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ORIGINAL RESEARCH

Patient, Rheumatologist and Therapist Perspectives on the Implementation of an Allied Health Rheumatology Triage (AHRT) Initiative in Ontario Rheumatology Clinics

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Purpose: The objective of this qualitative study was to explore patient, rheumatologist, and extended role practitioner (ERP) perspectives on the integration of an allied health rheumatology triage (AHRT) intervention in Ontario rheumatology clinics. Triage is the process of identifying the urgency of a patient's condition to ensure they receive specialist care within an appropriate length of time. This research explores the clinical/logistical impact of triage by occupational and physical therapists with advanced arthritis training (ERPs), including facilitators and barriers of success, and recommendations for future application.

Participants and Methods: Semi-structured telephone interviews were held with participating rheumatologists, ERPs, and a sample of patients from each clinical site (4 community, 3 hospital) in five Ontario cities. Interviews were audio-recorded and transcribed verbatim. Transcripts were analyzed using basic qualitative description. Two independent researchers compared coding and achieved consensus.

Results: Patients (n=10), rheumatologists (n=6), and ERPs (n=5) participated in the study and reported reduced wait-times to rheumatology care, diagnosis, and treatment for those with inflammatory arthritis (IA). Rheumatologists and ERPs perceived that the intervention improved clinical efficiency and quality of care. Patients reported high satisfaction with ERP assessments, valuing early joint examination/laboratory tests, urgent referral if needed, and the provision of information, support, and management strategies. Facilitators of success included: supportive clinical staff, regular communication and collaboration between rheumatologist and ERP, and sufficient clinical space. Recommendations included extending ERP roles to include stable patient follow-up, and ERP care between scheduled rheumatology appointments.

Conclusion: Findings support the integration of ERPs in a triage role in the community and hospital-based rheumatology models of care. Future research is needed to explore the impact of utilizing ERPs for stable patient follow-up in rheumatology settings.

Keywords: health service needs and demand, rheumatic diseases, connective tissue disease, patient satisfaction

Plain Language Summary

Some types of arthritis, such as inflammatory arthritis (IA), progress rapidly and can cause joint destruction resulting in loss of function and affecting a person's ability to work and enjoy life. Early diagnosis and treatment are important however many people still wait over 6 months to see an arthritis specialist (rheumatologist) and start appropriate treatment. In this study, occupational and physical therapists with advanced training in arthritis care assessed

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patients on rheumatologists' waitlists and identified those requiring urgent care for an early rheumatologist appointment. The team then interviewed 23 patients, rheumatologists, and therapists to explore the benefit of this new approach to care. Patients reported high satisfaction with the therapists' assessments, valuing: early joint assessment and laboratory tests, urgent referral if needed, education and support. Patients, rheumatologists, and therapists perceived reduced wait-times to care. Rheumatologists and therapists believed that the model improved office efficiency and quality of care. Our findings support the inclusion of therapists with advanced training into Ontario rheumatology clinics.

Introduction

Inflammatory Arthritis (IA) is a rapidly progressing joint disease affecting approximately 3% of the population and causing significant burden through progressive joint destruction, disability, lost work productivity, and premature mortality.[1–3] With an aging population, rates of IA and other rheumatic conditions are on the rise, placing increased pressure on an already overloaded rheumatology care system.[4,5]

While the established benchmark time from referral to seeing a rheumatologist is 4 weeks, only 35–38% of patients with IA in Ontario are seen within this timeframe,[6] and fewer than 50% receive treatment with a disease-modifying anti-rheumatic drug (DMARD) within 6 months of symptom-onset.[7] Reducing wait-times to rheumatology care is important for individuals with IA, as early and aggressive treatment with traditional and/or biologic DMARDs can induce remission, prevent irreversible joint damage and long-term disability[8,9] and reduce long-term costs.[10] For example, according to the Arthritis Alliance of Canada, the early diagnosis and treatment of rheumatoid arthritis (the most common type of IA) with a DMARD or biologic could result in $5 billion of savings in direct costs (and up to $34 billion for indirect costs) in Canada over the next 30 years.[5]

To cope with higher patient volumes and meet recommended benchmarks for care, health system changes are needed to ensure those requiring urgent care are identified and treated without delay. One way to reduce wait-times is to enhance the efficiency of patient triage.[11] Triage is the process of identifying the urgency of a patient's condition to ensure they receive specialist care within an appropriate length of time.

