



# Can Therapists with Advanced Rheumatology Training Identify Inflammatory Arthritis and Improve Access to Care? The Allied Health Rheumatology Triage (AHRT) Project

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# Disclosure

**Relevant relationships: Arthritis Society - therapists and research staff funded by the Ontario Ministry of Health and Long-term Care**

## **Steps taken to review and mitigate potential bias**

- Balanced by the broad range of partners and stakeholders in the project – 2 external partners (ORA, OBRI), 7 community rheumatologists, 2 external advanced practice therapists, consumers, multiple ethics submissions



## Objectives

- ▼ Describe a model to improve access to rheumatology care for people with IA/SARDs and identify ways to improve it in practice
- ▼ Identify strategies to improve your ability to identify inflammatory arthritis (IA) and systemic autoimmune rheumatic diseases (SARDs)
- ▼ Identify tools/resources to improve wait times for people with IA/SARDs



## Background

- Wait time to see a rheumatologist in Ontario is not acceptable: median 66 days (*Widdifield et al 2010*).
- Triage assessments of patients with ‘possible’ IA/SARD<sup>1</sup> may be a key strategy to expedite early access to rheumatologists.
- Triage model involving Arthritis Society ACPAC trained extended role practitioners (ERPs) working in a triage role in improving access to a rheumatologist for patients with IA/SARD

<sup>1</sup> IA=inflammatory arthritis; SARD=systemic autoimmune rheumatic disease

# The Allied Health Rheumatology Triage (AHRT) Model



## Who Participated?

	Inclusion Criteria	Exclusion Criteria
Rheumatologists	<p>ORA members willing to:</p> <ul style="list-style-type: none"><li>-provide space/and access to EMR</li><li>-sign data sharing agreement</li><li>-delegate labs/imaging</li><li>-attend orientation/training day</li></ul>	<p>current triage system in place</p>
Therapists	<ul style="list-style-type: none"><li>-OT/PT</li><li>-ACPAC graduate</li><li>-geographically matched to rheumatologists</li><li>-attend orientation/training day</li><li>-1 day orientation re office procedures, EMR access and shadowing rheumatologist</li></ul>	
Patients	<p>adults referred by family physician or nurse practitioner in the past month</p> <p>possible IA (gray zone patients) identified thru rheumatologist's paper triage</p>	<ul style="list-style-type: none"><li>-seen by a rheumatologist in past 5 yrs</li><li>-pre-existing OA, FM, IA, MSK, soft tissue rheumatism, mechanical LBP</li><li>-currently on DMARD</li><li>-referred for injection</li><li>-urgent referrals, second opinions</li><li>-referred by specialist or from emergency/hospital</li></ul>



