based upon the tREACH randomization within each stratum (figure 1): [A] triple DMARD combination therapy (MTX 25 mg/wk.+SASP 2 gr/day+HCQ 400 mg/day+GCs (intramuscular or an oral tapering scheme, starting with 15 mg/day), [B] MTX 25 mg/wk.+GCs orally starting with 15 mg/day, [C] HCQ 400 mg/day and [D] GCs orally starting with 15 mg/day. Treatment strategies were 'tightly controlled', with patients being examined every 3 months. Treatment decisions were based upon the original Disease Activity Score (DAS) threshold for low disease activity (DAS <2.4). Primary outcomes were DAS and functional ability, measured with the Health Assessment Questionnaire (HAQ), over time, using a linear mixed model (LMM). In our final model we corrected for baseline DAS and HAQ and visser score, which is a confounder by indication on forehead.

Results: 162 patients were grouped into treatment arms A (n=17), B (n=64), C (n=40) or D (n=41). Patients were mostly female (67%) with an average symptom duration of 161 days (95% CI: 146–175). At baseline the average visser score was 4 out of 13 (IQR 4–5). The difference in visser score was mainly due to the difference in erosions (figure 1A). Figure 1B and C show the DAS and HAQ over time per treatment arm. Our corrected LMM showed that there was no significant difference between treatment arms for DAS over time. After 3 months 56%, 38%, 35% and 69% respectively treated with A, B, C and D had an active disease (DAS ≥ 2.4), and thus needed a treatment intensification (P.003 for C versus D). However, after 1 year there was no difference between DAS over all treatment arms. HAQ over time did differ between treatment arms. Patients who received HCQ showed a better functional ability over time compared to patients receiving 1 of the other treatments (C versus respectively B ($\beta = -0.18$, p.0.000), D ($\beta = -0.14$, p.0.004) and A ($\beta = -0.17$, p.0.016)).

Abstract SAT0078 – Figure 1. (A) Baseline characteristics and clinical response after 12 months for each induction therapy group, according to intention-to-treat. (B) Mean DAS over time per treatment arm. (C) Mean HAQ over time per treatment arm. ^a Not everyone filled out a (complete) questionnaire and therefore n is different for HAQ. MTX 25 mg/wk, SASP 2 gr/day, HCQ 400 mg/day, GCs intramuscular or an oral tapering scheme starting with 15 mg/day for treatment A and only oral for treatment B+D. * P.0.011 for C versus D. Abbreviations: DAS, Disease Activity Score; GCs, glucocorticoids; HAQ, Health Assessment Questionnaire; HCQ, hydroxychloroquine; MTX, methotrexate; RA, rheumatoid arthritis; SASP, sulfasalazine

Conclusions: This research supports current hypothesis that seronegative RA patients can be treated with less aggressive treatment with similar efficacy.

Disclosure of Interest: None declared

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SAT0079 TREATMENT EXPECTATIONS INFLUENCE BOTH SUBJECTIVE AND OBJECTIVE OUTCOME PARAMETERS IN PATIENTS WITH RHEUMATOID ARTHRITIS- A PROSPECTIVE COHORT STUDY

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Background: The prediction of individual response to treatment in rheumatoid arthritis (RA) is challenging and often limited. Here we evaluate the influence of patients' expectations and attitudes towards newly initiated disease-modifying anti-rheumatic drugs (DMARDs) on clinical outcome in RA.

Methods: 100 patients (74 female) with RA according to 2010 ACR/EULAR classification criteria with upcoming change in DMARD treatment were included. Patients' treatment beliefs, health related quality of life, treatment expectations, and pain-related cognitions were measured using the *beliefs about medicines*

questionnaire (BMQ), the SF-36, the *questionnaire about patient expectation* (PE), and the *pain-related self-statement scale* (PRSS), respectively before treatment initiation (T0) and their DAS28-CRP was calculated at T0 and after 4 months (T4). Associations between patients' beliefs, expectations and their attitude according to the questionnaires and changes in DAS28-CRP between T0 and T4 were explored by regression analyses using the Akaike information criterion.

