Objectives: To establish whether a patient information letter could be used to reduce measured biologic drug wastage.

Methods: All SpA patients receiving biologic therapies (infusion or self-injectable) were identified by prescription records. Wastage (recorded by the infusions ward & home-delivery companies) was reviewed from January 2016 until May 2017. A patient information leaflet (PIL) was developed and sent simultaneously to all patients advising how to minimise wastage (ie: call the infusions ward or delivery companies early when unable to attend and pausing, stopping or switching biologics respectively). The same wastage was measured for 4 months afterwards.

Results:

Time.frame	16 .months Jan.2016 to.May.2017	4 .months May.to. Sep.2017	12 .month.projection
Biologic Drug wasted	Pre.intervention.wastage (negative.value)	Post. intervention. wastage	Projected.annual. savings.(positive.value)
Adalimumab	-£12,598.33	£0.00	+£9,448.75
Certolizumab	£0.00	£0.00	£0.00
Golimumab	£0.00	£0.00	£0.00
Tocilizumab	-£1,612.80	£0.00	+£1,209.60
Ustekinumab	-£2,147.00	£0.00	+£1,610.25
Secukinumab	£0.00	£0.00	£0.00
Infusions(infliximab and biosimilar)	-£64,680.00	£0.00	+£48,510.00
Total financial value	-£81,038.13	£0.00	+£60,778.60

In the 16 months prior to the PIL intervention an estimated £81,000 of wastage was measured. Of this, 80% was due to infusion ward wastage (n=45 infliximab infusions) and 20% was due to self-injectable biologics. Following the PIL intervention, no wastage was measured either on the infusion ward or for self-injectable biologics. This resulted in a projected annual saving of £61,000 (80% of which was related to avoidable infliximab wastage). During the observation period the total number of patients taking biologics did not change significantly. No adverse events have been associated with this PIL. Limitations include; a standardised infliximab dose banding was introduced during the final month which may have reduced wastage; Etanercept/etanercept biosimilar data are incomplete as the project is ongoing and are therefore excluded from the analysis.

Conclusions: This is the first intervention demonstrating a reduction in measured biologic drug wastage. It represents a simple, reproducible and sustainable intervention through a collaborative effort between patients and health care providers and offers potential significant savings in a time of austerity.

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OP0301 TWO YEAR COST-EFFECTIVENESS ANALYSIS OF THE CARERA TRIAL IN EARLY RA: A PIGGY BACK STUDY

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Background: Rheumatoid arthritis (RA) causes high individual, medical and societal costs. EULAR guidelines suggest treating early, intensively and to target using disease modifying anti-rheumatic drugs (DMARDs), preferably with initial glucocorticoid (GC) bridging. COBRA slim, a combination of methotrexate (MTX) with a moderate dose prednisone step down bridge scheme showed a positive efficacy/tolerability balance in the Care in early RA (CareRA) trial. COBRA Slim in comparison to DMARD combination therapy with GC bridging, has the necessary intensity to induce remission, but with a lower risk of severe discomfort or adverse events, decreasing the early need for biologic (b)DMARDs.

Objectives: Perform an economic evaluation on the 2 year pragmatic randomised CareRA trial.

Methods: Patients with early RA (≤ 1 year) naïve to DMARDs were randomised to monotherapy or synthetic (cs)DMARD combination with or without GC bridging, after risk stratification based on classical prognostic markers. Clinical and patient-reported data were collected at each visit (≥ 10 times in 2 years).

Direct costs of visits and RA medication (systemic GCs, cs and bDMARDs) over 2 years were calculated for each patient from each of the 5 treatment arms (table 1).

For cost-effectiveness analysis, benefits were expressed as the proportion of patients with DAS28CRP <2.6 at year 2. Missing data was imputed per item with expectation maximisation.