Advanced Clinician Practitioners in Arthritis Care (ACPAC) are experienced physical therapists (PTs), occupational therapists (OTs), or nurses with specialized post-licensure training in joint examination and the management of IA. As extended role practitioners (ERPs), ACPAC therapists can work beyond their normal scope of practice, often in non-traditional roles or under medical directives to assess, diagnose, triage, and manage patients with IA. The ACPAC program (https://acpacprogram.ca/) was developed by St. Michael's Hospital and the Hospital for Sick Children as a university-based curriculum to address shortages in rheumatology care, improve clinical efficiency, and reduce wait-times to specialty care for patients with arthritis and MSK conditions.[12] Since its inception in 2005, 90 professionals have achieved ACPAC certification.

The ACPAC program is based on an inter-professional collaborative model, which can improve clinical efficiency and quality of care by enabling health professionals to work in their highest capacity.[13,14] Inter-professional collaboration has been shown to improve health service coordination, resource use, access to care, and clinical outcomes,[15,16] while reducing clinical errors, tension among care providers, length of hospitalization, and health-related complications.[15–17] Improving health service integration can help mitigate negative outcomes of an overwhelmed system (i.e, excessive wait-times) through the reallocation of resources and careful distribution of clinical expertise.[14] Allied health professionals have been utilized in primary care and rheumatology settings to improve clinical efficiency and access to care,[18–21] however, few studies have looked at system level outcomes such as rheumatology wait times. In addition, most studies examining triage interventions involve a single ERP working with a single rheumatologist, limiting the generalization of results. A recent study examined the impact of triage by Arthritis Society ACPAC-trained occupational and physical therapists in several Ontario rheumatology clinics and found a significant reduction in wait times (improved access to rheumatology consultation and treatment).[22] This qualitative study evaluates the impact of this intervention from the perspectives of the participating patients, rheumatologists and ERPs.

Methods

Approach

The following PICO framework applies:[23] Population: rheumatologists, ERPs, patients; Intervention: triage performed by ERPs within rheumatology clinical settings; Comparison: experiences with intervention compared among and between population groups (ERPs, rheumatologists and patients; those expedited and those not expedited); Outcome(s): satisfaction, acceptability and perceived impact of intervention, facilitators and barriers of success, recommendations for future implementation.

Qualitative data were collected using semi-structured telephone interviews. The basic qualitative description was employed, as interviews were not meant to generate theory, but to generate factual information about the experience and satisfaction of research participants with the study intervention.[24] The basic qualitative description focuses on the clear description and comprehensive communication of research phenomena, in this case, experiences with the triage intervention.[24] The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist[25] was used to ensure qualitative procedures were followed. Ethics approval was obtained from the University Health Network (#15-9130-AE); Queen's University; St. Joseph's Care Group and Sunnybrook Health Sciences Centre. All participants provided written informed consent before being interviewed. Access to qualitative data is available from the author on request. Quantitative results on time to diagnosis/treatment for patients with IA are published elsewhere.[22]

Setting

At each clinical site, an ACPAC-trained ERP worked in a triage role one day/week to improve access to rheumatologists for people with suspected IA. Patients were assessed by an ERP if their primary care referral contained insufficient information for the rheumatologist to make an informed triage decision. The ERP captured demographic information, a chief complaint, a brief medical history, systems review and functional status. ERPs provided care within their scope of practice, had access to electronic medical records, and the ability to order laboratory tests/imaging under medical directives. They performed a full joint count (tender and swollen joints), provided education and made conservative treatment recommendations that included referrals to community programs and services, as needed. ERPs then made one or more differential diagnoses and a triage decision (ie, expedited referral to the rheumatologist [within 2 weeks] or the next available appointment [routine care]). Patients with possible IA/SARD, defined as polyarthritis with functional impairment, poorly controlled gout, polymyalgia rheumatica, connective tissue disease, temporal arteritis or systemic vasculitis, were expedited. When unsure, ERPs were advised to expedite.

Sampling and Recruitment

Rheumatologists & ERP

To be eligible for participation, rheumatologists agreed to integrate an ERP into their clinic one day/week for the study duration, allow for a retrospective chart review, complete a site agreement for data sharing, delegate labs/imaging to ERPs using medical directives and complete a half-day training session in Toronto. Eligibility criteria for ERPs included current employment with the Arthritis Society as an ACPAC-trained OT or PT, agreement to provide patient joint assessments in their assigned rheumatology clinic one day/week for the study duration, and the completion of a half-day training session in Toronto. Rheumatologists were recruited for participation through the Ontario Rheumatology Association, while ERPs were recruited through the Arthritis Society. Rheumatologists and ERPs had no pre-existing relationship prior to the intervention. ERPs were paid their usual salary. Rheumatologists billed for their time as usual. All participating rheumatologists and ERPs were invited to participate in an interview following the completion of the intervention at their clinical site.

