

New models of care integrating more autonomous roles for physiotherapists: a narrative review

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Abstract

With the increased prevalence of non-communicable diseases and chronic disorders, including musculoskeletal disorders, access to care is limited in many health care systems and new multidisciplinary collaborative models of care have now been implemented in several countries in an effort to improve access to care. The paper aimed to describe the characteristics and present relevant evidence supporting different models of care that integrate physiotherapists as primary or secondary care practitioners for the management of patients with non-communicable diseases or chronic disorders. On the basis of a literature review up to August 2020 in 4 major bibliographical databases, we searched for studies of any design, including systematic reviews with or without meta-analysis and position statements, that were related to direct access physiotherapy and advanced practice physiotherapy models of care. The impact of direct access physiotherapy and advanced practice physiotherapy models of care is presented in terms of clinical outcomes, patient satisfaction, health care resource use and costs. These models appear to provide equal or better outcomes in terms of access to care, quality of care, and patients' satisfaction. The strength of the evidence is variable, and outcomes vary depending on clinical settings, roles of physiotherapists, and characteristics of patients. This review highlights that these enhanced roles for physiotherapists, such as diagnosing, ordering diagnostic tests, or referring patients to physicians, in both primary and secondary care settings, are beneficial and may help optimize patients' journey by providing earlier access to effective and efficient services compared with physician-led usual care models.

Key words: models of care, physiotherapy, professional role, non-communicable diseases

Introduction

Non-communicable diseases (NCDs) and chronic disorders represent the leading cause of death and disability worldwide and include such disorders as cancers, cardiovascular diseases, respiratory diseases, or musculoskeletal disorders (MSDs) [1]. Health care systems face growing difficulty meeting populations' needs for NCD management [2] and early access to appropriate care remains highly problematic [3]. In several countries, family physicians are the first contact practitioners to offer initial care for NCDs. Growing evidence states that adequate treatment of several NCDs and chronic disorders, in particular MSDs, needs to be multimodal and to rely on interprofessional collaboration to optimize patients' care [4]. However, in several jurisdictions, access to interprofessional care including physiotherapy is largely controlled by the treating physician and while physiotherapy may be a valuable therapeutic option considered by them, health care funding models may not adequately support referrals to physiotherapy [5].

Physiotherapists undergo extensive training and have specialized skills to treat various types of patients with an illness, an injury, or a disability affecting musculoskeletal, cardiopulmonary, or neurological systems [6, 7]. There is strong

evidence supporting the benefit of early physiotherapy for patients with musculoskeletal, neurological, and cardiopulmonary disorders in terms of improved patients' outcomes, patient satisfaction with care, and reduction of health care costs [8–12]. Either in the public sector or in private practice settings, different interprofessional models of care have been implemented in several countries, such as Australia, the United Kingdom (UK), Ireland, or Canada, where, instead of physician-led usual medical care [13–15], physiotherapists' training and skills are used for the early or primary contact management of patients with NCDs and chronic disorders, including MSDs. In this paper, we present a review of the characteristics of and relevant evidence supporting different models of care that integrate physiotherapists in more autonomous roles, including models of direct access in primary care, as well as advanced practice physiotherapy in primary care, emergency departments, and specialized secondary care for the management of patients with various NCDs, in particular MSDs.

Subjects and methods

This narrative review is based on studies evaluating the efficacy, effectiveness, and/or efficiency of models of care

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that integrate physiotherapists in more autonomous roles for the management of various NCDs, in particular MSDs, in primary or in secondary care.

Potential studies were identified from 4 bibliographic databases from the date of inception to August 2020: PubMed, CINAHL, Embase, and PEDro. The keywords applied were based on the PICO (population, intervention, comparator, and outcomes) criteria. The search strategy used the combination of keywords for population (patients with NCDs, with chronic disorders, or with MSDs), intervention (direct access physiotherapy or advanced practice physiotherapy), comparator (usual care or none), and outcomes (patient-reported outcomes such as pain, disability, health-related quality of life, adverse events, or patient satisfaction; health care costs; or health resource use). Manual searches of references in the selected articles were conducted. Relevant studies were included on the basis of the following eligibility criteria: (1) the study was related to direct access physiotherapy or advanced practice physiotherapy; (2) the participants suffered from any NCD; (3) the study assessed at least one of the following outcomes: clinical efficacy or effectiveness, use of health care resources, and/or associated costs and satisfaction with care; (4) the study was of any design, including systematic reviews with or without a meta-analysis, as well as position statements from recognized professional or scientific organizations; (5) the study was in French or in English, published up to August 2020.

