obtain a baseline DEXA in any individual with anticipated long-term steroid use, primary prevention with calcium, and vitamin D initiation and medical therapy when appropriate based on fracture risk assessments.

Objectives: The objective of this study was to determine how successfully the ACR GIOP guidelines are implemented in daily rheumatologic practice. The study investigates the prevalence of osteoporosis screening, prevention, and treatment in patients with rheumatologic diseases over a 2 year period at a large medical centre.

Methods: A retrospective cohort study of patients who received rheumatology care between 2014 and 2015 at a large medical centre was performed. Patients were included if they were older than 18 years of age, had a diagnosis of rheumatoid arthritis, systemic lupus, vasculitis, polymyalgia rheumatica, or gout and were receiving ≥ 5 mg prednisone daily for ≥ 90 days. Electronic medical records were reviewed and medication history was evaluated. Screening was defined as bone mineral density testing with DEXA within one year of glucocorticoid initiation. Primary prevention and treatment were derived from ACR GIOP criteria and included the initiation of appropriate doses of calcium and vitamin D and initiation of medical therapy to prevent bone loss. The prevalence of screening and treatment was assessed and the relationships with age, gender, and ethnicity were evaluated using Chi Squared analyses and independent samples t-tests.

Results: Of the 600 patients reviewed, 61 met criteria of new long-term glucocorticoid initiations. Overall 61% received BMD testing and 48% received osteoporosis primary prevention. Of those who qualified for treatment by ACR GIOP criteria, only 19% received treatment. Patients who received a baseline DEXA were older than those who did not (65 ± 15 vs 57 ± 16 years, $p=0.046$). Age did not influence treatment. More women compared to men received screening DEXA (68% F vs 41% M, $p=0.053$) and primary prevention (55% F vs 29% M, $p=0.078$). Patients who received a longer duration of steroid treatment were more likely to receive primary prevention (16 ± 10 months vs 10 ± 8 months, $p=0.015$). There was no association between ethnicity or disease status on screening, prevention, or treatment.

Conclusions: Glucocorticoid-induced osteoporosis in the setting of a rheumatology practice is a common and manageable condition that should be screened, prevented, and treated. These results from one large academic medical centre in the United States suggest that rheumatologists may not be following ACR guidelines for the assessment and management of patients on chronic steroids. Quality improvement initiatives may be necessary in order provide optimal care for patients.

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THU0662

IMPACT OF THE INTERVENTION OF A MULTIDISCIPLINARY ADHERENCE TEAM IN CLINICAL OUTCOMES OF PATIENTS WITH RHEUMATOID ARTHRITIS AND SPONDYLOARTHROPATHIES IN COLOMBIA

R. Pineda-Tamayo, K. Sanchez, M.-A. Alzate, D. Hernandez-Parra, D. Echeverry, P. Ortiz-Salazar, A. Rojas-Villarraga. *Rheumatology division, Artmedica IPS, Medellin, Colombia*

Background: The multidisciplinary adherence team (MAT) is a interprofessional health care group conformed by a general practitioner, a pharmaceutical chemist and a psychologist, which evaluate the patient to provide a simultaneous multidisciplinary approach focused on promoting strategies to improve adherence to treatment in patients with high disease activity of autoimmune or autoinflammatory pathologies

Objectives: To determine the impact of the MAT group intervention on the disease activity and therapeutic adherence of Colombian patients with rheumatoid arthritis (RA) and seronegative spondyloarthropathies (SpA).

Methods: A quasi-experimental analytical study was performed where 4.921 RA and 756 SpA patients were analysed, of which 395 and 90 respectively presented high persistent disease activity (from moderate to severe persistent), despite of conventional strategies implemented; therefore they underwent intervention by the MAT group between January and December of 2016. Clinical disease activity according to each disease (DAS28 and BASDAI measurements respectively) and adherence level (categories through the Morisky-Green test: no adherence, partial adherence, total adherence) were measured before and after the MAT intervention. The impact on disease activity and adherence level was determined through the McNemar test for independent samples

Results: A significant increase in the proportion of patients in total adherence level was found for both diseases when comparing the initial and final measurements after the intervention by the MAT (table 1). Furthermore, statistical significant differences in the disease activity level were found, identifying a reduction in the proportion of patients with moderate to severe disease activity (Graph 1, A and B) after the MAT intervention

Abstract THU0662 – Table 1. Impact in adherence in patients with RA and SpA underwent by the MAT group intervention

Treatment adherence (Morisky-Green test)						
	AR n=395			SpA n=90		
	Initial (%)	Final (%)	P-value	Initial (%)	Final (%)	P-value
No adherence	9,1	8,1	<0001	7,8	2,2	0002
Partial Adherence	40,8	32,9		37,8	40	
Total Adherence	50,1	59		54,4	57,8

Figure 1 A) Disease Activity in patients with RA (DAS28); B) Disease Activity in patients with SpA (BASDAI)

Conclusions: The intervention by the MAT interprofessional group is an efficient strategy impacting the disease activity and therapeutic adherence of RA and SpA patients, improving their clinical outcomes and the natural history of the disease. These findings are relevant and may highlight the potential benefits for the implementation of this approach in patients with devastating autoimmune diseases.

