Shark Tank Project Concept

DOM Faculty sponsor (name and title)	Elena Weinstein, MD, PhD Assistant Professor, Rheumatology
Primary Contact	Emily Bowers, MD, Rheumatology Fellow
DOM Division	Rheumatology
Other team members (optional; not limited to DOM Faculty)	Duane Pearson, MD, Rheumatology Beverly Andrews, RN
Title	**Closing the Loop**: A Quality Improvement Intervention to Reduce 30-Day Hospital Readmission Rates among Patients with Systemic Lupus Erythematosus

Abstract 1.

Background / Statement of Problem: Systemic lupus erythematous (SLE) is a chronic immune-mediated disease with significant morbidity and mortality that often requires inpatient hospitalization. 20-25% of individuals with SLE are hospitalized each year accounting for over 140,000 U.S. hospitalizations annually. Hospital readmission rates are high among patients with SLE with reports in the U.S. of 17-36% within 30 days [1-3]. Among chronic diseases in 2010, SLE had the sixth highest readmission rate according to the Agency for Healthcare Research and Quality [4]. This is a significant economic burden with one study estimating the average cost of a SLE readmission was an additional $14,409 in 2017[5]. In the UCH Rheumatology clinic, we have found a 30 day readmission rate of 30% among our SLE patients.

Prior literature on this topic has focused on identifying risk factors associated with readmission and found that readmitted SLE patients are more likely to be young, ethnically/racially diverse, have multiorgan involvement and have a public payor form of insurance[1, 2]. We propose a novel quality improvement intervention to reduce readmission rates among patients with SLE in the UCH Rheumatology clinic.

Project Description: We collected baseline data in our clinic on hospital readmission rates among SLE patients from 7/2016- 10/2016. An intervention was designed that includes the following key stakeholders: the rheumatology clinic nurse (Beverly Andrews, RN) and the rheumatology fellows and attendings. We developed a "discharge dot phrase", which is a prescribed note in Epic, that the rheumatology consult fellow will send to the clinic nurses after each hospital discharge. This includes information about medication changes, future infusions, future labs and follow-up appointments. After receiving the Epic message, the clinic nurse will contact the patient by telephone within 48 hours of discharge to review the pertinent information and answer any questions the patient may have after discharge. If issues arise, the nurse will alert the on-call fellow to contact the patient. Strategy: On July 11, 2017 as part of a UCHealth advance care planning initiative, our team unveiled first of its kind health information technology in MyHealthConnection to enable patients to electronically complete legal documentation to appoint a Medical Durable Power of Attorney (MDPOA). In six weeks, more than 200 patients completed a MDPOA via My Health Connection (MHC) without specific marketing or promotion. We believe a sustained information campaign will improve the rate of MDPOA completion.

We plan to track the following primary outcomes: demographic characteristics including patient age, sex, race/ethnicity and primary payer source; readmission rate within 30 days of discharge; ED visits within 30 days of discharge; percent show rate for follow-up appointments; number of days from discharge to scheduled follow-up appointment; percent compliant with medications at follow-up visit. We began implementing this intervention in 6/2018 and plan to collect our post-intervention data from 6/2018 through 6/2019.

We believe that this intervention requires low effort in exchange for high impact, and therefore, would be a sustainable intervention for our clinic. If successful, the financial impact of reducing SLE hospital readmissions by half will be significant.

AIM Statement: We aim to reduce hospital readmission rates among SLE patients at UCH by half—from our baseline of 30% in 2016 to a goal of 15% by June of 2019-- by implementing a multidisciplinary discharge follow-up intervention. Specifically, we hope to improve the transition of care from inpatient to outpatient by improving patients' understanding of their discharge instructions, improving medication compliance and ensuring adequate time to follow-up.

Project Needs: Coaching; Project Management; Graphic analysis (example: pareto and control charts); Data Support (EPIC, Vizient, PowerBI, COMPASS)

References:

1. Yazdany, J., et al., Thirty-day hospital readmissions in systemic lupus erythematosus: predictors and hospital- and state-level variation. Arthritis Rheumatol, 2014. 66(10): p. 2828-36.
2. Edwards, C.J., et al., Hospitalization of individuals with systemic lupus erythematosus: characteristics and predictors of outcome. Lupus, 2003. 12(9): p. 672-6.
3. Nangit, A., et al., Causes and Predictors of Early Hospital Readmission in Systemic Lupus Erythematosus. J Rheumatol, 2018. 45(7): p. 929-933.
4. Elixhauser A, S.C., Readmissions to U.S. Hospitals by Diagnosis, 2010. HCUP Statistical Brief #153. 2013.
5. Annapureddy N, S.A., Nadkarni G, Hospital Readmissions for SLE in the United States: A National Database Study. Arthritis Rheumatol, 2017. 69(suppl 10).