Hello all! We appreciated seeing you at our in-person meeting in Chicago on July 18th, graciously hosted by Dr. Mehul Raval from Lurie Children’s. We are hoping to host in-person meetings at next year’s APSA meeting in Orlando and the ACS Quality and Safety meeting in Minneapolis—more to come on that!

The PSQC executive committee met on July 16th to review all the submissions we received for Pilot projects. To review our plan, these will be pilot projects designed to ultimately roll into the NSQIP. These will each require individual DUAs between participating hospitals and UTHealth Houston. Those of you who were able to attend the July 18th meeting, got a preview of a few of those as well as an update on the Post-op CT reduction project currently underway.

Within this newsletter, we are providing a brief description of each of the projects we are launching. Three (3) of these are pilot projects and one (1) is a NSQIP based project. Each of our project leads have provided an overview of the project purpose and anticipated outcomes here. On September 8th, we will be hosting a webinar where each of the future projects as well as our current project will be showcased with an opportunity for you to ask specific questions. Terry sent out the invitation and we hope as many of you as possible will be able to attend.

As always, thank you for your continued interest and support of the PSQC.

Kevin Lally, MD, MS, FACS
PSQC Executive Director
Surgeon-in-Chief, Children’s Memorial Hermann Hospital
Houston, TX
PSQC Projects

Post-op CT Scan Reduction  
Dr. Derek Wakeman and Dr. Tamar Levene, Co-Leads

Our aim is to reduce CT scanning post-operatively after appendectomy for complicated appendicitis across the Pediatric Surgery Quality Consortium. We have identified hospitals with high and low CT scanning rates and will be interviewing relevant stakeholders at each institution regarding their practices around obtaining CT scans in children with complicated appendicitis. Similar to project 1, we intend to identify relevant themes that can then inform a QI project for the consortium. Please contact Terry for additional information.

Antibiotic Duration Post-op Appendectomy  
Dr. Erich Grethel and Dr. Monica Lopez, Co-Leads

Our aim is to evaluate the Collaborative cohort antibiotic usage after appendectomy for complex appendicitis, and, following the principles of antibiotic stewardship, to impart judicious antibiotic usage and early discharge of these patients with minimal morbidity." We can go into more detail, stating we hope to learn from outlying centers who minimize antibiotic use in discharging their morbidity excluded complex appendectomy patients expeditiously while still demonstrating low postoperative occurrences in the form of revisits/readmissions/return to OR. Please contact Terry for additional information.

Colon Bundle Protocol for Pediatric Surgical Patients  
Dr. Justin Lee, Lead

Building on research from the OHSU and WPSRC that demonstrated improved clinical outcomes following the implementation of a colon bundle protocol, similar colon bundle protocol will be implemented across participating PSQC institutions.[1,2] Consensus views on feasibility, published literature, and guidelines will be used to formulate a NSQIP appropriate colon bundle protocol. Using the NSQUIP data collection and risk-adjusted outcomes-based approach, this study seeks to understand the effects of such protocol on postoperative recovery and postoperative outcomes. Participation in this pilot study can help identify areas of improvement, reduce variations in practice, and measure clinical outcomes. Please contact Terry for additional information.
Antibiotic Stewardship
Dr. Shawn Rangel, Lead

Overuse of SAP has been associated with antimicrobial resistance and preventable patient harm. Preliminary analysis of ACS NSQIP Pediatric Antibiotic Stewardship Pilot data has demonstrated overuse to be both variable and common, and that more intensive use of unindicated postoperative prophylaxis was not correlated with lower SSI rates among its 96 pilot hospitals (figure). Great opportunity therefore exist within ACS NSQIP Pediatric for improving stewardship through sharing of best practices to reduce postoperative prophylaxis use. With these considerations, the primary goal of the PSQC Antibiotic Stewardship Collaborative will be to reduce postoperative utilization at participating sites through the following avenues (among others):

1. Identification of high performing hospitals for dissemination of best practices for improved antimicrobial stewardship (low O/E’s for procedure-adjusted postoperative prophylaxis use with as expected or lower than expected O/E’s for SSI)
2. Establishment of prophylaxis stewardship implementation/change teams at participating hospitals (surgeon/anesthesiologist/ASP personnel)
3. Development and dissemination of procedure-level comparative effectiveness data for postoperative prophylaxis use commonly performed elective procedures (analysis currently in progress at the ACS)
4. Identification of procedure-level low hanging fruit at each participating hospitals based on procedure-level comparative effectiveness data and existing site-specific SAP reports
5. Development of site-level data dissemination and implementation/change plans for targeting “low hanging fruit”

Please contact Terry for additional information.
PSQC Projects

**Opioid Stewardship**

*Dr. Steve Shew, Lead*

Discharge opioid prescriptions are a known contributor to the opioid misuse and abuse in the general population including those prescribed to postoperative children. However, no broad scale accounting of opioid prescribing exists for pediatric patients who have undergone operations. Moreover, it is known from limited single and small multi-institutional studies that there is significant variation in opioid prescribing practices across sites and surgical specialties, most likely indicating potential to facilitate decreased opioid prescribing nationally.

The PSQC is putting forth a multi-phased QI project toward surveying opioid prescribing patterns using the NSQIP-Pediatric platform across pediatric surgical specialties using existing, newly created, and future custom NSQIP variables, toward the primary goal of decreasing opioid prescribing at member PSQC hospitals and establish a national opioid stewardship effort.

