling extra resources into hospital physiotherapy departments to ensure rapid access to physiotherapy. As long ago as 1982, it was reported that 75% of districts in England and Wales provided community physiotherapy,⁹ and 66% allowed GPs direct access to physiotherapy. However, practice-based physical therapy, or open access to hospital physiotherapy, is not universal, and regional differences in the ways in which GP patients are provided with physical therapy have been reported.^{10,11} In 1994, the Clinical Standards Advisory Group (CSAG)¹¹ report on back pain recommended that GPs should have direct access to physiotherapists and chiropractors if back pain does not settle in 1–3 days, as the effectiveness of physical therapy is believed to be increased if patients are treated earlier. The report acknowledged that 'techniques used and levels of skill offered...can vary widely. At present there is no good evidence on which forms of manipulation are most effective for which patients.' Two reviews^{12,13} have concluded that the 'data are insufficient concerning the efficacy of spinal manipulation for chronic low back pain', and that 'although some results are promising, the efficacy of manipulation has not been convincingly shown'.

A number of advantages have been claimed for direct access to physical therapy.^{3,14} First, the total amount of physical therapy given to patients is reduced; secondly, treatment will be given more promptly under a direct access scheme; thirdly, the pressure on consultant out-patient clinics is reduced; fourthly, patients recover more rapidly and return to work sooner; fifthly, patients' assessments of the management of their conditions are higher; and finally, financial costs to the patient are lower. However, against these advantages is the potential disadvantage of an increase in total cost owing to a larger number of patients being treated because of improved access to, and awareness of, physical therapies. More importantly, there is doubt about the overall health benefit of some forms of physical therapy.²

While reviews of the effectiveness of physical therapy have been published,^{12,13,15} the primary aim of this paper is to review the available literature to determine whether GPs should have direct access to physical therapy, either through open access or through an on-site physical therapist. A secondary aim is to validate the CSAG claim, based on a series of district visits, which stated that '...earlier referral was reported generally to result in shorter courses of treatment'.¹¹

Methods

Literature searches were conducted on two databases (Healthplan and Medline). The inclusion criteria for the review was any study that compared two or more models of GP access to physical therapy services in the United Kingdom (UK). The search strategies and dates were:

1. Healthplan, 1981–December 1995:
 - Physical therapy/all subheadings; and Program evaluation/all subheadings, or Evaluation studies/all sub-

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- headings,
- Free-text search: 'physical therap*' and 'effectiveness' or 'general practice'.
2. Medline, 1989–January 1996:
- Physical therapy/all subheadings; and Primary health care/all subheadings, or Family practice/all subheadings,
 - Free-text search: 'physical therap*' and 'effectiveness' or 'general practice'.

All references given in relevant papers traced from the above search strategies were also examined to establish whether they met the inclusion criteria.

The papers were reviewed by one of the authors (GR) and then ranked to produce a hierarchy of evidence based on that used by the National Health Service (NHS) Centre for Reviews and Dissemination,¹⁶ which is, in turn, based on the classifications drawn up by the Canadian Task Force on the Periodic Health Examination¹⁷ and the US Preventive Services Task Force.¹⁸ This hierarchy places a well-designed randomized controlled trial at its apex, followed by other intervention studies and then observational studies. In addition to this ranking system, each study was critically appraised in order to assess the strength of its design and analysis (Table 1).

Results

Eight papers^{3,5,6,14,19-22} comparing two or more models of providing physical therapy services were found. Summary details of each of these studies are shown in Table 1. The eight studies included one randomized controlled trial,³ five open, prospective case-series studies^{14,19-22} and two retrospective casenote reviews.^{5,6} Six of the studies^{3,5,6,14,19,20} were published in peer-reviewed journals, one appeared in a journal of unknown status,²¹ and one had not been published in a peer-reviewed journal but was available as one of a series of discussion papers from a university health economics department.²² Each of the benefits outlined above is discussed in relation to the results of these eight studies.

