



## **ARTHRITIS COMMUNITY RESEARCH & EVALUATION UNIT (ACREU)**

### **ACCESS TO CARE FOR PEOPLE WITH ARTHRITIS**

### **ENHANCING CARE ACROSS THE CONTINUUM USING ADVANCED PRACTITIONERS / EXTENDED ROLE PRACTITIONERS**

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## Executive Summary

- The burden of arthritis is increasing (the number of people with arthritis is expected to increase by 50% by 2020) and there are problems accessing timely, appropriate care; limited health human resources are exacerbating issues of access.
- Primary care physicians acknowledge limitations in their skill in managing arthritis and musculoskeletal disease; specialists such as orthopaedic surgeons see large numbers of people who require conservative management and who do not go on to have surgery.
- Health professionals, such as physiotherapists, occupational therapists and nurses with advanced skills and training, who work in advanced or extended practice within an interdisciplinary team, have the potential to facilitate timely and appropriate access to the right provider for people with arthritis and musculoskeletal conditions.
- In Ontario and Canada in general, models of care using advanced practitioners (AP) and extended role practitioners (ERP) have been developed and implemented for isolated aspects of care without considering the continuum of care. Future models need: 1) to reflect the continuum of care; 2) to include the patient as an active partner in their care with the health team; and, 3) supportive community and health system policies and resources to facilitate the desired good outcomes for patients (and the system).
- Components of the AP/ERP role include: facilitation of system navigation for the patient; assessment; screening; triage and referral; monitoring including ongoing management and follow-up; education of patients and health professionals; and, program evaluation. AP/ERPs need to function within a truly integrated health care system that allows immediate access to care for patients who are beyond the management domain of the AP/ERP.
- Utilization of AP/ERPs in primary care for patients with musculoskeletal complaints and throughout the continuum of care for people with all types and severity of arthritis has the potential to improve access to care by the right provider and ultimately improve patient and system level outcomes.
- Issues related to the implementation of advanced or extended practice roles will likely differ depending on the point of the continuum of care, context (e.g., community versus hospital setting; urban versus rural or remote etc.) and the stakeholder. Evidence from process and outcome evaluation is critical to understanding and supporting the successful implementation and evolution of practice roles and models of care.

## **Introduction**

Provision of appropriate and timely care for increasing numbers of Canadians with chronic disease is one of the greatest challenges facing the health care system in the face of shrinking health human resources. This is particularly true in the case of arthritis. Arthritis is one of most frequent chronic conditions, affecting 1 in 6 people which, based on 2000/2001 data from the Canadian Community Health Survey, represented over 1.6 million Ontarians over the age of 15 (1), and it is the primary cause of long term disability resulting in large personal and societal costs that are generally unrecognized (2-85). Canadian data indicate that musculoskeletal (MSK) disorders, which includes arthritis, are the second most costly group of diseases (after cardiovascular disease) (86). The number of people with arthritis is projected to increase dramatically with the aging baby boomer generation and increasing rates of obesity (8;17;20;22-24;26;33;37;44;51;54;57;61;68;77;81;84;87-116).

Given the recognized burden of disease, chronic disease management has become a primary focus for Ontario and other Canadian provinces. The vision of the chronic disease management strategy is that Ontarians will be supported by a comprehensive, sufficiently resourced, integrated system, in which the patient is an active partner, that will support disease management and prevention (117). However, the current availability of resources and models of care delivery are insufficient to meet the growing need for services and are inadequate to support this vision of chronic disease management. For instance, there is a shortage of primary care physicians in many areas of Ontario and Canada (118-121). The literature also shows deficiencies in the primary care management of arthritis: primary care physicians report lack of confidence in MSK examination; and, there is sub-optimal referral to specialists (79;122-134). Population studies show under-utilization of total joint replacement (TJR) surgery in those with demonstrated need as well as long wait times for these services (33;135-153). At the same time only a proportion of referrals to surgeons for consideration of TJR are appropriate; that is, the individual is deemed to be a candidate for surgery (ranges from 40 to 80% depending on the study) (33;148;154;155). There are also delays in referral of individuals with early inflammatory arthritis to

rheumatologists (126;155-166). Similarly, non-pharmacologic therapies are under-employed both at the community level and in primary care (125;167-171). Contributing to problems in accessing care are constraints in the availability of arthritis-relevant health human resources (e.g., rheumatologists, orthopaedic surgeons, rehabilitation therapists), both in absolute numbers and in geographic distribution (33;139;140;148-150;153;172-175). There is emerging evidence that lack of availability of arthritis health professionals at the local level contributes to lower rates of treatment (176;177).

