Models of Care: The International Perspective

By Professor Anthony D. Woolf, BSc, MBBS, FRCP

usculoskeletal conditions have a major impact on individuals and society, affecting most people at some point in their lives. They are the greatest cause of disability in most parts of the world–rich and poor.¹ Their burden is increasing with the aging of the population and also with increases in sedentary lifestyles, obesity and injuries through sports and occupation. Good musculoskeletal health allows people to be physically active, to live independently, and to lead productive lives. There is a compelling case for investing in musculoskeletal health and the effective management of musculoskeletal conditions using treatments that will prevent disability. Despite this, musculoskeletal conditions are seldom a priority and the knowledge we have is not implemented effectively.

A call for action has been made by the Global Alliance for Musculoskeletal Health that requires actions at all levelsby the public and patients, public health, community care and secondary care as well as by policy makers. It is the responsibility of all of us. The recent WHO Europe Noncommunicable Disease (NCD) Strategy² recognizes the importance of investing in musculoskeletal health and preventing musculoskeletal conditions where possible through good nutrition, avoiding obesity, preventing injuries and keeping physically active. The importance of mobility is now being recognized for active healthy aging.³ People must also have access to appropriate and timely management that supports them to self-manage their conditions, as well as ensuring they have access to appropriate treatment. These recent changes in priority are not yet reflected in policies. and there is a lack of services to appropriately manage these problems in most parts of the globe.

People need to receive the right care in the right place at the right time to ensure they optimize their outcomes. Such person-centred care needs all the expertise to be brought together to work in an integrated way, following clear pathways of care that are explicit about everyone's role from the patient, and primary care through to secondary care. Such models of care provide guidance of what works and how to implement it, streamlining the pathways to avoid people entering a healthcare maze. It requires new ways of working and improving the capabilities of parts of the workforce. Initiatives are happening across the globe to achieve this.

This issue of the *CRAJ* highlights the commendable work in Canada to overcome these challenges by providing practical solutions. Projects are also underway in other countries such as Sweden, the UK, Australia, and Kenya to develop and implement person-centred models of care, in particular for common musculoskeletal conditions.⁴⁻⁹ Digital approaches also need to be used to share data and enable people in isolated communities to be supported. Core data sets for both clinical use and to measure health systems are needed and must be able to support economic evaluation.

Most importantly, we need to share the challenges and the solutions that have been found to improve care so we can avoid duplication. We need flexible systems and services to enable rapid adoption and implementation of advances in knowledge. We as clinicians have to be prepared to adapt to ensure we meet the needs and expectations of people with arthritis and other musculoskeletal conditions. The implementation of models of care that have been developed by the community for the community is a good way of achieving this.

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Minister of Health

Ministre de la Santé

Ottawa, Canada K1A 0K9

Message from the Minister of Health Arthritis Alliance of Canada

Arthritis affects around 5 million Canadians. The joint stiffness and swelling it causes can make it very painful to move and can substantially reduce one's quality of life. Seniors are particularly affected by this condition; it is estimated that a third of senior men and half of senior women live with arthritis. As the population ages and the prevalence of arthritis increases, it has become more important than ever to find solutions to prevent and treat this disorder.

The Arthritis Alliance of Canada has been a leading voice in this area. Through collaborative research and advocacy, the Alliance members—health care professionals, researchers, funding agencies, governments, charities, industry partners, and patient groups—have demonstrated their steadfast commitment to improving the lives of Canadians living with arthritis.

The Government of Canada shares this commitment. Through the Canadian Institutes of Health Research, we invest approximately \$20 million per year in arthritis research. While we have yet to find a cure, we continue to make progress in this field and have discovered a number of behaviours that can help to reduce symptoms in many people. These include regular moderate-intensity physical activity, maintaining a healthy weight, not smoking, avoiding alcohol, and eating a healthy diet that is low in sugar.

On behalf of the Government of Canada, I congratulate the Alliance and its members on developing innovative models of care for arthritis, and on successfully publishing those results in *The Journal of the Canadian Rheumatology Association*. It is my sincere hope that these models of care will take us a few steps closer to a world where we can all live free of the pain of arthritis.

The Honourable Ginette Petitpas Taylor, P.C., M.P.



About the Arthritis Alliance of Canada

By Vandana Ahluwalia, MD, FRCPC; Dianne Mosher, MD, FRCPC; and Michel Zummer, MD, FRCPC

ans and is the leading cause of workplace disability. From the young to the elderly, one in eight Canadians is forced to live with one, or more, of the 100 different types of arthritic conditions. It is estimated that by the year 2040, one in four Canadian lives will be affected by arthritis.

The Arthritis Alliance of Canada (AAC) was formed in 2002 to improve the lives of Canadians with arthritis. The AAC brings together arthritis healthcare professionals, researchers, funding agencies, governments, voluntary sector agencies, industry and—most importantly—representatives from arthritis patient organizations from across Canada.

Through consultations with a national network, the AAC has designed and developed a Models of Care framework, with practical clinical tools that can be used by clinicians in their daily practice. Our work has included six specific initiatives over the past five years:

- 1) A Tool for Developing and Evaluating Models of Care
- 2) Pan-Canadian Approach to Inflammatory Arthritis Models of Care

- 3) Inflammatory Arthritis Care Map and Toolkit
- 4) Inflammatory Arthritis System-Level Performance Measures
- 5) The Osteoarthritis Clinical Assessment Tool
- 6) The Rheumatoid Arthritis Core Clinical Dataset (in collaboration with the CRA)

We invite you to learn more about the positive results of our efforts in the "Models of Care in Action" section of this issue. We believe these successes and best practices need to be expanded and implemented across Canada. This will help to ensure that Canadians affected by arthritis receive a timely diagnosis and appropriate treatment so they can remain productive members of their families and communities. Our ultimate goal is to improve the lives of Canadians living with arthritis.

