were analyzed with univariate statistic. The impact on QoL was determined by McNemar test and repeated measures analysis of variance (rANOVA)

Results: The most affected dimensions of the EQ-5D were pain/discomfort and anxiety/depression, while the least affected was self-care. When comparing each dimension before and after the entry to the tight control program, a significant increase in the proportion of patients that perceive level 1 for each aspect evaluated was found. In addition, significant improvement was found in the global EQ-VAS (table 1)

Table 1 Percentage of the levels of EuroQol by dimension according to the diagnosis

		RA N=3812		SLE N=590		SpA N=605		Total N=5007		P- Value
		Initial (%)	Final (%)	Initial (%)	Final (%)	Initial (%)	Final (%)	Initial (%)	Final (%)	
Mobility	1	43	55,7	59,8	45,4	56,5	65,9	46,1	52,6	0,003
	2	54,9	42,1	38,8	52,8	41,5	32,4	53,4	46,4	
	3	2	2,2	1,4	1,8	2	1,7	0,5	1	
Self-care	1	61	69,1	76,9	62,7	70,1	79,2	59	67,4	0,001
	2	37,8	29,4	21,9	36,2	28,5	19,5	40,3	32,2	
	3	1,1	1,5	1,2	1,1	1,4	1,4	0,7	0,3	
Usual activities	1	48	55,8	61,4	49,7	56,8	68	48,6	52,2	0,001
	2	47,9	41,3	35,8	46,5	40,8	30	47,9	45,5	
	3	4,1	2,9	2,9	3,9	2,7	2	3,5	2,3	
Pain/discomfort	1	23,3	31,7	33,2	24	32	40,3	19,7	25,8	0,002
	2	53,3	54,4	50,7	53,4	54,1	48,6	56,9	57,2	
	3	23,4	13,9	16,1	22,5	14	11	23,5	17	
Anxiety/depression	1	56,5	65,6	53,9	56,1	65	66,1	56,5	60,7	0,001
	2	33,4	27,5	35,9	33,8	27,8	26,3	34,2	31,7	
	3	10,2	7	10,2	10,1	7,1	7,6	9,3	7,6	
Global VAS mean (SD)		68,8 (19,8)	70,4 (22,6)	72 (19,8)	68,8 (19,9)	70,5 (22,2)	75 (18,6)	65,7 (20,5)	65,9 (21)	0,001

Significant statistical differences were found for all the dimensions in each pathology (initial vs final) except:

¹ Self-care in SLE ($p=0,719$)

² Usual activities in SpA ($p=0,337$)

³ Anxiety/depression in SpA ($p=0,27$)

⁴ Global VAS in SpA ($p=0,889$)

Conclusions: The tight control multidisciplinary rheumatology program is an efficient strategy to improve the QoL and the health perception of patients with chronic autoimmune diseases which impacts on the functionality, performance of everyday activities and productivity

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FRI0633

HOW DO WE IMPLEMENT THE EULAR RECOMMENDATION THAT RHEUMATOLOGISTS CAN SEE EARLY ARTHRITIS PATIENTS WITHIN SIX WEEKS AFTER SYMPTOM ONSET? A FIVE-YEAR COMPARATIVE STUDY OF AN EARLY ARTHRITIS RECOGNITION CLINIC.

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Background: Early treatment of inflammatory arthritis (IA) associates with improved outcomes. Therefore, the first recommendation in the 2016 update of the EULAR guidelines for management of early IA states that patients presenting with IA should be seen by a rheumatologist ≤ 6 weeks. Data on how to implement this recommendation are lacking. A screening clinic situated in between primary and secondary care, the Early Arthritis Recognition Clinic (EARC), has previously shown to increase early identification of rheumatoid arthritis patients. However, it is unknown if this effect is sustained when applied for several years and if this approach is of added value to identify patients within the 6-week limit set by EULAR.

Objectives: To study if an EARC approach can lead to sustained early identification of patients with IA (as compared to regular referral to our Early Arthritis Clinic (EAC)) and to determine the efficacy to identify patients ≤ 6 weeks after symptom onset.

Methods: To promote early recognition of IA, the EARC was initiated in September 2010 in the Netherlands. General practitioners (GPs) were instructed to refer to this screening clinic without a scheduled appointment if they were unsure about the presence of IA (instead of a 'wait-and-see' approach or performing additional tests). At the EARC, patients were seen for a 5-minute visit by an experienced rheumatologist who performed a full 66-joint examination for clinical synovitis. GPs can also refer directly to the EAC, where patients are seen < 2 weeks' time. Thus, GPs in our region can refer directly for a full visit in secondary care, or to a short visit to a screening clinic that is situated in between primary and secondary care. Patients identified with IA at the EARC or after (direct) referral to the EAC between September 2010 and December 2014 were compared for symptom duration at IA identification.