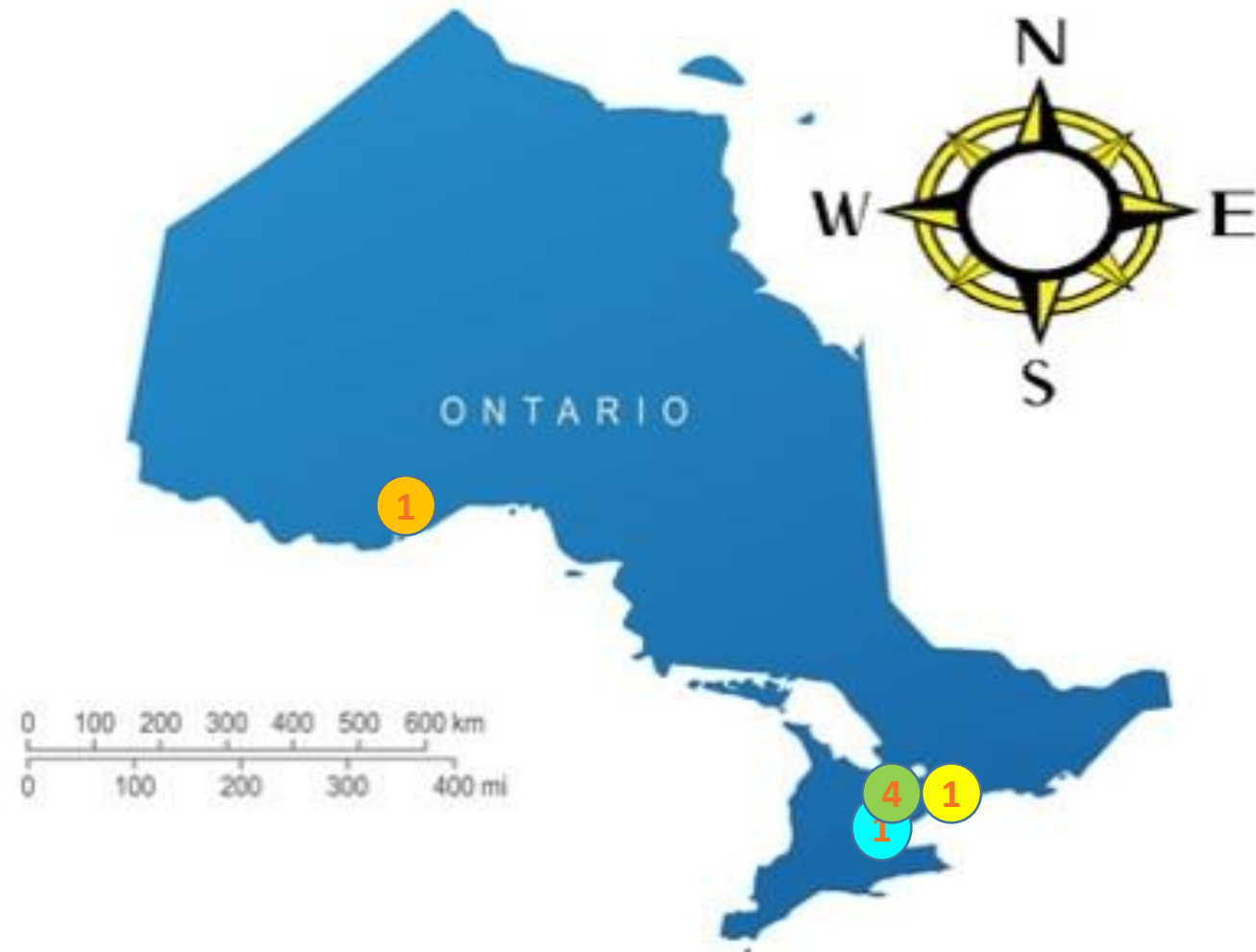
## Rheumatologists and ACPAC trained ERPs

Rheumatologist	TAS ACPAC Therapist	PT/OT	Location	Site
Mary Bell	Danielle McCormack	PT	Toronto	Sunnybrook
Andrew Chow	Mercedes Reeb	OT	Mississauga	Community
Marie Clements-Baker	Lynn Richards	OT	Kingston	Hotel Dieu
Sanjay Dixit	Sue MacQueen	PT	Burlington	Community
Art Karasik	Danielle McCormack	PT	Etobicoke	Community
Angela Montgomery	Mercedes Reeb	OT	Mississauga	Community
Irene Vasiliu	Anne MacLeod	PT	Thunder Bay	St. Joseph's Care Group



## AHRT Clinic Sites (n=7)

Thunder Bay - 1 site
Burlington - 1 site
Greater Toronto Area: <ul style="list-style-type: none"><li>• Mississauga - 2 sites</li><li>• Etobicoke - 1 site</li><li>• Leaside - 1 site</li></ul>
Kingston - 1 site







## The ERP Triage Intervention

- weekly clinic in a rheumatologist's office
- one visit
- ordered labs and imaging under medical directives
- Alberta Central Triage criteria used as a guide
- ‘when in doubt, refer’
- data entered into EMR by the ERP

ID# \_\_\_\_\_ Clinic ID \_\_\_\_\_ DOB \_\_\_\_\_ Gender \_\_\_\_\_

Referring Dx/Reason for Referral \_\_\_\_\_

Date of Assessment \_\_\_\_\_

Consent for Assessment

**HPI**

AM stiffness  < 30 min  ≥ 30 min  none  
Pain (0-10): \_\_\_\_\_ Sleep (0-10): \_\_\_\_\_  
Fatigue (0-10): \_\_\_\_\_ Patient Global (0-100): \_\_\_\_\_

Constitutional Features:  Yes  No

Systems Review:  none  fever  weight loss  headache  
 photophobia  sinus/otitis/tonsitis  nose  
 alopecia  photosensitivity  dry eyes/mouth  
 oral/nasal ulcers  nose bleeds  chest pain  SOB  
 cough  IBD symptoms  urethritis  psoriasis  rashes  
 nodules  skin thickening  Raynaud's