Results: Regression analyses revealed that 42.2% of all variability in treatment response measured as a decline in DAS28-CRP (Δ DAS28) could be explained by expectations, psychological factors and laboratory parameters assessed with the applied questionnaires. Among these we identified the expected *improvement rate* with 23.4% as well as the patients' *fear of side effects* with 22.0% as the main predictors of Δ DAS28. The CRP-value at T0 accounted with 15% to the variability in Δ DAS28. Other highly influential factors were PRSS *catastrophizing* scale (10.7%), the BMQ *concern* scale (8.1%), other BMQ scales (7.9%) and medications' route of administration (8.0%).

Conclusions: The present study indicates a high impact of patients' expectations and their attitude towards new therapies on clinical response effecting both objective and subjective outcome parameters. Integration of individual patient's preferences and their expectations in treatment decisions and management can significantly increase treatment response.

Disclosure of Interest: None declared

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SAT0080 SECULAR TRENDS PRIOR TO-AND AFTER DISSEMINATION OF BEST PRACTICE RECOMMENDATIONS SHOWED EARLIER INTENSIFIED MEDICATION STRATEGIES AND IMPROVED OUTCOMES IN CANADIANS WITH EARLY INFLAMMATORY ARTHRITIS

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Background: International and local best-practice recommendations released in 2010–11 aimed to improve outcomes in early RA via earlier diagnosis and a treat-to-target approach. These should be associated with improved outcomes.

Objectives: To examine secular trends in patient characteristics and treatment strategies at RA diagnosis and disease activity outcomes in the 1st year of follow-up comparing earlier (2007–2010) and later (2011–2016) time periods, prior to and following dissemination of 2011 guidelines in a large Canadian early inflammatory arthritis (EIA) cohort of RA patients.

Methods: Data were from patients with early classifiable (87%) or probable (13%) RA (<1 year of symptoms) enrolled each year in an ongoing prospective multi-centre cohort study between 2007–2016 with ≥12 M follow-up undergoing 3-monthly visits including clinical assessments, questionnaires, and laboratory tests in the 1st year. Treatment was decided by their rheumatologist. These were cohort investigators who met annually to discuss means to improve outcomes. Descriptive statistics compared patient characteristics, early treatment strategies with conventional synthetic(cs) and biologic(b) DMARDs and disease activity (DAS28) outcomes. Differences in DAS28 targets achieved per time period were compared using Chi-Squares and medication doses by Cochrane Hermitage trend tests.

Results: Of 2227 patients enrolled in CATCH (Canadian Early Arthritis Cohort), symptom duration was 6 (3) months. There was a slight increase in number recruited, education and income and slight decrease in baseline symptom duration from early to later time periods. Baseline smoking, obesity rates, comorbidities, positive serology, inflammatory markers and joint counts did not differ significantly between time periods. Baseline erosions were less frequent (17% vs. 24%, p<0.0001) and mean symptom duration decreased slightly (5.6 vs. 5.9 months, p=0.018) in earlier vs later periods. Most (87%) entered in moderate or high disease activity (MDA or HDA);disease activity at 3, 6 and 12 M markedly improved over calendar time (figure 1). Respective DAS28 REM/LDA rates at 12 M from early to late periods significantly increased (p<0.01), 20% (p<0.001)used higher doses of MTX (≥20 mg); and more used subcutaneous (sc) MTX, MTX combo therapies sooner and more rapidly escalation to bDMARDs all p's<0.05).

Earlier Use of High Doses of poMTX and scMTX in 2nd Time Period Resulted in More Reaching RA Treatment Targets

Abstract SAT0080 – Figure 1. Earlier Use of High Doses of poMTX and scMTX in 2nd Time Period Resulted in More Reaching RA Treatment Targets

Conclusions: This 10 year Canadian prospective study of classifiable/probable RA patients, who were assessed for 1 year suggests that earlier, more intensified treatment promoted in practice recommendations were implemented and resulted in lower disease activity with a greater proportion of patients reaching targets of LDA and/or REM, although 25%–30% of patients still did not achieve LDA or REM by 12 M.

