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Title: Physiotherapy extended scope of practice – who is doing what and why?

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Abstract

Objectives: To explore the range, drivers and perspectives of extended or enhanced practitioner roles within physiotherapy.

Data sources: Nineteen electronic databases, hand searches, bibliography scanning and personal contact were used to identify published and unpublished resources.

Review methods:

A systematic review using an expanded approach. Resources were included if they discussed extended scope of practice (ESP, intervention) in physiotherapy (profession) and outcome (for patients, other health professionals, and health services delivery) irrespective of patient group, language, year of publication (up to 2005), study design, or health care systems evaluated. All resources were screened against formal inclusion criteria for relevance. Information from relevant resources was extracted and details were entered into an Access database.

Results:

152 Physiotherapy-related resources were identified, including seven which met appropriate quality standards (using Cochrane methodology). A meta-analysis was not performed due to the paucity of RCTs.

Conclusions

Drivers for the roles in the 152 resources mainly included local or national service demands (34%). Most ESP roles reported included a form of non-invasive assessment (47%) or non-invasive treatment (37%) of patients that was more traditionally carried out by medical colleagues. None of the resources including data were a) unsupportive of ESP or b) mainly expressing concerns. This review has demonstrated overwhelming support

for ESP; the vast majority of resources were supportive of ESP despite being largely descriptive or discursive in nature (76%). There is an urgent need for robust research in order to evaluate the expansion of ESP roles, underpin further development of those roles and, strengthen the evidence base of ESP in physiotherapy.

Keywords

Physiotherapy, Extended Scope of Practice, systematic review

Background

Many drivers for workforce re-configurations in the UK are driven by politics and economics. For example, the introduction of the New Deal European Working Time Directive(1) has resulted in reduced hours for junior medical staff and this has necessitated the need to redistribute tasks traditionally carried out by doctors to non-medical members of the health care team in the United Kingdom (UK). Policy documents such as the *"Meeting the challenge: a strategy for the allied health professions"*, *"Ten Key Roles for allied health professionals"* and *"Creating a Patient-led NHS: Delivering the NHS Improvement Plan"* all set out the direction for more flexible working and workforce re-configurations.(2-4) As a result we have seen the introduction of nurse practitioners, extended scope practitioners (ESP) and consultant practitioners in a range of therapy professions within the UK. In physiotherapy especially, new roles in extended scope of practice have rapidly been taken up.(5) Defining extended scope of practice is complicated, however, due to the different nature of the roles and ambiguous definition. For example, some therapists work in extended roles but do not necessarily carry the title of ESP. Titles used include clinical specialists, advanced practitioners and consultant therapists (although by no means do these all work outside their scope of practice). The Chartered Society of Physiotherapists suggests that ESPs are:

> *'clinical physiotherapy specialists in any recognised speciality with an extended scope of practice'*(6)

However, with changing roles the scope of practice inevitably changes and extended scope can become established practice. A useful definition of extended scope of practice could also include the terms “role enhancement” or “role substitution”.(7)

> *Role Enhancement: increasing the depth of a job by extending the role or skills of a particular group of workers*
>
> *Role Substitution: expanding the breadth of a job in particular, by working across professional divides or exchanging one type of worker for another.*

In physiotherapy, examples of role enhancement include the use of injection therapy(8) and role substitution include physiotherapists working in out-patient clinics carrying out patient assessments traditionally carried out by medically qualified personnel.(9)

Although extended scope of practice within UK government policy is strongly promoted for allied health professionals, including physiotherapy,(3;4;10) systematic evaluation of these roles and their effect is scarce. Indeed, findings from a recent systematic review which aimed to synthesise evidence for effectiveness of extended scope practice in allied health (11) resulted in only seven physiotherapy-related resources (8;9;12-16) that passed quality filters (based on the rigour of the design and other recognised characteristics of robust research). Each of these seven resources focused on services for patients with musculoskeletal conditions. Key findings from the only trial showed that orthopaedic physiotherapy specialists were as effective as junior orthopaedic surgeons in the initial assessment and management of new referrals to outpatient orthopaedic departments.(9) A