For cost-utility analysis, utilities were calculated using a validated mapping algorithm reconstructing EQ-5D scores based on age, sex, HAQ and pain scores at relevant study visits. Quality-adjusted life years (QALYs) encapsulating the impact of treatment on a patient's length of life and health-related quality of life, were calculated as the time-weighted average of all available EQ-5D scores (area under the curve).

Incremental cost-effectiveness ratios (ICERs) from each strategy were calculated. ICERs compare the additional costs a strategy imposes over another with the additional benefits it delivers. Means and medians based methods were calculated with confidence intervals via bootstrapping.

Results: From the initial CareRA cohort (n=379), cost/benefit data of 326 patients was used for a 2 year economic analysis. The mayor driver of direct costs was bDMARDs (57% $>$ 87% of total costs). Number of consultations were comparable (± 11) across all treatment strategies.

The cost-effectiveness analysis in the high risk population showed a higher ICER for COBRA Avant Garde (mean € 198.65/1%, median € 78.41/1%) and a dominated ICER for COBRA Classic (mean € -181.40/1%, median € -35.01/1%) compared to the Slim. In the low risk arm, ICERs for COBRA Slim compared to Tight Step Up (TSU) were € 46.75/1% (mean) and € 43.64/1% (median).

Cost-utility analysis in the high risk arm showed an incremental cost of € 1 469.36 for an increased utility of 0.012555 QALYs for COBRA Classic compared to COBRA Slim, resulting in an ICER of € 117 033.85/QALY.

The ICER of COBRA Avant Garde vs COBRA Slim was € 69 329.19/QALY. In the low risk arm, the comparison of COBRA Slim to TSU yields an ICER of € 1 342.78 per QALY.

Abstract OP0301 – Table 1

Treatment strategy	Direct costs		Effectiveness		Utility				
	Consultations + Medication		DAS28 (CRP)		QoL (mapped EQ-5D)				
	Mean (BS-CI)	Median (IQR)	Mean $\pm$ SD	% <2.6 at Y2	BL	Y1	Y2	Mean $\pm$ SD	
HIGH RISK	COBRA slim n=87	€2 238.62 (€1 713.15, €2 896.15)	€1 145.37 (1034.96-1568.07) BS-CI €1 102.64, €1 267.93	2.20 $\pm$ 0.87	75.9 % BS-CI 67.8%, 83.9%	0.57	0.82	0.82	1.64 $\pm$ 0.31 BS-CI 1.57, 1.69
	COBRA Classic n=87	€3 707.98 (€2 643.19, €4 923.24)	€1 428.92 (1 342.46, 1 878.27) BS-CI €1 378.84, €1 481.98	2.30 $\pm$ 0.88	67.8 % BS-CI 58.6%, 75.9%	0.53	0.82	0.81	1.65 $\pm$ 0.32 BS-CI 1.58, 1.72
	COBRA Avant Garde n=77	€3 410.63 (€2 287.82, €4 833.26)	€1 608.01 (1308.72-1763.05) BS-CI €1 501.61, €1 626.40	2.03 $\pm$ 0.83	81.8 % BS-CI 74.0%, 89.6%	0.56	0.82	0.86	1.65 $\pm$ 0.34 BS-CI 1.58, 1.72
	COBRA slim n=34	€3 055.64 (€1 568.07, €5 383.40)	€1 134.04 (1029.78-1836.78) BS-CI €1 040.69, €1 366.30	1.95 $\pm$ 0.86	79.4 % BS-CI 67.6%, 88.2%	0.60	0.87	0.87	1.72 $\pm$ 0.31 BS-CI 1.62, 1.83
LOW RISK	Tight Step up n=41	€2 877.99 (€1 263.42, €4 740.37)	€968.19 (809.85-1555.28) BS-CI €859.13, €1 196.03	2.23 $\pm$ 1.03	75.6 % BS-CI 63.4%, 85.4%	0.60	0.84	0.82	1.59 $\pm$ 0.29 BS-CI 1.49, 1.68

BS-CI: 95% confidence intervals resulting from 1000 bias-corrected and accelerated bootstrapped replications, QoL: quality of life, QALYs: quality-adjusted life years, SD: standard deviation, IQR: interquartile ranges, BL: baseline, Y1: year 1, Y2: year 2

Conclusions: COBRA Slim which consists of an initial combination of MTX and a moderate dosed GC remission induction scheme has a favourable cost-effective and cost-utility profile for patients with early RA independent of their prognostic factors.

