Conclusion: Forty percent of U.S. rheumatologists participating in RISE used the registry for federal quality reporting. Physicians using RISE for reporting were disproportionately in small and solo practices, suggesting that the registry is fulfilling an important role in helping these practices participate in national quality reporting programs. Supporting small practices is especially important given the workforce shortages in rheumatology. We observed that practices reporting through RISE had higher measure performance than other participating practices, which suggests that the registry is facilitating quality improvement. Studies are ongoing to further investigate the impact of federal quality reporting programs and RISE participation on the quality of rheumatologic care in the United States.

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FRI0525

INFLUENZA VACCINATION COMPLIANCE AND RESPONSE IN AUTOIMMUNE INFLAMMATORY RHEUMATIC DISEASE PATIENTS: A COHORT STUDY

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Background: Patients diagnosed with autoimmune inflammatory rheumatic diseases (AIIRD) have higher risk of developing infections due to immunological dysfunction and immunosuppressive treatments. Current guidelines recommend annual influenza vaccination to reduce infection risk in this group of patients. However, vaccination response in these patients is uncertain.

Objectives: To study influenza vaccination compliance and response in a Danish AIIRD patient population.

Methods: AIIRD patients on biological treatment ± synthetic disease-modifying antirheumatic drugs (sDMARDs) in our department of rheumatology and registered in the Danish Rheumatology database (DANBIO) were included in the current study. The patients were encouraged to be vaccinated against influenza in the 2018/19 winter season. Status of influenza vaccination for the period of 1.9.2018 to 31.12.2018 was reviewed in each patient using the Danish Vaccination Register (DDV) and Danish Electronic Medicine Module (FMK). Patient data were collected by review of the medical files. Serum samples from each patient were collected on two occasions: 1) from 1.6.2017 to 15.5.2018 (before vaccination) and 2) from 1.11.2018 to 1.3.2019 (after vaccination), respectively. Antibody titers against the three antigens included in the trivalent 2018/2019 seasonal influenza vaccine were measured by hemagglutination inhibition assay followed by determination of geometric mean titers (GMT).

Results: Among a total of 226 study eligible AIIRD patients, 111 (49%) had been influenza vaccinated. In the remaining group of 115 (51%) non-vaccinated patients, 50 were randomly contacted by telephone to ensure the accuracy of DDV registration. All 50 confirmed non-vaccinated status. Median age of vaccinated group was 65 years while of non-vaccinated group was 57 years ($p \leq 0.00001$). Median GMT increased from 10 to 22 in the group of vaccinated patients versus from 6 to 10 in the group of non-vaccinated patients ($p < 0.0001$). GMT increased ≥ 2 -fold in 79 (71%) of 111 influenza vaccinated in comparison to 60 (52%) of 115 non-vaccinated patients ($p \leq 0.003$). Among influenza vaccinated patients, median age of responders (≥ 2 -fold increase in GMT) was 66 years versus non-responders 63 years ($p = 0.3$). In the influenza vaccinated group, ≥ 2 -fold increase in GMT was seen in 51 (73%) of 70 patients receiving methotrexate compared to 28 (68%) of 41 in patients not receiving methotrexate ($p = 0.6$).

Conclusion: Only half of the patients were compliant to the vaccination recommendations in the 2018/2019 influenza season despite the information campaign. Response rate of influenza vaccination (≥ 2 -fold GMT increase) was 71% in AIIRD patients receiving immunosuppressive treatments. In contrast to other studies, concurrent methotrexate treatment did not attenuate serological response of influenza vaccination. We are still exploring the causes of increased influenza antibody titers in non-vaccinated group.

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FRI0526

THE INCIDENCE, PREVALENCE AND MEDICATION USE OF RHEUMATOID ARTHRITIS AMONG KOREAN WOMEN IN CHILDBEARING YEARS: A NATIONWIDE POPULATION-BASED STUDY

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Background: Rheumatoid arthritis (RA) predominantly affects women and has a significant impact on childbearing. Several population-based studies identifying incidence, prevalence, and medication use of RA have been reported, yet epidemiological studies focusing on women with RA in childbearing years are missing.

Objectives: We aimed to identify the incidence, prevalence and medication use of RA among Korean women in childbearing years.

Methods: From National Health Insurance Service (NHIS) data (2009–2016), containing inpatient and outpatient claim information for approximately 97% of the Korean population, we identified 9,217,139 women aged between 20–44 years. Incidence and prevalence of RA in the specific sociodemographic group of women in childbearing age were analyzed, and the prevalence of medication prescription were compared between women with RA and controls without rheumatic diseases such as RA, systemic lupus erythematosus, and ankylosing spondylitis. Individuals with RA were defined by the presence of International Classification of Disease, 10th revision code, M05. The medication use was defined as receiving > 90days prescriptions of NSAIDs, corticosteroids (CSs), and conventional synthetic (cs) disease modifying antirheumatic drugs (DMARDs) or > 1day prescription of biologic (b) DMARDs.

