Improving Access of Patients with Inflammatory Arthritis to TTSH Rheumatology Clinic

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Mission Statement

To increase the percentage of patients with suspected inflammatory arthritis seen at the Rheumatology Clinic in TTSH within 42 days from time of referral from 40% to 100% within 6 months

Team Members

	Name	Designation	Department
Team Leader	Adj Asst Prof Justina Tan Wei Lynn	Senior Consultant	RAI
Team Members	Dr Koh Li Wearn	Senior Consultant	RAI
	Ms Xanthe Chua Bee Ling	Advanced Practice Nurse	RAI
	Mr Hamzah Bin Sameen	Patient Service Associate	Clinic B1A
	Mr Cheng Dong Hao	Operations Manager	RAI
	Dr Yong Yan Zhen	Primary Care Physician	Hougang Polyclinic
	Dr Hazel Oon Hwee Boon	Senior Consultant	National Skin Centre
	Dr Stephen Siew Ka Fai	Senior Resident	Hand & Reconstructive Microsurgery
Sponsor	Adj A/Prof Kong Kok Ooi	Head of Department	RAI
Mentors	Adj A/Prof Gervais Wansaicheong & Dr Troy Sullivan		

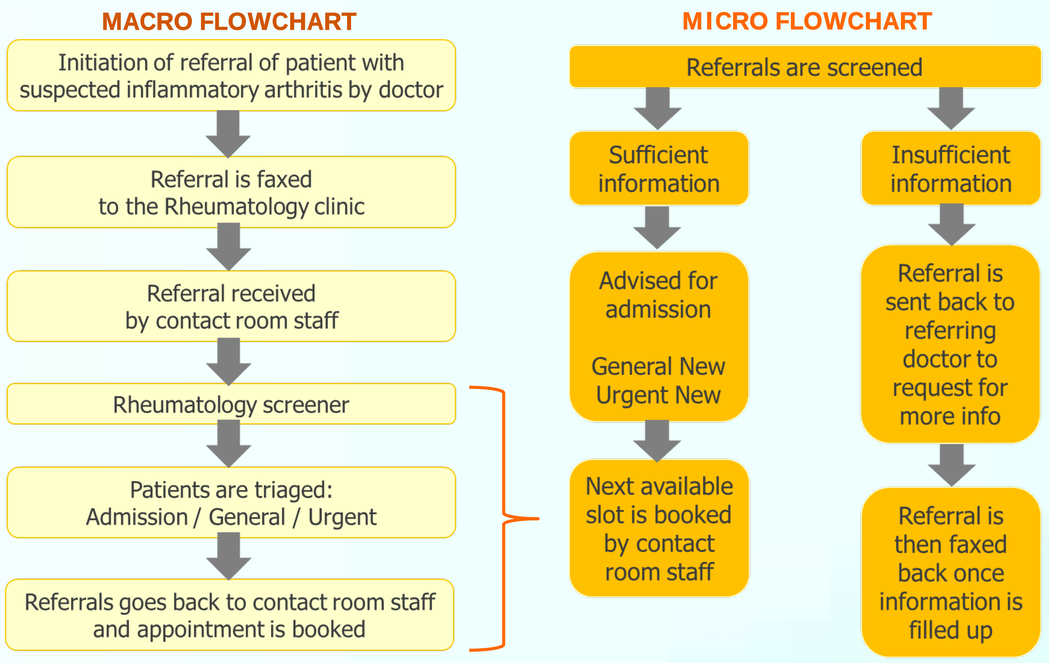
Evidence for a Problem Worth Solving

1. In TTSH, amongst patients suspected to have inflammatory arthritis and are referred to Rheumatology clinic, only about 40% of them are seen within 6 weeks time frame.
2. Delay in presentation to a Rheumatologist will lead to a delay in diagnosis and initiation of treatment for inflammatory arthritis.
3. Numerous studies have shown there exists a window of opportunity for treatment of inflammatory arthritis - earlier diagnosis and treatment is associated with better prognosis, reduced morbidity and mortality, better functional status and quality of life.
   - Canadian Rheumatology Association - guidelines on wait-time benchmarks for rheumatology: Max wait time to see patient with suspected rheumatoid arthritis is 4 weeks [1]
   - In the United Kingdom, NICE (National Institute for Health and Care Excellence) guidelines 2013 published quality standards for the diagnosis and treatment of rheumatoid arthritis Waiting time, states that people with suspected persistent synovitis (swelling) should be assessed in a rheumatology service within 3 weeks of referral. [2]