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OP0302 AN EVALUATION OF UTILISATION PATTERNS AND APPROPRIATENESS OF LABORATORY TESTS AMONG NEW REFERRALS TO RHEUMATOLOGISTS: CHOOSING UNWISELY!

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Background: Laboratory testing including autoantibodies are common investigations ordered by physicians in diagnosing rheumatic diseases. Tests such as rheumatoid factor (RF) and antinuclear antibody (ANA) have been shown to have low positive predictive value and questionable clinical utility in general practice.¹⁻³ Optimizing value in medical care is a worldwide concern. In addition, overuse of diagnostic tests can increase health resource use, lead to unnecessary referrals, and cause anxiety associated with positive results. To that end, the Canadian Rheumatology Association (CRA) joined the national Choosing Wisely Canada Campaign and developed a list of 5 tests with evidence indicating they may not be adding value and in fact be harmful. Among these, ANA testing was identified as one of the tests often inappropriately ordered.³ When combined with extractable nuclear antibodies (ENA) and anti-dsDNA, these tests impose a significant cost.

Objectives: To evaluate the utilisation patterns, appropriateness, and associated cost of tests (ANA, ENA, anti-dsDNA, RF, and complement levels) in patients referred to rheumatologists 2 years after release of CRA choosing wisely guidelines.

Methods: A chart audit reviewing the records of all referred patients to five rheumatologists at an academic university out-patient rheumatology clinic over one year (including referrals that were rejected) was conducted. Specific tests requested prior to referral and their indication based on clinical presentation were extracted. Other data included reason for referral and the final diagnosis. The number of unnecessary laboratory tests and associated costs were calculated.

Results: Over 500 patients were reviewed. Most common referrals were for possible diagnosis of rheumatoid arthritis, lupus, and seronegative spondyloarthropathies. Prior to referral: 77% had undergone ANA testing at least once, in one-third of cases, ANA was repeated; 25% had ENA testing and 30% had anti-dsDNA. Among all ANA tests, 25% were requested when there was no clinical suspicion for connective tissues diseases based on American College of Rheumatology criteria. Half of ENA and anti-dsDNA testing was requested in the context of negative ANA. RF was requested in 65% of the referrals and in one third, there was no clinical suspicion of inflammatory arthritis.

Abstract OP0302 – Figure 1. Utilisation patterns and associated costs of laboratory investigations among referrals to rheumatologists

Conclusions: RF, ANA, ENA, and anti-dsDNA are among commonly ordered investigations prior to referral to rheumatology. Despite the recommendations by choosing wisely campaigns, up to 50% of investigations are inappropriately ordered. Based on our cost estimation, more selective ordering of the above tests, and minimising inappropriate investigations would lead to 45% cost reduction.

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OP0303

SYSTEMATIC SCREENING OF COMORBIDITIES IMPROVES VACCINATION RATES, SKIN CANCER SCREENING AND VITAMIN D SUPPLEMENTATION IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS: RESULTS OF THE COMEDSPA PROSPECTIVE, CONTROLLED, ONE YEAR RANDOMISED TRIAL

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Background: Specific recommendations for the detection/prevention of comorbidities have been proposed for patients with SpA. However, we know that often a gap exists between recommendation and their implementation in daily practice

Objectives: To evaluate the impact of a program of systematic screening of comorbidities and its management (detection/prevention).

