professionals at intermittent consultations rely upon history taking, which is subject to pitfalls including recall bias, variable help-seeking behaviours and difficulty in summarising fluctuating symptoms.

Objectives: REMote MONitoring in Rheumatoid Arthritis (REMORA) was a pilot study to design, implement and evaluate a system of remote data collection for RA patients, for health and research purposes. A unique feature was its aim to integrate patient-generated data from a smartphone app into the electronic health record (EHR).

Methods: Semi-structured interviews with key stakeholders informed project design and evaluation, comprising three stages: 1) co-design of smartphone app prototype and integration into the electronic patient record (EHR); 2) end-to-end prototype testing (1 month); 3) evaluation of feasibility and acceptability (3 months).

Qualitative data from audio-recorded interviews and 'routine' consultations, following app use, were coded using *a priori* and emergent themes, and triangulated.

Results: Daily, weekly and monthly question sets were developed. Patients tracked daily symptoms for one month (n=8) and three months (n=20). Patients submitted daily scores on most days (median 91% of days; IQR 78%-95%) with 4/20 patients submitting on <60% days. Further detail on feasibility has been reported elsewhere.¹ REMORA data were successfully integrated into the EHR (figure 1).

Data from interviews with 16 patients, 2 clinician-researchers (WD and CAS) and 17 clinical consultations were analysed. Patients and clinicians found remote monitoring acceptable and easy to use.

Three themes emerged with REMORA data **providing the 'bigger picture'** by highlighting episodes that might otherwise have been missed, for example short-lived flares and gradual changes in disease; **empowering patients** through increased self-awareness and improved understanding of RA; and **changing the nature of consultations** with graphs integrated into the EHR facilitating shared conversations and leading to more personalised care.

Conclusions: This study demonstrates the acceptability and feasibility of the REMORA system. Novel integration of patient-generated data into the EHR positively impacted consultations and was felt to empower patients. The system generated a unique, temporally-rich research dataset. The next challenge is to scale-up and spread the adoption of this innovation across a range of clinical contexts.

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FRI0013

CONVERTING PATIENT-REPORTED PHYSICAL FUNCTION OUTCOMES SCORES TO PROMIS METRIC SCORES IN PHASE 3 TRIALS OF BARICITINIB IN RHEUMATOID ARTHRITIS

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Background: In patients (pts) with RA, physical function (PF) can be measured with the Health Assessment Questionnaire-Disability Index (HAQ-DI). Patient-Reported Outcomes Measurement Information System (PROMIS) was developed by the National Institutes of Health using a population-calibrated T-score metric (Mean 50, SD 10). Crosswalk tables that link legacy instruments to PROMIS instruments, including PF, have been developed. Comparisons to the general population can also be made from PROMIS scores.¹⁻²

Objectives: To convert HAQ-DI scores to PROMIS PF scores to determine how the PROMIS metric performs in 2 phase 3 baricitinib (bari) clinical trials in pts with RA.

Methods: In RA-BEAM, pts with inadequate response (IR) to methotrexate were randomised 3:3:2 to placebo (PBO) once daily (QD), bari 4 mg QD, or adalimumab (ADA) 40 mg biweekly.³ In RA-BEACON, pts with IR to bDMARDs were randomised 1:1:1 to receive PBO or bari 2 mg or 4 mg QD.⁴ In both studies, PF was assessed using HAQ-DI. Patient-level HAQ-DI scores were converted to PROMIS PF scores using a validated crosswalk table.¹ Analysis of covariance was conducted on the PROMIS PF score conversions to compare bari to all treatment arms in both studies. Missing data were imputed using modified last observation carried forward.

Results: Pts had considerable PF impairment at baseline; mean scores exceeded 2 SD (20 points on the T-score metric) from population means (table 1). Treatment with bari was associated with clinically relevant improvements approaching or exceeding 0.5 SD (5 points on the T-score metric) by week 24 (minimally important difference for PROMIS PF: 0.2 SD or 2 points⁵) vs PBO in HAQ-DI converted to PROMIS PF scores (table 1). Using the converted PROMIS scores, bari remained associated with significant improvements in PF vs PBO through 24 weeks in both studies and vs ADA through 52 weeks in RA-BEAM (figure 1).

Abstract FRI0013 – Table 1. PROMIS Physical Function scores^a converted from HAQ-DI in RA-BEAM and RA-BEACON

	RA-BEAM			RA-BEACON ^b		
	PBO (n=488)	Bari-4 mg (n=487)	ADA (n=330)	PBO (n=176)	Bari-2 mg (n=174)	Bari-4 mg (n=177)
Baseline	31.9 (6.8)	31.9 (6.6)	31.7 (7.5)	30.0 (5.3)	30.7 (5.7)	30.3 (6.1)
Week 1	33.8 (7.0)	35.0 (7.5)	35.0 (8.0)	30.7 (5.6)	32.8 (6.3)	32.4 (7.6)
Week 4	34.5 (7.7)	37.6 (8.8)	36.7 (8.3)	31.6 (6.2)	33.5 (6.9)	33.7 (8.8)
Week 12	35.9 (8.6)	39.4 (9.5)	37.8 (9.0)	32.1 (6.8)	34.9 (8.5)	35.1 (8.5)
Week 24	36.0 (8.7)	40.8 (10.3)	39.1 (9.7)	31.6 (6.4)	35.2 (9.0)	35.7 (10.2)
Week 52		41.2 (10.2)	39.6 (10.1)			

Data are mean (SD)

^aHigher PROMIS Physical Function score means better physical function.