key focus of most studies was that physiotherapists had expanded their roles to increase their professional autonomy and skills, although service demands were more frequently reported by doctors as drivers for the development of these innovative roles.(13-15) Concerns were expressed about litigation, lack of confidence and fear of adverse reactions when using injection skills, variations in training, and the notion that the ESP service is 'only as good as the therapist employed'(8;14;16) and one study suggested that being an ESP can be both stressful and satisfying.(12) In summary, this recent systematic review showed that evidence about the effectiveness of physiotherapy ESP is very limited and further research is needed to ensure patients are cared for most effectively. The review also aimed to define the range of extended or enhanced practitioner roles within allied health. Thus, rather than focusing on trials and other studies which passed quality filters only it was deemed important to scope and summarise descriptively (without drawing conclusions about evidence for effectiveness) what the state of affair was in ESP physiotherapy. This is important as the profession needs to understand what the drivers are for role development, the nature of the ESP roles (e.g. what patient groups are worked with and what interventions are included) and perspectives of the roles. This paper therefore aims to explore the range of extended or enhanced practitioner roles within physiotherapy using all the resources retrieved in the systematic review described above (11). The definition for ESP used in this review was 'AHP activity including some aspect of Enhancement or Substitution' although a very broad search strategy was used to identify resources.

Methods

This systematic review consisted of two phases (Figure 1). In phase 1 all resources relevant to physiotherapy ESP were identified and summarised descriptively (described here); in phase 2 resources with data were quality rated using a Cochrane approach and data were extracted from resources which passed these quality criteria (described in detail in a previous publication)(11).

An expanded approach to the review methodology was employed for the study as it was important to consider all resources for this part of the study. Therefore literature was included irrespective of language, year of publication, study design, or health care systems evaluated. Published and unpublished materials literature were included.

The literature search employed a three-part search strategy framework of a) patients (any patient group)/professions (physiotherapy), b) intervention (extended scope of practice) and c) outcome (for patients, other health professionals, and health services delivery).(17) This comprehensive search strategy used a combination of MeSH terms for professions (physiotherapy) and interventions (ESP) and keywords (Appendix 1). In addition, an abbreviated version was developed for use with databases that do not provide nesting of search terms through use of multiple Boolean operators. A wide range of sources were used (Table 1). Studies that were published in duplicate were included only once. In the case of papers or reports being linked to other work, such links were noted and reflected in the database.

Insert Table 1 about here

The formal data collection period ran until June 2004 with periodic checks for key source updates until December 2004. A final update of research literature only was conducted for work published in 2005. Information obtained in the review was imported and managed in Reference Manager Version 10 (Network Version) and Access 2002.

All resources were screened for relevance against formal inclusion criteria by one reviewer after inter-rater reliability was established.(11) Resources were included if they concerned physiotherapy, extended scope of practice and addressed the impact of ESP in its widest sense (Figure 2).

All relevant resources and those where there was any doubt raised by the first reviewer, were screened independently by a second reviewer to minimise selection bias. As this paper aims to describe our understanding of the drivers and processes of role development and aspects of the roles themselves all relevant resources (n=152) were included, irrespective of the presence of data. Information from relevant resources was extracted and details were entered into an Access database.

Resources containing research data were subsequently quality rated, using Cochrane methodology.(18;19) Data from those resources that passed the quality criteria were synthesised. This included seven physiotherapy research papers, which have been

summarised above and published previously. (11) These are also included within this paper.

Whilst the remaining resources cannot be relied upon for 'evidence' of the impact of ESP they do indicate the support, or lack of it, for these roles. Therefore all 152 resources were grouped into six categories:

A *Evidence (but limits to that evidence) to support ESP is provided*

B *Largely descriptive / discursive but author(s) supportive of ESP*

C *Evidence (with some methodological problems) that ESP should not be supported*

D *Largely descriptive /discursive author(s) express concerns or are not supportive of ESP*

E *Largely descriptive /discursive author(s) express partial support but also concerns*

F *Largely descriptive /discursive author(s) express mainly concerns*

Results

In total 152 physiotherapy-related resources were identified (8 resources pre 1994; 40 resources 1994-1999; 104 resources 2000-2003). A full reference list can be obtained from the authors and is also available on the web).(20) Most resources described local audits (n=47, 31%) and service descriptions (n=17, 11%, Table 2). The large majority of these audits did not set service standards prior to the audit. In addition, although some audits included a focus on patient satisfaction few explored other patient outcomes (such as impairment/disability level or health status).