Methods: Prospective, randomised controlled open, 12 month trial (NCT02374749). Patients: Axial SpA (according to rheumatologist). Study treatment: Collection of data by the nurse during a specific out-patient visit for the 5

studied SpA comorbidities (i.e. cardiovascular disease (CVD), osteoporosis, cancer, infection and peptic ulcer) according to the recommendations of the French Society of Rheumatology. In the event of non-agreement with the recommendation the patient was informed. A report summarising the results of this program prepared by the nurse was sent to the patient's attending physician and rheumatologist. Treatment allocation: After written informed consent, the study treatment was allocated randomly. Outcome variables: the main outcome was the change after one year of a comorbidity score. This weighted composite comorbidity score ranged from 0 to 100, where 0=optimal management of the 5 studied comorbidities and its weights were derived from the percentage of attributed mortality in SpA to each comorbidity in the literature, i.e. 40 points for CV disease, 20 points for cancer and infection, 10 points for osteoporosis and 10 points for peptic ulcer. The number of patients with actions undertaken against comorbidities according to the recommendations during the 12 months following this program were defined as secondary variables

Results: There were no differences in the baseline characteristics of the 502 recruited patients (252 and 250 in the active and control groups, respectively): Age: 46.7±12.2 years, male gender: 62.7%, disease duration: 13.7±11.0 y, X-ray sacroiliitis 62.8%, MRI sacroiliitis 65.7%, current biologic treatment: 78.3%, ASDAS-CRP: 1.9±0.8, BASFI: 25.6±22.3. During the 1 year follow-up period, the comorbidity score decreased more in the active group, but this difference was not significant (−3.20 vs −1.85).

The number of actions per patient was statistically higher in the group comorbidities: 4.54±2.08 vs 2.65±1.57 (p<0.001); the number of patients with actions performed to be in agreement with recommendations during the 12 months follow-up was higher in the active group for infections (flu vaccination: 28.6% vs 9.9%, p<0.01; pneumococcal vaccination: 40.0% vs 21.1%, p=0.04), skin cancer screening (36.3% vs 17.2%; p=0.04), and osteoporosis (BMD performed: 22.6% vs 8.7%, p<0.01; Vitamin D supplementation initiation: 51.9% vs 9.4%, p<0.01).

Conclusions: This study highly suggests the short-term benefit of program on the systematic screening of comorbidities for its management in agreement with recommendations, even if this young age population of axSpA patients.

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OP0304

MULTIDISCIPLINARY COLLABORATION AMONG YOUNG SPECIALISTS: RESULTS OF AN ONGOING INTERNATIONAL SURVEY BY YOUNG ORGANISATIONS

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Background: Young clinicians and researchers frequently work alongside other medical specialists in order to share expertise, knowledge and skills. Multidisciplinary work is worthwhile but may be sometimes challenging.

Objectives: To describe current clinical and research collaboration among young specialists and to identify some perspectives to develop such collaborations.

Methods: An online survey was disseminated by email and social media (facebook and twitter) to members of the Emerging European League Against Rheumatism Network (EMEUNET), the Young Nephrologists' Platform (YNP), the Paediatric Rheumatology European Society Emerging Rheumatologists and Researchers (PreS EMERGE), and the European Academy of Allergy and Clinical Immunology Junior Members (EAACI JM).

Results: Of 354 respondents from 40 countries, 60% were female, 23% were aged below 30 years and 67% 31–40 years. Young rheumatologists were the most represented (36%), followed by young nephrologists (24%), young paediatricians (18%), young allergologists (11%) then young internists (3%) and several other specialties (as clinical immunology, dermatology, pulmonology, orthopaedics). 60% were certified specialists, 34% in training and 6% were researchers without clinical work. Overall, the top 3 specialties for clinical collaboration in daily practice were radiology, cardiology and dermatology. Collaborations were reported frequently by phone and email, also by various combined clinics while common local multidisciplinary meetings were uncommon. Of note, 71% of respondents found collaboration with young colleagues easier than with senior specialists. Research collaboration usually started by knowing other specialists (73%) and/or by attending common meetings (39%). 96% would like to develop