Disclosure of Interest: None declared

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THU0663

RHEUMATOLOGY ADOLESCENT AND YOUNG ADULT CARE: REAL WORLD CHALLENGES AND OPPORTUNITIES

R. Malaiva¹, S. Steer², S. Das², C. Mathews³, U. Davies⁴, E. Godbold⁵, S. Lamb⁶, S. Vale⁵, V. Goncalves¹, M. Sumbwanyambe, M. Sumbwanyambe⁷, S. Thurlbeck⁷, N. Wilkinson⁵, on behalf of Rheumatology Adolescent & Young Adult (RAYA) collaboration. ¹Guy's Hospital; ²King's College Hospital, London; ³Lewisham Hospital, London; ⁴East Surrey Hospital, Redhill; ⁵Elvelina Children's Hospital; ⁶Horne Hill GP Practice; ⁷St George's Hospital, London, UK

Background: Adolescents and young adults (AYA) form one sixth of the world's population and account for 6% of the world's global burden of disease. Those with chronic illness are particularly vulnerable. Globally, significant improvements in healthcare related morbidity and mortality have been seen, but not within the 10–24 year old group. Adolescence is a rapidly changing, formative phase of human development; opportunities exist to impact this through restructuring care pathways and patient empowerment.

Objectives: Establish awareness of current national guidance and identify unmet needs in existing rheumatology AYA systems.

Methods: Interested parties from South East England (South London, Kent, Surrey and Sussex) formed a multi-disciplinary, patient based, co-design initiative (RAYA collaborative) which included representatives from primary/secondary/tertiary care, allied health professionals and a youth worker/patient from the charity sector. Our discussions and an anonymous survey to hospitals in the region, formed the basis of a qualitative and quantitative analysis, which helped gain a holistic insight into the challenges and opportunities in delivering AYA care in our region.

Results: 15/20 centres, covering an 8 million population, responded; 4 tertiary care hospitals, 11 district general hospitals with 32 responses (19 consultants, 13 senior registrars).

31 (97%) of responders felt that AYA cohort (16–25 years old) required an approach different to that of older adults. 25 (78%) felt there was a need for dedicated AYA services. 23 (72%) and 17 (53%) were aware of UK national guidelines^{CQC 2014}/NICE NG43 2016 respectively) for transitional/integrated and coordinated care.

Barriers to developing dedicated AYA services (% of responders): Not a priority for NHS managers,³¹ other clinical priorities,³¹ insufficient patient numbers,²² not cost effective,¹⁹ unlikely to be commissioned,¹⁹ more research required,¹³ cohort by diagnosis,¹³ other ways to deliver care,¹³ only focus on transitioning patients from paediatrics¹³

Responders would like assistance in future care delivery through: Clinical toolkit: 63% n=20, Service commissioning toolkit: 43% n=14, Training: 43% n=14, Workshops: 47% n=15.

Potential low cost/cost neutral approaches to systems change, cultural change, education and sharing of resource were discussed (see image).

