respectively). Costs for admission and readmission in Rheumatology department were 5230 and 3175 euros respectively.

Conclusions: Admission and readmission of patients with RA are mostly due to infections and cardiovascular causes. Estimated direct costs are higher for patients admitted to Intensive Care Unit or Oncology

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7470

FRI0622

TRENDS IN ENCOUNTERS WITH RHEUMATOLOGISTS IN A PUBLICLY-FUNDED SINGLE PAYER HEALTHCARE SYSTEM

J. Widdifield¹, S. Bernatsky², V. Ahluwalia³, C. Barber⁴, L. Eder⁵, B. Kuriya⁵, V. Ling⁶, A. Lyddiatt⁷, M. Paterson⁸, J. Pope⁸, C. Thorne⁹. ¹Sunnybrook Research Institute, Toronto, ²McGill University, Montreal, ³William Osler Health System, Brampton, ⁴University of Calgary, Calgary, ⁵University of Toronto, ⁶Institute for Clinical Evaluative Sciences, ⁷Ontario Rheumatology Association, Toronto, ⁸Western University, London, ⁹Southlake Regional Health Centre, Newmarket, Canada

Background: Rheumatology workforces are challenged by too few physicians, increasing incidence and prevalence of MSK diseases (and complexity of co-morbid conditions) in aging populations, and expanding therapeutic options that increase demand for service. Understanding trends in rates of rheumatology encounters with new and existing patients will help to identify why patients have delays to rheumatology care and mobilize efforts to help meet patients' needs.

Objectives: To describe trends in patient encounters with rheumatologists over time in Ontario, Canada.

Methods: We analyzed administrative health data from 2000 to 2013 in Ontario, Canada, where all 13 million residents are covered by a publicly-funded healthcare system and access to rheumatologists is dependent upon referrals. During this time, Ontario had a stable rheumatology supply of 1 rheumatologist per 75,000 population (0.7 FTEs/75,000). We determined annual incident, follow-up and total patient encounters seen by rheumatologists. Rates were calculated using the total population of Ontario residents 18 and older, each year. Diagnosis codes assigned at each encounter were used to assess changes in the case-mix of patients under rheumatology care over time.

Results: From 2000 to 2013, the proportion of all Ontario residents seen by rheumatologists was constant over time (2.7%). The total number of rheumatology encounters increased from 561,452 to 742,952 but the total encounter rate remained relatively stable over time (table 1). The annual new consultation rate significantly declined over time from 1.6 to 0.8 new patients per 100 population. Both the annual proportion of incident patients and the ratios of incident to established patients and incident to total patient encounters declined significantly over time. We observed a shift in the diagnostic case-mix over time: encounter rates for systemic inflammatory conditions significantly increased over time and encounter rates for non-systemic conditions (OA, regional MSK conditions) decreased. The volume of rheumatoid arthritis (RA) encounters increased the most, with 17% of all rheumatology encounters related to RA in 2000 versus 32% in 2013.

Table 1 Trends in rheumatology encounters over time, rates expressed per 100

Year	Total Number of Unique Patients (%)	Total Patient Encounters	Total Encounter Rate ^a	New Consultation Rate ^b	Proportion of New Patients out of all Unique Patients	Proportion of New Patients out of Total Encounters	Ratio of New / Established Patients
2000	245486 (2.7%)	561452	6.2	1.6	59%	26%	1.5
2001	255289 (2.8%)	588581	6.4	1.4	52%	23%	1.1
2002	263139 (2.8%)	599278	6.4	1.4	48%	21%	0.9
2003	250176 (2.6%)	571366	6.0	1.2	44%	19%	0.8
2004	258751 (2.7%)	599821	6.2	1.1	41%	18%	0.7
2005	273462 (2.8%)	634730	6.5	1.1	40%	17%	0.7
2006	286309 (2.9%)	663302	6.7	1.1	39%	17%	0.6
2007	280072 (2.8%)	652933	6.5	1.0	35%	15%	0.5
2008	282959 (2.8%)	667337	6.5	0.9	34%	14%	0.5
2009	284158 (2.7%)	685195	6.6	0.9	33%	14%	0.5
2010	285103 (2.7%)	693667	6.6	0.9	32%	13%	0.5
2011	288422 (2.7%)	725807	6.9	0.8	31%	12%	0.5
2012	281754 (2.6%)	698384	6.5	0.8	31%	12%	0.4
2013	293704 (2.7%)	742952	6.8	0.8	30%	12%	0.4