Reduced number of treatment sessions required

Gentle *et al*'s randomized controlled trial (1984)³ showed that the average number of attendances for physiotherapy given under a direct referral scheme (8.6) would be shorter than under consultant referral (9.0), although this difference was not statistically significant. Hackett *et al*'s open prospective study (1993)¹⁴ showed that the number of treatment sessions with a physiotherapist was constant at approximately 7 (mean 7.0 for patients with direct access, 7.2 for patients with open access and for patients requiring consultant referral, 7.2 for those seen under the NHS, and 7.0 for those seen privately). Similarly, in a retrospective casenote review by Ellman *et al*,⁶ courses of treatment were of similar duration whether patients were referred directly or indirectly (most courses were of fewer than five sessions). Fordham *et al* (1987)²² reported that open-access patients used significantly less physiotherapy time and sessions than their consultant-referred counterparts (3.1 hours versus 4.9 hours; 6.6 sessions versus 8.2 sessions), but the authors point out that this '...is due, in part, to a restriction on the number of attendances in a course of open-access treatment...and perhaps to the more acute nature of the conditions of open-access patients'. One study,²¹ of indeterminate quality, reported that the average number of treatments was 4.2 for medical centre patients and 8.5 sessions for hospital patients, and attributed this difference to the fact that medical centre patients needed fewer sessions because of shorter waiting

times. However, no measure of statistical significance was presented. Overall, there seems to be little published evidence to support the suggestion contained in the CSAG report that, because direct access patients are referred for physical therapy earlier, the number of treatment sessions they require will be significantly reduced.

Prompt treatment

Six^{3,6,7,14,21,22} of the studies recorded the average waiting time for treatment (Table 2). Under direct access schemes, waiting times for treatment are significantly reduced compared to referral via a consultant.

Reduced pressure on outpatient clinics

Gentle *et al* (1984)³ reported that 17% of patients in the direct referral group were referred for related conditions in the six months after entry; in the control group, 56% were similarly referred ($P < 0.001$). Fordham *et al* (1987)²² reported that consultant referral appeared to be reduced by the presence of open access physiotherapy (16.5% in the open access group versus 29.8% in the control group). O'Caithain *et al*¹⁹ reported reductions of 8% and 17% in referrals to the orthopaedics and rheumatology departments respectively, which they attributed to the introduction of an on-site physiotherapy scheme.

Recovery and recovery time

The results from the randomized controlled trial³ suggest that patient recovery time is slightly better for patients who receive open-access physiotherapy. At three months after entry, the average activity score of direct referral patients had improved from 16.7 to 18.4, compared with control patients who improved from 16.8 to 17.5 (ranging from 4, complete disability, to 20, full independence). This difference in improvement between the two groups was statistically significant ($P < 0.01$). No difference in return to work time was reported: the two groups were similar in the numbers off work initially (27 patients in the direct referral group, 28 in the control group). During the first month, nine patients in each group returned to work, and during the next two months a further seven direct referral patients and eight control patients returned to work. Hackett *et al* (1993)¹⁴ reported that 18.8% of patients from practice A (on-site physiotherapist) lost time from work or normal duties, compared with 32.9% in practice B (open access) and 20% in practice C (consultant referral). Fordham *et al* (1987)²² reported that open access did not advantageously affect the length of incapacity or time off work.

Higher patient assessment of progress

Gentle *et al* (1984)³ reported patients' own assessment of their progress as being scored from 1 (very much worse) to 10 (completely better). The mean initial scores for both groups were taken as 5 (remaining the same). At three months, the mean assessment score of the direct referral group was 7.4, compared with 6.1 for the control group ($P < 0.001$).

Hackett *et al* (1993)¹⁴ reported that patients rated direct access to a physiotherapist more highly than indirect access. At practice A (physiotherapist employed by GP), 95.3% of patients evaluated the management of their condition as being above average or above as opposed to below average. This compared to 93.2% of patients from practice B (open-hospital access) and 84.1% of patients from practice C (access via consultants).

Fordham *et al* (1987)²² reported that using the patients' own assessment of treatment, open access could not be shown to be significantly more beneficial than consultant referral or no further referral.

