Conclusion: The incidence of lower back procedures has more than trebled since 2000. Women are more likely to have lower back procedures than men, with patients aged 65-74 the most likely to have a procedure. Procedures in those aged 75+ have become more common over time, potentially increasing the risk of post-operative complications. Socio-economic differences in the incidence of low back procedures are probably related to the known higher prevalence of back pain in deprived areas. Whether the observed narrowing in socio-economic variation over time is explained by a reduced need or by lowered provision needs further research.

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FRI0512

INTEGRATED CARE NETWORK AS A BUILDING STONE FOR SUSTAINABLE AND COMPREHENSIVE CARE FOR PATIENTS WITH ARTHRALGIA

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Background: Western countries experience an increasing demand for care, particularly for inflammatory arthritis (IA), while the healthcare budget decreases¹. The innovative value-based primary care strategy² includes integrated care networks, where primary and secondary care bundle their expertise to improve patient value by providing the right care at the right place.

General practitioners (GPs) have difficulties recognising IA, leading up to only 20% IA diagnoses of all newly referred arthralgia patients. However, since IA needs to be treated as early as possible to overcome progression, it is worthwhile to analyse whether integrated care networks have an impact on patient outcomes and cost-effectiveness. Triage by a rheumatologist in a primary care setting is one of the most promising integrated care networks for efficient referrals³.

Objectives: To assess the effect of triage by a rheumatologist in a primary care setting in patients suspect for inflammatory arthritis.

Methods: The present study follows a cluster randomized controlled trial design. The intervention, triage by a rheumatologist in a local primary care centre, will be compared to usual care. Usual care means that patients are referred to a rheumatology outpatient clinic based on the opinion of the general practitioner.

The primary outcome is the frequency of IA diagnoses assessed by a rheumatologist. Patient reported outcome measures (PROMs (EQ-5D)) and costs (work productivity (iPCQ) and healthcare utilization (iMCQ)) were determined at baseline, after three, six and twelve months. The target was to include 267 patients for each study group (power level 0.8). Since this study is still ongoing we can only show first results on the efficiency of referrals.

Results: In the period between February 2017 and December 2019 a total of 543 participants were included; 275 in the usual care group and 268 in the triage group. Mean age (51.3 ± 14.6 years) and percentage of men (23.6%) were comparable between groups ($p_{age}=0.139$; $p_{sex}=0.330$).

Figure 1: Advice on referral towards an outpatient rheumatology department according to the triage rheumatologist

The preliminary data show that the number of referred patients in the triage group is n=28 (10.5%) (Fig. 1). 32 patients (11.9%) were not referred directly but advice was given for additional diagnostics. Since all patients in the usual care group were referred there is a decrease of at least 77.6% in referrals when rheumatologists are participating in the integrated practice units.

Preliminary data on diagnosis are available for all referred patients in the triage group and for n=137 (49.8%) in the usual care group at this point. In the triage group n=18 (64.2%) of referred patients were diagnosed with IA (6.7% of the total study population). In the usual care group this was n=52 (38.0%) of the patients yet diagnosed.

Conclusion: These preliminary results of an integrated care network are promising. Approximately three-quarters of all patients can be withheld from expensive outpatient care. PROMs data and cost-effectiveness analysis will give clear answers in order to provide evidence whether this integrated care network can be implemented as a standard of care.

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FRI0513

TREATMENT PERSISTENCE IN PATIENTS CYCLING ON SUBCUTANEOUS TUMOR NECROSIS FACTOR- α INHIBITORS IN INFLAMMATORY ARTHRITIS – A RETROSPECTIVE STUDY

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Background: Patient persistence with biologic treatment of rheumatoid arthritis (RA), psoriatic arthritis (PsA) and ankylosing spondylitis (AS) (collectively inflammatory arthritis, IA) may be considered a proxy for efficacy, safety and treatment satisfaction. Patients who discontinue their first line of subcutaneous tumor necrosis factor alpha inhibitors (SC-TNFis) and switch to at least one subsequent line of SC-TNFi can be defined as cyclers.

Objectives: To assess persistence by line of therapy in Swedish IA patients cycling on SC-TNFis.