**Phase 1a**—Survey current basic opioid prescribing practices of different specialties from each site using current and newly created opioid specific NSQIP-Pediatric variables and establish regular self-reporting of sites to PSQC

**Phase 1b**—Implement a site-specific opioid prescribing quarterly report generated from the PSQC to be used as blinded site comparison of their opioid stewardship efforts

**Phase 1c**—Offer basic educational tools, known opioid sparing guidelines and potential QI coaching from select low opioid prescribing sites of different surgical specialties

**Phase 2a**—Create a custom, multiple variable opioid dataset within NSQIP-pediatric to analyze across specific sites by procedure to generate risk adjusted effects toward highly effective opioid-sparing outcomes

**Phase 2b**—Determine factors associated with most successful opioid sparing efforts and create most effective best practice opioid stewardship guidelines that could be disseminated to PSQC sites

**Phase 2c**—Implement standardized best practice guidelines and track improvement efforts across PSQC sites over time toward effective minimizing opioid prescribing nationally

**Phase 2d**—Facilitate creating standardized, site specific opioid stewardship SAR for to be incorporated into NSQIP-Pediatric SARs

Please contact Terry for additional information.
Hello all!

We are excited to launch pilot projects and our Radiation Stewardship and Antibiotic Stewardship projects. If you have any interest in participating in any PSQC project, please send me a note and I’ll get you additional information.

I’d also like to share that I am available to discuss quality improvement projects you may be trying to get started at your own institution. I am happy to discuss your projects and provide some guidance on development and measurement strategies.

Please email me at terry.Fisher@uth.tmc.edu if you have any questions or I can help in any way.

Terry

Terry Fisher, MPH, PMP, CPHQ
PSQC Program Manager
McGovern Medical School
Houston, TX

Recent Publications of Interest

Ethical Issues Related to the COVID-19 Pandemic That Have Influenced Pediatric Surgery

The response of the health care system to pediatric surgical patients has been dramatically altered by the coronavirus disease 2019 pandemic. Such changes have affected children, families, and the clinicians who care for them. In this review, we highlight some of the ethical issues faced by pediatric surgical patients and pediatric surgeons during the coronavirus disease 2019 pandemic, including the transition to public health ethics, scarcity of resources, exacerbation of disparities, moral distress for pediatric surgeons, and shifting reliance on telemedicine and other remote means of communication. We discuss how these issues have prompted both favorable and unfavorable changes to the surgical care of children and consider which changes may have a lasting effect on pediatric surgery.

Tramadol Use in Pediatric Surgery: Trends After the Food and Drug Administration Black-Box Warning

The U.S. Food and Drug Administration (FDA) issued a black-box warning in 2017 contraindicating tramadol in children <12 y. Longitudinal trends and factors associated with perioperative tramadol use in children remain unclear. Despite the FDA contraindication, tramadol prescribing continues among children <12 y undergoing surgery, with use varying by patient and institutional factors. Interventions are required to reduce perioperative tramadol use in children.

A qualitative examination of barriers and facilitators of pediatric enhanced recovery protocol implementation among 18 pediatric surgery services

Enhanced recovery protocols (ERPs) are an evidence-based intervention to optimize post-surgical recovery. Several studies have demonstrated that the use of an ERP for gastrointestinal surgery results in decreased length of stay, shortened time to a regular diet, and fewer administered opioids, while also trending toward lower complication and 30-day readmission rates. Yet, implementation of ERPs in pediatric surgery is lagging compared to adult surgery.

Percutaneous peritoneal drain placement: A pilot study of pediatric surgery simulation-based training for general surgery residents

General surgery residents often feel unprepared to perform pediatric surgery procedures since case volume and experience may be low. Previously, we successfully implemented a simulation-based training (SBT) module for placement of a silastic silo for gastroschisis. Therefore, we designed a single
institution pilot study to assess whether SBT for placement of a percutaneous peritoneal drain for perforated necrotizing enterocolitis (NEC) was feasible and lead to skill acquisition and increased confidence.

Racial/ethnic differences in receipt of surgery among children in the United States

It is unknown whether racial/ethnic disparities exist in surgical utilization for children. The aim, therefore, was to evaluate the odds of surgery among children in the US by race/ethnicity to test the hypothesis that minority children have less surgery. Latino, African-American, and Asian children have significantly lower adjusted odds of having surgery than White children in America, and Latino children were more likely to have emergent or urgent surgery. These racial/ethnic differences in surgery may reflect disparities in healthcare access which should be addressed through further research, ongoing monitoring, targeted interventions, and quality-improvement efforts.

Quantifying Procedure-level Prophylaxis Misutilization in Pediatric Surgery: Implications for the Prioritization of Antimicrobial Stewardship Efforts

To quantify procedure-level inappropriate antimicrobial prophylaxis utilization as a strategy to identify high-priority targets for stewardship efforts in pediatric surgery. Procedure-level compliance with consensus guidelines for prophylaxis utilization was assessed for indication, antimicrobial spectrum, and duration. The relative contribution of each procedure to the overall burden of noncompliant cases was calculated to establish a prioritization framework for stewardship efforts. More than half of all noncompliant cases were associated with 5 procedures (cholecystectomy, small bowel procedures, inguinal hernia repair, gastrostomy, and pectus excavatum).

Provider education leads to sustained reduction in pediatric opioid prescribing after surgery

The majority of opioid overdose admissions in pediatric patients are associated with prescription opioids. Post-operative prescriptions are an addressable source of opioids in the household. This study aims to assess for sustained reduction in opioid prescribing after implementation of provider-based education at nine centers. Our multicenter study demonstrates sustained reduction in opioid prescribing after pediatric umbilical hernia repair after a provider-based educational intervention. Similar low-fidelity provider education interventions may be beneficial to improve opioid stewardship for a wider variety of pediatric surgical procedures.