Abstract AB1252 – Table 1. Characteristics of patients with RA and comorbidities

Pain medication	n	%
Non-opioids	2234	52
Opioids	990	23
NSAID	67	2
COMBINATIONS		
Non opioids +Opioids	430	10
Non opioids +NSAID	309	7
Opioids+NSAID	209	5
All	70	2

Conclusions: Rheumatoid arthritis is a pain associated condition; two thirds of patients are using of pain medications mainly women; the most prescribed medication was paracetamol or opioids, coinciding with other studies.² This descriptive study is useful for further studies to develop in Latin America.

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AB1253 ANALGESIC DRUGS AND RISK OF ISCHAEMIC STROKE IN PATIENTS WITH OSTEOARTRITIS: A REAL WORLD DATA CASE-CONTROL STUDY

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Background: Pharmacological treatment of osteoarthritis (OA) usually include analgesics, non-steroidal anti-inflammatory drugs (NSAID) and symptomatic slow-acting drugs in OA (SYSADOA). The association between these groups of drugs and the risk of ischaemic stroke has not been properly addressed.

Objectives: To analyse the risk of stroke in patients using analgesics, NSAID and SYSADOA drugs.

Methods: We used a population-based patient hospital registry to identify all patients with a first-ever stroke discharge diagnosis between 2009–2015. Cases were matched to controls obtained from the Information System for Research in Primary Care (SIDIAP) database. Information on drug exposure was obtained from invoice data from pharmacies. Crude and adjusted odds ratios (OR, OR_{adj}) and their 95% confidence interval (95% CI) were calculated using multivariate models of conditional logistic regression for the next pharmacological groups and individual agents of each group: acetic acid derivatives, oxycams, propionic acid and derivatives, coxibs, SYSADOA and analgesics (opioids, metamizole and paracetamol). A cardiovascular risk score was calculated for each subject based on comorbidities.

Results: 12 616 cases were matched to 1 25 264 controls by gender, age and geographic area. Among cases, 43% were women. The mean age was 72.6 (IQR 65–82) years and more cases were classified as high cardiovascular risk patients (n=2,511, 19.9%) than controls (n=12,467, 10.0%). Mortality in the following year after the index date was higher for cases (n=2,633, 20.9%) than for controls (n=8,168, 6.5%). A higher percentage of cases had a previous diagnosis of ischaemic heart disease, 13.8% (n=1,745) vs 7.7% (n=9,656) of the controls. OA diagnosis was present in 2823 (22.4%) cases and in 29 098 (23.2%) controls. Paracetamol was the most used drug (n=106,515, 77.3%) followed by ibuprofen (n=84,790, 61.5%).

Current users of acetic acid derivatives showed an increased risk of stroke [OR_{adj} (95% CI) 1.10 (1.01–1.19)], so did diclofenac [OR_{adj} 1.14 (1.04–1.25)]. Among the propionic acid derivatives, current users showed an increased risk [OR_{adj} 1.24 (1.27–1.32)], dextketoprofen showed the highest risk [OR_{adj} 1.42 (1.25–1.60)] and naproxen the lowest [OR_{adj} 1.18 (1.02–1.37)]. The SYSADOA group did not show any increased risk for any type of exposure, with a decreased risk of 17% [OR_{adj} 0.83 (0.77–0.91)] for lifetime glucosamine exposure and a 22% [OR_{adj} 0.84 (0.78–0.90)] for chondroitin sulfate. Analgesics were the most consumed drugs,

and cases were more exposed to all subgroups of analgesics than controls. While the non-adjusted OR showed an increased risk of stroke for lifetime exposure for all agents in this group, this association was not observed with the adjusted OR_{adj} for fentanyl, neither buprenorphine, but it showed a risk for current users of metamizole [OR_{adj} of 1.67 (1.56–1.80)], tramadol [OR_{adj} 1.15 (1.06–1.24)] and paracetamol [OR_{adj} 1.43 (1.37–1.51)].

Conclusions: Current exposure to NSAIDs, tramadol, metamizole and paracetamol is a risk factor for ischaemic stroke. Exposure to chondroitin sulphate and glucosamine are associated with a lower risk of ischaemic stroke.