Patients

To be eligible, patients had to be 18+ years of age, have the potential for an IA based on paper triage information (determined by rheumatologist), and be referred to a rheumatologist by a general practitioner or nurse practitioner within the previous month. Patients were excluded if they were referred by other specialists or an emergency department, had seen a rheumatologist in the past 5 years, had a pre-existing diagnosis of osteoarthritis, fibromyalgia, or IA, or were already on a DMARD. Once identified by the rheumatologist, office clerical staff called the patient to explain the study. If the patient was interested, the research coordinator (RS) called the patient to provide greater details. If still interested, an appointment was booked with the ERP and a consent form was mailed to the patient to sign and bring to the ERP visit. The consent included that the patient was willing for a researcher to call them to arrange an interview following the triage intervention.

In total, 218 patients were examined by an ERP, of which 106 were expedited to see their rheumatologist. Six months following the triage intervention, a random sample of 4–8 patients from each clinical site were invited to participate in an interview. Purposive sampling was applied to ensure sample diversity with respect to age, triage decision (expedited vs non-expedited), type of clinical site (community vs hospital), and clinical site (all sites represented). After the triage intervention, a qualitative researcher (LF), unknown to study participants, called the patient to explain the study, Consent forms were mailed to interested patients, and when returned, interviews were scheduled. Patient sampling occurred until thematic saturation (the emergence of no new content/themes) was achieved.

Data Collection

Participants were informed about the purpose of the research and asked to provide feedback on their experience with the intervention, feelings about its impact/implementation, satisfaction, and opportunities for improvement. One-on-one interviews were 30–50 mins in length and took place between December 15, 2015 and August 15, 2016. Interviews were conducted by telephone and facilitated by an independent qualitative interviewer (PV) who had an MHSc in Health Promotion and over 20 years' experience in conducting qualitative research. She was unknown to participants and utilized solely for interview facilitation. A semi-structured interview guide was used for all interviews (Appendix 1). The general themes for the guide were developed by the research team based on comments we had heard back from participating rheumatologists and ERPs and were informed by the literature. Interviews were audio-recorded and transcribed verbatim using a professional transcription service. All identifying information was removed to protect confidentiality.

Data Analysis

Interview transcripts were analyzed using basic qualitative description. Unique themes were identified in an inductive manner using the constant comparative technique.[26] One master's level (LF) and one senior PhD level (AG) university-based qualitative researcher were responsible for the analyses. Transcripts were read by LF and AG to identify, define, and organize themes (first-level coding). A codebook was used to capture emerging codes, their definition, and sample data illustrating each code. Transcripts were reviewed by LF to identify all instances that matched and did not match the coding framework to assess whether to expand or merge thematic codes (second-level coding).LF and AG independently reviewed second-level coding, discussed themes/sub-themes, removed redundancies, and achieved consensus. Data were tabulated by theme and clinical site to identify trends and facilitate interpretation. Exemplar quotes were selected to demonstrate each theme/sub-theme. All members of the research team including two qualitative researchers, two rheumatologists, one health systems researcher and one research coordinator (LF, AG, VA, CB, SB, RS) reviewed outcomes and discussed themes and interpretation.

Results

Thirty-five rheumatologists were invited to participate in the study and seven rheumatologists (3 hospital-based, 4 community-based) from five cities met inclusion criteria and agreed to participate (57% female; 57% community-based). Participant characteristics are presented in Table 1. Although there were seven clinical sites, there were five participating ERPs, as two worked in the rheumatology triage role at two separate clinics. These ERPs were interviewed separately for each clinical location, for a total of seven ERP interviews. All ERPs and six of seven rheumatologists participated in an interview. One hospital-based rheumatologist closed her practice and moved out of province mid-way through the intervention for reasons unrelated to the study. Although triage assessments had been completed, patients did not receive the full intervention (appointment with rheumatologist). For this reason, patient