Methods: Using data from the Swedish Health Data Registers, adult IA patients initiating treatment with any available SC-TNFi (adalimumab, etanercept, certolizumab, or golimumab) between May 1st 2010 and October 31st 2016 were eligible for inclusion. Treatment persistence was derived using information from filled prescriptions (e.g. dispensing date, pack information, and defined daily dose) with a 60-day grace period. Analyses were restricted to the first two lines of treatments (i.e. 1st and 2nd) in patients defined as SC-TNFi cyclers. Persistence estimates across treatment lines were assessed graphically using Kaplan-Meier curves. Unadjusted and adjusted marginal Cox proportional hazards models were fitted to estimate the relative risk of discontinuation across treatment lines, using robust sandwich covariance matrix estimates to account for intrapatient dependence (i.e. multiple treatment lines per patient). Covariates in the adjusted analysis included age, gender, diagnosis, year of treatment initiation, comorbidities, co-medication, and the number of specialized outpatient care visits and inpatient stays.

Results: Of 11,668 patients initiating SC-TNFi treatment, 3,181 patients were identified as cyclers. Among these, a majority were female (68%) with a mean age of 50 years; 46%, 28%, and 26% were diagnosed with RA, AS and PsA, respectively. Figure 1 indicated that, among cyclers, persistence with second line treatment was higher compared to first line treatment persistence. This finding was confirmed by the analyses accounting for intrapatient dependence. Both the unadjusted and the adjusted analyses showed that the relative

Table 1. Relative risk of discontinuing subcutaneous Tumor Necrosis Factor- α inhibitor treatment for IA in 2nd line treatment compared to 1st line treatment, by analysis population

Analysis population	N	Unadjusted analysis, HR [95%CI]	Adjusted analysis, HR [95%CI]
Cyclers overall	3,181	0.60 [0.57, 0.63]	0.59 [0.56, 0.62]
RA	1,479	0.62 [0.57, 0.67]	0.61 [0.56, 0.66]
PsA	891	0.60 [0.54, 0.67]	0.59 [0.53, 0.65]
AS	811	0.58 [0.52, 0.64]	0.55 [0.50, 0.61]

HR: Hazard Ratio, 95%CI: 95% confidence interval

Figure 1. Persistence, among cyclers, with subcutaneous Tumor Necrosis Factor- α inhibitors treatment for IA by line of treatment

risk of discontinuing SC-TNFi treatment were significantly lower in 2nd line compared to 1st line (Hazard Ratio [HR]; 0.60 [0.57, 0.63] and 0.59 [0.56, 0.62], respectively). This finding was also consistent across IA indications (Table 1).

Conclusion: In this preliminary analysis of IA patients cycling on SC-TNFis, persistence was greater in 2nd line compared to 1st line treatment. The finding was consistent across all IA indications. Hence, IA patients who fail to respond, lose response, or for other reasons discontinue their 1st line treatment may still benefit from switching to an alternative SC-TNFi as a 2nd line therapy.

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FRI0514 USE OF OPIATE FOR HIP AND KNEE OSTEOARTHRITIS BEFORE AND AFTER JOINT REPLACEMENT SURGERY

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Background: Osteoarthritis of the hip and knee is one of the most common causes of reduced mobility. It also causes stiffness and pain. Opioids can offer pain relief but is usually used for severe acute pain caused by major trauma or surgery. The use of opioids for relief of chronic pain caused by arthritis has increased over the last few decades.[1]

Objectives: This study aims to investigate the use of strong opiates for patients with hip and knee osteoarthritis before and after joint replacement surgery, over a 13 years period in New Zealand.

Methods: This study included patients with osteoarthritis who underwent publicly funded primary hip and knee replacement surgeries in 2005-2017 in New Zealand. These records were identified from the National Minimum Dataset (NMD). They were cross referenced with the NZJR data to exclude the admissions not for primary hip or knee replacement surgeries. Patients without a diagnosis of osteoarthritis were excluded.

