Quality Quarterly
Pediatric Surgery Quality Collaborative Newsletter

PSQC pilot projects are ramping up. As Terry shared with you in her email, trainings for SCRs at pilot sites will begin in April. These training sessions will provide guidance on how to create any necessary custom fields, how to assure all data is scrubbed of any PHI, and how to submit the data to the PSQC. We’re had the great fortune to have SCRs actively involved in the pilot project development and keep any additional work needed both feasible and doable. A similar overview of each project will be shared with each pilot hospital surgeon champion and any other members of the team who might benefit.

We have concluded our coding of the qualitative interviews for the Post-Op CT Reduction project and have a draft of the final product under review by the Project Development and Implementation Committee (PDIC). We will share the guide with you all at our next webinar in late April.

Please be sure to mark your calendars for our next in-person meeting on Sunday, July 9, 2023 at Minneapolis Children’s Hospital. For your planning, we are hoping to start the meeting around 1 PM. This will be the day before the ACS Quality and Safety Conference commences. More info will follow.

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

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Post-Op CT Reduction for Complicated Appendicitis

This project is led by Dr. Tamar Levene at DiMaggio in Hollywood, Florida and Dr. Derek Wakeman at Golisano in Rochester, NY. As we did for the Pre-Op CT Reduction project, the PSQC has conducted qualitative interviews with 12 of our member hospitals, using a guide built on the Theoretical Domains Framework (TDF). These hospital were invited to participate based on their utilization of CT scans in the post-op environment and incidence of SSIs. We interviewed both low utilizers and high utilizers. We capitalized on this opportunity to also ask about antibiotic protocols, SSI reduction efforts and discharge algorithms.

Our findings have been incorporated into an Implementation Guide which is under review. Once the guide has been fully vetted, we will share the document with the entire PSQC and explore our findings in a webinar. Included in the document are various protocols, algorithms and other processes sites were generous enough to share with us.

Antibiotic Stewardship

This project will be led by Dr. Shawn Rangel at Boston Children’s, in Boston, MA. Slated for launch in Fall 2023, this project will evolve in a fashion similar to the Pre and Post-Op CT Reduction projects. Using the new Surgical Antibiotic Prophylaxis (SAP) report from NSQIP, high and low outliers will be identified and invited to participate in qualitative interviews. The interviews will be transcribed and coded and an Implementation Guide developed and shared with all of PSQC.

Pilot Project General Update

As shared via email, a comprehensive training for all pilot project sites will be shared in April. This training will cover what data is being collected, the rationale behind the data collection, how to create custom fields and how to properly scrub any data download of all PHI before sending to the PSQC. The training materials will include a step-by-step guide, video tutorial, a live training and one-on-one coaching. All will be archived on the PSQC website for download at later dates.

Pilot Project #1: Antibiotic Duration Post Appendectomy:

Building on the STOP-IT Trial findings published in 2015 in adult abdominal surgery patients, this project, lead by Dr. Monica Lopez from Vanderbilt in Louisville, KY and Dr. Eric Grethel and Ms. Kathryn Danko at Dell Children’s in Austin, TX This project was inspired by the findings of the STOP-IT trial in the adult population¹. The STOP-IT trial demonstrated that a set duration of 4(+/−1) days of antibiotic administration after source control of intra-abdominal infections had similar outcomes to those treated with longer duration antibiotics.
The Antibiotic Duration Workgroup is considering two approaches. First is a standard antibiotic protocol for post appendectomy to be piloted by interested sites. Data collection will measure compliance. Second approach would be a baseline data collection for 2 months to determine current practice among pilot sites and then pilot the post-op protocol.

Additional information is coming soon.

**Pilot Project #2: Colorectal Bundle Checklist**

The Colorectal Bundle project is led by Dr. Justin Lee at Phoenix Children’s in Phoenix, AZ and Dr. Elizabeth Fialkowski at Doernbecher in Portland, OR. This project’s objective is to substantially reduce the incidence of SSIs post operatively for our pediatric patients undergoing colorectal procedures with an anastomosis and abdominal closure through the use of a standard procedure checklist.

Pilot project sites will need to build custom variables which correspond to the 9 items on the checklist. These variables will be simple yes or no questions, measuring compliance with the checklist. Volume of eligible procedures is relatively low and we do not anticipate data collection burden to be immense. In addition to custom variables, each site will need to create some type of templated note in their EMR in order to incorporate the checklist.

**Pilot Project #3: Opioid Stewardship**

The Opioid Stewardship project is led by Dr. Steve Shew at Lucille Packard Children’s in Palo Alto, CA and Dr. Robert Ricca at Prisma Health in Greenville, SC. This project is planned for two phases. Phase I will capitalize on the six newly created opioid variables in the NSQIP portal all sites are now collecting. NSQIP requires sites to collect two of these variables with the other four being optional. Pilot sites will be required to collect all six of the variables. The PSQC will be able to take this data and demonstrate how each pilot site is performing compared to the other pilot project sites in real time. No custom variables will be needed for this project.

