Table 1. RD patients' characteristics.

	(n=382)
RA, n (%)	313 (81.9)
PsA, n (%)	12 (3.1)
SLE, n (%)	49 (12.8)
AS, n (%)	8 (2.1)
Corticosteroid use, n (%)	110 (28.8)
Fasting glucose, mg/dL, median (q25-q75)	91 (83-98)
FRS BMI score, median (q25-q75)	5.15 (2.9-8.82)

Conclusion: In this study, an underdiagnosis and insufficient treatment of traditional CVR factors in rheumatic patients was found. Besides having a RD and at least one traditional CVR factor, 19.6% of the patients had a moderate or high CVR according to FRS-BMI. The observed burden of CVR factors in RD is significant. Therefore, rheumatologists must improve the CV assessment made to each of their patients.

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THU0683

COVERAGE, PREDICTORS OF VACCINATION AND FREQUENCY OF SEVERE INFECTIONS DUE TO STREPTOCOCCUS PNEUMONIAE IN A COHORT OF PATIENTS WITH CHRONIC INFLAMMATORY ARTHRITIS WITHIN AN EIGHTEEN-YEAR PERIOD

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Background: Community-acquired pneumonia (CAP), the most common pneumococcal infection, is a leading cause of morbidity and mortality among immunocompromised hosts. Although vaccination against *Streptococcus Pneumoniae* is recommended by international guidelines, most studies report a sub-optimal coverage.

Objectives: To describe the pneumococcal vaccination coverage, predictors for vaccination uptake and frequency of severe CAP and invasive pneumococcal disease during the study period.

Methods: We performed a cross-sectional study using electronic medical record data from October 2000 to October 2018, including patients diagnosed with rheumatoid arthritis (RA), psoriatic arthritis (PsA) and Ankylosing Spondylitis (AS), treated with biologic (bDMARD) and conventional synthetic DMARD (csDMARD) with or without glucocorticoids (GC), followed-up at a referral centre.

Since pneumococcal vaccination guidelines have changed during the study period, patients who received at least one dose of any of the available vaccines were defined as being "ever-vaccinated" whereas those who received a complete scheme defined as one dose of conjugated vaccine and one of polysaccharide vaccine 8 weeks apart were defined as having "optimal vaccination".

Predictors of vaccination were analyzed using logistic regression modelling using a set of covariates selected according to the literature. Model assessment was done using Akaike information criterion.

To analyze the frequency of severe infections we defined two outcomes:

1. Severe CAP: An episode requiring hospitalization or intravenous antibiotic treatment
2. Invasive pneumococcal disease (IPD): an infection confirmed by the isolation of the micro-organism from a normally sterile site (i.e. blood).

Results: A total of 279 patients were included, their main clinical features are shown in Table 1.

The vaccination coverage was 38.7% and 13.3% overall when analyzing as "ever-vaccinated" and having "optimal vaccination" respectively. A 66% of patients were vaccinated in primary care with a 7% of optimal

vaccination whereas the remaining ones received vaccination in referral centres with an 85.3% of optimal vaccination.

After adjustment in a multivariate model, age, presence of bronchiectasis, history of severe CAP, current use of csDMARD or GC were predictors of being ever-vaccinated against *Streptococcus Pneumoniae*. (Table 2) During the study period, 27 (10%) episodes of severe CAP and 4 of IPD were identified, 8 of the former with evidence of pneumococcal infection (either positive urine antigens or isolation in sputum).

Conclusion: Pneumococcal vaccination coverage remains lower than expected with most patients vaccinated in primary care and not receiving the current recommended scheme. Age, bronchiectasis, history of severe CAP and current use of csDMARD or GC were independent predictors of receiving vaccination.

The frequency of severe CAP and IPD was 10% and 1.43% within this cohort.