Disclosure of Interest: None declared

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AB1254 IMPROVING RHEUMATOLOGIC CARE AND EDUCATION IN THE REPUBLIC OF MACEDONIA: A MODEL FOR PROMOTING RHEUMATOLOGIC EDUCATION IN A DEVELOPING COUNTRY

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Background: In 2011 ILAR supported a pilot project in training a rheumatologist in an underserved area in Macedonia. The pilot took place in the clinical centre of Bitola. Previously, rheumatologic care was provided by visiting rheumatologists from the rheumatology clinic in the capital city.¹

Objectives: The primary goal of this project was to pilot a model in rheumatologic training and improve rheumatologic care in an underserved area in Macedonia.

Methods: An internist from the clinical centre in Bitola was enrolled in a two-year training by the Rheumatology clinic at Ss Cyril and Methodius University in Macedonia, and the rheumatology division at the University of Michigan. Pre intervention metrics of quality of care as measured by access, standard therapy, and DAS 28 scores were compared with post intervention metrics.

Results: The primary goal of the project enabled training of a rheumatologist. A local internist completed her training in rheumatology (2014), and established a rheumatology clinic within the clinical centre in the city of Bitola in 2014, providing daily access to patients with rheumatic conditions in a region with a population of 3 00 000. Patient access changed from 120 visits/month to 800 visits/month. The service provided consultations to hospitalised patients.

The secondary endpoints: quality of care as measured by standard therapy for rheumatoid arthritis and DAS-28 scores are as shown on table 1.

Abstract AB1254 – Table 1

Rheumatoid Arthritis patients	Pre-intervention 2011 (n=115)	Post-intervention 2017 (n=86)	Statistical Significance
Patients taking methotrexate	44%	53%	
Methotrexate dose	11.5 mg (10–15 mg)	13.9 mg (10–25 mg)	p<0.00001
Combination therapy*	39%	38.5%	NS
Dual therapy*	31%	35%	NS
Triple therapy*	3.5%	5%	NS
DAS-28 average	4.8	4.41	NS

MTX=methotrexate; *methotrexate, sulfasalazine, leflunomide, antimalarial (chloroquine, hydroxychloroquine)

Post intervention, more patients were taking methotrexate and at higher doses. Despite this trend, its average dose was less than 50% of its maximal dose (25 mg/week) commonly used in standard practice. The frequency of combination therapy remained unchanged. Likewise, no significant change in the DAS-28 score was observed.

Conclusions: Prior to launching the pilot, the rheumatologic care in this region was provided by visiting rheumatologists from the university clinic in the capital city. Initial assessment pointed to several obstacles: poor access and substandard therapy that likely contributed to the prevalence of high disease activities. Our pilot succeeded in training a rheumatologist, thus reaching our primary goal of improving local access to rheumatic care. The secondary goals of improving the quality of care as measured by the DAS-28, standard of therapy for rheumatoid arthritis- reflected by appropriate use of DMARDs (use of methotrexate, combination therapy) showed a modest improvement While higher doses of methotrexate were used, combination therapy and better control of rheumatoid arthritis (DAS-28) remained unchanged, thus posing a challenge for ongoing need and future intervention goals.

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AB1255

A REVIEW OF CASE-MIX AND CENTRE EFFECT ADJUSTMENT IN EARLY RHEUMATOID ARTHRITIS COHORTS

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Background: Observational cohort studies have been utilised extensively in early Rheumatoid Arthritis (RA), regularly conducted across multiple centres spanning regional and national boundaries. Case-mix and centre effect are considerations essential for determining comparability of results, and likely prevalence of bias. There is currently no standardised approach for case-mix and centre effect adjustment in early RA observational cohorts.

Objectives: Describe the spectrum of methodologies used to address case-mix and centre level effects on outcomes in multi-centre early RA observational cohort studies.

Methods: Inclusion criteria were cohorts recruiting from 2 or more centres with 100 or more subjects, with a Rheumatologist diagnosis of RA or EIA within the last 24 months. A systematic electronic search of publications was undertaken. Papers were reviewed by two researchers independently. Reference lists of included papers were reviewed for further relevant publications. A search of all included papers' authors was also conducted. Detail on cohort characteristics, case-mix data collection and adjustment, and consideration of centre-level effect in analyses were collected.