Table 1. Summary of study designs

Study	Patient group	Duration of study	Study design	Conditions	Service model(s)	No. patients	Outcome measures
Gentle et al, 1984	All patients referred for physiotherapy by GP	16 months	Randomized controlled trial	23% cervical spondylosis 19% sprains, tears, strains etc 14% osteoarthritis 14% lumbar disc lesions	(1) Open access (2) Consultant referral	(1) 123 (2) 107	<ul style="list-style-type: none"> ● use of physiotherapy and other services (especially use of consultant OP services) ● delay in treatment
Fordham et al, 1987	Patients attending GP with specified conditions	13 months	Open prospective case-series	37% acute neck & shoulder pain 25% acute back pain 14% osteoarthritis & rheumatoid arthritis <1% COAD & bronchitis 19% recent soft tissue injury <1% recent hemiplagia	(1) Open access/ consultant referral (2) Consultant referral	(1) 249 (2) 141	<ul style="list-style-type: none"> ● referral rates ● delay in treatment ● treatment outcome (patient assessment) ● treatment outcome (physiotherapist) ● quality of life (patient) ● private treatment levels
Hackett et al, 1993	Patients attending GP with acute or chronic joint or soft tissue problems	6 months	Open prospective case-series	27% lumbosacral spinal injuries 22% shoulder injuries 13% cervical spinal injuries	(1) Direct access (2) Open access (3) Consultant referral	(1) 183 (2) 85 (3) 133	<ul style="list-style-type: none"> ● referral rates ● prescription rates/costs ● time off work & normal duties ● speed of access to physiotherapist ● financial costs to patient
Hourigan et al, 1994	Patients referred to a special clinic	Not stated	Open prospective case-series	45% chronic back pain 20% acute prolapsed intervertebral disc 7% spondylosis	Physiotherapist screening patients in clinic	100	<ul style="list-style-type: none"> ● inappropriate GP referrals to surgeon
O'Caithain et al, 1995	Patients referred by GP to physiotherapy service	12 months	Open prospective case-series	Not stated	(1) Primary care based service (2) hospital-based service	First contacts: (1) 937 (2) 534	<ul style="list-style-type: none"> ● pressure on out-patient clinics
Fraser, 1989	Sample of patients receiving physiotherapy through a) open access b) on-site access in local medical centre	Not stated	Open prospective case-series	Not stated	(1) Open access (2) Physiotherapy treatment in local medical centre	(1) 100 (2) 100	<ul style="list-style-type: none"> ● patient satisfaction with treatment ● delay in treatment ● medication for pain before/after treatment
Ellman et al, 1982	Sample of patients receiving physiotherapy through a) direct referral b) outpatients c) domiciliary	12 months	Retrospective casenote review	25% back pain 20% neck/shoulder pain 15% respiratory disease	(1) Open access (2) Consultant referral (3) Domiciliary	(1) 110 (2) 112 (3) 97	<ul style="list-style-type: none"> ● courses of treatment ● delay in treatment ● GP satisfaction ● pressure on out-patient clinics
Hackett et al, 1987	Patients referred to physiotherapist in a health centre	36 months	Retrospective case series	16.5% knees 15.0% neck 13.8% shoulder	Physiotherapist working in health centre	805	<ul style="list-style-type: none"> ● delay in treatment ● patient costs

Table 2. Waiting times for NHS treatment

	Direct referral	Open access	Consultant referral
Gentle et al, 1984 ³	5 days	—	69 days
Ellman et al, 1982 ⁶	9 days	23 days	74 days
Fordham et al, 1987 ²²	—	22 days	91–124 days
Hackett et al, 1987 ⁷	1 week	6 weeks	6–13 months
Hackett et al, 1993 ^{14a}	5 days	—	24 days
Fraser, 1989 ²¹	Outpatient department: 56% waited >1 month for treatment; 25% waited >3 months. Medical centre: no patients had to wait		

^aPatients in need of immediate physiotherapy were seen without delay by a physiotherapist, whether referred directly or through a consultant.

Lower financial costs to the patient

The financial costs to the patient (transport and private health-care costs) were examined by Hackett *et al.*¹⁴ The mean patient costs (£0.74) were lowest in practice A, where a physiotherapist was employed by the GP, compared with £9.55 in practice B, (open access) and £47.94 in practice C (consultant referral). The far higher patient costs in practice C were due to the use of private physiotherapy.