Results: Total 24,590 women with RA were identified. The average incidence of RA during 2011–2016 among women in childbearing years was 24.1/100,000 person-years (PYs) (95% CI 20.91–27.31) with a yearly increase from 20.99/100,000 PYs in 2011 to 28.38/100,000 PYs in 2016. The average prevalence of RA during 2009–2016 among women in childbearing years was 105.2/100,000 PYs (95% CI 99.0–111.5) with a minimum of 95.7/100,000 PYs in 2009 and a maximum of 110.5/100,000 PYs in 2016. There were increasing trends in both incidence and prevalence of RA according to age among women in childbearing years peaking in the age group of 40–44 years. The prescriptions of NSAIDs, CSs, csDMARDs and bDMARDs were more frequent in women with RA than controls (NSAIDs; 94.21% vs 21.79%, CSs; 83.65% vs 4.28%, csDMARDs; 91.23% vs 0.41%, bDMARDs; 0.11% vs 0%, $p < 0.001$).

Conclusion: The incidence and prevalence of RA are high among Korean women in childbearing years, and medication use was significantly more frequent in this specific population than controls. High disease burden is imposed upon women in childbearing years.

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Table 1. Medication use among women with RA and controls in childbearing age between 20–44 years during 2009–2016

	Control (n=155,486)		RA (n=23,756)		P
	n	(%)	n	(%)	
NSAIDs	33,887	(21.79)	22,380	(94.21)	<.0001
Steroids	6,653	(4.28)	19,871	(83.65)	<.0001
csDMARDs	634	(0.41)	21,673	(91.23)	<.0001
bDMARDs	0	(0.00)	27	(0.11)	<.0001

RA, rheumatoid arthritis; NSAID, non-steroidal anti-inflammatory drug; cs, conventional synthetic; b, biologic; DMARDs, disease modifying antirheumatic drugs

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FRI0527

THE EFFECT OF A NURSE-LED PREDNISOLONE TAPERING REGIME IN POLYMYALGIA RHEUMATICA: A RETROSPECTIVE COHORT STUDY

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Background: The cornerstone treatment of polymyalgia rheumatic (PMR) is prednisolone, which has several side effects such as osteoporosis and type 2 diabetes [1]. Therefore, the duration of prednisolone treatment should be as short as possible. Previous studies indicate that only 10-30% has discontinued prednisolone after 1 year and approximately 50% after 2 years [2].

Objectives: To investigate the efficacy of a nurse-led prednisolone tapering regime in patients with PMR compared to usual care.

Methods: The study is a single center retrospective cohort study with a 2-year follow-up. Prednisolone dose was evaluated after 1 and 2 years.

A nurse-led PMR clinic was introduced June 1st, 2015 and patients diagnosed until June 7th, 2017 were included. Patients were diagnosed by a physician, and subsequently managed by nurses according to a specific protocol, with prednisolone tapering from 15 mg to discontinuation after 52 weeks. Regularly blood tests and telephone interviews were performed and a rheumatologist was involved if deemed necessary.

Patients diagnosed with PMR between June 1st, 2012 and June 1st, 2015 served as controls. They received standard care by a rheumatologist.

The Danish guidelines for managing PMR remained unchanged throughout the study period.

The study population was identified by searching the electronic patient journal for the PMR diagnosis. Data collection was performed by four experienced rheumatologists. Data were obtained from the Electronic Patient Journal of Central Denmark Region and recorded in the RedCap database.

Results: Five hundred and seventy patients were screened. Patients not diagnosed with PMR, with simultaneously giant cell arteritis, with relapse of known PMR, or prednisolone treatment for more than 4 weeks prior to the diagnosis were excluded. Sixty eight patients received standard care and 107 nurse-led care. There was no statistical difference between groups regarding reason for exclusion.

At baseline there was no difference between patients receiving standard care and nurse-led care regarding gender, mean age (70.7 years vs. 72.2 years), clinical findings, symptoms, level of C-reactive protein (43.4 mg/L vs. 39.7 mg/L), anti-citrullinated protein antibody and rheumatoid factor status. Median (IQR) prednisolone starting dose in the standard care group was 15 mg (15-25) vs. 15 mg (15-15) in the nurse-led care group ($p=0.008$).

After 1 year 29.4% of patients receiving standard care had discontinued prednisolone vs. 35.5% receiving nurse-led care ($p=0.403$). Median (IQR) prednisolone dose after 1 year was 3.75 mg (0-5) in the standard care group and 1.25 mg (0-3.75) in nurse-led care group ($p=0.004$). After 2 years 60.3% of patients receiving standard had discontinued prednisolone vs. 82.2% receiving nurse-led care ($p=0.001$). Median (IQR) prednisolone dose after 2 years was 0 mg (0-2.5) in the standard care group and 0 mg (0-0) in the nurse-led care group ($p=0.004$). There was no difference between groups regarding relapse of PMR and initiation of MTX treatment in either year 1 or 2.