Questions	Comments/Discussion	Potential Solutions	Potential Outcomes/Actions
1. How to fund additional activity or support staff required for AYA service?	<ul style="list-style-type: none"> These patients are already being seen in the service so no additional activity needs to be accounted for Restructuring the service allows for a more streamlined and efficient use of services 	<ul style="list-style-type: none"> Restructuring the clinics into aged matched cohorts Slightly longer time slots (40mins New, 30mins Follow up) Support services - physiotherapy/ psychology run in parallel for "One stop shop clinics" A key worker (nurse/youth worker) has demonstrated significant improvements through helping to sign post to relevant support services 	<ul style="list-style-type: none"> Improves patient engagement, self management and self advocacy Should reduce follow up/acute admissions/ disease flares / non-attendance rates Envisage this to be cost neutral once unmet need and increasing population base is addressed
2. How do we convince the department and managers there is a need for age appropriate care?	<ul style="list-style-type: none"> District General Hospital - Not enough patients to cohort a whole clinic Problems with out-patient capacity Trust need incentive from commissioners Centralised appointments do not allow flexibility (patients have flares or last minute coursework/ exams/work / social commitments) 	<ul style="list-style-type: none"> Dedicate the first hour (2-3 patients) of a clinic to AYA cohort Boning or weekend clinics to accommodate additional rooms Pathway coordinator. One center has reduced non-attendance rates by 10% as this allows flexibility/urgent appointments to be re-scheduled without routinely overbooking clinics 	<ul style="list-style-type: none"> Engage in dialogue with commissioners/ community services early eg: Lambeth & Southwark commissioners are moving towards population based commissioning model Business case for a patient-pathway coordinator.
3. What resources are available to support clinicians / direct patients to?	<ul style="list-style-type: none"> General lack of recognition within organisations about importance of supporting young adults through the process of a chronic health condition. Importance of sharing resource throughout the RAYA network 	<ul style="list-style-type: none"> Improve training and understanding of age appropriate care Modification of registrar training curriculum to encompass age appropriate care Regional website to share resource Collaboration with existing AYA networks 	<ul style="list-style-type: none"> Summary of resources and training e-modules Website /app would require a web-master to manage and update regularly (Could this be patient led) Shape of training: Curriculum wording has been modified to encompass age appropriate care and submitted to training body
4. What is the benchmark standard of good practice for AYA patients we should be aspiring to?	<ul style="list-style-type: none"> Models of care will need to be fluid, flexible and based on local needs 	<ul style="list-style-type: none"> Complex patients may need referral to a tertiary center or a Hub and Spoke model may work better for more district general hospitals. 	<ul style="list-style-type: none"> NICE, CQC and ICLAR guidance are useful resources Future RAYA meetings could be a platform for peer review and complex case discussion

Conclusions: Improving outcomes for AYA patients through delivering age appropriate care and self advocacy has driven global strategy and guidelines. Our survey identifies that the majority of rheumatologists agree with this, however there is room for improvement regarding awareness and implementation of current guidance.

Financial constraints and whole population healthcare delivery has limited change. A systematic, unified approach within regions may help to effect change. There is a demand for the development of clinical and commissioning toolkits and training/workshops to help facilitate this.

REFERENCE:

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THU0664

TREATMENT ADHERENCE TO CONVENTIONAL AND BIOLOGIC DISEASE MODIFYING ANTIRHEUMATIC DRUGS IN PATIENTS WITH RHEUMATOID ARTHRITIS

C.H. Feldman, J. Lii, C. Gopalakrishnan, J.M. Franklin, S.C. Kim, Brigham and Women's Hospital, Boston, USA

Background: While treatment with conventional or biologic disease-modifying antirheumatic drugs (DMARDs) is highly effective in preventing radiographic progression and improving long-term functional outcome among patients with rheumatoid arthritis (RA), patient adherence to DMARD treatment is required for these positive effects. Suboptimal medication adherence has been repeatedly noted in patients with chronic medical conditions including RA.

Objectives: To examine patient adherence to different DMARDs for RA in a real-world setting.

Methods: We conducted a population-based cohort study using claims data from a US commercial health plan (Optum Clinformatics™ Datamart 2004–2015) and Medicaid (2000–2010). Eligible patients were those aged between 18 and 65 years and had at least two visits, 7–365 days apart, coded for RA (ICD-9: 714.xx). We then identified patients who newly started a conventional or biologic DMARD. The index date was the first dispensing date of conventional or biologic DMARDs after a 12 month continuous enrollment period. We examined patient demographics, clinical characteristics and health care utilisation factors specific to DMARDs types and their adherence to conventional or biologic DMARDs. All patients were required to be continuously enrolled for at least 1 year after the index date. Patients' adherence to each DMARD was measured using the proportion of days covered (PDC) calculated as the number of days supplied divided by 365 days post-index.

Results: We identified a total of 77,999 RA patients (37 018 in Optum and 40 981 in Medicaid) who started a conventional or biologic DMARD. Of those, 28 332 initiated methotrexate, 27 157 hydroxychloroquine, 6505 sulfasalazine, 2773 leflunomide and 19 381 biologic DMARDs. Table 1 shows patients' adherence specific to DMARD types. Overall, adherence was better in patients enrolled in Optum (i.

e., a commercial health plan) than Medicaid. Except for infliximab given only intravenously, the PDC for the 1 year after initiating a conventional or biologic DMARD ranged from 30.99% (sulfasalazine in Medicaid) to 60.84% (abatacept in Optum).