Dr. Vandana Ahluwalia, former Corporate Chief of Rheumatology, William Osler Health System, Brampton, ON

Dr. Dianne Mosher, Professor of Medicine, Division Head, Rheumatology, University of Calgary, Calgary, AB

Dr. Michel Zummer, Associate Professor, Université de Montréal; Rheumatologist, CH Maisonneuve-Rosemont, Montréal, QC

The AAC and CRA: Working Better Together

By Joanne Homik, MD, FRCPC; Christine Charnock; and Cheryl Barnabe, MD, FRCPC

s a Member Organization of the Arthritis Alliance of Canada (AAC), the CRA and many of its members have contributed research data, experience and expertise to champion the efficient and effective delivery of inflammatory arthritis care in Canada.

CRA members have been balancing evidence and knowledge with the realities of limited human resources in rheumatology in Canada. Beginning with the development of a business case led by Drs. Bombardier, Hawker and Mosher, the magnitude of the growing burden of arthritis and how it could be mitigated by awareness, education, and future interventions was laid out. This created the pathway for a national framework to improve arthritis care in Canada, led by Drs. Bombardier, Mosher and Zummer, through early diagnosis and targeted treatment. Drs. Ahluwalia, Mosher and Zummer developed a toolkit and supporting documentation for the pan-Canadian Models of Care. CRA members from across the nation are now employing these new models of care to ensure the optimal delivery of arthritis care.

The CRA and AAC collaboration is also focused on ensuring quality of rheumatology care in Canada. Led by Dr. Claire Barber and pertinent to the activities of the CRA's Optimal Care Committee, system-level performance measures for inflammatory arthritis have been developed. These measures can be used to reflect the impact of system organization and structure on processes that contribute to care outcomes. Performance measures and quality indicators at the individual patient-provider level are in development, and will provide quality assurance data to inform practice improvement.

Through these collaborative activities, the CRA and AAC fulfill their mandates, and ensure the delivery of high-quality and timely rheumatology care across Canada.

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Ms. Christine Charnock, former Chief Executive Officer, Canadian Rheumatology Association, Newmarket, ON

Dr. Cheryl Barnabe, Associate Professor, Rheumatologist, University of Calgary, Calgary, AB

A Call to Action:

New Models of Care in Inflammatory Arthritis and Osteoarthritis

By Michel Zummer, MD, FRCPC; and Gillian Hawker, MD, MSc, FRCPC

In 2012, the Arthritis Alliance of Canada (AAC) decided to prioritize the development of a framework for models of care for arthritis. The overarching goal was to define a care path for people presenting with musculoskeletal symptoms. The first step was to create the Tool for Developing and Evaluating Models of Care (2012) to validate the components of a proposed Model of Care.

More than 150 stakeholders collaborated to produce Apan-Canadian Approach to Inflammatory Arthritis Models of Care (2014). The six key elements of the framework are shown in the figure below (adapted from the Ontario Rheumatology Association [ORA] Rheumatology Model of Care Framework).

Efforts were next directed at disseminating the model amongst the various stakeholders to document and tailor the components that would be adopted. Quality measurement projects have also been initiated.

Initially developed for inflammatory arthritis, other musculoskeletal conditions including osteoarthritis (OA) were subsequently integrated into the model to expand its applicability. Osteoarthritis is the most common type of arthritis, with a substantial societal burden. Barriers to optimal OA diagnosis and treatment include the societal belief that OA reflects normal aging, and the high co-prevalence of OA

with other chronic conditions, which represent competing demands and make treatment challenging.

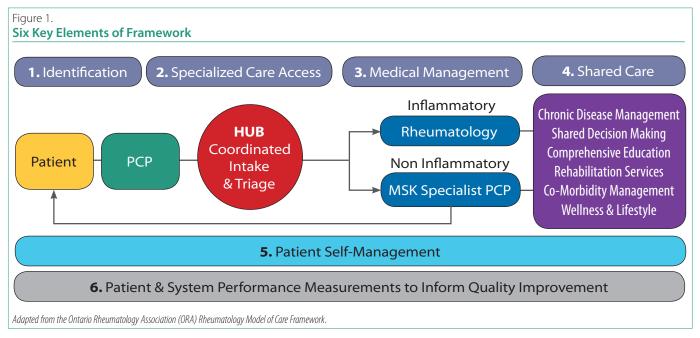
Recognizing these barriers and the need to do better for OA patients, a partnership was established between the AAC, the College of Family Physicians of Canada (CFPC) and the Centre for Effective Practice to integrate previously identified standards of OA prevention and management into primary care. A toolkit for primary care providers was developed to assist family physicians and other healthcare providers to effectively identify, assess, diagnose and manage OA. The Tool is available at arthritisalliance.ca/en/osteo-arthritis-toolbox.

Work is ongoing to increase awareness of the tool and to evaluate strategies for its effective and efficient implementation into primary care.

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Dr. Gillian Hawker, Sir John and Lady Eaton Professor, Department of Medicine, Division of Rheumatology, University of Toronto, Toronto, ON

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Models of Care in Action: Implementation into Practice

1) Identification

Patients and the Primary Care Provider

A New Patient Charter Outlines Arthritis Patients' Rights and Responsibilities

By Dawn P. Richards, PhD; Linda Wilhelm; and Laurie Proulx

he Canadian Arthritis Patient Alliance (CAPA) undertook a grassroots campaign in 2014 to update the Canadian Arthritis Patient Bill of Rights.¹ The goal was to bring new life to this important document, which largely served as an advocacy piece, and to emphasize the key role of arthritis patients in recognizing symptoms and accessing care.²

The Arthritis Patient Charter was a collaborative effort spearheaded by CAPA with input and feedback from over 730 community stakeholders from across Canada. From its initial draft to its final inception, the Arthritis Patient Charter took only eight months to complete, a testament to the Canadian arthritis community's enthusiasm and ability to mobilize its resources.