Age (mean ± SD)	60.7 ± 13.4
Female	210 (75%)
Diagnosis	237 (85%)
RA	42 (15%)
SpA (PsA and AS)	
Disease duration (mean ± SD, years)	13 ± 10.4
Ever-smoker	91 (33%)
Charlson score ≥ 2	142 (51%)
Chronic Respiratory Disease	65 (23%)
ILD	35 (13%)
Bronchiectasis	26 (9%)
History of severe CAP	28 (10%)
Current treatment bDMARD csDMARD	153 (55%)
GC	84 (30%)
	139 (50%)

Table 1. Clinical features of the cohort. ILD: Interstitial lung disease

Variable	aOR [CI95]	p
Age at time of analysis (years)	1.08 [1.05 – 1.1]	0.00
Bronchiectasis	4 [1.09 – 14.7]	0.03
History of severe CAP	4.7 [1.3-17.3]	0.02
Current csDMARD	2.3 [1.4 - 3.9]	0.00
Current GC	2.2 [1.04 – 4.4]	0.03

Table 2. Predictors of vaccination after adjustment

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HOW MANY OF YOUR PATIENTS HAVE DEPRESSIVE SYMPTOMS? HOW TO ASSESS DURING ROUTINE CLINICAL PRACTICE?

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Background: Patients with rheumatic diseases have a high prevalence of depressive symptoms that affect the patients' self-assessment, adherence to medication [1], and mortality [2].

Objectives: To evaluate patients with rheumatic diseases regarding depressive symptoms by using the PHQ-2 (Patient Health Questionnaire with 2 items) and assess its feasibility during routine clinical practice.

Methods: 485 consecutive patients with rheumatic diseases attending a rheumatology practice that is part of the public health care system in Erlangen, Germany underwent a routine clinical assessment by different rheumatologists. In addition to disease-specific assessments and questionnaires, every patient answered two questions regarding depressive symptoms which form the PHQ-2 (range of 0[best] to 6[worst]). All questionnaires were answered digitally by touchscreen and Software RheumaDok and RheumaDokM (Nils Körber und Joachim Elgas G.b.R).

A PHQ-2 score ≥ 3 points has a sensitivity of 87% and a specificity of 78% for detecting a major depressive disorder compared to a structured clinical interview. [3] A positive screening result was either addressed during subsequent medical consultation or by notifying the patient's general practitioner. The PHQ-2 is a short form of the PHQ-9 which previously had been validated in rheumatoid arthritis. [4].

Results: Overall, 26% of patients stated depressive symptoms (PHQ score ≥ 3). Table 1 shows the prevalence of depressive symptoms by disease entity which was not significantly different among the subgroups ($\chi^2(5)=6$, $p=0.3$). However, given our results indicating depressiveness to be common across subgroups, all of these patients merit further evaluation. The PHQ-2 was widely accepted by patients, and seemed very feasible due to its concise form.

	Age				PHQ-2				PHQ-2 ≥ 3	
	Mean	Median	N	SD	Mean	Median	N	SD	N	%
Rheumatoid Arthritis, RF+	62.1	61.0	169	11.9	1.7	2.0	169	1.4	37	22
Rheumatoid Arthritis, RF-	63.1	64.0	51	13.7	1.9	2.0	51	1.7	16	31
Psoriatic Arthritis	54.6	55.0	59	11.4	1.5	1.0	59	1.4	11	19
Ankylosing Spondylitis	47.7	48.0	47	13.0	1.7	2.0	47	1.6	13	28
Various rheumatic diseases *	60.0	63.0	82	14.8	2.0	2.0	82	1.6	25	30
Not diagnosed yet/initial assessment	55.8	55.0	77	17.8	1.9	2.0	77	1.7	24	31

* Polymyalgia, Connective tissue diseases, and other.

Conclusion: The PHQ-2 questionnaire is a highly feasible and well accepted tool in routine clinical practice, helping to screen for depressive symptoms as a highly prevalent condition across rheumatic diseases. Real world evidence of depressive symptoms may improve healthcare by shedding light on the patients' mental well-being and comorbidity.