Given these challenges, there is a critical need to look at alternative ways of enhancing existing resources and ensuring optimal care for people with various types of arthritis across the stages and spectrum of disease severity. One alternative is the use of health professionals as advanced (AP) or extended role practitioners (ERP) to examine, triage, and manage individuals. Other jurisdictions such as the United Kingdom (UK) refer to health providers in these roles as extended scope practitioners. Advanced practice roles have generally been assumed by nurses and rehabilitation professionals such as physical (PT) or occupational therapists (OT).

## **What is meant by advanced practice (AP) or extended role practice (ERP)?**

There is no agreement on the definition of AP or ERP as the specific skills required vary by discipline and by the context in which practice occurs. However, there is agreement that AP or ERP generally are undertaken by health professionals within the scope of practice of their regulatory body (i.e., the procedures, actions, and processes that are permitted for the licensed individual.) The individual AP/ERP is limited to the scope of practice in which he/she has received education and experience, and has demonstrated competency. The description used by the Canadian Physiotherapy Association states that advanced practice or extended roles are characterized by providers practising to the full scope of their profession which includes activities such as ordering x-rays, blood tests, and limited medications (178). Advanced medical directives or delegation are typically used to perform these latter activities. Individuals practicing in this capacity have additional training and skills; in the case of MSK

disease or arthritis, this could include advanced training around joint examination for nurses or additional skills around reading x-rays for PTs or OTs. AP/ERPs are often the first and could potentially be the only contact with the patient, and in some jurisdictions work independently. For example, in British Columbia and Ontario, direct access by a patient to a PT (i.e., without physician referral) can occur in specified settings. In Ontario, direct access is available when the PT provides service in a setting not governed by the Public Hospitals Act. However, even when an AP/ERP works independently, their provision of care occurs within an interdisciplinary dynamic, such that processes exist to ensure that patients can be referred to other health providers as necessary (179-199).

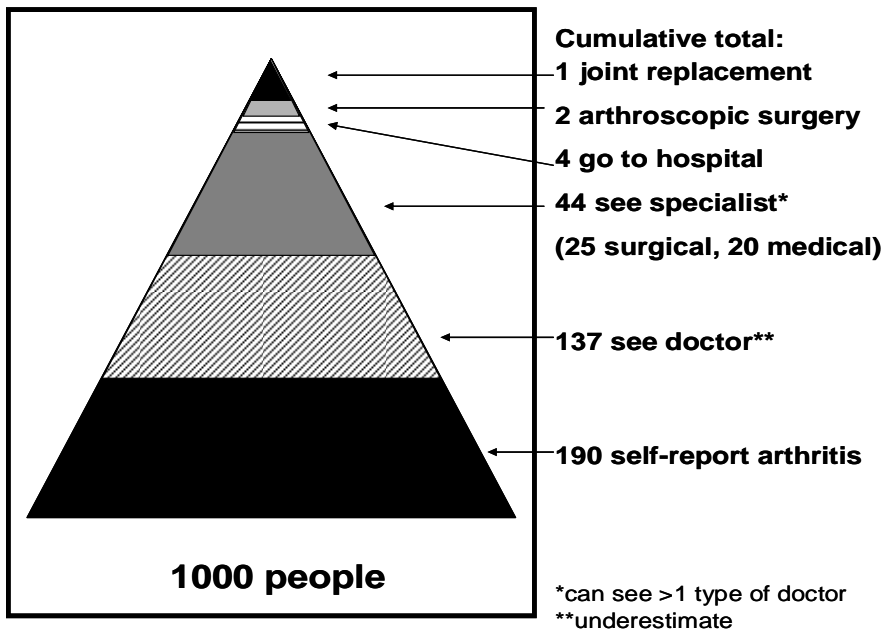
As an alternative approach to managing health human resources shortages, the Ontario Ministry of Health and Long-term Care describes individuals working as physician assistants (PA) as supporting physicians in a range of health care settings. In contrast to nursing, OT or PT, PAs are an unregulated profession. With appropriate physician supervision, a PA has the skills and experience to deal with medical emergencies as well as with everyday health

