Conclusion: Therapeutic decision-making based on validated disease activity scales has allowed the BT optimization in approximately 53% of patients with RD. BT optimization allowed a pharmaceutical saving of € 177,539.40 per year being higher in the SA (€ 850.40) followed by the RA (€ 707.63) and finally the PsA (€ 493.21)

The BT optimization allows to reduce costs maintaining the effectiveness and safety.

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AB1151 COMPLIANCE/CONCORDANCE WITH MYCOPHENOLATE MOFETIL IN PATIENTS WITH CONNECTIVE TISSUE DISORDERS IN COVENTRY.

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Background: Connective tissue disorders like Systemic lupus erythematosus (SLE) are multi-organ systemic conditions characterised by disordered immune function. Mycophenolate Mofetil (MMF) is commonly used for treatment of SLE¹ and other connective tissue disorders like Sjogren's syndrome, myositis and Scleroderma. Compliance with drugs remains a significant issue in management of these conditions and varying reports from across the world^{2,3} continue to show significant lack of concordance resulting in increased disease activity and damage.

Objectives: The aim of this study was to investigate the compliance/concordance specifically with MMF treatment among patients attending clinics at University Hospitals Coventry and Warwickshire NHS Trust (UHCW) with SLE and other connective tissue disorders.

Methods: Ethical approval was obtained through research and development department within the Trust. This is a retrospective study collating non-identifiable hospital pharmacy data in patients who requested the prescription for MMF drug between January 2015 and December 2018. Since MMF was required to be prescribed from the hospital (i.e. General practitioners within the region were unable to prescribe it), we have records for all prescriptions for these patients. We extracted information on sample size, frequency of prescription requested and length of follow up. Clinical data were obtained from paper and electronic notes of the patients. Data were analysed using the data analysis tool pack for linear regression, on Microsoft Excel package version 16.29.1.

Results: We recruited 144 patients into this study, (74%) of these are females. Age range for this group was 2-89 years, median age was 45 (±11.2) years with a mean (±SD) age of 35.6 (±11.2) years and a disease duration of 8.8 (±6.2) years. 73.1% were White British, the remaining included 8.3% Indian, 5.5% Pakistani, 2.7% Black British, 2% Caucasian, 2.1% Chinese, and 6.3% other. Overall, we had 54 patients with SLE and 90 Patients with other connective tissue disorders. Good compliance (81-100%) with MMF therapy was seen in 49 patients, (34%). Poor compliance (0-20%) was seen in 13 patients, (9%). We found a significant correlation between lack of compliance and risk of flares ($r = 0.25$, $p < 0.002$), displayed in Figure 1. We also found a significant difference in compliance patterns depending on diagnosis and also on age. SLE patients were 34% less compliant with MMF in comparison to other connective tissue disorders. Demographics suggested the degree of compliance increased with age. Patients between 40-69 years of age were 65% more compliant in comparison to the age 20-39 years ($p < 0.002$).

Conclusion: SLE and connective tissue disorder patients within Coventry continue to have issues relating to compliance/concordance with MMF treatment and this appears to be worse in patients with SLE and in the 20-39 years of age. These patients also appear to be getting flares hence, this remains a major problem in the management of these conditions.

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Figure 1. Relationship Showing %Compliance and Risk of Flares

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AB1152 INCREASED VACCINATION RATE AMONG PATIENTS UNDER BIOLOGICAL DMARDS AFTER INFECTIOUS RISK ASSESSMENT CLINIC

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Background: Infectious complications are a major concern among immunosuppressed patients. In an attempt to ameliorate these, EULAR released an updated version of their recommendations for vaccinations in patients with rheumatic diseases. These should resonate even further, since our patients are deliberately immunosuppressed in order to achieve remission. In 2018, an Infectious Risk Assessment Clinic (IRAC) was created in our centre to address these issues and prepare patients for biological therapy. This work summarizes our experience.

Objectives: Compare vaccination rate among patients with rheumatic diseases under biological therapy before and after the clinic creation.