Insert Table 2 about here

The majority of resources found described initiatives or developments in the UK (n=135, 89%) or the USA (n=12, 8%). Most authors did not specifically state the drivers for ESP developments (n=71, 47%). Drivers that were noted included local or national service demands (n=51, 34%) such as shortage of doctors or increasing waiting lists. Relatively few explicitly stated improving patient outcomes or service quality (n=11, 7%) or ensuring patient and practitioner safety as important (n=3, 2%). The largest group of papers concerned patients with musculoskeletal or orthopaedic disorders (n=100, 66%). Resources related to other patient groups (e.g. general trauma, minor injuries, rheumatology, cardiorespitratory or neurology) were very small in number (i.e. 8 in total).

The most frequent type of ESP reported included a form of non-invasive assessment (n=71, 47%) or non-invasive treatment (n=56, 37%) of patients that was more traditionally carried out by medical colleagues. Invasive assessment and treatment were less commonly reported. Table 3 summarises the number of each type of ESP where it was reported to be either definitely or possibly occurring and examples of each.

Insert Table 3 about here

The vast majority of resources were supportive of ESP despite being largely descriptive or discursive in nature (Category A, 76%, Table 4). For example, one study described multidisciplinary clinics run by general practitioners with special interests and extended scope physiotherapists.(21) The ESPs were reported to effectively manage patients with uncomplicated musculoskeletal problems. However, this study had methodological limitations and it was not a randomised controlled trial. Its conclusions were therefore premature. In Category B (largely descriptive / discursive work in which author(s) are supportive of ESP) one study involved an orthopaedic screening service run by two physiotherapists with an extended scope of practice.(22) The publication described an evaluation of the service using routine data and found reduced waiting times and need for referral to consultants in only 17% of cases. However, successful management of the remainder patients was not adequately measured and patients' views were not explored. No resources were identified which included data and did not support ESP (category C) or resources in which the authors expressed mainly concerns about ESP (category F). Two largely descriptive or discursive resources were identified in which author(s) expressed concerns or were not supportive of ESP (Category D). One of these was an opportunistic audit that demonstrated lack of consistency in management of acute low back pain in primary care.(23) This could have been due to changing and/or conflicting National Guidelines for referral, confusion regarding the referral criteria to secondary care, or lack of easy GP access to primary care physiotherapy. Finally, an example of Category E (largely descriptive /discursive in which author(s) express partial support but also concerns) was a questionnaire survey of a small group of extended scope practitioners of their views on prescribing.(24) The majority reported positively.

However, problems associated with prescribing were highlighted such as competence, supervision, legal and insurance implications and training. The methodology was not described adequately and conclusions can therefore not be drawn from this descriptive account.

Insert Table 4 about here

Discussion

This study used an expanded Cochrane approach and as a result identified a large number of resources which did not use a randomised controlled trial methodology as well as resources that did not describe primary or secondary research. This approach was undertaken after early investigation indicated that there would be insufficient papers using a "gold standard" RCT methodology to undertake a traditional systematic review and to ensure comprehensive coverage of the literature. Whilst this approach may be criticised by some, and indeed led to a large data set for consideration, it enabled us to identify what ESP practices are current, what drives these developments and the level of support for the roles. We have shown caution in this approach by not drawing unsupported or premature conclusions about the effectiveness of interventions.

Since this study was completed three relevant papers were identified in the literature: one retrospective audit, a patient satisfaction survey and a survey of notes.(25-27) Only one of these studies compared treatment provided by an ESP and other professionals and this study was the first to describe an ESP service in an emergency department.(26) It was

shown that 55% of patients were independently managed by the ESP and a follow-up suggested higher patient satisfaction with the ESP service. However, the study had significant limitations in that only one ESP was included in the study, it used a retrospective design, patients were not randomised and the response rate was low. Thus, these three newer papers do not add new information than that provided in the results section of our study.