The titles and abstracts of all studies identified from the search strategy were reviewed to determine their eligibility. Although a study was deemed eligible, it was not necessarily included in the present review. The final selection of articles was based on the pertinence and representativeness of information in delivering relevant information for this review. Higher levels of evidence (i.e. randomized controlled trials and systematic reviews) were preferred. Appraisal of the quality of the included studies or reviews was not performed by using a rating scale such as the Cochrane risk of bias tool. Appraisal of the evidence was mainly based on the level associated with the included study designs and documentation (randomized controlled trials, systematic reviews, guidelines, or position statements).

Direct access physiotherapy: a primary care model with physiotherapists as first-contact providers

The World Confederation for Physical Therapy (WCPT) has published a policy statement on 'Direct access and patient/client self-referral to physical therapy'. Direct access is defined by WCPT as when patients may refer themselves to a physiotherapist without having to see a physician first, or without being told to refer themselves by another health professional [16].

Direct access physiotherapy was first implemented in the late 1970s in Australia and in the UK when additional clinical autonomy was granted to physiotherapists in these countries [17–20]. Direct access is now quite common worldwide, as 48 countries report having some form of direct access [14]. This model is most common for the care of patients with MSDs but is also implemented for patients with other neurological disorders, as well as with cardiopulmonary or women's health and chronic disorders [21, 22]. Direct access models of care aim to improve the efficiency of care, to simplify patients' care pathways, and to decrease physicians' workload [23, 24]. There is substantial evidence for the value of these models of care, especially for patients with MSDs. Compared

with primary care physician-led usual medical care, the direct access model has been found to provide several benefits for patients with MSDs:

- better patient outcomes (through earlier access to care) in terms of disability and health-related quality of life [25–28]; in contrast, reduction in pain appears to be similar between the different models of care [29–33];
- no increased incidence of adverse events [29–31, 34–36];
- significantly shorter wait times [26, 31, 32, 37];
- higher patient satisfaction [27, 32, 33, 38];
- reduced prescriptions of medication and referrals for imaging in the overall care of patients [39, 40];
- reduced direct health care costs [25, 32, 39, 41, 42].

Beyond the management of patients with MSDs, physiotherapists can offer direct access services for individuals with neurological or cardiopulmonary conditions, although there is less evidence available regarding these areas of practice [6, 7]. Several national associations have also emphasized the benefits of direct access physiotherapy for common conditions such as arthritis, inflammatory arthropathies, osteoporosis, incontinence or pelvic floor dysfunction, balance disorders, obesity, diabetes, chronic lung or coronary heart diseases [26, 43–45]. They also outline the capability of physiotherapists to make valid diagnoses of such disorders and to refer patients to the appropriate health care practitioner when necessary.

Although many studies report several benefits of direct access physiotherapy, it must be argued that the safety and the quality of care provided by physiotherapists or family physicians do remain context-dependent and rely on adequate training. If physiotherapists do not have adequate training and experience with all clientele presenting in direct access, the safety and efficiency of care could be compromised [46–49]. Adequate curricula for the training of physiotherapists must be reinforced to deliver evidence-based assessment and clinical reasoning, appropriate identification of red flags, efficient treatments, and suitable referral to other health professionals and physicians. Many countries, such as Canada, the UK, Ireland, and Australia, have achieved such high standards with formal higher education training programs and have developed competency requirements for entry to physiotherapy practice [50, 51], but elsewhere these requirements are being adopted more slowly [15].