Results: Of the 1,151 patients visiting the EARC, 475 (41%) were diagnosed with IA. Firstly, proportions of patients with IA at the EARC were studied per year. These remained stable over time: 45% in 2010, 39% in 2011, 45% in 2012, 42% in 2013 and 36% in 2014. Clinical characteristics of these patients were similar over time. In the same period 675 referred patients were diagnosed with IA at the EAC; these were compared to the 475 IA patients that were identified via the EARC. Demographic characteristics were similar. However, median symptom duration of the IA patients in the EARC-group versus the EAC-group at identification of IA were 10.7 vs 17.0 weeks in 2010 ($p<0.0001$), 7.3 vs 13.7 weeks in 2011 ($p=0.0001$), 6.3 vs 9.8 weeks in 2012 ($p=0.056$), 5.6 vs 10.7 weeks in 2013 ($p=0.012$) and 5.7 vs 8.3 weeks in 2014 ($p=0.060$). Proportions of patients with IA seen by a rheumatologist ≤ 6 weeks in the EARC-group versus the EAC-group were: 34% vs 19% in 2010, 43% vs 20% in 2011, 43% vs 33% in 2012, 48% vs 30% in 2013 and 44% vs 33% in 2014.

Conclusions: A screening clinic in between primary and secondary care has sustainable benefit with regards to early identification of inflammatory arthritis and allows $>40\%$ of patients to be identified within the timelines as recommended by EULAR.

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FRI0634

COST SAVINGS OF USING HLA-B*27 TAG SNP GENOTYPING TO DETERMINE HLA-B*27 STATUS IN A CANADIAN POPULATION

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Background: HLA-B*27 is a useful genetic marker for screening axSpA [1,2] to determine who can benefit from rheumatologic evaluation in a primary care setting [3]. Currently, entire HLA-B locus tests are the gold standard for determining HLA-B*27 status but they are expensive. With a sensitivity of 97.6%, the cheaper HLA-B*27 tag-SNP assay could offer a less expensive yet rigorous testing option. Specifically, the HLA-B*27 tag-SNP assay could be ordered as first-line screening test for patients with inflammatory axial pain by primary care doctors, with the HLA-B locus assay only requested by rheumatologists for patients with a negative tag-SNP test result but a strong clinical suspicion of HLA-B*27 positivity. Economic impact of this hybrid testing strategy is not yet established.

Objectives: To determine the cost savings of using the hybrid testing strategy instead of giving HLA-B locus assay to all patients with inflammatory axial pain.

Methods: We estimated the total cost of using the HLA-B*27 tagSNP assay for a sample of 510 patients who underwent the test between August 1, 2016 and July 31, 2017 in Newfoundland and Labrador, Canada. We compared this cost with the cost that would have been incurred if these same patients were instead tested with the HLA-B locus test.

Results: Total cost of testing 510 patients with HLA-B locus test was \$30,557 at an average cost of \$60 per test. Cost of testing these patients with HLA-B*27 tagSNP assay was \$1,673 (with average cost per test of \$3.28). Among those who tested negative on the HLA-B*27 tagSNP assay, 2.3% (~10 patients) would be falsely diagnosed negative. The HLA-B locus test would be ordered in half of these patients after medical history is reviewed by a rheumatologist. Hence, total costs of testing 510 patients with the HLA-B*27 tagSNP assay were \$1,963. Consequently, cost savings from using HLA-B*27 tagSNP assay instead of HLA-B locus tests were \$28,594 for this sample of 510 patients. This amounted to a 94% reduction in costs relative to the scenario where all patients are tested with HLA-B locus tests.

Conclusions: Screening for HLA-B*27 status among axSpA patients of Caucasian descent with HLA-B*27 tag-SNP testing with the gold standard HLA-B locus test only requested for those in whom such need is determined by rheumatologists can result in significant cost savings relative to giving HLA-B locus tests to all patients with inflammatory axial pain.

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FRI0635 MEDICATION ADHERENCE IN PATIENTS WITH RHEUMATIC DISEASES: A QUALITATIVE STUDY IN A BIOLOGICS CLINIC

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Background: High rates of non-adherence to prescribed medications in rheumatic diseases have been reported, with adherence as low as 30% in some studies [1, 2]. Physicians commonly overestimate adherence [3]. Consequences of non-adherence include poorer patient outcomes and increased healthcare costs [1, 2]. Improving adherence may be as effective as developments in biomedical management in terms of positive health outcomes [4]. Understanding factors contributing to non-adherence may inform strategies for improvement.
Objectives: This study aims to explore factors affecting medication adherence in patients attending a dedicated biologics clinic.
Methods: Patients were selected by purposive sampling. Semi-structured interviews were performed and continued until data saturation was achieved in order to examine reasons why patients failed to take their prescribed medication. Interviews were transcribed and coded using NVIVO. The principles of grounded theory were used to analyse the data. The emergent themes were informed by health behaviour theories and factors which have previously correlated with adherence in similar cohorts.