Table 1 Participant Characteristics

Participant			Total
Rheumatologists (n=6)	Clinical site	Community	4
		Hospital	2
	Sex/Gender	Male	3
		Female	3
Extended Role Practitioners (n=5)*	Clinical site*	Community	4
		Hospital	3
	Sex/Gender	Male	0
		Female	5
	Professional designation	Physiotherapist	3
		Occupational therapist	2
Patients (n=10)	Clinical site	Community	6
		Hospital	4
	Sex/Gender	Male	0
		Female	10
	Urgency of referral	Expedited	6
		Non-expedited	4
	Age	20–30 years	1
		31–40 years	1
		41–50 years	2
		51–60 years	3
		61–70 years	2
		Unknown	1

Notes: *Two of the five ERPs worked within a triage role at more than one clinical site. Each site is presented individually to reflect seven separate ERP placements.

and rheumatologist interviews were not conducted at this site. ERP assessments were not impacted by the site closure, so this interview was included.

Twenty patients were invited to participate in a telephone interview, and 17 expressed interest in participating. Thematic saturation occurred at 10 interviews when researchers determined no new thematic content was emerging from transcripts.

Interview data were organized into four categories reflecting interview topics: (1) motivation for participation, (2) perceived impact of the intervention, (3) facilitators/barriers of implementation, and (4) recommendations for program improvement and future implementation. All themes were derived inductively from interview data, and are presented with exemplar quotes in Table 2, and summarized in the text using quotes. Discrepancies are noted where relevant.

Motivation for Participation

The potential to access earlier rheumatology care was cited by patients as their primary motivator for participation in the intervention. Patients also mentioned the ability to learn about their medical condition and obtain useful information as strong motivators for participation.

Rheumatologists and ERPs reported a desire for health system improvement focused on reducing rheumatology wait-times as a primary motivator for participation. As a rheumatologist shared, "If we can have a model of care that can help to reduce the wait-times by whatever means, I think that will help to serve that patient population better" (Rheum 7). Altruism was also a strong motivator, as many expressed a desire to help patients by improving system efficiency.

Impact of Triage Intervention

Patients, rheumatologists and ERPs consistently reported reduced wait-times to rheumatology care, diagnosis, and treatment for urgent patients who received the intervention. An ERP shared, "People were seen within 2 weeks, where his previous wait-time was 3 months, so I think it really reduced that time for people who were appropriate" (ERP 5). Similarly, a rheumatologist stated,

> Patients got seen much more quickly and in an appropriate way. They weren't languishing at home waiting to be seen, they were seen, worked up, and then I could sail forward and get them started on their DMARDs early. (Rheum 3)

Although many patients did not know how long they would have waited for care without the intervention, most expressed belief that their wait-time was reduced.

Wait-times to care were also reported as reduced for non-expedited patients, as they often received some form of care from the ERP before their first appointment with the rheumatologist. An ERP noted,

> They were getting treatment before the rheumatologist. The time to treatment was less than the time to rheumatologist for the non-urgent [patient] because they were being treated in some way, shape, or form. (ERP 5)

Surprisingly, in no case was a non-expedited patient unhappy about waiting to see the rheumatologist at the next routine appointment.

All participant groups believed the triage intervention improved clinical efficiency. They noted that the medical history and joint assessment completed by the ERP, along with ordered laboratory tests/imaging, sped up their movement through the system by providing rheumatologists with the information needed to diagnose at the first appointment. As a patient expressed,

> Blood work and x-rays were done in advance of seeing the doctor, which was a bonus because that cuts down the time. If you get in to see the doctor first and then they send you off for blood work and x-rays, then you have to wait again. (Non-Expedited, Patient 8)

Rheumatologists and ERPs noted that the triage assessment reduced the length of time needed at the first rheumatology appointment and the total number of appointments needed to diagnose.

Patients consistently reported receiving helpful coping/management strategies and feeling listened to/heard by their ERP. As one stated:

> I felt cared for. I walked out of there feeling heard and validated. I came out of there feeling like I mattered in the story... I liked how thorough her examination was, I liked that she took the time to explain things to me, I liked that I was heard. (Non-Expedited, Patient 7)

Participants from each group consistently communicated a belief that the intervention improved the overall quality of care.