^bRA-BEACON was a 24 week study

ADA=adalimumab; bari=baricitinib; PBO=placebo

Abstract FRI0013 – Figure 1. Change from baseline for PROMIS Physical Function converted from HAQ-DI in RA-BEAM and RA-BEACON

Conclusions: While RA-BEAM and RA-BEACON did not use the PROMIS instrument directly, these results indicate PROMIS PF has the potential to show responsiveness and differentiate between active treatments in clinical trials.

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FRI0014 LOW-DOSE ASPIRIN MAY HAVE A ROLE AS PRIMARY PROPHYLAXIS OF CARDIOVASCULAR EVENTS IN RHEUMATOID ARTHRITIS: EVIDENCE FROM AN ITALIAN MULTICENTRIC RETROSPECTIVE STUDY

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Background: Cardiovascular (CV) morbidity and mortality are significantly greater in Rheumatoid Arthritis (RA) patients than in the general population. Acetylsalicylic acid (ASA) is known to be associated with a significant decrease in the incidence of CV events in patients at high CV risk, as we have recently demonstrated in patients with Systemic Lupus Erythematosus, but its effectiveness as primary prophylaxis in RA patients has not yet been addressed.

Objectives: To investigate the role of ASA in reducing the incidence of CV events in an Italian multicentre RA cohort from the GIRRCS (Gruppo Italiano di Ricerca in Reumatologia Clinica e Sperimentale).

Methods: The clinical charts of RA patients consecutively admitted to 4 GIRRCS centres for their 1st visit from November 1st 2000 to December 31st 2015, who, at admission, satisfied 2010 ACR/EULAR criteria for RA and had not experienced any CV event, were analysed. The incidence of CV events during follow-up was recorded at December 2016. Kaplan Meier curve and log-rank test were used to investigate differences in event-free survival. Cox regression analysis served to identify factors associated with CV event occurrence.

Results: Seven hundred and forty-six consecutive RA patients were enrolled and followed up for a median of 5.6 years (range 2.9–8.9 years). The incidence rate (IR) of CV events was 7.8/1000 person-years (pys) in the overall cohort. Patients were subdivided into two groups, namely ASA- (242 patients) and non-ASA-treated (504 patients). The IR of CV events was significantly lower in the ASA-treated with respect to the non ASA-treated group (IR 1.7 vs 11.5/1000 pys; $p=0.0002$). Furthermore, the CV event-free rate was longer in ASA-treated than in non-ASA-treated patients (log-rank test 12.3; $p=0.0004$). Figure 1.

At multivariate analysis hypertension and metabolic syndrome (HR 5.6, 95% CI: 1.2–26.3; $p=0.03$ and HR 3.7, 95% CI: 1.3–9.8; $p=0.009$) resulted to be the only positive predictors; ASA treatment (HR 0.04, 95% CI: 0.06–0.33; $p=0.02$) the only negative one.

Conclusions: The incidence rate of CV events in our Italian multicentric cohort was lower than that reported in other European and non European cohorts. Low-dose ASA may have a role in the primary prophylaxis of CV events in RA patients.

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FRI0015 TREATING RHEUMATOID ARTHRITIS TO TARGET: IS LOW DISEASE ACTIVITY GOOD ENOUGH?

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Background: Treat-to-target (T2T) principles in rheumatoid arthritis (RA) are now widely recognised as effective in achieving optimal disease outcomes.

Objectives: To examine for differences in outcomes between low (LDAS) and remission (RDAS) disease activity score (DAS) categories, addressing the question: is LDAS a 'good enough' treatment target in RA?

Methods: Data from two consecutive UK multi-centre RA inception cohorts with similar design were used: the Early RA Study (ERAS) and Early RA Network (ERAN). Recruitment figures/median follow up for ERAS and ERAN were 1465/10 years (maximum 25 years), and 1236/6 years (maximum 10 years) respectively. Standard demographic and clinical variables were recorded at baseline and then annually until the end of study follow up. Disease activity was categorised by mean DAS28 score between years 1–5 as remission [mRDAS <2.6] or low [mLDAS 2.6–3.2]; as sustained low/remission DAS (sLDAS/sRDAS) based on DAS persisting in each of the two categories at years 1–2 and as Boolean remission (years 1–2). Change in HAQ and SF36 (physical [PCS] and mental [MCS] components) for each disease activity category were modelled using linear mixed models with time incorporated as a linear spline with change-point at 12 months. Year of onset, age, gender and use of steroids or conventional DMARDs at first visit were included as covariates.

Results: Out of 2701 patients, 468 (17%) were in mRDAS, 284 (11%) in mLDAS in the first five years of disease. Lower proportions had achieved sRDAS (8%), sLDAS (6%) and Boolean (2%) remission. Mean age was similar across categories; more women were in low vs remission DAS. Compared to mLDAS or sLDAS, inflammatory markers, DAS, functional (HAQ, PCS) and mental (MCS) scores tended to be better in the mRDAS, sRDAS or Boolean remission categories (figure 1). Significant differences ($p<0.05$) were noted between the mRDAS and mLDAS between years 1–5 for all outcomes; for sRDAS compared to sLDAS, the difference was significant at one year but not by five years.

Conclusions: The results demonstrate striking differences between remission and low DAS categories, suggesting worse functional and SF36 outcomes over