care needs. Activities of the PA may include conducting patient interviews, histories, and physical examinations; performing selected diagnostic and therapeutic interventions; and counseling on preventive health care. In compliance with relevant legislation and regulations in Ontario, the physician supervising the PA determines the clinical activities of the PA and is accountable for the health care provided (200).

**Why are APs or ERPs critical in addressing arthritis and MSK health?**

As noted above, the burden of arthritis is increasing and health human resources are decreasing. As shown in figure 1, the majority of people with arthritis do not see a specialist and the majority of those who do see a physician are managed through conservative means (201). Models of care that incorporate AP/ERPs have the potential to increase access to care while also facilitating care by the right provider in a timely manner (e.g., specialists will be seeing those who require their specific skills; those who need education and self-management strategies can similarly access the appropriate service provider).

**Figure 1. Health care utilization of people with arthritis and related disorders**



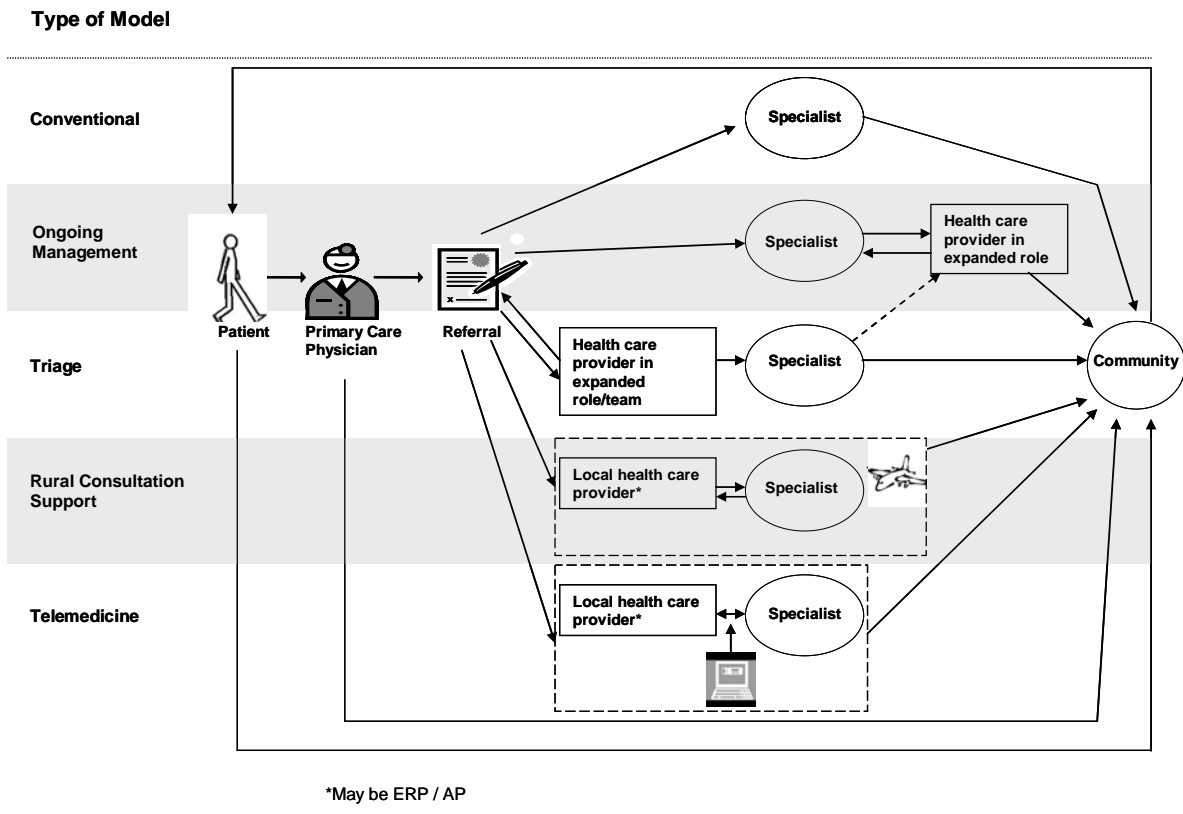
Source: Reproduced from Arthritis and related conditions in Ontario: ICES Research Atlas (201)