Regardless of triage outcome, most patients expressed reassurance after their assessment. Expedited patients were reassured to know they were being seen in a timely manner, while non-expedited patients were reassured that their

Table 2 Thematic Categories and Emerging Themes with Exemplar Quotes

Themes	Patients	Rheumatologists	Extended Role Practitioners (ERPs)
1) Motivation for Participation			
Accessing earlier medical care	"Seeing somebody sooner meant if there was something serious that needed to be addressed, that it would get me into the doctor quicker" (Expedited 3).	N/A	N/A
Learning about condition and obtaining information	It gave me a little more information about my condition … it gives us some coping techniques until we see the rheumatologist" (Not Expedited 7).	N/A	N/A
Health system improvement	N/A	"We do have a very long wait time … if we can have a model of care that can help to reduce the wait times by whatever means, I think that will help to serve that patient population better" (Rheum 7).	"I wanted to be able to show that there are different ways to increase the efficacy of the system" (ERP 5).
Altruism	It helps if people take part in studies. I enjoy helping" (Expedited 2).	"I really wanted to help the patient, identify the patients with early inflammatory disease, because there's a heavy burden trying to identify these patients and bring them in" (Rheum 1).	"One of the end goals for me was to work in a different role that serves clients with arthritis … frequently, people that end up on a wait list should have been assessed earlier, particularly with inflammatory arthritis" (ERP 3).
2) Perceived Impact and Value of Intervention			
Reduced wait times to rheumatology care and treatment for those with IA	"The speed to get to the rheumatologist and getting my condition dealt with was the primary benefit, because otherwise I know I wouldn't have gotten in to see the rheumatologist for a good 4–5 months" (Expedited 3).	"The therapist did a really great job of identifying early inflammatory arthritis, so those patients got seen much more quickly in an appropriate way. They weren't languishing at home waiting to be seen, they were seen, worked up, and I could sail forward and get them started on their DMARDs early" (Rheum 3).	"People were seen within 2 weeks, where his previous wait time was 3 months, so I think it really reduced that period of time for people who were appropriate" (ERP 5).
Reduced wait times to care for those with non-IA	"She gave me some advice about stretching, and this and that, and some non-medical things to do to alleviate the pain, which was helpful" (Not Expedited 7).	"If they had non-inflammatory disease, there were more referrals to other arthritis stakeholders like occupational therapy, physiotherapy, sometimes social work, or education. It was fantastic. It was much better for the patient" (Rheum 1).	"They were getting treatment before the rheumatologist. The time to treatment was less than the time to rheumatologist for the non-urgent because they were being treated in some way, shape, or form" (ERP 5).
Improved clinical efficiency	"Blood work and x-rays were done in advance of seeing the doctor, which was a bonus because that cuts down the time. If you get in to see the doctor first and then they send you off for blood work and x-rays, then you have to wait again" (Not Expedited 8).	"I would normally see them and order investigations … everything was in order so I was able to initiate full treatment" (Rheum 6).	"If I do the triage, if I put everything in place, then the rheumatologist just needs a 15–20-minute appointment that we can squeeze in somewhere, rather than the normal 45-minute appointment" (ERP 6).
Improved quality of care	"Sometimes with a doctor or someone who's a specialist, you feel like they're on a time limit and they've got someone waiting. Whereas with her, she took the time to just go over things and didn't leave anything not asked." (Expedited 2).	"They have more time so there is more education and a real plan, a real sense of a plan. I see so many patients; I could give them a plan in 30 seconds or a minute, but [with the ERP] there's a good 10-15-minute discussion about planning. Especially if it's chronic pain … it was much different" (Rheum 1).	"Giving them a few helpful hints and some things to work on, even for the few weeks before they saw a doctor was helpful … it contributes to a higher quality of care" (ERP 5).

(*Continued*)

Table 2 (Continued).