The Arthritis Patient Charter is available at CAPA's website (arthritispatient.ca/projects/arthritis-patient-charter/) in English and French, in an easily accessible format.³

Dr. Dawn P. Richards, PhD, Vice President, CAPA, Toronto, ON

Ms. Linda Wilhelm, President, CAPA, Midlands, Kings Country, NB

Ms. Laurie Proulx, 2nd Vice President, CAPA, Ottawa, ON

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The Patient's Perspective

Patient Experiences of Rheumatoid Arthritis Models of Care: An International Survey

By Cheryl Koehn

n 2016, Arthritis Consumer Experts led the formation of a global network of 18 patient organizations working on behalf of people living with rheumatoid arthritis (RA). To complement the Arthritis Alliance of Canada (AAC) Inflammatory Arthritis Models of Care (IA MOC) work, the network's first project was an online survey aimed at uncovering RA Models of Care (RA MOC) gaps by surveying patients living with the disease.

The survey, which was the first crowd-sourced research of its kind, was conducted in Canada and 24 other countries from March-June 2017. Questions focused on five domains of the AAC's own IA MOC work: 1) patients recognize symptoms and seek care; 2) access to a specialist; 3) medical management; 4) shared chare; and 5) patient self-management.

Several RA MOC gaps were identified among the 2,690 respondents, including:

- 51% reported a delay of 4-6 months to over 2 years from symptom onset to receiving an RA diagnosis;
- 93% reported they helped their rheumatologist diagnose

their RA through their description of symptoms; only 57% reported having a thorough joint and skeletal system examination;

- 58% were currently treated with methotrexate only;
- 30% said it took from 4 months to "never" for an effectiveness review of their first initiated medication;
- Approximately half lacked knowledge when describing their current treatment as biological or not;
- 14-45% needed more disease information or would like to talk with other patients or their rheumatologist about their RA;
- 82% and 46% reported their main source of RA information was through internet searches or social networks, respectively.

These survey results will guide the Global RA Network's development of pan-country and specific country initiatives to work towards closing RA MOC gaps at the patient level. For more information, please visit *globalranetwork.org*.

Ms. Cheryl Koehn, President, Arthritis Consumer Experts, Vancouver BC, on behalf of the Global RA Network

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Successfully Implementing MOCs in Primary Care: The OA Tool for Family Practice

By The College of Family Physicians of Canada

n evidence-based osteoarthritis (OA) toolkit for use in primary care was recently launched in September 2017 to help close the knowledge to practice gap for OA care. This toolkit was a collaborative effort between the Arthritis Alliance of Canada, the College of Family Physicians of Canada, and the Centre for Effective Practice. It includes specific recommendations on non-pharmacologic and pharmacologic therapies as well as resources to promote patient self-care.

The bilingual toolkit is available at www.arthritisalliance. ca/en/osteoarthritis-toolbox. By November 2017, the toolkit had been provided to over 30 AAC member organizations and their communities. Promotional efforts to widely dis-

seminate the tool included an Internet, email and social media campaign. In the first three months, the toolkit was downloaded by more than 1,200 users and there have been thousands of webpage views and Twitter impressions.

Future dissemination efforts include conference exhibits and workshops, such as the Family Medicine Forum (fmf. cfpc.ca). We are also developing an OA-centred eLearning module for launch in summer 2018–visit cfpc.ca/OATool/for regular updates.

The College of Family Physicians of Canada, Mississauga, ON

2) Specialized Care Access: Coordinated Intake and Triage Benefits of Provincial Triage Initiatives

CreaTe Central Access and Triage Improves Access to Care for Albertans

By Dianne Mosher, MD, FRCPC

reaTe central access and triage was instituted in Calgary in 2007 as part of an innovations grant through the government of Alberta. Central access and triage is a single intake point for rheumatology referrals at the University of Calgary serving a population of approximately 2 million people in Southern Alberta. Since its inception in 2007, over 65,000 patients have been triaged and we continue to meet the Canadian Wait Time Alliance benchmark for early inflammatory arthritis of 4 weeks.

Nineteen rheumatologists are part of this program. The triage nurse reviews all referrals, prioritizes the referral and facilitates appointments to the first available provider. All referrals are entered and tracked in a database. Specialized clinics were established to expedite the care of more urgent patients. Referrals that are not accepted or where the triage category is unclear are reviewed by a physician.

The objective is to manage our wait list more effectively by using one central intake, eliminating duplicate referrals and prioritizing the most urgent patients first. A study by Hazlewood¹ showed that at two years, the variability of wait times for rheumatologists decreased, wait times for urgent and moderate referrals were reduced, the quality of referrals improved, and there were no duplicate referrals. At seven years follow up, wait times for urgent and moderate referrals were controlled despite a growing population.

Today we receive 500-600 referrals a month and we have a wait list of over 1,200 patients.

Capacity issues are being addressed by Stable Rheumatoid Arthritis clinics, a partnership with our primary care networks which provides telephone advice via a specialist link, and care pathways developed for gout and osteoarthritis (OA) incorporating the AAC-CFPC OA Tool. Key performance indicators have been developed for central intake to insure we are improving accessibility to rheumatology care for Albertans.²

Dr. Dianne Mosher, Professor of Medicine, Division Head, Rheumatology, University of Calgary, Calgary, AB

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Strategic Clinical Networks

By Dianne Mosher, MD, FRCPC; and Joanne Homik, MD, FRCPC

lberta's 15 Strategic Clinical Networks (SCNs) were created to engage healthcare workers, patients, researchers and administrators to find new and innovative ways to deliver care and provide improved clinical outcomes and better quality care with demonstrated cost effectiveness.

