Developing a Framework for Leveraging Patient Reported Outcomes Measurement for Increasing Value to Patients and Providers

Domain Area: High Value Care

DBMI Course: System Modeling & Process Improvement

Problem context: As the landscape of healthcare quality moves to value based payment, the quality measures that will be required will also continue to shift to become more meaningful to both patients and providers. The emphasis is changing from process measures to functional status outcome and reporting the quality of care across the longitudinal care of the patient (e.g., patient reported outcomes (PROs) and CMS bundled payment initiatives). The data infrastructure needed for these more advanced outcome measurements is more complex than the data infrastructure needed for currently required national measures 1,2. Currently PROs are collected in the majority of UHealth clinics. The next step is to develop a framework for integrating these functional status measures into the workflow of the clinicians for use during the patient encounter and in the analysis for process improvement work.

Domain Learning Objective: Design a framework for operationalization of patient reported outcomes data into the provider's workflow and integration PROs into the quality data infrastructure.

Data Science Learning Objectives:
1. Ask Questions: What data elements are needed by providers to gain meaningful insights from the PROs data? What is the most intuitive manner for these data to be displayed and at what point in the workflow to facilitate discussion with the patient? Is clinical decision support needed? How do providers use these data in decision making? Is it possible to collect these data across multiple sites (affiliates)? What effort is needed to integrate these data into the quality measure infrastructure?
2. Acquire and Assimilate Data
   a. Understand the data that is currently collected and how these data are currently being used.
3. Analyze Data and Design Solution:
   a. Survey provider and patient regarding their satisfaction with the PRO process pre and post intervention.
   b. Design a pilot PRO workflow to integrate these data into the patient encounter in a meaningful way.
4. Assess results and Advise:
   a. Evaluate the survey results after implementation
   b. Reflect on how to modify the PRO workflow based on feedback

Data sets: 1) survey results – pre/post 2) de-identified analysis of PRO trends pre/post intervention.

Data science resources: RedCap, jupyterhub notebook infrastructure with Python and R packages to evaluate survey results.