Themes	Patients	Rheumatologists	Extended Role Practitioners (ERPs)
Earlier coping/ management strategies	"She gave me some pointers like using different kinds of keyboards … she also provided me with sheets of exercises to do at work and at home to give more flexibility and strength" (Expedited 5).	N/A	"I was also able to provide them with some education about their condition … I was able to send them away with a few strategies. Sometimes I recommended various other interventions, whether it was referral … or just self-management techniques that they could use at home" (ERP 3).
Feeling listened to/heard	"I felt cared for. I walked out of there feeling heard and validated. I came out of there feeling like I mattered in the story" (Not Expedited 7).	"People are very pleased to be seen by somebody, and to have their concerns listened to and moved through the system" (Rheum 2).	"The patient feels that, 'you know what, I am getting good care here. They do listen to me and I'm not just another number'" (ERP 4).
Reassurance	"She put my mind to rest" (Expedited 4).	"It bothers me that we have all these patients that end up waiting for months to see someone, and no one really knows how urgent they are or not. It makes me feel a lot more safe in terms of the quality of care we provide" (Rheum 5).	"By assessing them and knowing whether or not there was IA … I think it was reassuring to people" (ERP 5).
Professional satisfaction	N/A	"I was happier because I was able to see people who needed to be seen earlier, rather than seeing them in 6 months and thinking 'oh my god, why didn't I see this patient earlier?' So that was a huge professional satisfaction" (Rheum 6).	N/A
Added value provided by ERP	"It gave me additional information, because I find sometimes in our medical world, the patient actually doesn't get as much information as we think they get. I think there's a lot of assumptions by our medical people that when they say something, we understand what they're saying, and we don't" (Not Expedited 7).	"I don't see things through an OT perspective, so I think it's also sort of like having a second opinion. She can provide advice that I'm not qualified to give that is more OT related … she can provide a lot of stuff that I can't" (Rheum 5).	"Explaining the diagnosis or the differentials of what was suspected, explaining the purpose of the medication, sometimes explaining how certain symptoms were connected … Having the discussion about exercises, having the discussion about what's safe for them to do or not do, resources, mentioning the Arthritis Society if it was appropriate" (ERP 2).
3) Facilitators/Barriers of Successful Implementation			
Facilitators			
Trust in the knowledge, skill, and judgement of ERP	"I felt confident to be in their hands. I knew I was in good hands, so it was a relief" (Expedited 5).	"You need to know your therapist and you need to have seen them in action a little bit so you have trust … so you know when they've seen them, you trust what they see" (Rheum 4).	"We had a comfort level with our inter-examiner reliability" (ERP 5).
Administrative support	N/A	N/A	"Without administrative support, it would have been a lot more stressful and disorganized. I think they are vital in keeping the clinic flowing" (ERP 2).
Regular communication/ collaboration with clinical team	N/A	"I like working with other professionals … there is some co-learning that takes place." (Rheum 3).	"There was actually time for dialogue at the end of clinics just to quickly touch base about anything interesting that came up … it helped to break some of the potential barriers because there was ongoing communication" (ERP 6).

(*Continued*)

Table 2 (Continued).

Themes	Patients	Rheumatologists	Extended Role Practitioners (ERPs)
Buy-in from clinical staff	N/A	"We gathered my colleagues as well as the secretaries up front, not just my secretary up front, and talked about the study and why it was important and introduced the therapist to everybody in the atmosphere. And then they all knew what was happening"(Rheum 3).	"It's so important that you have support staff on board because they're the gatekeepers really. If they don't really understand what's going on or appreciate it, you're gonna run into problems" (ERP 4) "The group I don't think were buying into this. I feel that maybe the group was not as keen having me there as a help because I was just in the way almost … I was not really working with the group and that's why it didn't work as well" (ERP 1).
Barriers			
Unsupportive administrative staff	N/A	N/A	"The secretary was less than helpful with expediting the appointment. When I said, I needed an appointment in 2 weeks, she laughed … I'm not sure that there was good communication, perhaps, from the rheumatologist to his staff that this [intervention] is important" (ERP 5).
Insufficient clinical space for ERP	N/A	"We did have an awkwardness around space … if we had more space it would have been great, but we didn't … if the therapist needed this clinic room to do the physical examination, I would go for a few minutes, she would do her thing, and then I would come back" (Rheum 3).	"Hospitals are very busy. Trying to get a separate room for me to do my assessments was a challenge, so what we chose to do was book it at a time, a Friday afternoon, that typically, the clinics weren't as busy" (ERP 3).
4) Recommendations for Program Improvement and Future Implementation			
Modification/expansion of therapist role for stable patient follow-up	N/A	"These therapists are trained to do history and physical and think about labs and x-rays, and they could see new patients and go over them with me as a resident does, in my practice. They could also see the stable IA patients with me, see them in the next room and report back on how they're doing. That would improve efficiencies and would open up time in our clinic for new patients … They could advise to the rehabilitation program the patient needs" (Rheum 3).	"We could be seeing follow-ups independently. So, the rheumatologist wouldn't necessarily have to see their follow-ups so frequently … it opens up time, it increases their capacity to see more people" (ERP 5).
Long-term placement of ERP in rheumatology care	"I think it would be a good program to institute … let people that really need it see somebody first" (Expedited 6).	"It's much faster for me to go forward. I just think we would deliver the right care to the right person at the right time if we had this as a permanent part of our practice … Instead of therapists running around the community, this group of highly-trained therapists would be used better where there is a concentration of patients"(Rheum 3).	"In the rheumatologist office, I had medical directives, I had access to the system, so I saw the person, I made it happen and it was complete within an hour… being in the office with the rheumatologists is for me, much more efficient" (ERP 6).