The PHARMS dataset was linked to the NMD to identify the use of strong opiates before and after surgeries. The strong opiates available for community dispensing in New Zealand and included in this study are: dihydrocodeine, fentanyl, methadone, morphine, oxycodone and pethidine. Use of opiate within three months prior to surgery and within 12 months post-surgery were examined by gender,

age group, ethnicity, Charlson Comorbidity Index score and year of surgery. Differences by subgroup was examined with Chi-square test. Logistic regression model was used to calculate the adjusted odds ratios of strong opiate use before and after surgery compared with no opiate use.

Results: We identified 53,439 primary hip replacements and 50,072 primary knee replacements with a diagnosis of osteoarthritis. Of patients with hip osteoarthritis, 6,251 (11.7%) had strong opiate before hip replacement surgeries and 11,939 (22.3%) had opiate after surgeries. Of patients with knee osteoarthritis, 2,922 (5.8%) had strong opiate before knee replacement surgeries and 15,252 (30.5%) had opiate after surgeries.

The probability of patients with hip and knee osteoarthritis having opiate decreased with age, increased with Charlson comorbidity index score, and increased over time both before and after surgeries. Male patients with hip and knee osteoarthritis were less likely to have opiate than female patients both before and after surgeries. New Zealand Europeans with hip and knee osteoarthritis were more likely to receive opiate than other ethnic groups prior to surgeries, but were less likely to have opiate than Asians post-surgeries.

Patients who had opiate before surgeries were more likely to have opiate after surgeries than those who did not have opiate before surgeries. The odds ratio was 8.34 (95% confidence interval (CI): 7.87-8.84) for hip osteoarthritis and 11.94 (95% CI: 10.84-13.16) for knee osteoarthritis after adjustment for age, gender, ethnicity, year of surgery and Charlson comorbidity index score. Having opiate prior to surgeries also increased the probability of having opiate for 6 weeks or more after surgeries substantially. The adjusted odds ratio was 21.46 (95% CI: 19.74-23.31) for hip osteoarthritis and 27.22 (95% CI: 24.95-29.68) for knee osteoarthritis.

Conclusion: Preoperative opiate holidays should be encouraged. Multiple strategies need to be used to develop analgesic plans that allow adequate rehabilitation, without precipitating a chronic opiate dependence. Clinicians would also benefit from clear guidelines for prescribing strong opiates.

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FRI0515 MATERNAL AND PERINATAL OUTCOMES IN WOMEN WITH RHEUMATIC DISEASES – A 10-YEAR EXPERIENCE FROM A PORTUGUESE TERTIARY CENTRE

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Background: Pregnant women with rheumatic diseases (RD) represent a population at a higher risk for adverse pregnancy outcomes (APO). At our unit, these patients (pts) are surveilled at a high-risk pregnancy clinic, by both rheumatologists and obstetricians.

Objectives: To assess pregnancy outcomes in pts with RD surveilled at our unit over the last decade.

Methods: Single-centre observational retrospective study of pregnant women with RD followed at a portuguese tertiary centre between 2009 to 2019.

Results: Overall, 353 pregnancies (preg) in 295 pts with RD were managed at our unit. Table 1 summarizes clinical data and the main APO recorded. Systemic lupus erythematosus (SLE) was the leading diagnosis followed by spondyloarthritis (SpA) and rheumatoid arthritis (RA). Antiphospholipid syndrome (APS) was diagnosed in 49 (13.9%) preg. We documented 284 (78%) live births (9 twin preg), 32 (10%) miscarriages, 7 (2%) elective abortions, 2 stillbirths (0.6%) and 2 ectopic preg; 35 (10%) of the overall preg were lost to follow up before delivery. Miscarriages occurred predominantly in pts with APS (34%). Fetal growth restriction (FGR) was recorded in 6% of preg, more than 1/3 of those in pts with APS. Preeclampsia (PE) complicated a total of 10 (4%) preg, 3 of those with superimposed HELLP syndrome, with SLE and APS accounting for 60% of the cases. Preterm births (15.5%) occurred mainly in APS, SLE and juvenile idiopathic arthritis (JIA) pts. Neonatal lupus ensued in 3 (3.8%) preg positive for anti-Ro/La antibodies. No neonatal deaths were recorded. SpA and RA represented the diseases which flared the most considering both pregnancy and the postpartum period.