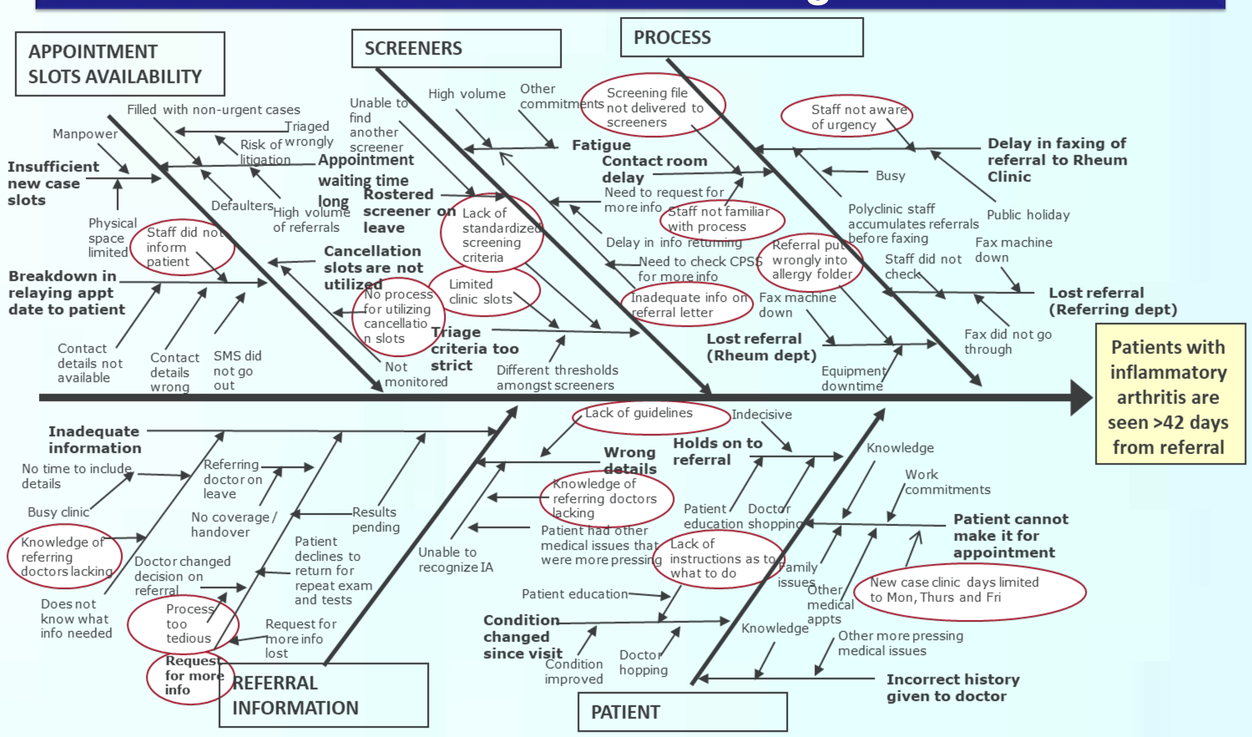
[1] Canadian Rheumatology Association. Wait-time benchmarks for rheumatology [Internet. Accessed July 25, 2016] Available from: www.waittimealliance.ca/wp-content/uploads/2014/05/Wait-Time-Benchmarks-for-Rheumatology-FINAL.pdf

[2] JM Ledingham et al. Achievement of NICE Quality Standards for patients with new presentation of inflammatory arthritis: Observation from the National Clinical Audit for Rheumatoid and Early Inflammatory Arthritis. Rheumatology (Oxford) 2017; 56(2): 223-230