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SAT0081

CHANGES IN INCIDENCE OF SHOULDER, ELBOW, WRIST AND FINGER REPLACEMENT SURGERY AMONG RHEUMATOID ARTHRITIS PATIENTS FOLLOWING THE INTRODUCTION OF BIOLOGICAL DMARDS: AN INTERRUPTED TIME SERIES ANALYSIS USING DANISH HEALTH CARE REGISTERS

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Background: We have previously shown that the incidence rate of total knee replacements started to decrease among rheumatoid arthritis (RA) patients following the introduction of biological (b) DMARDs, but less is known on the impact of bDMARDs on the need for joint replacements (JR) of the upper limbs.

Objectives: To investigate the association between bDMARD introduction for the treatment of patients with RA on the trends of upper limb JR among newly diagnosed RA patients compared with a matched general population cohort (GPC) in Denmark.

Methods: Nationwide register-based interrupted time-series analysis using the Danish National Patient Register and Civil Registration System. **Study populations:** incident RA patients diagnosed at a rheumatology or general internal medicine clinic/department from 1996–2010. **Intervention:** introduction of bDMARDs

Abstract SAT0081 – Table 1. Changes in 5-year incidence rate of upper limb joint replacements (JR) in incident rheumatoid arthritis (RA) patients following introduction of biological DMARDs in 2002 compared with secular trends in a matched general population cohort (GPC).

Cohort	N	Mean age at start of follow-up	Females, n (%)	n JR	PYRS	Baseline incidence rate/1000 pyrs	Δ per year* 1996–2001	Δ in level 2003	Δ per year* 2003–2015	Absolute/relative Δ at midpoint in bDMARD era (mid-2006) compared with counterfactual value
RA	26 458	58.9 years	18 691 (71%)	295	1 23 814	2.65 (2.27–3.04)	-	-	-0.10 (-0.21–+0.01)	-0.44 (-0.49 to -0.39)/-17%
GPC	2 57 505	58.4 years	1 82 192 (71%)	377	1,152,052	0.11 (0.04–0.17)	0.03 (0.02–0.03)	-	0.03 (0.02–0.03)	No change

in Denmark in 2002. **Comparison:** Each RA patient was matched on age, sex and municipality with up to 10 non-RA individuals (GPC). **Outcome:** Composite outcome of first shoulder, elbow, wrist, or finger replacement surgery (JR). **Statistical analyses:** 5 year age- and sex-standardised incidence rates of JR calculated for incident RA patients diagnosed biannually compared with GPCs. Outcome trends in the pre-bDMARD era (1996–2001) were compared with those in the bDMARD era (2003–2015) with a 1 year lag period in 2002.

Results: From 1996 to 2010, 26 458 incident RA patients were identified and compared with 257,505 GPCs (Table). The JR incidence rate was stable among RA patients in 1996–2001, but started to decrease from 2003 and onwards. Among GPCs, the incidence rate increased throughout the study period. Stepwise backward elimination to produce most parsimonious model: p-entry <0.05 and p-exit >0.2.

* Δ per year based on biannual data. Abbreviations: pyrs, person years

Conclusions: Following the introduction of bDMARDs, the incidence rate of upper limb JR started to decrease among RA patients, whereas the incidence rate steadily increased from 1996–2015 among matched GPCs. The baseline incidence rate was 7-fold higher among RA patients than GPCs, but the absolute need for upper limb JR was low in both groups.

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SAT0082

OSTEOPONTINE AND OSTEOPROTEGRINE AS MARKERS OF ALTERED PRECLINICAL BONE METABOLISM IN RHEUMATOID FIRST DEGREE RELATIVES

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Background: First degree relatives (FDR) of RA are known to have increased risk of developing the disease. The detection of altered bone metabolism in FDR could be a predictor of the preclinical phase of the disease.

Objectives: To study osteopontine (OPN) and osteoprotegrine (OPG) in FDR of RA patients as markers of altered bone metabolism in relation to clinical manifestations, inflammatory and RA seromarkers.