after adjustment for age, gender and epidemiologic information. RESULTS/ANTICIPATED RESULTS: There was a significant positive correlation between procedure time (time at groin puncture to time at reperfusion) and take-off angle. There were no other significant correlations between anatomic measures and procedure time. In addition, there was as a significant positive correlation between both procedure time and time from last seen normal to reperfusion and delta mRS (the difference between pre-stroke and post-stroke mRS). DISCUSSION/SIGNIFICANCE OF IMPACT: These results suggest that patients with larger take-off angles have an association with longer procedural times and worse outcomes. If these patients can be effectively identified prior to the procedure, operators could feasibly use a non-femoral access method initially to reduce procedure time.

Individual Anesthesia Provider Performance Assessment

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OBJECTIVES/SPECIFIC AIMS: We developed a multilevel hierarchical statistical model which describes the association of prophylactic interventions to patient PONV risk, and provides an intuitive summary for anesthesiologists to understand how well they are adhering to PONV guidelines. METHODS/STUDY POPULATION: Accepted PONV risk factors as well as preventative interventions to reduce the PONV risk, (e.g. total intravenous anesthesia or pharmacological prophylaxis) are retrieved from the electronic medical record (EMR). Risk is regressed against interventions. Fig 1, Panel A visualizes adherence for an individual provider by plotting anesthesia cases, with PONV risk in the x-axis and the number of interventions in the y-axis. Fig 1, Panel B shows a "Jitterplot", jittering individual cases, which would otherwise plot onto the same coordinates (Panel A). The distribution of the number of interventions in each risk category is better summarized in Fig 1 Panel C by overlaying a violin plot onto the "Jitterplot". Finally, a fitted regression line provides a summary measure for the individual provider's risk-adjusted utilization of PONV prophylaxis in Fig 1, Panel D. The model can control for confounders and interactions, such as patient or procedure characteristics, such as supervision by attending physicians, institutional culture, and surgical procedure. RESULTS/ANTICIPATED RESULTS: Fig. 2, Panel A demonstrates good adherence. The provider responded to increased risk with additional interventions leading to a steep regression line. Less discriminate administration of prophylaxis is shown in Fig 2, Panel B. The graphical representation of our proposed measure of individual provider performance is intuitive, allowing us to compare adherence of two distinct groups of providers (light lines) and institutional averages (dark lines) as shown in Fig 2, Panel C. Controlling for known risk factors and potential confounders renders the assessment irrepudiable. The rigorous statistical approach allows for multi-level modeling and comparative effectiveness research, realistically evaluating process changes and interventions like CDS in the hierarchical structure of contemporary healthcare delivery. DISCUSSION/SIGNIFICANCE OF IMPACT: The strength of our novel measure of individual provider performance is its generalizability to other care settings, as well as the intuitive graphical representation of risk-adjusted individual performance. However, accuracy, precision and validity, sensitivity to system perturbations (like the implementation of CDS), and acceptance among providers remain to be evaluated. Fig 1. Risk-Adjusted Utilization of Antiemetic Prophylaxis Fig 2. Comparing Performance between Provider Groups

Inpatient Palliative Care Consultation Improves Readmissions in End-Stage Liver Disease

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OBJECTIVES/SPECIFIC AIMS: Inpatient palliative care consultation (PCC) of terminally ill patients has been shown to improve patient's understanding of their poor prognosis. In heart failure patients, PC improves transfer to hospice (or home with hospice) and decreases readmission rates. In patients with end-stage liver disease (ESLD), factors affecting having PCC has been studied, but the impact of PCC on ESLD readmissions has not been evaluated in a nationwide analysis in the US. In this study, among patients with ESLD, we evaluate the impact of inpatient PCC on 1) 30- and 90-day readmission rates, 2) hospital charges (cost) and length of stay (LOS) during subsequent 30- and 90- day readmission. METHODS/STUDY POPULATION: All ESLD hospitalizations within the first nine months of the National Readmissions Database (2010-2014) were used in this study, to allow up to 3 months to follow up. Frequencies and yearly trends of all-cause 30- and 90-days readmissions, and of PCC referral were computed. A propensity-based greedy-algorithm was used to match (1:1) patients with PCC to those without PCC (no-PCC), to create a pseudorandomized clinical study. Comparing PCC to no-PCC, generalized estimating equations were used to estimate the adjusted odds (AOR) of 30- and 90-day readmissions, and of cost and LOS during subsequent readmissions (SAS 9.4) RESULTS/ANTICIPATED RESULTS: In the United States, from January 1st to September 30th of years 2010-2014, there were 67,271 (approximating 150,396 patients) individual records of ESLD patients who survived index hospitalization. The average annual rate of PCC was 5.4%, which steadily increased from 3.84% to 6.50% over the years (p-trend <0.0001). The average 30- and 90-day readmissions rate were respectively 34.9% and 52.3%, and both remained relatively unchanged over the years (p-trends: 0.1948 & 0.5277). After matching, index PCC was associated with 68% decreased odds for 30 day readmissions (AOR: 0.32[0.28-0.37], p-value < 0.0001). When subsequently readmitted within 30 days, previous PCC resulted in a 17% shorter stay (5.7- vs. 6.9- days, p-value:0.0014) and 30% decreased cost ($47,612 vs. $68,043, p-value:<0.0001). Similarly, index PCC was associated with 74% decreased odds for 90 day readmissions (AOR: 0.26[0.24-0.29], p-value<0.0001). With subsequently readmission within 90 days, previous PCC resulted in a 17% shorter stay (5.7- vs. 6.9- days, p-value:0.0013) and 30% decreased cost ($47,520 vs. $68,016, p-value:<0.0001). DISCUSSION/SIGNIFICANCE OF IMPACT: Patients with ESLD who received PCC had a significantly lower rate of all-cause 30- and 90- day readmissions, and consumed fewer resources (hospital stay and cost) during subsequent readmissions. Although PCC resulted in a less futile use of health care resources, its adoption is still remarkably low among ESLD patients. Studies are needed to understand the barriers to PCC and to increase its use.