A striking finding of our study was that the number of resources in favour of ESP developments far outnumbered those that expressed negative findings or concerns. Some of this may reflect publication bias. However, it is of concern that 76% of resources were supportive of ESP yet were largely descriptive or discursive, or did not use robust research methods. The lack of robust research brings into question the rapid development of roles without evidence of their effectiveness, competence or safety. For example, one publication concluded that 'multidisciplinary clinics run by general practitioners with special interests and extended scope physiotherapists can effectively manage patients with uncomplicated musculoskeletal problems'.(21) This study reported reduced waiting times and increased satisfaction. These are indeed positive outcomes in relation to efficiency. However, the conclusion that ESP interventions are safe or effective options for patients is premature. Randomised controlled trials in ESP are limited by the number of staff involved in the service to be evaluated or compared. For example, trials in physiotherapy and radiography have evaluated outcomes in many patients or patients' radiographs but only included very small numbers of staff.(9;28) Since neither interventions nor staff expertise in these studies are standardised it is not possible to conclude that extended scope of practice is effective based on these trials only. Research

in complex interventions such as extended scope of practice roles should follow stringent guidelines, for example as set out by the Medical Research Council.(29) This ensures that interventions are developed appropriately and that subsequent research is well designed and comparable. Unfortunately, the pace of developments driven by policy initiatives often precedes research and enthusiasm of professional staff often precludes it.

Papers containing data, whether or not passing the quality filters, focused largely on physiotherapy for people with musculoskeletal conditions (e.g. orthopaedic clinics, triage clinics, hand therapy) perhaps unsurprisingly given the preponderance of physiotherapy audits regarding back pain and other orthopaedic conditions. The lack of research about ESP roles in other areas (e.g. neurology, respiratory or emergency care) is of concern given these are areas where ESP is developing rapidly.

On reviewing the relatively large number of UK-based audits, it was found that many were not conducted as proper audit cycles. As a result, the information is of limited value and, in addition, the level of skill of the authors in performing audits must be questioned. Further, there were a large number of resources containing data but which did not pass the quality criteria for data extraction. These papers are nevertheless widely cited both by authors and organisations as ‘evidence’ when clearly questions about the strength of that evidence remain. It appears that these roles are as yet largely justified and supported based on poorly conducted audit and research which is of concern in terms of patient safety. The findings suggest that therapists need training in research and audit methods.

Increasingly physiotherapy ESPs work in very different settings. For specific interventions they follow training such as injection therapy. However, the literature reviewed suggests that there is often a lack of support and ad hoc training.(12;13) This is different from other professionals such as paramedics and radiographers for whom extended roles often include the use of defined clinical skills such as thrombolysis(30) or interpreting radiographs.(31;32) Formal training in these professions is a prerequisite to undertaking an extended role.(33;34) Perhaps the physiotherapy profession should follow this example to ensure quality care for patients and regulation and protection for practitioners. In this respect the increasing number of courses for extended scope practitioners in this country is encouraging.

Conclusions

This review has highlighted that the evidence of effectiveness or safety for ESP in physiotherapy is not sufficient. Despite the lack of robust research and evidence there is overwhelming support for physiotherapy ESP in the literature. Further, the widespread introduction of ESP roles in physiotherapy has been largely concerned with service demands as opposed to quality of care, patient-related outcomes or cost implications. It is paramount that the expansion of ESP roles, driven by policy (3;4), goes hand in hand with robust research in order to strengthen the evidence base for ESP in physiotherapy. Investment in training for therapists entering into and developing these roles is urgently required to ensure that they are equipped to practice safely and have the skills to evaluate their effectiveness.