Phase II will be introduced later this year. Its goal will be to reduce opioid prescribing by 50% across all service lines currently measured in NSQIP. This project will build on Phase I findings by sharing best practices and strategies for alternate pain reduction approaches.
Recent Publications of Interest

Intravenous acetaminophen for postoperative pain control after open abdominal and thoracic surgery in pediatric patients: a systematic review and meta-analysis

Pediatric opioid exposure increases short- and long-term adverse events (AE). The addition of intravenous acetaminophen (IVA) to pediatric pain regimes to may reduce opioids but is not well studied postoperatively. Our objective was to quantify the impact of IVA on postoperative pain, opioid use, and AEs in pediatric patients after major abdominal and thoracic surgery. Medline, Embase, CINAHL, Web of Science, and Cochrane Library were searched systematically for randomized controlled trials (RCTs) comparing IVA to other modalities. Five RCTs enrolling 443 patients with an average age of 2.12 years (± 2.81) were included. Trials comparing IVA with opioids to opioids alone were meta-analyzed. Low to very low-quality evidence demonstrated equivalent pain scores between the groups (-0.23, 95% CI -0.88 to 0.40, p 0.47) and a reduction in opioid consumption (-1.95 morphine equivalents/kg/48 h, 95% CI -3.95 to 0.05, p 0.06) and minor AEs (relative risk 0.39, 95% CI 0.11 to 1.43, p 0.15). We conclude that the addition of IVA to opioid-based regimes in pediatric patients may reduce opioid use and minor AEs without increasing postoperative pain. Given the certainty of evidence, further research featuring patient-important outcomes and prolonged follow-up is necessary to confirm these findings.

Utilization of an enhanced recovery after surgery (ERAS) protocol for pediatric metabolic and bariatric surgery

Enhanced recovery after surgery (ERAS) protocols for pediatric metabolic and bariatric surgery are limited. In 2018, an ERAS protocol for patients undergoing robotically assisted vertical sleeve gastrectomy (r-VSG) was instituted. Utilization of ERAS led to a significant decrease narcotic utilization, time to first oral intake, and hospital LOS with no change in adverse events following pediatric metabolic and bariatric surgery. Larger studies, including comparative analysis of health care utilization, should be carried out.

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.
PSQC Member Hospitals Map

July 9th, 2023
PSQC In-Person Meeting
Minnesota Children’s Hospital
Recent Publications of Interest

The Canadian Consortium for Research in Pediatric Surgery: Roadmap for Creation and Implementation of a National Subspecialty Research Consortium

Clinical practice should be driven by high-quality research that produces evidence to inform best practices. Generation of such evidence is often challenging, particularly for smaller specialties, such as pediatric surgery, that treat many patients with rare diseases. Multi-institutional collaboration is seen as a major strategy to address these challenges. We have recently created the Canadian Consortium for Research in Pediatric Surgery, a national consortium that includes all major pediatric surgical services across Canada. The mission of the Consortium is to improve pediatric surgical care through high-quality collaborative research.


Surgical repair of pectus excavatum and carinatum in children has historically been associated with severe postoperative pain and prolonged hospitalization. Enhanced Recovery After Surgery (ERAS) is a multidisciplinary, multimodal approach designed to fast-track surgical care. However, obstacles to implementation have led to very few within pediatric surgery. The aim of this study is to outline the process of development and implementation of an ERAS protocol for pectus surgical repair using fundamental principles of implementation science.

Predictive Value of Routine White Blood Cell Count Obtained Prior to Discharge for Organ Space Infection in Children with Complicated Appendicitis: Results from the Eastern Pediatric Surgery Network

The objective of this study was to evaluate the clinical utility of a routine pre-discharge white blood cell count (RPD-WBC) for predicting post-discharge organ space infection (OSI) in children with complicated appendicitis. Routine pre-discharge WBC data have poor predictive value for identifying children at risk for post-discharge OSI following appendectomy for complicated appendicitis.

Implementation of Enhanced Recovery Protocols for Gastrointestinal Surgery in Children: Practical Tools From Key Stakeholders

We explored patient, caregiver, and provider recommendations for development of a tool kit to implement enhanced recovery protocols (ERPs) for pediatric patients undergoing gastrointestinal surgery. ERPs are widely used for adults to decrease hospital length of stay, hospital costs, and complications while hastening patient recovery after surgery. With limited data available for ERPs among pediatric populations informed modification of adult ERPs is needed to facilitate successful implementation for pediatric surgery.

Hello all!

For those hospitals that volunteered to be pilot project sites and are having challenges with the DUA process, please reach out to me with any questions. I’m happy to talk with any member of your team who may have concerns or specific questions regarding the projects.

If you didn’t volunteer to be a pilot site in the first go round-no worries. You are welcome to join at any time if you wish.

I will be out of the office from March 7th through March 21st. I will not have access to email or text.

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

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