**What do we know about models of care utilizing APs or ERPs in arthritis management?**

A model of arthritis care describes the essential elements necessary to provide optimal care for people living with all types of arthritis and at all stages and severity of disease. For example, the British Columbia and Ontario Chronic Care Models include the informed patient who is active in his/her own care and who interacts with a prepared and proactive health care team. Overarching are community and health system structures and resources (e.g., resources and policies providing self-management support at the community level and that has organizational systems including health system design, decision support and clinical information systems at the health system level) with the goal of achieving improved patient and system outcomes (202;203). The goal of such models is timely, integrated, inter-professional care in which the patient is an active partner.

Internationally, health care professionals such as nurses, PTs, and OTs, increasingly work in extended roles in rheumatology and orthopaedics in part to improve access to care (204). Typically, these providers work in models of care with one of two primary purposes: 1) to provide ongoing management of patients with arthritis while working in collaboration with a specialist; and, 2) to assess patients with MSK conditions and to refer them to appropriate services (triage) (189;190). Research from the Arthritis Community Research & Evaluation Unit (ACREU) identified common models of care for arthritis including those using APs and ERPs by conducting key informant interviews with 74 health care providers working in arthritis care and other arthritis experts. These models are described below followed by a summary of the research that has examined the impact of the use of APs and ERPs. Figure 2 illustrates the current models of care that include specialist

**Figure 2. Current Models of Care**





services as well as other health care providers, which may be AP/ERPs, in care delivery.

### **Types of Models of Care with AP and ERPs** ***Ongoing management using APs/ ERPs***

This model is often used in the outpatient hospital setting for patients with various types of arthritis, most commonly inflammatory arthritis. Patients are referred from primary care physicians to a specialist (often a rheumatologist). Appropriate patients are then referred to an AP or ERP for ongoing monitoring and management over time. The AP/ERPs perform MSK examinations, provide ongoing monitoring, make recommendations regarding changes to medications, and make referrals to other health care providers. The AP/ERP works closely with the specialist as required, but in more stable cases, patients may be managed independently by an AP/ERP with less frequent follow-up by the rheumatologist. Patient education, self-management and support for psychosocial issues are often integrated into the care provided by the AP/ERP.

### ***Triage***

Triage models have been developed to streamline and expedite access to orthopaedic care particularly in the UK, and more recently as a response to wait time reduction strategies for total joint replacement in Canada (179;180;183;186-188;192;193;205-207). To a lesser extent, triage models are in development for screening of early inflammatory arthritis in order to identify patients in need of timely referrals to rheumatology. In this model, patients are referred by a primary care physician to a centre with AP/ERPs (usually working in a team) for assessment and management. The composition of the triage team varies with some teams led by advanced practice PTs or OTs and other teams consisting of PTs and primary care physicians with skills in orthopaedics. The APs/ERPs or triage teams assess, advise and request appropriate investigations, and refer to the orthopaedic surgeon if indicated. Although some follow-up may be available, patients typically are seen only 1-2 times by the team and primary health care providers provide ongoing management of the condition. Treatments such as joint injections may be available and performed by APs/ERPs; however, this occurs mainly in the UK. Patient education and self-management strategies may be incorporated into service delivery.