Lab: \_\_\_\_\_ Date Collected: \_\_\_\_\_  
CBC  normal  abnormal  
RF  positive  negative  
ANA  positive  negative  
ESR= \_\_\_\_\_  
CRP= \_\_\_\_\_

Imaging: \_\_\_\_\_ Date Collected: \_\_\_\_\_  
 Xray - H/W/F, etc  
 CT  
 MRI  
Other \_\_\_\_\_

**Physical Examination**  
BP: \_\_\_\_\_  
Skin & Nails  Normal  Abnormal  
Grip Strength Rt: /20  
Lr: /20  
Enthesitis  Positive  Negative  
Dactylitis  Positive  Negative

xTender  Swollen

**Impression (differential diagnosis) Plan**

Inflammatory Arthritis  Booked Priority  Yes  No  
 CTD  
 Non-inflammatory arthritis  
 Crystal (gout/ CPPD)  B/W ordered (medical directive)  
 Osteoarthritis/ Inflamm OA  x-ray ordered (medical directive)  
 Carpal Tunnel  Referral TAS  
 MSK  Referral non-TAS PT/OT/SW  
 Fibromyalgia/ Chronic Pain  Education  
 Other: \_\_\_\_\_

Signature: \_\_\_\_\_ Time (minutes): \_\_\_\_\_

ERP EMR Triage Form



## Alberta Central Triage Guidelines *(Hazlewood et al 2016)*

### Emergent (<24hrs)

Aggressive connective tissue disease

Systemic vasculitis

Temporal arteritis (giant cell arteritis)

- Patients with acute non-traumatic mono-arthritis - send to ER department for assessment

Page rheumatologist on call.

### Urgent (1-8 wks)

Early IA

Polyarthritis with functional impairment

Connective tissue disease which is active but not life threatening

Polymyalgia rheumatica

Gout - poorly controlled

### Semi Urgent (6-12months)

All other



## Other Triage Guidelines/Criteria/Tools

- ▼ **Emery Criteria** -  $\geq 3$  swollen joints, OR MTP/MCP involvement, OR morning stiffness  $\geq 30$  minutes (Emery et al, Ann Rheum Dis 2002;61:290-297) – primary care
- ▼ **Priority Referral Score:** Fitzgerald et al. Arthritis Care & Research Vol. 63, No. 2, February 2011, pp 231–239 – primary care
- ▼ **Early Inflammatory Arthritis (EIA) Tool:** Bell et al . BMC Musculoskeletal Disorders 2010, 11:50  
<http://www.biomedcentral.com/1471-2474/11/50> - public, self-report

## What were the Results?



## Evaluation

### **Intervention Group (prospective):**

Primary care referrals with possible IA (gray zone patients) seen by an ACPAC trained ERP working in a triage role in a weekly clinic in a rheumatologist's office