Advanced practice physiotherapy

WCPT recently published a policy statement on advanced practice physiotherapy [15]. It defines advanced practice physiotherapy as a clinical practice that:

- includes a high level of practice, responsibilities, activities, and capabilities;
- requires a combination of advanced and distinctly clinical and analytical skills, knowledge, clinical reasoning, attitudes, and experiences;
- results in the responsibility for the delivery of care to patients/clients more commonly with complex needs or problems, safely and competently, as well as for managing risk;
- may be associated with a particular occupational title (depending on the country's legislation);
- may be associated with medical delegated acts.

These new roles also involve collaborative work with other health professionals, participation in research and knowledge translation, and leadership skills in service delivery [15, 52]. In these models, managing patients more autonomously and as first-contact providers significantly increases the responsibility of physiotherapists. Although diagnosis and assessment are

common to physiotherapy roles in many countries, advanced practice physiotherapists assume roles that are beyond their usual scope of practice. This enhanced scope of practice might include, depending on the setting and the country: medical diagnosing, ordering and interpreting diagnostic tests, prescribing certain medications, referring patients for specialized secondary or tertiary care, arranging patient discharge, or applying other therapeutic interventions, such as injections, minor surgery, fracture reduction, and casting [53–56]. These models of care are already well implemented in Australia [57, 58], New Zealand [59], and the UK [56], with clear guidelines on the definition of this practice, the required competencies of advanced practice physiotherapists, and the service infrastructure needed. Advanced practice physiotherapy models of care in countries where guidelines have yet to be developed may be more diverse and less standardized and this may represent a challenge for a broader operation of these new models.

Advanced practice physiotherapy in primary care

Advanced practice physiotherapy models of care have been implemented in primary care to facilitate early and efficient care and also offer early physiotherapy treatment for patients with NCDs, in particular MSDs. Advanced practice physiotherapists in these models may be permitted to prescribe medications or perform other medical delegated acts and are able to relieve the workload of primary care physicians and reduce the unnecessary referral to specialists [60].

In the UK, new multidisciplinary care centres which incorporate advanced practice physiotherapy as primary contact providers have been implemented [60, 61]. At these centres, advanced practice physiotherapists assess and diagnose patients, prescribe blood and imaging tests, and can perform medical therapeutic interventions such as soft-tissue and joint injections for patients with various MSDs [53, 62]. The impact of these centres has been reported in 1 prospective observational study by Monteith et al. [63] and 1 retrospective observational study by Downie et al. [64]. Authors reported that fewer than 1% of patients required review by a primary care physician after the advanced practice physiotherapy assessment and initial treatment. A significant reduction of the referral rate to orthopaedic surgeons was also observed and 86% of the referrals to surgeons were considered appropriate (compared with only 31% of referrals considered appropriate in usual care) [63, 65–67]. In terms of health care costs, the study which included cost measurements of the episode of care of 9696 patients reported significant differences in favour of the advanced practice physiotherapy model compared with primary care physician-led usual medical care with reference to direct and also indirect costs (£159,693 for consultations and care in the advanced practice physiotherapy model compared with £211,227 with primary care physician-led care) [63].

Advanced practice physiotherapy in emergency departments

As early as in the 1970s, advanced practice physiotherapy care was implemented in emergency departments in the UK [68, 69] and in Australia [70–73]. The main goals of this model are to (1) decrease waiting time and time to treatment while improving care efficiency in the emergency department [73] and (2) allow emergency physicians to care for patients with more urgent needs and/or complex problems [74, 75]. In

emergency departments, advanced practice physiotherapists can manage patients with various NCDs, such as vestibular and balance disorders, concussions, neurological disorders, cardiorespiratory disorders, and MSDs, including minor fractures [54]. In these innovative models, beyond the roles discussed above in primary care settings, advanced practice physiotherapists are responsible for many duties that are traditionally assigned to emergency department physicians, such as wound care, fracture reduction and plastering, performing bronchoscopies, and referring to other specialists, including triaging surgical candidates [76, 77].