Health service costs

It is often suggested that direct referral will result in a sudden increase in the number of patients treated. One study¹⁴ showed that on-site physiotherapy in general practice premises doubled the referral rate to a physiotherapist compared with the practice using open-hospital access. Fordham *et al.* (1987)²² concluded that the additional (marginal) cost to the physiotherapy department of providing open-access was approximately £3300 per annum. While open-access patients used significantly less physiotherapy time and sessions than their consultant-referred counterparts, the availability of the open-access service generated a demand for NHS physiotherapy services that would otherwise have gone unmet. O'Caithain *et al.*⁹ reported an increase of 164% in the use of a GP-based physiotherapy service compared with a hospital-based service. None of the peer-reviewed studies explicitly attempted to balance the cost of increased physical therapy sessions with savings on prescriptions, fewer repeat visits to GPs or reduced consultant time.

Discussion

When direct access to an on-site physiotherapist is available, referral rates are liable to be much higher than they are when referral to a consultant out-patient clinic is the only method of obtaining physiotherapy, although it has been suggested^{14,21} that there will be fewer prescriptions and lower overall prescribing costs per patient for patients with direct-access physiotherapy. However, such increases in referral rates do not mean that GPs are making inappropriate referrals. Hackett *et al.*¹⁴ suggested that the rise in referrals that they observed was due to GPs working closely with a physiotherapist, and that their awareness of what the treatment has to offer was increased. Similarly, Ellman *et al.*⁶ reported that it proved unnecessary to restrict GP access to physiotherapy. GPs were sufficiently selective in referral, and physiotherapists sufficiently economical in selecting treatment and determining its duration, for the service to remain within the lim-

its of available resources. The authors suggest that the rationing imposed by GPs in their selection of patients, and by physiotherapists in their control of the duration, of courses of treatment, proved a sufficient substitute for that imposed by a consultant referral. In an analogous situation, Payne *et al.*¹⁹ reported that only four of the 96 patients referred through open access by their GP for an orthopaedic appliance were deemed unsuitable for the appliance prescribed, and were referred to a consultant orthopaedic surgeon for a second opinion. Hourigan *et al.*²⁰ found that only 24% of patients referred by GPs to a consultant's spinal clinic needed to see the surgeon, 54% of patients were successfully managed by the physiotherapist, and 6% were deemed inappropriate referrals. They concluded that a chartered physiotherapist can successfully screen patients in a clinic for low back pain.

Although the cost of treating a patient by a physiotherapist working in a general practice surgery is lower than other methods, the total cost would be greater owing to the increased number of patients that would be treated by the on-site physiotherapist. Furthermore, if, as implied by the CSAG guidelines,¹¹ patients were referred to NHS-financed physical therapy more quickly, one might plausibly expect some switch to the NHS from people who might otherwise have received their treatment privately (the CSAG report implies that at present more than 50% of patients in Britain obtain their physical therapy for back pain privately¹¹). Indeed, some such shift might reasonably be assumed to be occurring already because of the impact of GP fundholding. This shift would lead to increased direct referrals for acute back pain and rehabilitation without any offsetting reductions in outpatient care or prescribing costs. The CSAG report¹¹ acknowledges that 'initially, modest developmental funding will be required to implement these changes'; the cost of increased physical therapy sessions was put at £30 million by CSAG. The degree to which cost savings would be automatically realized in reduced inpatient episodes must remain open to some doubt, as must the phasing of such savings.

Conclusions

The studies included in this review suggest that there are several advantages for patients who are referred directly for physical therapy (either to an open-access physiotherapy department or to a physical therapist attached to a GP practice). The main advantages are the significant reductions in waiting times, convenience, and reduced costs for the patient and also the health authority in terms of cost per treated patient. There is also some evidence that the recovery time may be slightly better for patients who receive direct-access physiotherapy. However, there is little evidence in the published literature to support the view, as forwarded by the CSAG report on back pain, that because direct referral patients are treated earlier, their total length of treatment or number of treatment sessions is reduced. In addition, little difference has been found in terms of the amount of time taken off work.

This review highlights the need to overcome the acknowledged difficulties²⁴⁻²⁶ (such as the scarcity of assessment tools, weak organizational structure and clinicians' reluctance to assess economic factors) in order to provide good quality evidence of the cost-effectiveness of different models of physical therapy services. Overcoming these obstacles will lead to more information about the relative benefits of direct versus consultant referral physical therapy in terms of treatment outcomes, and recommendations can then be made concerning which referral route provides the most cost-effective treatment. Meanwhile, an interim judgement could be made that either policy is reasonable.

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