The Bone and Joint Health Strategic Clinical Network (BJH SCN) is Alberta's primary vehicle for provincial bone and joint strategies that aim to keep Albertans healthy, provide high-quality care when they are sick, ensure they have access to care when they need it, and improve their journey through the health system. In Alberta, someone enters a doctor's office every 60 seconds seeking treatment for a bone or joint problem. This rate of demand will only increase as Alberta's population grows, ages and lives longer. The BJH SCN will help manage and reduce the impact of bone and joint health issues on our system while improving patient care.

Key successes include a reduction in hospital stay for hip

and knee replacement from 4.7 to 3.8 days, the introduction of 13 physiotherapy clinics delivering the GLA:D program (Good Living with osteoArthritis: Denmark), and screening 14,455 Albertans with signal fracture for osteoporosis.

The Arthritis Working Group of the SCN has identified two key factors for improving care for patients suffering from Inflammatory Arthritis (IA) in Alberta: (1) increase capacity for care, and (2) decrease disparity in clinical care and outcomes. Both were addressed in a shared care model for IA and an accompanying measurement framework. Presently three successful models are being evaluated for key learnings: (1) The nurse-led clinical team at South Health Campus; (2) On-TRAAC program in Edmonton; and (3) Telemedicine program in Pincher Creek. These clinics provide exemplary cases of shared care that should be replicated to improve access and reduce disparities.

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Extended-Role Practitioners Improve Access to Care for Ontarians

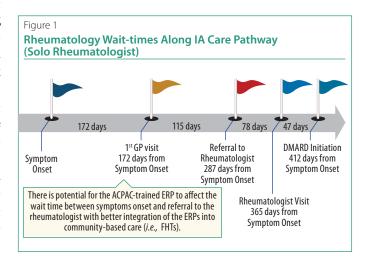
By Katie Lundon, BSc (PT), MSc, PhD; Vandana Ahluwalia, MD, FRCPC; and Rachel Shupak, MD, FRCPC

Practitioner in Arthritis Care (ACPAC) Program¹ (acpacprogram.ca) has successfully graduated 69 extended-role practitioners (ERPs) practising across Canada. It is an Ontario-based, formal, post-licensure training program for appropriately chosen health care providers already experienced in arthritis care that ensures acquisition of the advanced skills and knowledge necessary to support the development of extended practice roles.

Utilization of ACPAC ERPs in interprofessional sharedcare models of arthritis management has optimized scarce human health resources in rheumatology and has specifically achieved success at the system level as follows:

 Excellent agreement between an ACPAC-trained ERP and rheumatologist in independently determining inflammatory arthritis (IA) vs non-inflammatory disease, and improved access to rheumatologist care with a 40% reduction in time-to-treatment decision.²

- Centralized paper triage of rheumatology referrals by an ACPAC ERP reduced wait times for patients with suspected IA by more than 50% (15.5 days) compared to the traditional rheumatologist model of care (33.8 days).³
- Triage by an ACPAC ERP resulted in a high number of patients with suspected IA/connective tissue disease being correctly prioritized for a rheumatology consultation with wait times decreased to below the provincial median.⁴



In summary, an ACPAC-trained and experienced ERP can shorten the time-to-rheumatologist assessment (Figure 1) allowing an earlier diagnosis and treatment decision for patients with IA.² ACPAC ERPs, with some evolution in policy, could plausibly be even better positioned at the community level (e.g., Family Health Team) to identify and triage patients with suspected IA for expedited referral to a rheumatologist (Figure 1).

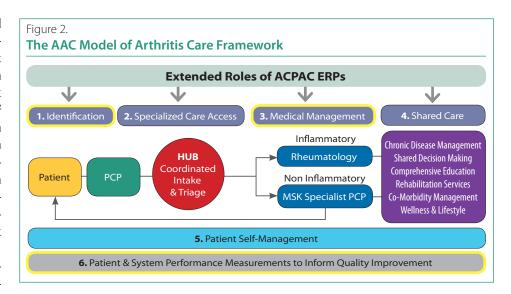
A trained ERP can be positioned at multiple points to support identification, access, medi-

cal management and shared care in accordance with the Arthritis Alliance of Canada (AAC) model of arthritis care framework (Figure 2).

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Rheumatology Nurses Improve Access to Care in British Columbia

By Michelle Teo, MD, FRCPC

n 2011, BC rheumatologists were awarded funds for integration of nurses into patient care. From that, the Multidisciplinary Conference fee schedule ("Nursing code" as we affectionately refer to it) was born. The "Nursing code," which can be billed every six months per patient, allows a rheumatologist to hire a Licensed Practical Nurse (LPN) or Registered Nurse (RN) to support the management of patients with inflammatory arthritis. The nurses provide a wide variety of services to patients, including disease and medication counselling, methotrexate and biologic injection training, vaccine administration and tuberculosis skin testing.

Rheumatology nurses not only allow us to provide enhanced care to our patients, but can also improve access

to care in underserviced areas. Some nurses work in an interdisciplinary care model, where side by side with the rheumatologist they provide care for new and follow-up patients. This approach has improved patient access by reducing wait times for new referrals and has allowed follow-up patients to be seen more promptly when needed.

During 2016-2017, 53 of the 86 rheumatologists in BC used the "Nursing code," with an estimated 55 rheumatology nurses employed across the province. We celebrate the success of this programme and it is with excitement that we enter this new era, where established rheumatologists and new graduates alike realize the power of integrating allied health, such as nursing, into the modern day rheumatology practice.