(*Continued*)

Table 2 (Continued).

Themes	Patients	Rheumatologists	Extended Role Practitioners (ERPs)
Placement of ERP in primary care rather than specialty care	N/A	"Rather than make the referral to the rheumatologist, they [GPs] could make the referral to the therapist [ERP] who screens the person, and then have the referral come to the rheumatologist if they think it's appropriate, which might weed out some of the people who don't actually need to be seen" (Rheum 4).	"the ideal place for ACPAC would be in a family health team in GP offices, where we could do exactly the same, and then expedite the referral to rheumatology with all the findings" (ERP 7).
Communicate purpose of intervention to secretary/ clinical team	N/A	"We gathered my colleagues as well as the secretaries up front, not just my secretary up front, and talked about the study and why it was important and introduced the therapist to everybody in the atmosphere. And then they all knew what was happening" (Rheum 3).	"Pull in the secretary, pull in the rheumatologist, and have a conversation so the rheumatologist can express to the receptionist how important it is" (ERP 5).
Ability to see/contact therapist after assessment and/or between routine rheumatology appointments	"It would be nice if we could have, in between those six months, maybe another visit with the physiotherapist, or the possibility of asking questions over the phone" (Expedited 2).	N/A	"We may see someone and we're just not sure … until I see some initial blood work, I can't even really triage them … So, having some flexibility with how many appointments a therapist can book with a patient before they see a specialist" (ERP 4).

Abbreviations: ACPAC, Advanced Clinician Practitioners in Arthritis Care; DMARD, Disease-Modifying Anti-Rheumatic Drug; ERP, Extended Role Practitioner; GP, General Practitioner; IA, Inflammatory Arthritis; OT, Occupational Therapist; Rheum, Rheumatologist.

condition was not too serious. Rheumatologists reported feelings of reassurance and improved professional satisfaction, as they trusted that urgent patients were being identified and seen in a timely manner.

Facilitators and Barriers of Success

Trust in the knowledge, skill, and judgement of the ERP was consistently reported by rheumatologists as an important facilitator of program success. In no case was lack of trust in the ERP's knowledge, skill or judgement raised.

ERPs consistently mentioned administrative support and buy-in from clinical staff as an important facilitator of program success. Those who did not receive adequate administrative support reported its absence as a major barrier to their work, resulting in additional stress and workload related to scheduling and paperwork. Those who reported a lack of buy-in from non-participating clinical staff noted less cooperation/collaboration in the clinic, and a less welcoming work environment.

ERPs emphasized the importance of regular communication and collaboration with the rheumatologist in the clinic. In most cases, frequent interaction and collaboration was the norm; however, where it was lacking, it was raised as a barrier to care. ERPs expressed a desire to ask questions and engage with rheumatologists about cases when needed. Rheumatologists expressed satisfaction with their communication/collaboration with ERPs.

A clinical environment with sufficient space for the ERP was discussed as important for efficiency and the prevention of disruptions to clinical flow. Rheumatologists and ERPs consistently mentioned the need for a designated exam room for triage assessments. Clinical space appeared to be more of a problem in hospital-based rheumatology settings than community settings.

Recommendations for Future

Patients and rheumatologists expressed a desire for the long-term placement of ERPs in rheumatology care settings. A rheumatologist shared:

> We could deliver the right care to the right person at the right time if we had this as a permanent part of our practice… instead of therapists running around the community, this group of highly-trained therapists would be used better where there is a concentration of patients. (Rheum 3)

Interestingly, many ERPs recommended ERP placement in primary care settings rather than specialty care. As one

stated: "the ideal place for ACPAC would be in a family health team in GP offices, where we could do exactly the same, and then expedite the referral to rheumatology with all the findings" (ERP 7). Although most expressed a desire for placement in primary care, one ERP thought services were better utilized within specialist care: "In the rheumatologist office, I had medical directives, I had access to the system, so I saw the person, I made it happen and it was complete within an hour" (ERP 6). A few participants also recommended the placement of ERPs in underserviced areas.

Modifying/expanding ERP roles to allow for stable patient follow-up and rehabilitation in rheumatology settings was recommended by most rheumatologists and ERPs. An ERP shared:

> We could be seeing follow-ups independently. So, the rheumatologist wouldn't necessarily have to see their follow-ups so frequently... it opens up time, it increases their capacity to see more people. (ERP 5)

There was widespread agreement that ERP roles could include stable patient follow-up and rehabilitation.