### **Usual Care Control Group (retrospective chart review):**

Patients referred in the year prior to study

Followed for 6 months post referral

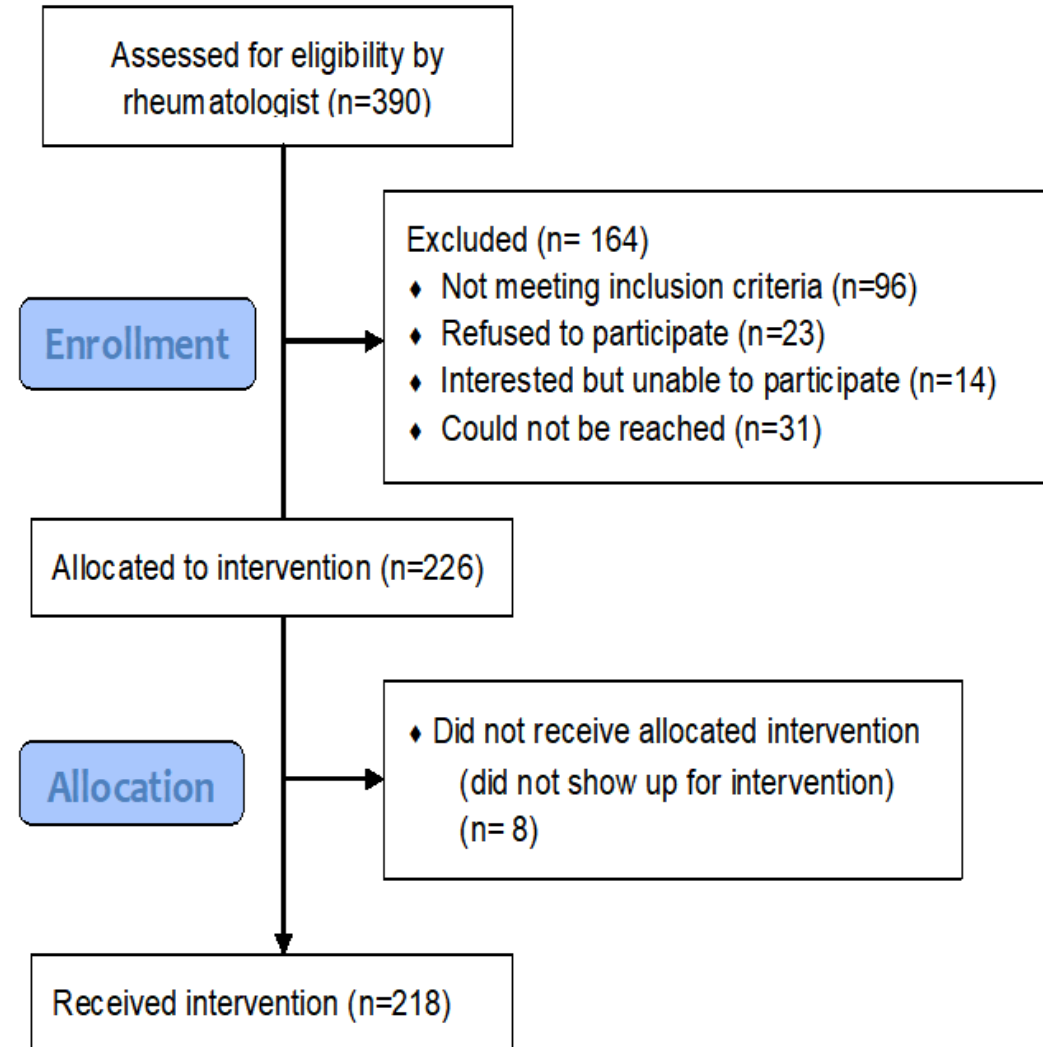


## System Level Outcome

- ▼ Wait time (time in days from date of primary care referral to rheumatologist consult)



## Study Recruitment





## Patient Demographics

	Intervention Group - 7 sites (n=218)	Control Group - 4 sites (n=331)
Referred by family doctor/NP (%)	94%	99.7%
Female (%)	70%*	72% <sup>1</sup>
Mean (SD) age (years)	52.7 (13.7)*	53.6 (16.4) <sup>1</sup>
*10 and <sup>1</sup> 25 missing due to lack of ethics approval		





## ERP Intervention/Referrals (n=218)

		n(%)
Blood work		168(77)
Imaging		120(55)
Arthritis Society		31(14)
Non-Arthritis Society PT/OT		5(2)
Education	Verbal, websites, resources	49(22)



## Triage Decisions

**ERP Clinical Impression:** IA/SARD 114/218(52%)

Expedited to see rheumatologist: 94/114(82%)



Can the ERP Identify IA/SARD?



## Identification of IA/SARD Comparing the ERP and Rheumatologist (n=177)

- ▼ If the ERP identified IA/SARD, they were correct **79%** of the time
- ▼ If the ERP did not identify IA/SARD, they were correct **59%** of the time