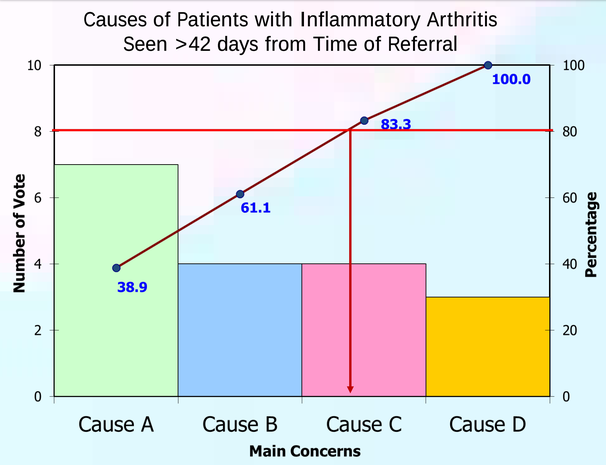
Flow Chart of Process



Cause and Effect Diagram



Pareto Chart

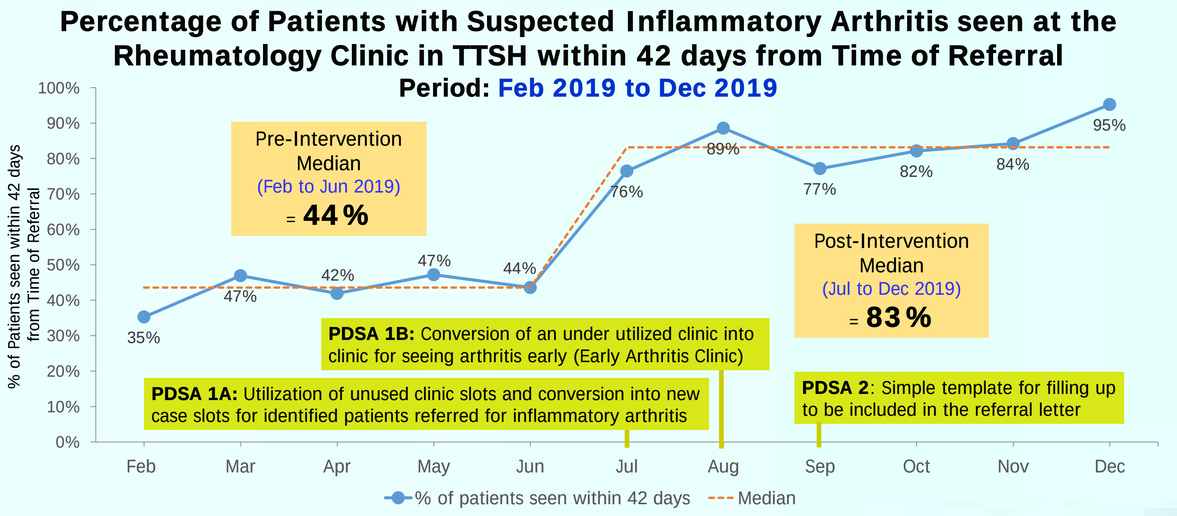


Cause A	Limited clinic appointment slots to see patients
Cause B	Insufficient information in referral letters
Cause C	Lack of knowledge of referring doctors
Cause D	Lack of standardized guidelines for rheumatology screeners

Implementation

Root Cause	Intervention	Implementation Date
Cause A: Limited clinic appointment slots to see patients	**PDSA 1A**: Utilization of unused clinic slots and conversion into new case slots for identified patients referred for inflammatory arthritis	1 Jul 2019
	PDSA 1B: Conversion of an under utilized clinic into clinic for seeing arthritis early (Early Arthritis Clinic)	1 Aug 2019
Cause B: Insufficient information in referral letters **Cause C**: Lack of knowledge of referring doctors	**PDSA 2**: Simple template for filling up to be included in the referral letter	1 Sep 2019

Results



Month	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seen within 42 Days	12	23	13	17	17	26	31	27	23	16	20
Total Patient	34	49	31	36	39	34	35	35	28	19	21

Cost Savings

	Pre-Intervention	Post-Intervention
Percentage of Patients seen early (within 42 days)	44%	84.5%
Mean of 30 patients with inflammatory arthritis each month		
Each Month	13 patients seen early 17 patients seen late	25 patients seen early 5 patients seen late
Each Year	156 patients seen early 204 patients seen late	300 patients seen early 60 patients seen late
Biologics Use	5.6% of 156 = 9 26% of 204 = 53	5.6% of 300 = 17 26% of 60 = 16
Total Patients requiring Biologics / Year	9 + 53 = 62 patients	17 + 16 = 33 patients
No. of Patients less requiring Biologics / Year	62 - 33 = 29	
Cost Savings / Year	29 x SGD $19,200 = **- SGD $556,800**	

Lessons Learnt

1. Enthusiasm at the start is not usually sustained - a lot of hard work and effort needs to put in to carry things through.
2. It is hard to change things internally, but even harder to implement change outside your department.
3. With small changes to our current work processes, we can actually improve the quality of care for our patients.

Strategies to Sustain

1. Continue audit as a quality improvement work project
2. Involving people into the project
   - Senior Residents
   - Other Rheumatologists
3. Presentation of our work and results to the rest of the department
4. Can become one of the key performance indicators for the department