Dr. Michelle Teo, Rheumatologist, Balfour Medical Clinic, Penticton, BC; Clinical Instructor, Department of Medicine, University of British Columbia, Vancouver, BC

Family Physicians with Extended Scope of Practice Improve Access to Care in Nova Scotia

By Evelyn Sutton, MD, FRCPC, FACP

n response to an acute shortage of rheumatologists in Nova Scotia in 2011, an innovative new Collaborative Care Clinic was launched in Halifax to expand access and services for patients with inflammatory arthritis. The clinic was based on a multidisciplinary model of care tailored to meet regional needs. A local family physician completed a six-month training program in rheumatology and then worked alongside a team of experienced rheumatology nurses, physiotherapists and a rheumatologist in the Collaborative Care Clinic.

After the clinic had been operational for three years, an independent research firm was contracted to evaluate the strengths and weaknesses of the model. The most important lesson learned was that success relied on having buy-in from everyone involved in the clinic. Booking clerks had not been included in the initial discussions when setting up the clinic, and the result was that they tended to book stable inflammatory arthritis patients with the rheumatol-

ogist rather than with the collaborative care team, thinking this was 'preferred.' Once they understood the rationale for the triage model and were exposed to the positive ratings from patient satisfaction questionnaires, clinic bookings improved dramatically.

The model was expanded to Cape Breton in 2015, where two family physicians were trained to work alongside a rheumatologist and one continues in this role. A quality assessment conducted after just one year showed impressive improvements in wait times and better utilization of scarce rheumatology resources.

A prospective study is now underway to examine patient satisfaction, disease outcomes, and patient self-perception of pain management among patients cared for within the Collaborative Care Clinic compared to those followed in usual care (*i.e.*, by a rheumatologist who works in a hospital outpatient clinic).

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 Hickcox S. Rheumatology Care Re-designed, Models of Care in Action: You can do it too! Workshop held at the 2017 Canadian Rheumatology Association annual meeting. Ottawa. 2017.

	2014	2015	Impact
Non-urgent wait list	12 months	2 months	243 new patient visits
Urgent referrals	Sent to Halifax - 5 hour travel time	Seen locally by Rheumatologist	Access to urgent care for remote communities
Follow-up care	12 months +	Every 6 months with GP	Stable HAQ scores

HAQ—Health Assessment Questionnaire

Videoconferencing and Interprofessional Support Can Improve Access to Care in Saskatchewan

By Regina Taylor-Gjevre, MSc, MD, FRCPC; Bindu Nair, MSc, MD, FRCPC; Brenna Bath, BScPT, MSc, PhD; Udoka Okpalauwaekwe, MD, MPH; Meenu Sharma, MSc; Erika Penz, MD, MSc, FRCPC; Catherine Trask, PhD; and Samuel Alan Stewart, PhD

relatively high proportion of the Saskatchewan population resides in smaller communities and rural areas. Travel to access rheumatology follow-up and care for people with rheumatoid arthritis (RA) in these areas may be challenging. There have been several reports of utilization of telehealth in the provision of rheumatology consultation. Our group undertook a study supported with research funding from the Canadian Initiative for Outcomes in Rheumatology care (CIORA), to evaluate whether RA patients followed longitudinally, using videoconferencing and interprofessional care support, have comparable disease control to those followed in traditional in-person rheumatology clinics.

A total of 85 RA patients were allocated to either traditional in-person rheumatology follow-up or video-confer-

enced follow-up with urban-based rheumatologists and rural in-person physical therapist examiners. Follow-up was every three months for nine months. Outcome measures included disease activity metrics (DAS-28CRP, RA disease activity index (RADAI)), modified health assessment questionnaire (mHAQ), quality of life (EQ5D), and patient satisfaction (VSQ9).

We found no evidence of a difference in effectiveness between interprofessional videoconferencing care and traditional rheumatology clinic for both provision of effective follow-up care and patient satisfaction for established RA patients. High drop-out rates in both groups reinforced the need for consideration of patients' needs and preferences in developing models of care. While use of videoconferencing/telehealth technologies may be a distinct advantage for some patients, there may be loss of travel-related auxiliary benefits for others.

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Dr. Catherine Trask, Canadian Centre for Health and Safety in Agriculture, University of Saskatchewan, Saskatoon, SK

Dr. Samuel Alan Stewart, Medical Informatics, Department of Community Health & Epidemiology, Dalhousie University, Halifax, NS

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3) Medical Management

Integrating EMRs into Rheumatology Practices

By Vandana Ahluwalia, MD, FRCPC; and Sandra Couto, BSc, BSc Pharm

hysicians continue to implement electronic medical records (EMR) into their practice with the aim of improving the quality of care delivered and work flow efficiency. The integration of EMR solutions into clinical practices has been supported by several provincial agencies. In Ontario, OntarioMD was established to help community physicians select, implement and adopt EMRs.

EMRs continue to revolutionize patient care. Canada Health Infoway reports that 79% of Canadian specialists are currently using EMRs.¹ Rheumatology adoption is slightly

lower at 70% with the majority of adoption in Ontario.

It was a daunting task when Ontario physicians were encouraged to transition to EMRs. The certified EMR platforms were created to support primary care physicians and were not fully prepared to support specialists' needs. In the absence of essential tools and functionality for the rheumatology community, the Ontario Rheumatology Association (ORA) established an EMR subcommittee to identify the needs of the rheumatology community and implement rheumatology-specific tools within existing EMR platforms. The tools that were created included clinical documentation Smart forms (with embedded joint counters, disease activity calculators, PROs and labs), HAQ, BASDAI and BAS-FI questionnaires, and OBRI Registry Data collection forms.

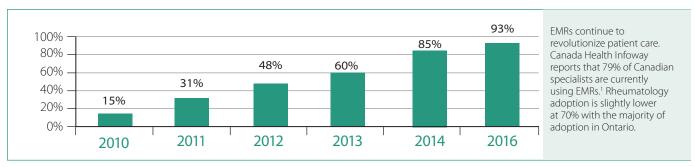


Figure 1: Increasing use of EMRs by Ontario community rheumatologists: 2010 to 2016.