Results: 1047 papers were identified from the initial search. A total of 20 unique cohorts were identified. Reference review and author search produced 14 more, to make a total of 34 unique observational cohorts drawn from 205 papers. The cohorts were mainly conducted in Europe (24/34, 71%), With 2 (6%) from less economically developed regions. The period of data collection was between 1955 and 2017.

Case-mix: All cohorts considered case-mix in some form (e.g. age and gender), but with heterogeneous approaches. The figure displays the relative frequencies of sociodemographic variable consideration across all included papers.

Centre effect: 18/205 (9%) of the included papers accounted for centre in their results, utilising a range methodologies. Where reported, centre had a significant impact.

Abstract AB1255 – Figure 1

Conclusions: The degree of case-mix reporting varied widely, and few studies addressed centre effect. Where analysed, a centre level impact was clearly apparent. A failure to incorporate centre into analyses can lead to unrecognised bias as a result of confounding by centre. It must be acknowledged that including case-mix variables and adjusting for centre substantially reduces power, and it is likely that many of the reported observations may have lost statistical significance had case-mix and centre effect been addressed more completely. This is the first

systematic review of centre effect and case-mix in early RA, and highlights a challenging field deserving further research.

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AB1256

DEVELOPMENT OF A NATIONAL SERVICE FOR BIOLOGIC DRUG MONITORING

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Background: Monitoring serum levels of biological drugs has well recognised benefits for patients and health services. These include appropriate dosing, avoidance of overtreatment, identification of drug failure due to immunogenicity, cost and facilitation of switching therapy.¹

Objectives: To establish a national service for monitoring serum levels of biological drugs.

Methods: National Services Scotland established a working group comprised of clinicians, lead pharmacist and Director of Public Health to help optimise biological drug prescribing. (Effective Prescribing Programme Biologics -EPPB). It was recognised that ad-hoc biologic drug monitoring (BM) posed a risk of variation in standards and inequity of access. Existing test volume and cost was established and a business case submitted to the CEO's of each Health Board in Scotland for a national service, testing adalimumab and infliximab twice yearly in 2265 patients. Potential cost savings based on drug withdrawal of 2.5%, 5%, 10%, and 15% in gastroenterology patients ranged from 400,000Euro to 3.5 million Euro. Additional savings for dose reduction in rheumatology patients were not costed but likely to incur further financial advantage.

Results: The case was accepted and service tendered. A single site in Glasgow will run the assays (purchased from Grifols) commencing December 2017. The cost modelling predicts a 50% reduction in cost per test compared to existing arrangements. Cost for the whole service will be divided between the commissioning Health Boards with outlay proportional to patient population. The EPPB developed specialty specific advice and an ordercomm with minimum dataset accessible from all Health Boards with the option of retrospective interrogation. A national educational event is scheduled to improve clinician confidence and awareness.

Conclusions: To our knowledge this is the first national fully funded biologic drug monitoring service with access to all users of biological drugs. Its introduction will: 1. Support the implementation of national standards of care to ensure the effective and cost effective use of biologic medicines 2. Ensure equity of access to BM across Health Boards. 3. Provide a stronger position for procurement of biologic drugs (uncomplicated by additional service offerings) 4. Provide a sustainable service for Scotland, independent of the drug manufacturer.

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AB1257

IMPACT OF A SYSTEMATIC SCREENING OF MULTIMORBIDITIES IN PATIENTS WITH CHRONIC INFLAMMATORY RHEUMATIC DISEASES

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Objectives: EULAR proposes to screen multimorbidities in chronic inflammatory rheumatic diseases. The aim of the study was to assess i) multimorbidities in patients with chronic inflammatory diseases, ii) how patients follow recommendations given after a systematic standardised multimorbidity screening.

Methods: Exams were performed during a 1 day multimorbidity clinic. Diabetes, hypertension, CVD damage, chronic respiratory diseases, osteoporosis and preventive measures were assessed. Advice, complementary exams and prescriptions were provided to patient and general practitioner after this check-up if needed. Patients were called 3 months later to assess the applications of the given recommendations.