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THU0685

THE IMPACT OF ACHIEVEMENT OF RESPONSE AT ONE YEAR AFTER STARTING THERAPY ON THE LONG-TERM OUTCOME OF LUPUS NEPHRITIS

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Background: A variable percentage of lupus nephritis (LN) patients (pts) achieve response after the start of induction therapy. The impact of response on long-term renal outcome of LN is still unclear.

Objectives: To establish the response rate at one year after starting induction therapy and its impact on long-term development of chronic kidney disease (CKD) in LN.

Methods: 381 biopsy proven LN pts (86% females, mean age 31.3 $\pm$ 12.1 years), (18 pts: class II; 88 pts: class III; 199 pts: class IV; 76 pts: class V ISN/RPS) with estimated glomerular filtration rate (eGFR) 89.8 $\pm$ 40.4 and proteinuria 4.3 $\pm$ 3.9 g/24h entered this study. As induction therapy, pts received methylprednisolone pulses (72%), oral prednisone (28%), cyclophosphamide (55%), mycophenolate mofetil (24%), azathioprine (5.5%), other immunosuppressants (15.5%). During a follow-up of 13.5 years after LN diagnosis, 53 pts (13.9%) developed CKD and 22 (5.8%) died.

Definitions: Complete response (CR) at one year: eGFR $>$ 60 ml/min and proteinuria $\leq$ 0.5/die, partial response (PR): eGFR $>$ 60 ml/min, 50% reduction of proteinuria to sub-nephrotic range, no response (NoR): all the other cases. Survival curves were drawn using the Kaplan-Meier estimate and compared using the log-rank test. Cox regression model was used to test variables at univariate and at multivariate analysis.

Results: One year after the start of therapy, 220 pts (58%) achieved CR, 100 pts (26%) PR and 61 pts NoR. CKD developed in 11 out of 220 CR pts (5%), 18 out of 100 PR pts and 24 out of 61 NoR (39%). CKD free survival at 5, 10, 15 and 20 years were 99.5%, 96.5% 95.2% and 92.5 in CR pts, 99%, 90%, 87.6% and 83% in PR pts, and 81%, 65%, 54% and 44% in NoR pts ($p < 0.0001$). In detail: CR vs RP $p = 0.067$, RP vs NoR $p < 0.0001$, and CR vs NoR $p < 0.0001$. We have searched for the predictors of NoR among the clinical/therapeutic characteristics at diagnosis of LN. At univariate analysis, chronicity index at renal biopsy ($p = 0.0001$), serum creatinine ($p = 0.001$), eGFR ($p = 0.036$), presentation with nephritic syndrome or rapid progressive renal failure ($p = 0.02$), serum albumin ($p = 0.02$) and arterial hypertension ($p = 0.001$), were the predictors of NoR at one year. At multivariate analysis chronicity index ($p = 0.013$) and arterial hypertension ($p = 0.017$) were the independent predictors.

Conclusion: The achievement of CR or PR at one year is associated with preservation of renal function in the long-term. For this reason, any effort should be made to achieve response. Patients with impaired renal function, with high chronicity index at renal biopsy and arterial hypertension should be more tightly monitored as they have the highest risk of NoR.

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THU0686

EARLY MENOPAUSE AND/OR DURATION OF MENOPAUSAL HORMONAL TREATMENT MAY INCREASE THE RISK OF RHEUMATOID ARTHRITIS IN TOBACCO EXPOSED WOMEN: RESULTS OF THE E3N COHORT

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Background: Smoking has been reproducibly reported as associated with an increased risk of ACPA-positive Rheumatoid Arthritis (RA) [1]. The involvement of female hormones in the pathogenesis of RA is supported by numerous observations: a 2-4 female to male ratio before age 50, but below 2 after the age of 60, an increased incidence in the first year post-partum, and a peak of RA incidence around the age of menopause. To date, many studies have evaluated the association between hormonal