Methods: A retrospective observational study was conducted in our Rheumatology Department and IRAC, at Local Health Unit of Guarda. All patients under biological therapy followed in our department from 2010 to 2020 were chart reviewed. Sociodemographic and clinical features were collected: sex, age, rheumatic disease diagnosis, current biological treatment and their vaccination history. Studied vaccines were Pneumococcal 13-valent conjugate, Pneumococcal vaccine polyvalent, Influenza virus, Hepatitis A and B, Herpes Zoster and Tetanus/Diphtheria. Patient was considered vaccinated when the correct schedule was followed by the attending physician. If prescription was outside the stipulated timing, it was considered not vaccinated. Chi-square and Fisher's exact test were used to assess associations and $p < 0.05$ was considered statistically significant different.

Results: 65 patients were included, 41 (63.10%) were females, with a mean age of 52.38 ± 11.11 years. Diagnosis distribution is the following: rheumatoid arthritis (52.30%), axial spondylarthritis (26.20%), psoriatic arthritis (12.30%), peripheral spondylarthritis (6.20%), 1 (1.50%) patient with Sjögren Syndrome and 1 (1.50%) with systemic sclerosis. Most common drugs were anti-TNFα (64.60%), anti-JAK (15.40%), anti-IL17A (10.80%), anti-CD20 (7.70%) and anti-IL12/IL23 (1.50%). Of all patients, 24 (36.90%) attended IRAC before starting biological therapy. Table 1 shows prescribed vaccines in both groups and their associations.

Table 1. Prescribed vaccines in both groups ($p < 0.05$).

	IRAC attended	IRAC not attended	P
Pneumococcal 13-valent conjugate			0.24
Prescribed	23 (95.83%)	34 (82.93%)	
Not Prescribed	1	7	
Pneumococcal vaccine polyvalent			0.01
Prescribed	19 (79.17%)	19 (46.34%)	
Not Prescribed	5	22	
Influenza virus			<0.01
Prescribed	22 (91.67%)	12 (29.27%)	
Not Prescribed	2	29	
Hepatitis A			0.05
Prescribed	3 (12.50%)	0 (0.00%)	
Not Prescribed	21	41	
Hepatitis B			<0.01
Prescribed	12 (50.00%)	0 (0.00%)	
Not Prescribed	12	41	
Herpes Zoster			0.37
Prescribed	1 (4.17%)	0 (0.00%)	
Not Prescribed	23	41	
Tetanus/Diphtheria			0.14
Prescribed	3 (12.50%)	1 (2.44%)	
Not Prescribed	21	40	

Conclusion: A few conclusions can be drawn from this work. Firstly, prevalence of vaccination increased after clinic creation, especially for Pneumococcal vaccine polyvalent, Influenza virus, Hepatitis A and B. We would expect the same results in the remaining vaccines in a broader population. Our results were also affected by stock rupture in our country. Secondly, this study shows the importance of a protocol, which helps systemise assessment of infectious risk before biological therapy, by analysing thoroughly vaccination history and keeping it updated. Lastly, shared responsibility between rheumatologists and infectiologists enables them to leverage their skills and focus, leading to ultimate gains for the patient. We hope this work motivates colleagues to start similar practices in their centres.

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AB1153

ANALGESIC AND ANTI-INFLAMMATORY DRUG USE IN PATIENTS WITH RHEUMATOID ARTHRITIS, PSORIATIC ARTHRITIS AND SPONDYLOARTHRITIS VERSUS CONTROLS IN A BELGIAN GENERAL PRACTITIONER REGISTRY.

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Background: Rheumatoid arthritis (RA), psoriatic arthritis (PSA) and spondyloarthritis (SPA) are the most common inflammatory rheumatic diseases. Pain is the hallmark symptom in these conditions and pain relief is ranked first amongst preferred outcomes by patients. Level of analgesic and anti-inflammatory drug use is unknown in these populations in Belgium.

Objectives: To compare analgesic and anti-inflammatory drug use in patient populations of RA, PSA and SPA versus controls in a General Practitioners (GP) setting in an era of expanding treatment possibilities in rheumatology.

Methods: Data were obtained from Intego over a 13-year time interval from 1999 to 2012. Intego is a Flemish GP-based morbidity registration network hosted at the Academic Center for General Practice of the KU Leuven, covering 2% of the Flemish general population. Patients classified under the International Classification of Primary Care codes L88 (rheumatoid/sero-positive arthritis) and L99 (musculoskeletal disease other) were selected for this study. Experienced rheumatologists verified if the keywords mapped to these codes corresponded to a diagnosis of RA/SPA/PSA. The date of these diagnoses in Intego was considered "baseline". Controls were matched on age, gender, baseline date and GP practice in a 4:1 case ratio. Intego registers all electronic drug prescriptions by the GP. Anytime use of glucocorticoids, NSAIDs, opioids except tramadol, tramadol and paracetamol in the first 3 years after diagnosis is presented. Proportions of patients and controls on analgesic and anti-inflammatory drugs were compared by Chi-Square analyses.