Specific models of care to promote access to specialist care in rural and remote communities have been developed with rural consultation support by physicians and other health care providers and telemedicine. Both of these models may integrate AP/ERPs.

### ***Rural and remote consultation support***

This model has been used to address health human resource shortages and promote timely access to care for patients living in rural and remote areas. An initial assessment is usually conducted by a primary care physician or, in some remote communities, a nurse. Referrals are made to the appropriate health care provider, often a specialist, who travels to local communities on a regular basis to provide assessment and management of patients. Specialist visits are relatively infrequent and for a defined and short period of time; therefore, screening patients to determine who is in need of specialist input at a given visit is critical. The ongoing monitoring and liaison with the specialist is then often managed by the local health professional, such as a PT, nurse, or primary care physician. In some cases, these professionals are AP/ERPs.

### ***Telemedicine***

Telemedicine is a means of sharing health information and providing health care services using telecommunications. After the patient is referred from the primary care physician to a specialist, telemedicine can often be used to link the patient to the specialist in a remote location. A nurse, PT, and/or primary care physician are present with the patient locally in order to perform the MSK assessment while the specialist views the process. In some cases an AP/ERP conducts the screening, hands on assessment, or follow-up of such patients. Hence, direct contact with the patient, practitioner and specialist is facilitated such that appropriate referrals, treatment and follow-up can be implemented.

### **Evidence supporting AP/ERP roles**

To date, most of the research related to AP/ERPs comes from the UK where studies have focused on PTs working in triage roles in orthopaedic clinics with demonstrated reductions in wait times for orthopaedic surgery, improved conversion rates to surgery, and high patient satisfaction (180;183;186;192;193;206-209). In

other research, specially trained PTs have been shown to accurately diagnose MSK conditions and manage a substantive proportion of orthopaedic caseloads independently (180;183;186-188;191;192;206;207;210-212). In a randomized controlled trial of the effectiveness of specially trained PTs in the UK, it was found that they were as effective as post-fellowship junior orthopaedic surgeons in the initial assessment and management of new referrals to orthopaedic departments. The only outcome of statistical or clinical difference between the groups was in patient satisfaction that favored the PTs. Initial direct costs were lower in the PT group as they were less likely to order radiographs or recommend surgery (183). In Canada, PTs working in advanced practice roles have been shown to make similar clinical recommendations to orthopaedic surgeons regarding the patient's need for orthopaedic consultation and total joint replacement (213).

In rheumatology, the use of nurses in extended roles has been evaluated. Hill et al. found that patients in a rheumatology nurse practitioner clinic had significantly lower levels of pain, increased knowledge, and were more satisfied with their care than physician-led clinics (184;185). Similarly in the Netherlands, patients seen by clinical nurse specialists had similar outcomes to patients seen by a team of professionals (197). In Canada, patient and parental satisfaction with care provided by an advanced practitioner in a paediatric rheumatology setting was generally similar to the care provided by the rheumatologist (182). PT-led clinics were rated higher in the domains of access and communication but were lower for the provision of continuity of care as compared to rheumatologist-led clinics (182).

In summary, various models of care using APs or ERPs exist in Canada and internationally. The limited available evidence suggests that practitioners in these roles can satisfactorily triage and manage people with arthritis and MSK conditions, appropriately referring individuals to specialist care. However, the models that exist, particularly in Canada, tend to address only a specified aspect of the continuum of care (e.g., triage for total joint arthroplasty). An arthritis model of care that maximizes the skills of all health care providers needs to address the continuum of care across various aspects of the health care system and the community for people with all types of