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Conflict of interest: None

Figure 1 Study design

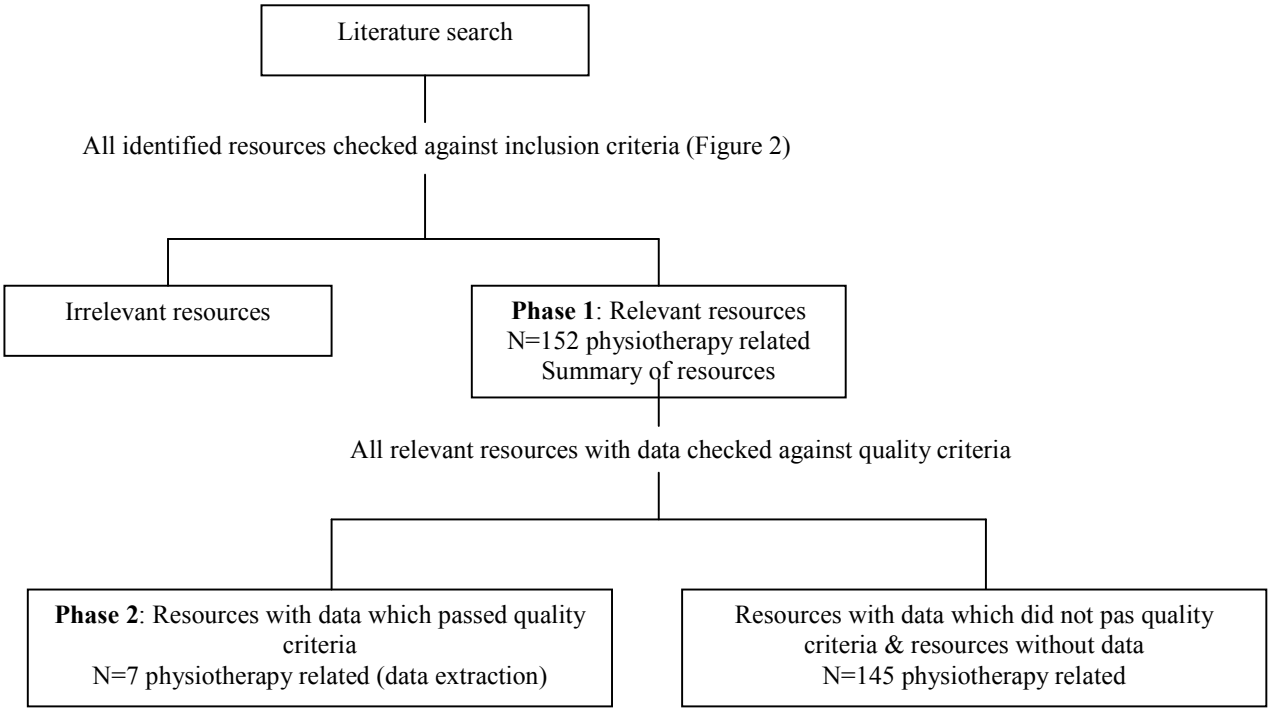

Figure 2 Inclusion and exclusion criteria

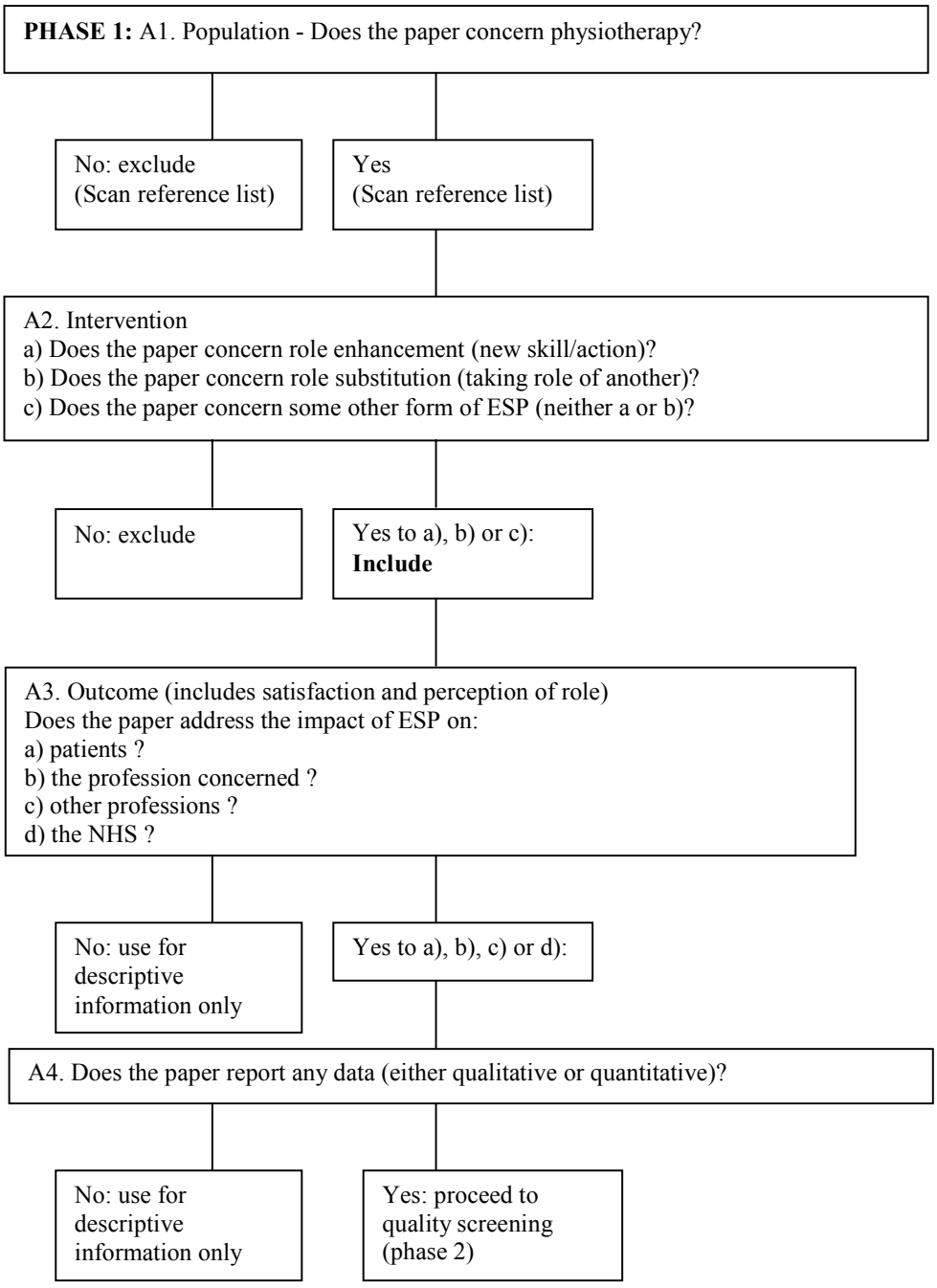

Table 1 Sources used in the search strategy

Sources used	
Electronic sources:	Cochrane Database of Systematic Reviews & Cochrane Controlled Trials Register, Medline, Embase, CINAHL, Web of Sciences, Ahmed, Psychlit/PsychINFO, PEDRO Database of Physiotherapy evidence, and other sources identified in primary searches
Handsearches	Journals not entered on any of the above electronic sources (e.g. some professional journals and reference list scanning)
Unpublished studies	System for the Information on Grey Literature in Europe (SIGLE), the Index of Conference Proceedings (OCLC Firstsearch) and the British PhD Theses database
Bibliographies	retrieved papers were scanned and examined for relevance
Research in Progress	National Research Register, the SDO and DOH research registers, Medical Research Council Register, Current Research in Britain (CRIB), Current Controlled Trials (www.Controlled-trials.com), HSRProj (current USA projects)
Personal contact	With membership of professional bodies, and requests for information to relevant electronic mail and usenet discussion groups
Personal contact	with key researchers and practitioners in the field via email lists, professional interest groups and by informing people about the project (including setting up a website) http://www.sohp.soton.ac.uk/shprs/index.htm

Table 2 Number of different information sources located