^a Percentage represents the proportion of Ontario Residents seen by a rheumatologist

^b Numerator: Total rheumatology encounters; Denominator: Total population

^c Numerator: Number of new patients; Denominator: Total population

Conclusions: The significant decline in new patient consultation rates over time helps illustrate the growing supply-demand mismatch in rheumatology care. An increasing fraction of rheumatology encounters in Ontario are with established

patients, which may be limiting access for new consultations and increasing wait times. We also observed a shift in the patient case-mix over time with rheumatologists seeing/prioritizing more systemic inflammatory conditions. Our findings provide new inputs for rheumatology workforce planning models.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3377

FRI0623

COST-EFFECTIVENESS ANALYSIS FOR THE TREATMENT OF EARLY RHEUMATOID ARTHRITIS WITH BIOLOGIC DISEASE-MODIFYING ANTIRHEUMATIC DRUGS (DMARDS) COMPARED TO STANDARD OF CARE IN SINGAPORE

J. N. Chua¹, M. Lahiri², P. P. Cheung², J. Yoong¹. ¹School of Public Health, National University of Singapore, ²Rheumatology, National University Hospital, Singapore, Singapore

Background: Biologic disease modifying anti-rheumatic drugs (bDMARDs) are known to be effective in controlling disease activity and reducing radiographic progression in patients with rheumatoid arthritis (RA) who have failed methotrexate (MTX). The cost-effectiveness of bDMARDs in comparison to combination conventional synthetic DMARD (csDMARD) therapy in Asian countries has not been well studied, and their place in the DMARD escalation algorithm is unclear.

Objectives: To assess the cost-effectiveness of step-up combination csDMARD versus bDMARD therapy for patients who have failed initial MTX monotherapy over one year.

Methods: We prospectively recruited all adult patients with inflammatory polyarthritis (IP) affecting ≥ 2 peripheral joints and symptom onset after September 1, 2012 from the only two hospitals serving Western Singapore to the Singapore Early Arthritis Cohort (SEAC). Baseline data on demographics, time of symptom onset and DMARD prescription, utility values (EQ-5D) and costs were collected by face to face interview, chart review, hospital financial records and assessment by a trained nurse. A cost-effectiveness analysis (CEA) was then performed using a decision tree comparing four sequences of DMARD therapy: MTX and infliximab, MTX and etanercept, triple therapy (TT) [MTX, sulphasalazine (SSZ) and hydroxychloroquine (HCQ)] and combination MTX and HCQ. An effective treatment was defined as achieving Disease Activity Score 28 (DAS28 (ESR)) < 2.6 ; "remission"). A treatment switch to a rescue therapy (MTX and adalimumab) was factored in case of not achieving remission or if serious adverse event was experienced. Cost and utility (using Singapore preference weights¹) information were derived from patients diagnosed with rheumatoid arthritis in the SEAC database as of June 16, 2017. Efficacy, rates of adverse events, disutility from adverse events, indirect costs and cost of serious adverse events were assumed from literature. One-way and probabilistic sensitivity analysis with 10,000 runs was performed.

Results: For the base case, the treatment with MTX and etanercept was dominated by conventional TT. The incremental cost of switching from TT to MTX and infliximab was SGD\$16,118. The net gain in quality-adjusted life years (QALY) was 0.02. The incremental cost-effectiveness ratio (ICER), representing the additional cost of one unit of QALY gained by MTX and infliximab compared with TT, was \$1,024,785/QALY. The probabilistic sensitivity analysis predicted that triple therapy would be the preferred treatment (89.6%) at a willingness-to-pay threshold of SGD\$70,000.

Table 1

Arm	Incremental Cost	QALY	Incremental QALY	ICER
Triple Therapy	-	0.90	-	-
MTX + HCQ	2,587	0.88	-0.02	Dominated
MTX + etanercept	16,024	0.89	-0.01	Dominated
MTX + infliximab	16,117	0.91	0.02	1,024,785

Conclusions: Our model suggests that the ICER of bDMARD therapies explored do not compare favorably to csDMARD therapies. In the Singapore context, societal funding for bDMARDs can only currently be recommended after failure of combination csDMARD.