These forms are available to rheumatologists in other provinces if they are using one of the Ontario specialty-specific EMR platforms (Accuro, Telus-PS or Oscar).

Many physicians report that EMRs have increased their workload, that they are doing more data entry, and that they feel more physician burnout due to increasing requirements for documentation. Some even say that the EMR has altered the physician-patient encounter by reducing eye contact and not sensing the patient's body language. However, these challenges may be overcome by optimizing the office digital space and making the EMR part of routine practice in a way that enhances the patient-physician relationship. Rheumatologists have integrated kiosks to capture patient-reported outcomes in waiting rooms, and others have developed new EMR tools to facilitate documentation of patient care treatment plans that can be shared jointly with their patients. The ORA recently developed a customized Inflammatory Arthritis Care Plan to support patient self-management. The tool is being integrated into the Accuro EMR platform and will be piloted in a few Ontario rheumatology sites.

With the increased availability and adoption of EMR platforms, data is more readily available to users than ever before. Patients are accessing their personal healthcare in-

formation more easily—they can look up their blood work results online, engage in virtual visits through rheumatology telehealth, and in some areas, book their own appointments. Physicians can record and organize key clinical information, they can retrieve and edit it more easily, and with the emergence of individual dashboards, display and interpret data during patient encounters to help them make informed decisions that deliver improved patient care. To support this, the Arthritis Alliance of Canada² has developed a standardized rheumatology core dataset to be used in the EMR. With standardized data collection, measurement of comparative outcomes across users can be easily performed and collectively shared.

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Ms. Sandra Couto, OBRI, Director Partnerships & Stakeholder Relations, Toronto General Hospital Research Institute, Toronto, ON

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4) Shared Care

Ontario MedsCheck Program Integrates Pharmacists into Patient Care

By Carolyn Whiskin, RPh, BScPharm, NCMP

he Ontario Ministry of Health and Long-term Care funds a medication review for any Ontario resident who is taking three or more chronic disease medications. Known as the "MedsCheck Program," this consists of a one-on-one interview between the pharmacist and patient to review all prescription and non-prescription medications. A lifestyle assessment is also conducted to address smoking, alcohol, illicit drug use and exercise routine. At the end of the appointment, a complete list of all medications is provided to the patient and shared with their family physician, and any drug-therapy problems that are uncovered are shared with the prescribing physician.

Recognizing the opportunity of MedsCheck for arthritis patients, a joint committee of the Ontario Pharmacists Association and the Ontario Rheumatology Association was established. The goal was to identify how the MedsCheck

program could help provide an accurate medication profile for patients to share with their rheumatologist. One of the committee recommendations was to have the intake person at the rheumatologist's office request that patients book a MedsCheck appointment with their community pharmacist prior to their clinic appointment. The resulting medication list could then be faxed to the rheumatologist's office directly by the community pharmacy, and copies provided to the patient for distribution to any of their other health care providers.

A communication was subsequently distributed to every Ontario pharmacist and rheumatologist through their respective associations in an effort to maximize uptake of the MedsCheck program in rheumatology.

Ms. Carolyn Whiskin, Pharmacy Manager for Charlton Health, Hamilton, ON

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Patient Self-Care and Self-Management Resources

By Ms. Anne Lyddiatt

earching for and finding reliable sources of information on how to live with and manage arthritis can be a daunting task. This is especially true for newly or relatively newly diagnosed patients who are not yet familiar with terminology, treatments, what constitutes reasonable expectations, and how to recognize a "get rich quick" scheme with a "cure" for a disease still waiting for a cure to be discovered. With over 100 types of arthritis, how can a patient find the information pertinent to their condition?

Most Canadians are unable or unwilling to commit to the educational program on arthritis based on the Stanford model consisting of six weekly two-hour sessions. The need for accurate information is as great as ever, but the preference is for less structured and more easily available information. There can be differences in interpretation of self-care and self-management. Some patients and professionals regard self-care as looking after oneself and one's arthritis, while others feel self-management is how they manage their disease on a daily basis and self-care is a separate issue. When searching for resources, it is a good idea to search both terms.

Some excellent resources are available online including RheumInfo, Joint Health, the Canadian Arthritis Patient Alliance (CAPA) website and newsletters, and The Arthritis Society website, to name a few. The challenge is finding a way to reach people when they are newly diagnosed and desperate for the answers and help they can find on these reliable sites. It remains an ongoing challenge to ensure that people can access information to understand their arthritis and the need to follow their treatment plan to enjoy the best possible quality of life.

Ms. Anne Lyddiatt, National Trainer, Patient Partners, Ingersoll, ON

5) Performance Measurement

The First Canadian System-level Performance Measures for Inflammatory Arthritis

By Claire Barber, MD, PhD, FRCPC

hen the Arthritis Alliance of Canada (AAC) developed an approach to Models of Care for inflammatory arthritis (IA) in 2014, a critical component of implementing this approach was evaluation. At the time, there were no existing system-level performance measures for IA care. We therefore embarked on a study to develop a set of performance measures to evaluate models of care for IA at a system level.

Through multiple rounds of an online modified-Delphi process, we gained broad input from 50 arthritis stakeholders including rheumatologists, allied health professionals, persons living with arthritis, and researchers. Participants rated the validity, feasibility, relevance and likelihood of using a proposed set of performance measures, which were identified based on a systematic review of the literature. Six performance measures emerged for evaluating inflammatory arthritis care:

1) wait times for rheumatology consultation for patients with new onset IA;

- 2) percentage of IA patients seen by a rheumatologist;
- percentage of IA patients seen in yearly follow-up by a rheumatologist;
- 4) percentage of rheumatoid arthritis patients treated with a disease-modifying anti-rheumatic drug (DMARD);
- 5) time to DMARD therapy in patients with rheumatoid arthritis:
- 6) number of rheumatologists per capita.