Results: Major themes which emerged include the concept that the presence of active symptoms significantly influenced adherence. It was noted that patients tended not to prioritise medication taking until they had recurrence of symptoms. Patients sometimes failed to display an understanding of the concept of disease activity, or concern for the risk of long term joint damage or other consequences of uncontrolled inflammation. They also expressed concern regarding potential long-term side effects of biologic medications; even if they had not experienced any side effects to date. Methotrexate was perceived as a toxic and “heavy” medication. Biologics were described by patients as “life-changing” and superior to conventional DMARDs. Patients identified their relationship with their rheumatologist as being pivotal in their experience of their condition and medication management. Diet, exercise and stress were perceived to play a critical role in disease causation, flares and treatment.
Several minor themes were identified. Developing habitual patterned behaviour was a challenge for some participants. Affordability was an issue despite biologics being heavily subsidised. Depression, social situation and needle phobia were potential barriers to adherence. Preference for alternative therapy, distrust of “synthetic medications” and an awareness of the high cost of biologics affected decision making for some patients.
Conclusions: This study examined the medication adherence of a group of patients with rheumatic diseases who are very closely managed in a dedicated biologics clinic. Even in this group of patients, factors which contribute to medication non-adherence were readily identified. Several of these themes suggest that enhancing patient education may improve adherence in this group.

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FRI0636 THE VALUE OF PERSISTENCE IN TREATMENT WITH SUBCUTANEOUS TNF-ALPHA INHIBITORS FOR ANKYLOSING SPONDYLITIS

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Background: Subcutaneous Tumor Necrosis Factor-alpha inhibitors (SC-TNFi) with higher persistence are often perceived as being more costly compared with SC-TNFis with lower persistence based merely on the resulting higher drug acquisition cost. Thus, failing to consider possible health care cost offsets, productivity gains and increased quality of life.
Objectives: The objective of this study was to assess the value of higher treatment persistence by evaluating cost-effectiveness of SC-TNFis for Ankylosing Spondylitis (AS), with higher persistence compared with lower persistence from a payer and societal perspective.
Methods: A Markov cohort model, following the framework of the NICE commissioned York model in AS¹, was developed. In the model, patients achieving BASDAI50 response at 12 weeks transition to treatment maintenance and non-responders to conventional care. In each cycle, patients are at risk of death. Patients discontinuing treatment after the treatment response period rebounds in BASDAI and BASFI by what was gained at response. Inputs were sourced from the York model where available and costs were updated to 2016/17 prices. The societal perspective included indirect costs from productivity losses (i.e. absenteeism, presenteeism, and early retirement)². Two treatment strategies are investigated; SC-TNFis with constant annual withdrawal rates of 10% and 20%. Apart from discontinuation rates, treatment inputs are the same for the two strategies.
Results: Better persistence increases the treatment cost, but this is partly offset by savings in disease related costs and from a societal perspective it is cost-saving (figure 1). In addition, the improvement in the health of persistent patients is noticeable as a gain in quality adjusted life years (QALYs). The ICERs of the 10 % and 20% withdrawal rate treatment strategies versus conventional care (CC) are £18,323 and £20,063, respectively (table 1). Given a WTP of £20,000 the strategy with better persistence compared to the strategy with worse persistence is clearly cost-effective (ICER= £16,112) and dominates when a societal perspective is taken.

Table 1 Cost-effectiveness analysis of SC-TNFis

	Total costs, £	Total QALYs	Incremental costs, £	Incremental QALYs	Incremental cost per QALY, £
Payer perspective					
SC-TNFis vs. CC					
CC	128,016	9.71	-	-	-
10% withdrawal rate	146,146	10.70	18,130	0.99	18,323
20% withdrawal rate	139,379	10.28	11,363	0.57	20,063
Between SC-TNFis	-	-	6,767	0.42	16,112
Societal perspective					
SC-TNFis vs. CC					
CC	326,454	9.71	-	-	-
10% withdrawal rate	322,537	10.70	-3,917	0.99	Dominates
20% withdrawal rate	325,270	10.28	-1,184	0.57	Dominates
Between SC-TNFis	-	-	-2,733	0.42	10% dominates