## Why was agreement not 100%?

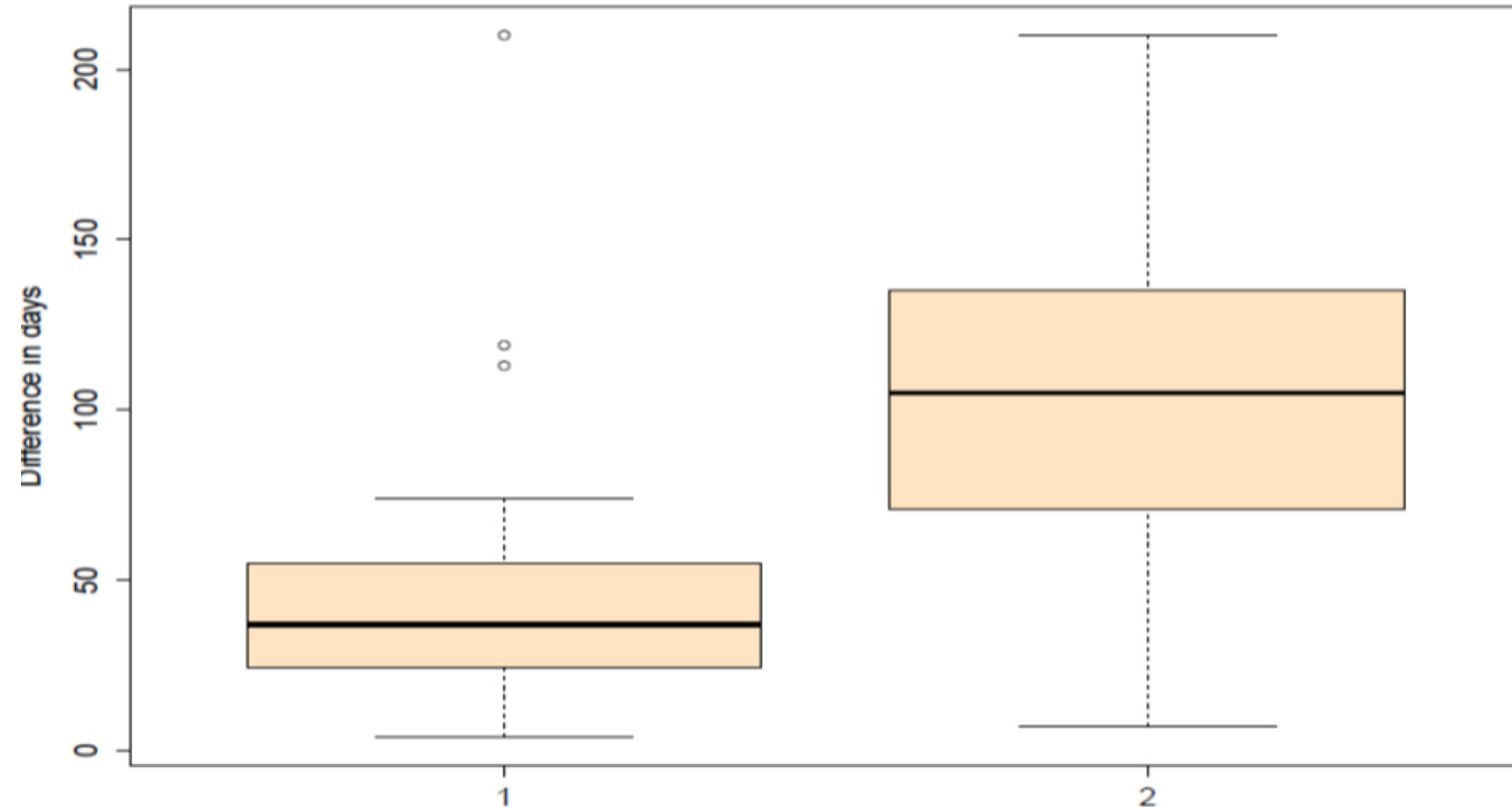
- ▼ Access to labs/imaging
- ▼ Patient status changed over time
- ▼ More training/experience of ERP
- ▼ More appropriate guidelines on who to expedite



## Did the ERP Triage Improve Wait Times?



## Wait Time Comparing Expedited and Non-Expedited Patients\*: Time from Referral to Rheumatologist First Visit (days)



Median = 37  
IQR = 25-55  
n=71

Expedited: Yes (1)/ No (2)

