Inc., Ahmad Halwani Grant/research support from: Bristol-Myers Squibb, Kyowa Hakko Kirin, Roche, Abbvie, Genentech, Immune Design, miRagen, Amgen, Seattle Genetics, Takeda, Pharmacyclics
DOI: 10.1136/annrheumdis-2019-eular.3150

THU0630

THE ACR'S RHEUMATOLOGY INFORMATICS SYSTEM FOR EFFECTIVENESS (RISE) DEMONSTRATES IMPROVEMENTS IN MANY MEASURES OF QUALITY OF CARE BETWEEN 2016 AND 2017

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Background: The ACR's Rheumatology Informatics System for Effectiveness (RISE) is a national, EHR-enabled registry that passively collects data on all patients seen by participating practices, thus reducing the selection bias present in single-insurer claims databases. Launched in 2014, RISE is designed to help practices improve their quality of care.

Objectives: The objectives of our study were to a) examine changes in practice-level performance on selected quality measures for patients with rheumatoid arthritis (RA) in 2016 and 2017 and b) assess variations in performance over time between practices.

Methods: We analyzed data collected on all patients with a diagnosis of RA who had at least one clinic visit between January 1, 2016 and December 31, 2017. Six quality measures in the areas of RA management (disease activity measurement and tuberculosis (TB) screening), and cardiovascular risk reduction (body mass index (BMI) screening in 18-64 years, BMI screening in >64 years, tobacco use screening and cessation, and blood pressure (BP) control) were examined. Performance on quality measures, defined as the percentage of eligible patients receiving recommended care, was examined at the practice level. We used a hierarchical linear model to predict change in practice-level measure performance per quarter, accounting for clustering by practice. We also assessed variations in within-practice performance changes over time by calculating the range for each measure.

Results: Data from 150,099 patients from 135 practices was examined. Mean age was 63±14 years, 77% were female, 72% were Caucasian. The most common practice structure was a single-specialty group practice (65%), followed by solo (20%) and multi-specialty group practice (10%). From January 2016 to December 2017 there was an improvement in quarterly performance on disease activity measurement (+2.9%, p<0.001), TB screening (+1.9%, p<0.001), BMI screening in 18-64 years (+2.4%, p<0.001), and tobacco use screening and cessation (+1.2%, p<0.001), and a decline in quarterly performance on BMI screening in >64 years (-0.4%, p<0.001) and BP control (-0.6%, p<0.001). Improvements in performance on RA management measures were steady from Q1 2016 to Q4 2017 (Figure). Within-practice change in performance varied significantly across practices (Table). For example, from 2016 to 2017 within-practice change in performance on blood pressure control varied from a decrease by 66.7% to an increase by 100%.

Conclusion: Among practices participating in RISE, from 2016 to 2017 average performance on most measures for individuals with RA improved. We found significant variations in performance over time between practices, suggesting that future work to identify workflow patterns leading to high performance or to dramatic improvements in quality are warranted. Disclaimer: This data was supported by the ACR's RISE Registry. However, the views expressed represent those of the authors, not necessarily those of the ACR.

Figure. Performance on Rheumatoid Arthritis Management Quality Measures in the RISE Registry, by quarter.

Table. Performance on Quality Measures in the RISE Registry in 2016 and 2017.

Quality Measure	2016		2017		Change in average practice-level performance from 2016 to 2017 (%)
	Measure denominator (N)	Average practice-level performance (%)	Measure denominator (N)	Average practice-level performance (%)	
		Percentile (50th, 99th)		Percentile (50th, 99th)	
Disease Activity Measurement	327,964	24.0, 100	323,263	55.0, 100	-67.2 - +86.5
Tuberculosis Screening	37,237	60.0, 98.6	28,505	67.9, 96.6	-35.7 - +53.6
BMI Screening, 18-64 years	183,407	35.7, 98.8	291,387	48.1, 98.7	-32.3 - +72.1
BMI Screening, >64 years	146,637	56.7, 96.8	285,691	46.4, 97.1	-55.3 - +72.4
Tobacco Use Screening and Cessation	332,771	88.2, 100	326,151	90.3, 100	-44.1 - +88.3
Blood Pressure Control	55,087	64.1, 100	63,922	60.3, 100	-66.7 - +100

Table. Performance on Quality Measures in the RISE Registry in 2016 and 2017.

Quality Measure 2016 2017 Measure denominator (N) Average practice-level performance (%) Measure denominator (N) Average practice-level performance (%) Change in average practice-level performance from 2016 to 2017 (%) Percentile (50th, 99th) Percentile (50th, 99th) Range

Disclosure of Interests: Zara Izadi Consultant for: I worked as a paid consultant for Celgene from 2014 to 2017., Gabriela Schmajuk Grant/research support from: Investigator initiated award from Pfizer from 2015-2018, unrelated to this work, Julia Kay: None declared, Rachel Myslinski: None declared, Jinoos Yazdany Grant/research support from: Pfizer, Consultant for: AstraZeneca

DOI: 10.1136/annrheumdis-2019-eular.5154

THU0631

IMPACT OF DAY OF ADMISSION AND TIME TO DIAGNOSTIC ARTHROCENTESIS ON MORTALITY AND OTHER OUTCOMES IN SEPTIC ARTHRITIS: A NATIONWIDE ANALYSIS

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Background: Multiple studies have been done assessing the "weekend effect" and outcomes for hospitalized patients^{1,2,3,4}, however, there is no data evaluating the outcome of patients with septic arthritis of a native joint (SANJ) who are admitted on the weekend compared to the rest of the week.

Objectives: To evaluate whether important outcomes in SANJ, including in-hospital mortality, differ between patients admitted on weekends versus weekdays and the time to diagnostic arthrocentesis.

Methods: The National Inpatient Sample (NIS) database of the year 2016 was utilized for patients admitted to the hospital with a principal discharge diagnosis of SANJ. This was a retrospective cohort study of patients hospitalized in 2016 with SANJ in hospitals across the US. Patients were included if they were adults with a principal diagnosis of SANJ based on ICD-10 codes. Admissions between midnight Friday and midnight Sunday were classified as weekend admissions. Early arthrocentesis was defined as percutaneous arthrocentesis performed within 24 hours of admission. The proportion of patients with SANJ admitted over weekends versus weekdays was determined. Odds ratios (OR) were calculated for primary and secondary outcomes including in-hospital mortality rate, rates of diagnostic arthrocentesis and early arthrocentesis, length of stay and total hospital charges. These results were compared after multivariable logistic regression adjusted for age, gender, race, day of admission, Charlson comorbidity index and median household yearly income in the patient's zip code. We used STATA-15 for statistical analysis.

Results: The study included 12819 patients with SANJ. Compared with patients admitted on weekdays, patients with SANJ admitted on weekends had increased in-hospital mortality rates (adjusted odds ratio[aOR] 3.67; 95% [CI] 1.52 – 8.86, p<.005), but similar early arthrocentesis rates ([aOR] 1.14; 95%, [CI] 0.90 – 1.45 p>0.05), length of stay (p>0.05) and hospital charges (\$ 2751.11; 95% [CI] -4449.6 – 9951.8; P>0.05). However, regardless of the day of admission those who received an early arthrocentesis had lower length of stay (-1.46, p<0.05), and lower total hospital charges (\$ -6527 \$; p<0.05).