This constitutes the first set of system-level performance measures for evaluating models of care in IA. These can serve as an aid for health care decision-makers to identify and prioritize areas for improvement, and to measure outcomes of health system changes whose goals are to improve the care of patients with IA.

Dr. Claire Barber, Assistant Professor, Rheumatologist, University of Calgary, Calgary, AB

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Barber CE, et al. Development of system-level performance measures for evaluation of models of care for inflammatory arthritis. J Rheumatol 2016; 43:530-40.

Core Clinical Data Set Supports High-quality Care for RA Patients in Canada

By Claire Barber, MD, PhD, FRCPC

ariability in clinical data collection has been identified as a barrier to quality measurement, since it creates challenges in terms of maintenance of complete patient records and monitoring the provision of care. The Arthritis Alliance of Canada (AAC) partnered with the Canadian Rheumatology Association (CRA) and individual investigators to develop a Canadian Rheumatoid Arthritis Core Clinical Dataset (CAN-RACCD) to encourage best practices and to facilitate future quality measurement efforts.

The CAN-RACCD was developed through a three-phase program that included an environmental scan to identify a candidate set of core data elements, stakeholder meetings to prioritize elements for inclusion, and a modified-Delphi process to finalize the core clinical dataset. Broad input was gained from 47 rheumatologists, people living with arthritis, and allied health providers from across Canada.

The CAN-RACCD includes 49 individual data elements across nine categories: (1) demographic; (2) timing - including dates of symptom onset, referral, first visit and diagnosis; (3) clinical data; (4) disease activity; (5) comorbidities; (6) smoking status; (7) patient-reported outcomes; (8) medications; and (9) laboratory and radiographic data

This is an important first step in standardizing measurement that will help improve the quality of care of people living with rheumatoid arthritis.

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Barber CEH, et al. Development of a Canadian core clinical dataset to support high quality care for rheumatoid arthritis patients in Canada. J Rheumatol 2017 Dec: 44(12):1813-22.

Knowledge Translation and Implementation

By Alexander Lo, MD, FRCPC; Shirley Chow, MD, FRCPC; Natasha Gakhal, MD, FRCPC; and Linda Li, BSc(PT), MSc, PhD

nowledge Translation (KT) is of critical importance to health research, as it has become clear that the creation of new knowledge often does not, on its own, lead to widespread implementation or impacts on health. KT is important in bridging the gap between research and practice so that patients can benefit optimally from advances in research evidence.

There exist various theories, approaches and models of KT. The Knowledge-to-Action Process Framework¹ is one model. Knowledge application is an important component that represents the "action" phase of the framework, which involves tailoring the knowledge product/tool for implementation, dissemination and quality improvement (QI).

The Model for Improvement is a practical QI approach that can be used to implement the Inflammatory Arthritis or Osteoarthritis Models of Care (MOCs) at the front line of clinical care. According to this model, sequential Plan-Do-Study-Act (PDSA) cycles are executed to guide specific improvement activities. By following a few step-by-step principles, health care providers can apply a QI assessment in their own clinical setting. These steps include performing a gap analysis of the current state to identify ways an individual's practice could be improved to better reflect a MOC.

The second step is to engage stakeholders and conduct a root cause analysis to understand the reasons for the gap in practice and the barriers to implementing the MOC in an individual setting. To understand the nature of the problem and identify the key drivers of the quality gap, such tools as fishbone diagrams, process maps and Pareto charts can be used. These root causes will be the targets of the QI intervention.

The third step is to implement a change to improve practice and to evaluate the effects of the change to identify what adjustments may be required to refine the process further. Multiple small-scale PDSA cycles are usually necessary to achieve gradual improvements over time.

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Dr. Linda Li, Professor, University of British Columbia; Senior Scientist, Arthritis Research Canada, Vancouver, BC

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Rheumatology Workforce in Canada

By Claire Barber, MD, PhD, FRCPC

he Arthritis Alliance of Canada's System Level Performance Measures were designed to evaluate models of care to ensure patients with inflammatory arthritis receive timely diagnosis and treatment. Central to ensuring timely care is making sure there are adequate numbers of rheumatologists for making an early diagnosis and starting appropriate treatment.

In 2015, the Canadian Rheumatology Association launched "Stand Up and Be Counted," a national workforce survey of rheumatologists across Canada. The results highlighted that there is a current shortage of rheumatologists across the country that may worsen over the next 10 years because a third of the workforce reported plans to retire in the near future.

Further analysis of the results of the survey will be published imminently in *The Journal of Clinical Rheumatology* and will describe factors associated with rheumatologists' clinical work hours and patient volumes.

Dr. Claire Barber, Assistant Professor, Rheumatologist, University of Calgary, Calgary, AB

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Barber CEH, et al. Stand Up and Be Counted: Measuring and Mapping the Rheumatology Workforce in Canada. J Rheumatol 2017; 44(2):248-57.

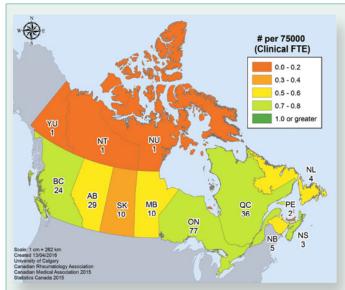


Figure 1. Distribution of Rheumatologists Across Canada

Map of Canada showing the number of FTE-practicing rheumatologists per 75,000 population and the number of FTE rheumatologists required to meet the target of 1:75,000 benchmark (superimposed provincial count). FTE were estimated based on the national median reported time allocated to clinics from all respondents of the 2015 Stand Up and Be Counted survey and used to adjust the 2015 Canadian Medical Association numbers of rheumatologists in each province.