Conclusion: A tight and systematic approach to prednisolone tapering in PMR is more effective than usual care. The results should be confirmed in a prospective setting.

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FRI0528

INDICATORS OF EFFECTIVENESS AFTER 6 YEARS OF FOLLOW-UP OF PATIENTS IN THE FLS DR. NEGRIN

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Background: Data on the effectiveness of FLS in the medium and long term in Spain are needed

Objectives: To analyze the indicators of long-term persistence to treatment, refracture and mortality in our Fracture Liaison Service (FLS)

Methods: Throughout 2019, the medical records of patients with an indication of treatment to prevent new fractures whose baseline visit took place between 2012 and 2014 were reviewed. The data included those of the baseline visit (age, sex, type of index fracture, FRAX scale and DXA results) and for the follow-up (death and date, refracture including revision of spine x-rays - it was considered only the first refracture and, in the case of several fractures the most serious was chosen-, prescribed treatment, persistence of treatment through electronic prescription on the date of review or death, and MPR or proportion of days covered by treatment).

Results: 399 patients were included, 335 of them women (84%), mean age 73.8 years (range 51-93) and average follow-up of 6 years (range 5.5-7 years).

Baseline visit.- The average FRAX was 15 and 7 for major fracture and femoral fracture respectively. DXA was normal in 22 patients (5.5%), osteopenia in 143 (35.8%) and osteoporosis in 234 (58.6%). 78 patients (19.5%) had a previous fragility fracture.

Type of fracture index: femur 126 (31.5%), forearm 119 (29.8%), humerus 76 (19%), vertebra 24 (6%), others 54 (13.5%). 80 patients (20%) had received prior treatment for osteoporosis.

Follow-up.- The persistence of treatment was assessed in 394 patients; 245 patients (62%) were prescribed a treatment on the most recent date, 200 (51%) with MPR $\geq$ 80%. When analyzing patients with prescribed treatment, in 176 cases (72%) it was a bisphosphonate in a sustained manner, in 23 cases (9%) a bisphosphonate was prescribed and subsequently changed to denosumab, while in 45 cases (18%) it was initiated and maintained denosumab.

71 of 397 patients presented a new fracture (17.8%). The type of incident fracture was as follows: femur in 24 patients (34%), vertebra in 20 patients (28%), forearm in 9 patients (12%) and other fractures in 18 patients (25%). Refracture occurred in 9 patients in the first year, 16 in 2nd, 12 in the 3rd, 9 in 4th, 14 in 5th, 6 in 6th and 3 in 7th year. The persistence of treatment with MPR $\geq$ 80% was similar in patients with and without refracture (52 vs 51%). The average baseline age and FRAX for major fracture in the fractured and non-fractured were 75 vs. 73 years ($p=0.10$) and 17 vs. 14 respectively ($p<0.01$).

92 patients (23%) died, 25% of them in the two years that followed the baseline visit and 61% in the following 4 years. The persistence of treatment was 37% in those who died and 69% in those who remained alive ($p<0.01$).

Conclusion: After an average of 6 years after the assessment in an FLS, the persistence of treatment was 62% (MPR $\geq$ 80% in 51%), the mortality was 23% and the percentage of refractured patients was 17%.

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FRI0529

IS COTRIMOXAZOLE PROPHYLAXIS AGAINST PNEUMOCISTIS JIROVENCII PNEUMONIA RECOMMENDED IN PATIENTS WITH SYSTEMIC AUTOIMMUNE DISEASES REQUIRING IMMUNOSUPPRESSIVE THERAPIES? A SYSTEMATIC LITERATURE REVIEW.

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Background: The incidence of Pneumocystis jirovecii pneumonia (PCP) has increased substantially during the past years in patients with systemic autoimmune diseases (SAD). Mortality associated to PCP was reported to be up to 20 to 58%, particularly in those receiving immunosuppressive therapy, such as tumoral necrosis antagonist factors or glucocorticoid therapy. Though, there is clear evidence of the effectiveness of Cotrimoxazole against PCP, the risk of adverse effects is important, increasing morbidity and mortality. Up to date, there is no consensus about the need of PCP prophylaxis in SAD patients with immunosuppressed therapies.

Objectives: To analyse the efficacy and safety of Cotrimoxazole prophylaxis against PCP in SAD adult patients receiving immunosuppressive therapies.

Methods: We performed a comprehensive literature search, screening different databases, MEDLINE, EMBASE and Cochrane Library up to April 2019. Outcomes covered prevention of PCP or other infections, morbidity, mortality and safety. All categories of studies were included. Two reviewers selected and