Specific to emergency department patients with MSDs, a systematic review by Matifat et al. [74] concluded that the management of these individuals by advanced practice physiotherapists was beneficial in terms of patient clinical outcomes, safety, patients' satisfaction with care, and health care resources use. No adverse events were reported concerning screening for or identifying significant injuries. Major reductions in waiting times were also observed and might explain, at least in part, the higher patient satisfaction with these models. Several studies have found that advanced practice physiotherapy in the emergency department may also reduce the workload of the medical staff [78] and lead to more efficient use of medical imaging [69]. In terms of health care costs, no significant differences between emergency department advanced practice physiotherapy and usual emergency department physician-led care model were reported in 2 UK clinical trials [79, 80].

Advanced practice physiotherapy in specialized secondary care

A survey performed by WCPT in 2018 reports that 17 countries have advanced practice physiotherapy models in specialized secondary care [15]. Advanced practice physiotherapists in specialized secondary care work in several settings, such as adult and paediatric orthopaedic clinics [65–67, 81–83], rheumatology services for patients with inflammatory arthropathies and arthritis [84–86], and women's health clinics for women with urinary incontinence or pelvic floor dysfunction [87]. These models aim to address long waiting times for patients who seek specialized secondary consultation. However, these models are also reported to improve management of non-surgical candidates and patients with non-complex disorders [55, 82].

Advanced practice physiotherapy models in specialized secondary care areas most commonly exist in orthopaedic settings. They have been implemented in several countries, with specific roles delegated to advanced practice physiotherapists, such as triage of patients to surgery, as well as pre- and post-surgery follow-up of patients [55, 84]. Although the quality of the evidence is variable, the advanced practice physiotherapy model for patients in an orthopaedic setting has been found to provide several benefits [55, 88]:

- significantly shorter waiting time for initial consultation [66, 89];
- no adverse events reported [89–92];
- significantly higher patient satisfaction [65, 66, 89, 93];
- reduced direct health care costs [92].

Results showed no overall significant difference between care delivery by advanced practice physiotherapists and orthopaedic surgeons in terms of health outcomes or health care resources [55, 88]. Several studies suggested that there was a slightly positive tendency of improved medical outcomes in the advanced practice physiotherapy model, potentially explained by the fact that advanced practice physiotherapists

provide significantly more education, teach more self-management strategies, and prescribe more exercises [55, 92, 94].

In rheumatology, some studies support the benefits of advanced practice physiotherapy models in specialized care for patients with inflammatory arthropathies and arthritis [95, 96]. The benefits include better access to care with decreased waiting time and time to treatment [97] and reduction of the proportion of inappropriate referrals that are seen by rheumatologists [98], while retaining high patient satisfaction [86]. In this setting, advanced practice physiotherapists assess and diagnose patients for early identification of those with arthritis, may adjust medications, order diagnostic tests, and refer to other specialists [96, 97].

For pelvic floor disorders in women, 2 models of advanced practice physiotherapy have been implemented in Australia and in the UK, aiming to develop a cost-effective integrated model with advanced practice physiotherapists within a multidisciplinary team including gynaecologists, urologists, and nurses [56, 87]. Results reported from these 2 models were high patient satisfaction and reduced wait time to access care. Advanced practice physiotherapists in this setting perform medical tasks such as: assessment and diagnosis of patients, diagnostic test prescriptions and interpretation (urinalysis, post-void residual volume, pelvic organ prolapse quantification), and referral of potential surgical candidates to urologists [99].

Conclusions

This review highlights the enhanced roles, such as diagnosing, ordering and interpreting diagnostic tests, prescribing medications, and referring patients to family physicians or medical specialists, of physiotherapists in primary care, in emergency departments, and in specialized secondary care for patients with NCDs and chronic disorders, in particular with MSDs. These models of care do result in earlier access to efficient services and clinical benefits for patients, in particular those with MSDs and some NCDs. The strength of the evidence presented in this review is, however, variable, and outcomes differ depending on the clinical setting, role of the physiotherapists, and characteristics of patients but are generally very positive, although publication bias may be an issue. More evaluation of these models of care is needed to make formal conclusions concerning all the potential benefits and limitations of advanced practice physiotherapy and direct access physiotherapy.

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Ethical approval

The conducted research is not related to either human or animal use.

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Conflict of interest

The authors state no conflict of interest.

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