Abstract THU0664 – Table 1. Adherence to DMARDs in patients with RA: Proportion of days covered for 1 year

	Optum	Medicaid
Mean (SD) in percentage		
Conventional DMARDs		
Methotrexate	58.13 (31.39)	44.00 (29.58)
Hydroxychloroquine	50.87 (31.72)	39.79 (28.71)
Sulfasalazine	36.59 (29.46)	30.99 (25.65)
Leflunomide	48.54 (32.09)	41.72 (30.62)
Biologic DMARDs		
Abatacept	60.84 (30.36)	49.70 (31.51)
Adalimumab	53.02 (29.60)	49.09 (29.01)
Certolizumab	49.53 (29.10)	39.54 (27.91)
Etanercept	52.71 (29.37)	50.00 (29.25)
Golimumab	51.10 (28.92)	48.36 (26.82)
Infliximab *	74.39 (28.65)	60.69 (30.63)
Tocilizumab	57.95 (27.77)	-

*assumed infliximab was given every 8 weeks.

Conclusions: In this large population-based cohort of RA patients enrolled in a commercial health plan or Medicaid, the 1 year medication adherence is generally low regardless of type of DMARDs. While adherence is better in the commercial health plan cohort than Medicaid, other factors predicting medication adherence need to be determined further. There is a strong need for future research examining the impact of medication adherence on long-term RA-related clinical outcomes.

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THU0665

PHARMACOVIGILANCE SURVEILLANCE OF AUTOIMMUNE DISEASES INDUCED BY BIOLOGICAL AGENTS: A REVIEW OF 16123 CASES (AEBIOGEAS-SEMI REGISTRY)

M. Ramos-Casals¹, S. Retamozo^{1,2,3}, A. Flores-Chavez^{1,4,5}, B. Kostov⁶, A. Sisó-Almirall^{6,7}, M. Pérez-de-Lis⁸, R. Pérez-Alvarez⁹, P. Brito-Zerón^{1,10}, on behalf of BIOGEAS-SEMI Study Group. ¹Autoimmune Diseases, ICMiD, IDIBAPS, Hospital Clínic, Barcelona, Spain; ²Hospital Privado Universitario de Córdoba (IUCBC); ³INICSA, UNC-CONICET, Córdoba, Argentina; ⁴Unidad de Investigación Biomédica 02, Unidad de Investigación en Epidemiología Clínica, Centro Médico Nacional de Occidente (CMNO), Instituto Mexicano del Seguro Social (IMSS), Hospital de Especialidades, Guadalajara; ⁵Programa de Doctorado en Ciencias Médicas, Centro Universitario de Investigaciones Biomédicas (CUIB), Universidad de Colima, Colima, Mexico; ⁶Primary Healthcare Transversal Research Group, IDIBAPS; ⁷CAP Les Corts, CASPBE, Barcelona; ⁸Department of Anesthesia, Complejo Hospitalario Universitario A Coruña (CHUAC), A Coruña; ⁹Department of Internal Medicine, Hospital Alvaro Cunqueiro, Vigo; ¹⁰Autoimmune Diseases Unit, Department of Internal Medicine, Hospital CIMA-Sanitas, Barcelona, Spain

Objectives: The increasing use of biological agents has been linked with the paradoxical development of autoimmune processes. The scenario has dramatically change in recent years due to the increased number of biologics used in daily practice and the emerging use of biologics in patients with solid cancers.

Methods: In 2006, the Study Group on Autoimmune Diseases (GEAS) of the Spanish Society of Internal Medicine created the BIOGEAS project, a multicenter study devoted to collecting data on the use and safety of biological agents in adult patients. The aeBIOGEAS Registry (autoimmune events) was designed to collect data on autoimmune diseases secondary to the use of biologic agents, with the aim of formulating a standardised, consensual protocol for these patients, through a systematic and yearly MEDLINE search. We present the updated results of the aeBIOGEAS Registry (cases collected until Dec 31, 2017).

Results: The aeBIOGEAS Registry currently includes 16 123 cases of more than 50 different systemic and organ-specific triggered autoimmune diseases related to the administration of 46 different biological molecules in patients with inflammatory diseases (9907 cases, overwhelmingly rheumatic diseases in 8639) and cancer (6216 cases, overwhelmingly solid neoplasia in 5955). The main biological agents identified consisted of anti-TNF agents in 9514 cases (mainly adalimumab in 4147, infliximab in 3028 and etanercept in 1648), checkpoint inhibitors in 5264 (overwhelmingly the CTL4 inhibitor ipilimumab in 4980 cases), tyrosine kinase inhibitors in 952 (mainly imatinib in 377 cases) and B-cell targeted therapies in