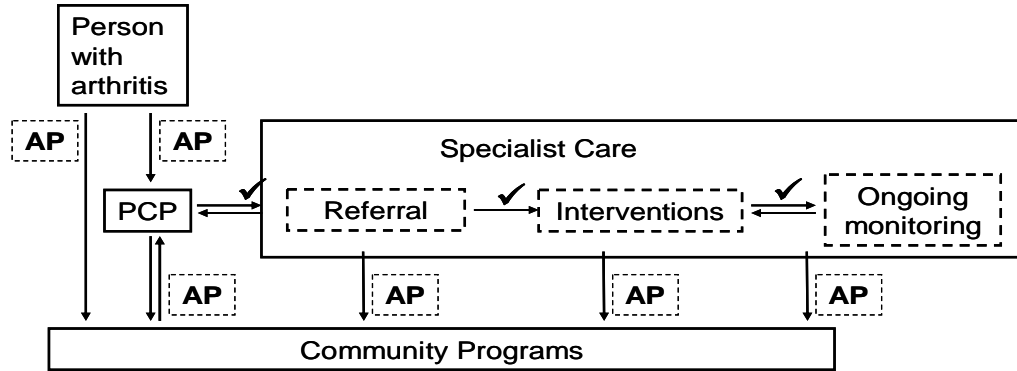
arthritis and at all stages of disease and disease severity. It is by addressing care across the continuum that we will have the opportunity to ensure access to the right care by the right health care provider at the right time and improve health system efficiency, patient care, and reduce costs.

### **Recommendations regarding AP and ERP roles across the continuum of care**

Given their skills and the known roles in which AP/ERPs currently work nationally and internationally, there is great potential for the expanded use of AP/ERPs across the continuum of care. Figure 3 describes the continuum of care for people with arthritis (recognizing that some individuals, depending on the stage and severity of their disease, will require care throughout the continuum while others will require only some aspects of care), and shows the interfaces at which AP/ERPs currently practice, as well as additional possible areas in the continuum where extended practice roles might be introduced or enhanced to improve access to appropriate care.

Given the prevalence of arthritis, the deficiencies in primary care management of arthritis, and that only 16% of people with arthritis see a specialist (Figure 1), there are many people in the community who could benefit from an AP/ERP assessment and evaluation. Early intervention, as indicated by evidence synthesized in best practice guidelines (214), may relieve symptoms and prevent or slow progression of the disease. Community-based access to care also has the potential to facilitate access to appropriate medical and specialist care. The relatively limited deployment of AP/ERPs is most frequently in conjunction with specialist care, as noted above, but there is opportunity for expansion of these roles in more settings. Additionally, community programs, ongoing access, and follow-up by AP/ERPs provide the opportunity for individuals to regain access to the system as their condition changes. AP/ERPs could have a beneficial ongoing relationship with the client base. For example, continuing interaction between the patient and AP/ERP beyond the initial assessment would include follow-up visits to assess adherence to recommendations, need for change in treatment direction, referral onward to other specialists/programs, etc. Key roles for AP/ERPs are highlighted in Exhibit 1. It is unlikely that one individual will fulfill all roles

**Figure 3. Potential roles for AP/ERP in a comprehensive approach to arthritis management**



✓ = documented role for AP/ERPs  
 AP = opportunity for AP/ERPs to facilitate care (see text)  
 PCP = primary care practitioner

at a given time as it will depend on the context of the care delivery and the needs of all stakeholders involved.

A key component of the advanced/extended practice role is program development in response to patient need and demand. This may include development of comprehensive self-management and education programs for arthritis and related conditions, population-specific exercise classes etc. where none exist, or partnering with existing community-based programs and resources (e.g., in some regions such programs are offered by The Arthritis Society and Seniors Wellness programs).

Contributions to educational activities are also a key component of the role of the AP/ERPs. These would include educational activities for colleagues; education provision to rehabilitation students and medical residents working in the area of MSK, as well as providing education to the community about chronic MSK conditions with health promotion and disease/injury prevention as imperative. Training volunteers to conduct self-management and exercise programs could also fall within the role of the AP/ERP.

Participation in clinical-, systems-, and population-based research and evaluation will be an important aspect of the AP/ERP role depending on the context. For example, quality, peer-reviewed output should be a key expectation for those working in academic

settings, and should include attendance and presentation at relevant conferences, submission to journals and contribution to the development of research projects within the area of practice.