When asked about future recommendations, a few patients suggested an ability to see/contact the ERP after their assessment and/or between routine rheumatology appointments for additional follow-up care and information. A few ERPs also recommended the option of additional follow-up with patients. The vast majority of patients indicated they would not change anything about their care.

Discussion

This research is the first known study to explore patient, rheumatologist, and ERP perspectives on the integration of ACPAC-trained ERPs in a triage role in Canadian rheumatology clinics. Results suggest that ACPAC-trained ERPs were effectively able to reduce wait-times to rheumatology care, diagnosis, and treatment for patients with IA. Improved clinical efficiency was widely reported by all participant groups, as ERP history-taking, joint assessment, and lab and imaging orders appeared to reduce the length of time required by the rheumatologist at the first appointment, and the number of visits required to diagnose/treat patients. Finally, feedback on the type and quality of care received suggests ERPs added value to the rheumatology model of care by providing information and resources that would otherwise have not been provided.

Results compare favorably with research exploring the impact of integrating ACPAC-trained ERPs into MSK models of care. When placed in a range of inter-professional settings, rheumatologists, clinicians, and administrators found ERPs to be clinically competent, effective at triaging urgent patients, reducing wait-times, and improving clinical efficiency by reducing multiple patient visits.[27] Similarly, previous assessments of patient satisfaction with ERPs show high satisfaction with the quality of care and wait-times.[28]

Lack of administrative support/buy-in from clinical staff and regular communication between rheumatologists and ERPs were raised as barriers to optimal implementation. It is not uncommon for ERPs to encounter barriers related to role recognition and acceptance by health care practitioners, as professional culture and inter-professional competition can affect successful integration in clinical practice.[27] Research on optimal features of MSK triage identifies multidisciplinary support as critical for efficient patient triage.[29] Effective teamwork requires shared goals and ongoing collaboration, participation, conflict resolution, and support for innovation,[15,30] highlighting the importance of engaging stakeholders, including administrative personnel, in the integration of new team members into clinical practice. Training as a team, strategic planning, and identifying roles/responsibilities are recommended to remove barriers and promote collaboration.[16]

While opinions differed on the optimal placement of ERPs for patient triage (primary vs specialty care) our findings suggest placement in specialty care as both effective and appropriate. Although primary care settings may be more appropriate for the management of patients with osteoarthritis and MSK conditions that do not require specialty care, triage for IA in settings where IA is rare may under-utilize ERP resources.

Although ACPAC-trained ERPs were used solely for triage in this research, they are highly trained professionals who could work within a broader capacity in rheumatology and other clinical settings. Research exploring ERP utilization for stable patient follow-up in rheumatology settings and in novel roles that offer comprehensive and holistic care to patients (education, rehab, co-morbidity management, etc.) is recommended. Research is also needed to assess the costs of integrating ERPs within a publicly funded health care system.

The following study limitations apply: (I) research was conducted as a short-term (9-month) pilot initiative; (II) rheumatologists participating in this research did so voluntarily and may have greater acceptance/desire to work with ERPs, or an enhanced willingness to innovate practice;

(III) patients participating in a qualitative interview did so voluntarily, which may select for positive experience; (IV) the need to re-consent patients for qualitative research at each clinical site delayed interviews by 1–3 months, potentially leading to recall bias; (V) all patients interviewed were female, as consent forms from contacted males were not returned within the established timeframe of 4 months post-intervention; (VI) including two interviews for two participating ERPs may have biased the results towards their perspectives; (VII) findings may only be applicable within a Canadian setting. In addition, the introductory questions posed to rheumatologists, ERPs and patients indicating that we were exploring how the project might have reduced rheumatology wait times may have biased the results. However, improvements in access to care (wait times) compared to usual care are substantiated by the quantitative results of this study published elsewhere.[22]

Conclusion

With specialized training in arthritis care and management, data suggest ACPAC-trained ERPs were able to fill an important role within the medical system by working closely with rheumatologists to ensure patients receive optimal care. Findings support the integration of ACPAC-trained ERPs working within a triage role in community and hospital-based rheumatology settings. These results may have implications nationally and internationally for impacting the delivery of arthritis care. Future research is needed to explore the expansion of ERP roles to include stable-patient follow-up within specialty care, and the optimal placement of ERPs within primary and specialty care.

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Disclosure

The authors report no conflicts of interest in this work.

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