Type of resource	Number (%)
Audit	47 (31%)
Letter	18 (12%)
Service description	17 (11%)
Survey	12 (8%)
Newspaper / magazine article	10 (7%)
Briefing paper	9 (6%)
Report	7 (5%)
Point of view / opinion piece	7 (5%)
Case report / study	4 (3%)
Discussion paper	4 (3%)
Qualitative research	4 (3%)
Non-systematic synthesis	3 (2%)
Guideline	2 (1%)
Theoretical paper	2 (1%)
Cohort study	2 (1%)
Randomised Controlled Trial	1 (0.6%)
Conference presentation	1 (0.6%)
Pragmatic trial	1 (0.6%)
Dissertation	1 (0.6%)

Table 3 Type of Extended Scope of Practice described in the literature

Type of intervention[a]	Number of resources	Examples[b]
Non-invasive assessment	71	Physiotherapists assessing (and managing) patients with mechanical low back pain, foot and shoulder disorders(35) Physiotherapy extended scope practitioners in orthopaedic outpatient clinics assessing and diagnosing patients (12)
Invasive assessment	7	Physiotherapists referring patients for arthroscopy of the knee(36)
Non-invasive treatment	56	Physiotherapists managing paediatric rheumatology and orthopaedic patients(37;38)
Invasive treatment	23	ESP physiotherapists can inject, refer patient for further investigations or list them for surgery(39) Physiotherapists prescribe medication (40)
Direct access to therapist rather than consultant service	13	Physiotherapists forming part of the A&E triage team seeing patients as emergencies(41) Initial assessment and management undertaken by post-Fellowship junior orthopaedic surgeons, or by specially trained physiotherapists working in an extended role (orthopaedic physiotherapy specialists)(9)