Median = 105  
IQR = 71-135  
n=71

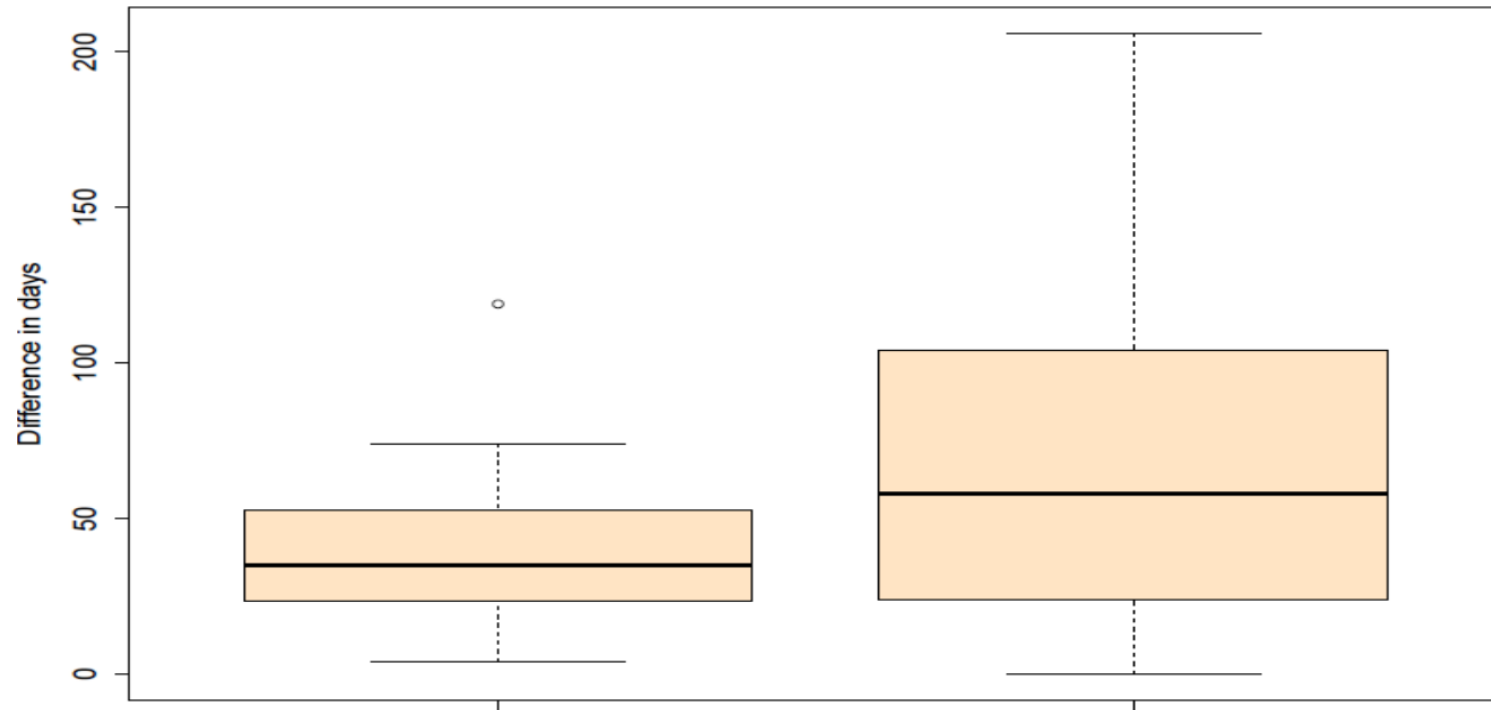


↓ Wait Times Compared to Controls





## Primary Outcome: Wait Time Comparing Expedited Intervention Group and Control Group: Time from Referral to Rheumatologist First Visit (days) – 4 sites only



P<0.001, Wilcoxon rank sum test

Expedited group (1) / Control group (2)

Median = 35  
IQR=24-53  
n=55

Median = 58  
IQR=24-104  
n=331



## Wait Times Affected by:

### Selection Criteria

- Selected patients based on referrals in the past month

### Scheduling Issues

- Time to paper triage by rheumatologist
- Scheduling of apt by admin staff
- Therapist clinic only 1 day/week

### Patient, Therapist, and Rheumatologist Availability

- Patient availability
- Vacation, sickness, meetings, professional development of therapist or rheumatologist

## Conclusions/Future Directions

- Results suggest that an ERP working in a triage role in a rheumatologist's office can identify IA/SARD and improve timeliness of rheumatology consultations for 'gray zone' patients.
- Uptake and acceptance of the triage role was good with 7 rheumatologists, 5 ERPs and 218 patients participating in a variety of community and hospital settings.
- Future: Examine the cost effectiveness of this model of care and explore modifications to the model that might lead to even more efficiencies.
- At a system level, there is a need to explore ways of funding this model to increase uptake.



## Acknowledgements

- Arthritis Society ERPs: Anne MacLeod, Danielle McCormack, Lynn Richards, Mercedes Reeb, Sue MacQueen
- Rheumatologists: Drs. Andrew Chow, Angela Montgomery, Art Karasik, Irene Vasiliu, Marie Clements-Baker, Mary Bell, Sanjay Dixit
- OBRI: Sandra Couto, Chris Sammut, Sunita Timilshina