Results: Over a 13-year period, 738, 229 and 167 patients were included with a diagnosis of RA, SPA or PSA, respectively. Table 1 presents the medication use of these populations. The three conditions had statistically significantly more prescriptions for all types of analgesic and anti-inflammatory drugs compared to controls. Approximately 70% of patients with an inflammatory rheumatic condition received mild pain medication (NSAIDs, Tramadol and Paracetamol) in the first three years after diagnosis. To note is the high use of opioids, even excluding tramadol, in these populations ranging up to 15%.

Table 1. 3-year analgesic and anti-inflammatory drug use in RA, SPA and PSA patients versus controls

Medication	RA	RA Control	SPA	SPA Control	PSA	PSA Control
Number of patients	738	2952	229	916	167	668
Glucocorticoids	241(33%)	348(12%)	29(13%)	70(8%)	47(28%)	67(10%)
NSAIDs	455(62%)	1156(39%)	161(70%)	340(37%)	114(68%)	267(40%)
Opioids	109(15%)	263(9%)	31(14%)	53(6%)	24(14%)	45(7%)
Tramadol	87(12%)	150(5%)	22(10%)	28(3%)	16(10%)	26(4%)
Paracetamol	233(32%)	598(20%)	63(28%)	165(18%)	51(31%)	141(21%)
Total analgesic and anti-inflammatory drug use	506(69%)	1409(48%)	172(75%)	407(44%)	121(72%)	309(46%)

RA= Rheumatoid arthritis, PSA= psoriatic arthritis, SPA= spondyloarthritis. Total analgesic and anti-inflammatory drug is the sum of NSAIDs, Tramadol and Paracetamol. Anytime use of drugs are presented.

Conclusion: Frequent analgesic and anti-inflammatory drug use in patients with a chronic inflammatory joint condition is to be expected, and underlined by the results of our study. Remarkably is the high use of opioids, even excluding tramadol, in patients with RA, PSA and SPA in an era of effective disease modifiers, as well in the control population. Our data shows that around 9% of the Belgian population receives at least once over a 3-year period an opioid prescription. As our data only registers electronic GP prescriptions, this is likely to be an underestimation of the true prescription proportion. Detailed analyses on dose and duration of analgesic and anti-inflammatory drugs will follow.

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AB1154

EHR-INTEGRATED PATIENT-GENERATED HEALTH DATA FOR SYMPTOM MONITORING IN LONG-TERM CONDITIONS: A SYSTEMATIC REVIEW

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Background: Patients with long-term conditions (LTCs), including many RMDs, often require continuous management of care. Patient-generated health data (PGHD) collected between visits could inform ongoing care management and provide important insights into patient health and well-being. There is increasing interest in integrating PGHD in electronic health records (EHRs). However, integration is still largely aspirational with limited evidence of successful systems.

Objectives: To map the landscape of EHR-integrated remote symptom monitoring systems in the field of LTCs. The objectives were to 1) characterise state of the art systems, 2) describe their clinical use, and 3) outline anticipated and realized benefits for clinical practice.

Methods: A systematic search was conducted in three electronic databases up until November 2019. Titles and abstracts were independently screened by two reviewers. One reviewer screened full-text articles, identified those relevant for review and extracted data. Inclusion criteria included 1) symptom reporting systems in adult patients suffering a LTC, 2) integration of data into the EHR, 3) symptom data collected remotely, 4) evidence of use in clinical care. We did not exclude studies based on study design, quality, or sample size. Synthesis focused on describing system specifications and their use. For objective three we adopted a list of outcome indicators [1], which each of the studies were assessed against.

Results: The initial search yielded 2040 articles. Only 12 studies reporting on ten unique systems were identified. Two systems were used in rheumatology, but the majority were used in oncology. Systems were highly heterogeneous in terms of technical and functional specifications. Nine systems were fully integrated (data viewable in the EHR) while the remaining system represented a partial integration (data viewable via link in the EHR). Five systems allowed repeated data collection at