[a] These categories are not mutually exclusive. In some settings physiotherapists engage in all these five types of activities simultaneously. Therefore the totals add up to >152.
[b] The cited examples did not pass quality criteria and should not be seen as evidence of impact but rather as examples of types of ESP activities.

Table 4 Resources grouped into categories of support for ESP

Level of support for ESP	**Number of resources[a] (%)**
A: Evidence (but limits to that evidence) to support ESP is provided	16 (11%)
B: Largely descriptive / discursive but author(s) supportive of ESP	115 (76%)
D: Largely descriptive /discursive author(s) express concerns or are not supportive of ESP	2 (1%)
E: Largely descriptive /discursive author(s) express partial support but also concerns	15 (10%)

[a] Four resources were not scored: three were briefing papers by the Chartered Society of Physiotherapy and one was an advisory paper (USA) on liability insurance

Appendix 1

N.B. MeSH TERMS IN ITALICSin M=Medline, C=Cinahl, A=Ahmed

INTERVENTION: Search terms used to identify resources relevant to extended scope practice

Advanc* practi*
consultant therapist*
Cross Boundar*
Current role*
Enhan* practice* - enhan(ced/cing/sion(s)) practice(s)
Enhan* scope* - enhanc(ed/ing/ement(s)) scope(s)
Existing role*
Existing scope*
Exp* practice* - expan(ded/ding/sion(s)) practice(s)
Expan* scope* - expan(ed/ing/sion(s)) scope(s)
Ext* scope* - extra / exten(ded/ding/sion(s)) scope(s)
Exten* practice* - exten(ded/ding/sion(s)) practice(s)
int??disciplinary competenc* - (intra/inter)disciplinary c.
int??disciplinary practice* - (intra/inter)disciplinary p.
interdisciplinary collaboration
Joint practice*
Multi* task*
New role*
New scope*

physician exten*
physician* assist*
Profession* boundar*
Reprofessionali?ation
role change [C]
role* boundar*
role* chang* - role(s) chang(ed/es/ing)
role* collaborati* - role(s) collaborati(ve/on)
role* cross* - role(s) cross(ing/over(s))
role* defin* - role(s) defin(e/ed/ing/ition(s))
role* demarcation*
role* enhan* - role(s) enhanc(ed/ing/ement(s))

role* expan* - role(s) expan(ded/ding/sion(s))
role* exten* - role(s) exten(ded/ding/sion(s))
role* interdisciplin* - role(s) interdisciplin(e/ary)
role* interprofessional*
role* modern* - role(s) modern(ise(d)/ising/isation)
role* overlap* - role(s) overlap(s/ped/ping)

role* professional*

role* professional [M]

role* redefin* - role(s) redefin(e/ed/ing/ition(s))

role* shar* - role(s) shar(ed/es/ing)
role* shift* - role(s) shift(s/ed/ing)
scope of practice
scope of practice [C (exp, NOT scope of nursing practice)]
Shar* Competenc* - shar(ed/ing) competenc(e/y/ies)
Shift* boundar*
Skill* interdisciplin*
Skill* overlap* - skill(s) overlap(s/ped/ping)
Skill* shar*
Specialist practitioner*
Traditional role*
Transdisciplinary practice*

POPULATIONS: search terms used to identify resources relevant to physiotherapy

exercise therap* - exercise therap(y/ies/ist(s)) (+)
exercise therapy [A, M(exp)]
kinesiotherap* - kinesiotherap(y/ist(s)) (+)
kinesiotherapy [E(exp)]
manual therap*
manual therapy [C(exp)]
phisiotherapy
physical therap*- physical therap(y/ist(s)/ies) (+)
physical therapists [C]
physical therapy [C(exp)]
physical therapy speciality [M]
physio
physios
physiotherap*- physiotherap(y/ist(s)) (+)
physiotherapist [E]
physiotherapy [A, E(exp)]

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