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Economic Perspectives

By Elena Lopatina, MD, MSc; Deborah A. Marshall, PhD; Vandana Ahluwalia, MD, FRCPC; Stephanie Garner, MD, MSc; Hani El-Gabalawy, MD, FRCPC, FCAHS; Dianne Mosher, MD, FRCPC; and Carter Thorne, MD, FRCPC

he devastating consequences of inflammatory arthritis (IA) to individual patients and the healthcare system burden associated with the treatment of IA and productivity losses^{1,2} highlight the need to provide the right care to the right patient at the right time.³

Given the scarcity of healthcare resources and financial constraints,⁴ the efficiency of care (*i.e.*, optimal use of resources in achieving desired outcomes⁵) is an important aspect to consider.⁵⁻⁷ Models of care (MOCs) are one approach that is expected to improve accessibility, appropriateness, effectiveness, and safety of care for IA patients⁸ and, consequently, to improve patient outcomes and increase likelihood of remission⁹ and reduce the associated medical costs.¹⁰⁻¹³

From an economic perspective, there may be costs associated with the implementation and operation of MOCs (e.g., education and training of staff, ongoing funding for staff salaries), but this must be balanced against the benefits to patients in terms of improved outcomes and reduced health care costs associated with the management of patients with IA with lower disease activity. MOCs for IA patients thus have the potential to be cost-effective and possibly cost-saving.

The current evidence regarding the efficiency of MOCs for IA patients is limited, especially in local Canadian settings. To draw decision-makers' attention to and improve uptake of MOCs for arthritis patients, evidence on their efficiency is required. The Arthritis Alliance of Canada (AAC) is currently undertaking a cost consequences analysis of MOCs

for IA patients with a specific focus on the access to care element of MOCs for IA patients to demonstrate the benefits of implementing MOCs and explore their efficiency.

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Advocating for Change

By Kelly Lendvoy; and Janet Yale

his special issue of *The Canadian Rheumatology Association Journal* has been dedicated to highlighting the many projects and initiatives that have been undertaken by the Arthritis Alliance of Canada (AAC) and the rheumatology community in the last five years. These initiatives have also formed the basis for our advocacy efforts with policymakers across the country whose decisions today will impact patients' access to quality arthritis care in the years to come.

Our advocacy and awareness goals are to ensure arthritis is fully understood by our key external audiences, such as health care providers, government, employers and private health insurers, and compel them to engage and invest in our community's initiatives. To accomplish these goals, the AAC mobilizes and activates our members, providing them the tools and data to tell the arthritis story.

The AAC has developed guidelines to ensure our advocacy activities are effective and sustainable:

- Integrated with AAC awareness raising;
- Scaled to its capacity and resources;
- Opportunistic and leveraging the current political or policy environment;

- Appealing and relevant to its supporters and members; and
- Offering an opportunity to build government relations capacity of the organization and advocacy interest of AAC supporters and members.

As we move forward, the AAC will continue to leverage the wide range of expertise, capabilities and networks of its members from across Canada to provide evidence-based information to inform and support policies that improve the delivery of care to people with arthritis. Their ongoing work, both as individual organizations and in collaboration with other arthritis stakeholders, is essential to achieving the overall goals of mitigating the personal and societal burden of the more than 100 types of arthritis—the leading cause of pain and disability in Canada.

Mr. Kelly Lendvoy, Vice President, Communications and Public Affairs, Arthritis Consumer Experts, Vancouver, BC

Ms. Janet Yale, Chair of Board, Arthritis Alliance of Canada; President & Chief Executive Officer, Arthritis Society, Toronto, ON

Looking Ahead: The Future of Models of Care

By Vandana Ahluwalia, MD, FRCPC; Dianne Mosher, MD, FRCPC; Michel Zummer, MD, FRCPC; Michelle Teo, MD, FRCPC; Claire Barber, MD, PhD FRCPC; Cheryl Barnabe, MD, FRCPC; and Carter Thorne, MD, FRCPC

s a collaborative, the Arthritis Alliance of Canada and the Canadian Rheumatology Association are proposing innovations in models of care to respond to historical human health shortages, and to anticipate the next crisis that will impact accessibility to rheumatology care. By 2025, it is estimated that one third of Canadian rheumatologists will retire, coupled with an anticipated growth in patient volume driven by an aging population. With the knowledge of the impact of early diagnosis and treatment on outcomes in rheumatologic diseases, we must find alternative approaches to patient care.

Team-based models of care are a natural option for a special-ty with a long history of collaborating with allied health professionals including physiotherapists, occupational therapists and more recently, nurses. These models increase patient access, improve quality of care, and invigorate the clinic environment. These models take time and energy to develop, highlighting the need for peer-to-peer mentorship, opportunities to share experiences, and new/continued provincial and national support.

As highlighted in this edition of *CRAJ*, a diverse array of models of care has been successfully implemented throughout Canada. There is no "one size fits all" solution, and in the end, the most appropriate model is determined by the rheumatologist's style of practice, availability of allied health professionals and resources to support the model of care, and ultimately, the needs of the local community. Regardless of which model is utilized, patient and system outcome measures need to be collected, studied and analysed, to verify that patient needs are being met, and that a positive change occurs in our care delivery systems.

The adoption of quality of care measurement and monitoring of adherence to performance measures is in its infancy in rheu-

matology, but the future is bright with a new robust generation of rheumatologists in Canada. The awareness of the need to revolutionize patient care will drive this positive change.

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Acknowledgments

This section of the *CRAJ* on healthcare delivery and models of care, prepared by the Arthritis Alliance of Canada (AAC), undoubtedly showcases the tremendous work that has taken place in the development and implementation of models of care in Canada. The published work would not be possible without the efforts and support of many individuals and organizations across the country. The AAC Board

Chair, Co-chairs of all pillar committees and its members wish to express their great appreciation to all who contributed to the models of care work over the years and to this publication in the *CRAJ*.

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