- Exhibit 1. Key roles for the AP / ERP:**
- System navigation
  - Assessment
  - Triage and referral
  - Ongoing management, monitoring and follow-up
  - Program development and evaluation
  - Patient and health care provider education

Demonstrable leadership in the area of practice (e.g. arthritis, general MSK, etc.) within the profession (e.g., PT/OT, etc.) and at the place of employment is also a key component. Professional investment in the role should include awareness and participation in activities with professional regulatory bodies and professional associations.

While Figure 3 focuses on arthritis management, this model of care could extend to individuals with all MSK, and potentially other chronic conditions such as diabetes, cardiovascular, mental health, cancer, etc. The purview of MSK

disease is within the knowledge base and expertise of rehabilitation therapists. There is an opportunity to realize efficiencies associated with timely access to the right professional for people with this entire group of diseases and conditions. It should be noted that the effective functioning of a collaborative interdisciplinary MSK team is critical to the success of models of care using AP/ERP across the continuum of care. This team would include primary care practitioners, rheumatologists, orthopaedic surgeons, pharmacists, social workers, PTs, OTs, nurses, and dieticians working together with each focusing on their area of expertise. This collaborative approach is crucial to success when the AP/ERP is the first-line practitioner working in a triage role as they may encounter patients with conditions/presentations that are beyond their expertise. Integration of disciplines is critical as AP/ERPs need to know who they can call to obtain immediate assistance/referral or information. In the UK, General Practitioners with a Special Interest in MSK are often part of the team and available to assist with the more challenging cases.

### **Conclusions and Summary: Issues for resolution**

The potential for AP/ERP roles across the continuum of care in improving access and quality of care for individuals with arthritis and MSK diseases is now well recognized. Additionally, there are potential cost savings at the patient level. Patients should receive both better care, and faster, more appropriate care which should lead to increased efficiency and cost savings for the health care system. However, development and implementation of these roles is still a major challenge. The key issues will differ depending on the point of the continuum of care where the role is implemented, the stakeholder and the context. From the perspective of the public/potential patient, education about who provides the care will be required. Health professionals are likely to be concerned about encroachment on practice, liability and funding mechanisms. Some health professionals will not want the responsibility of extended practice, while others will struggle to learn a new way of practicing. Rural and remote areas will face challenges of geography not experienced in urban areas. Academic centres will need to consider alternative ways of ensuring training for health

professionals. Regulatory bodies will need to resolve issues regarding scope of practice to ensure those working in extended or advanced practice roles are working within their scope. Standardization of credentialing for AP/ERPs will be important to ensure that they have the necessary skills to perform their roles. Educators and regulatory bodies will need to work together on this issue to prevent roles remaining institutionally based. For example, in Ontario, AP/ERPs work under advanced directives specific to the institution in which they work, which limits transferability and the scope of the role. Employers too may struggle when trying to redefine job descriptions, determine appropriate compensation (including costs of ongoing education to meet requirements for ongoing credentialing) and resolve issues of liability.

As we have learned from the implementation of these roles within the UK, even recognizing that the National Health System funding model differs from that in Canada, these issues are not insurmountable. Within the Central Toronto Local Health Integrated Network, there is a cadre of advanced practitioners who could begin to work at various points in and throughout the continuum of care that could make this vision a reality. Developing and implementing, viable and effective solutions for all stakeholders requires that there is recognition and inclusion of all the roles of AP/ERPs across the continuum of care. Otherwise, these roles will continue to be developed focusing only on limited aspects of care for a limited number of people with arthritis or MSK conditions resulting in limited transferability across the continuum of care and settings.

In the context of the increased burden of arthritis and MSK disease and the shrinking of health human resources, *timely, integrated, inter-professional care in which the patient is an active partner* is the optimal goal. Utilization of APs or ERPs in primary care settings for patients with MSK complaints and throughout the continuum of care for people with all types, stages and severity of arthritis has the potential to improve access to care by the patient to the right provider which would ultimately improve patient and system level outcomes. Establishing a body of evidence related to process and outcome evaluation around these roles and models of care will be critical to understanding and supporting their evolution.

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