

Pediatric Surgery Quality Collaborative

General Considerations

August 16, 2022

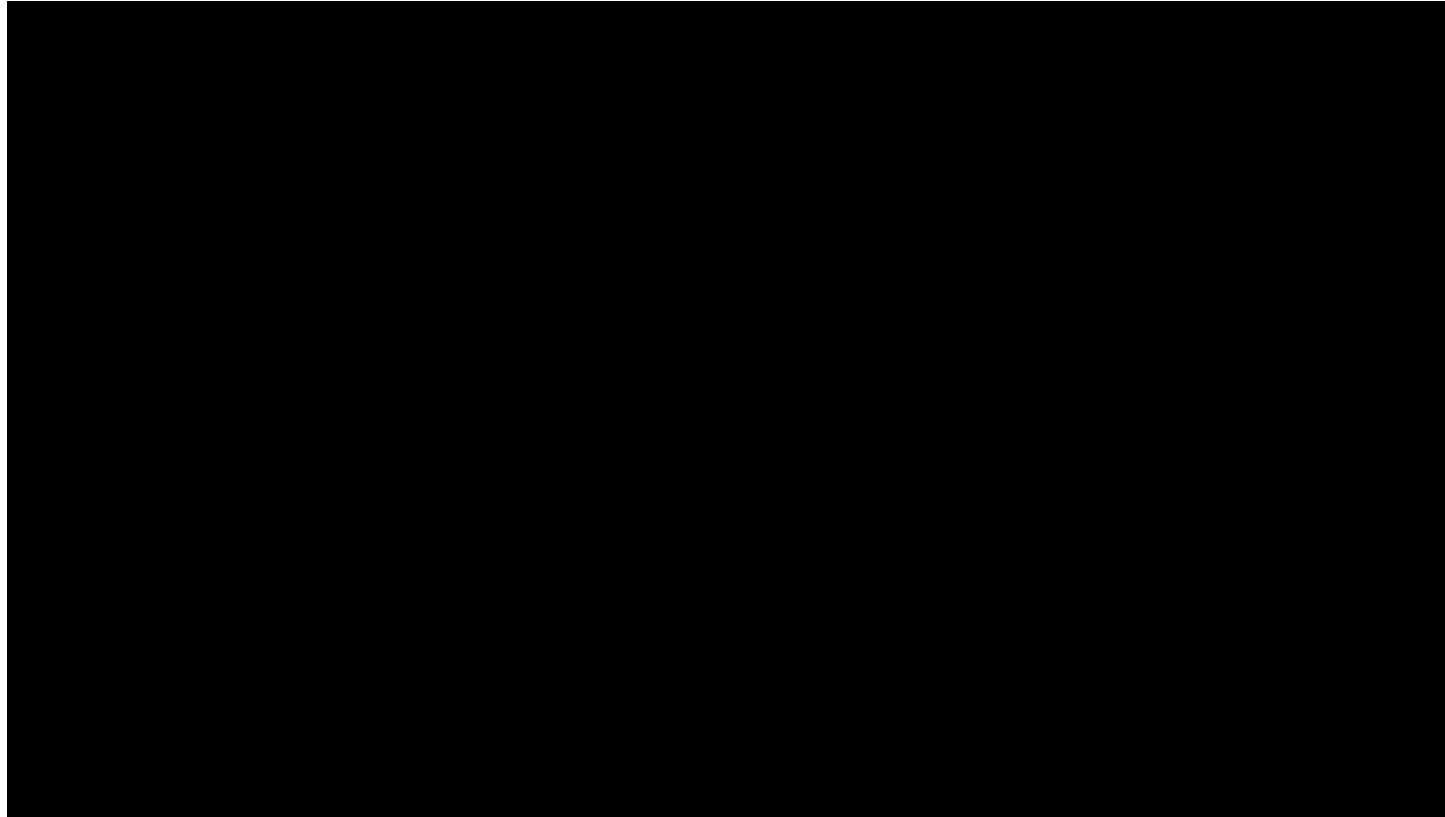
Updates from PSQC

- ▶ ACS Quality and Safety In-Person Meeting
 - ▶ Feedback
 - ▶ Next Year
- ▶ PSQC SAR
 - ▶ Data challenge

Topics for Today's Session

- ▶ Texting to Improve 30 Day Follow-up
 - ▶ Presentation from a potential vendor
- ▶ Overview of Presentations from ACS meeting
 - ▶ Post-Op CT reduction
 - ▶ Antibiotic duration in Appy (modeled on STOP-IT trial)
 - ▶ Opioid Stewardship
- ▶ Other Pilot Projects Launching
 - ▶ Colo SSI Bundle
 - ▶ Antibiotic Stewardship

Texting to Improve 30 Follow-up-Telmediq



Reducing postoperative CT imaging utilization in pediatric appendicitis

Tamar Levene, MD

Derek Wakeman, MD

July 18, 2022

Workgroup Members

- ▶ Mary Bolhuis, RN
SCR, Children's Wisconsin
- ▶ John Chandler, MD
Surgeon, PrismaHealth
- ▶ Cathy Ehster, RN
SCR, Children's Wisconsin
- ▶ Cindy Gingalewski, MD
Surgeon, Randall Children's
- ▶ Fabienne Gray, MD
Surgeon, New Orleans Children's
- ▶ Peter Juviler, MD
PGY3, Golisano Children's
- ▶ Tamar Levene, MD
Co-Lead, Surgeon, DiMaggio Children's
- ▶ Derek Wakeman, MD
Co-Lead, Surgeon, Golisano Children's

Rationale

- ▶ Appendicitis is a common surgical emergency
- ▶ Significant practice variability
- ▶ Computed tomography imaging frequently used
- ▶ Increased risk of radiation-associated malignancies
 - ▶ Hematologic malignancy risk highest in 0-15 yo



NEJM 2007;357(22):2277--8
Lancet 2012;380(9840):499–505
JAMA Surgery 2021;156(4):343--51

Reduction of CT utilization for Pre-op Imaging of Pediatric Appendicitis

Implementation Guide

Aim Statement

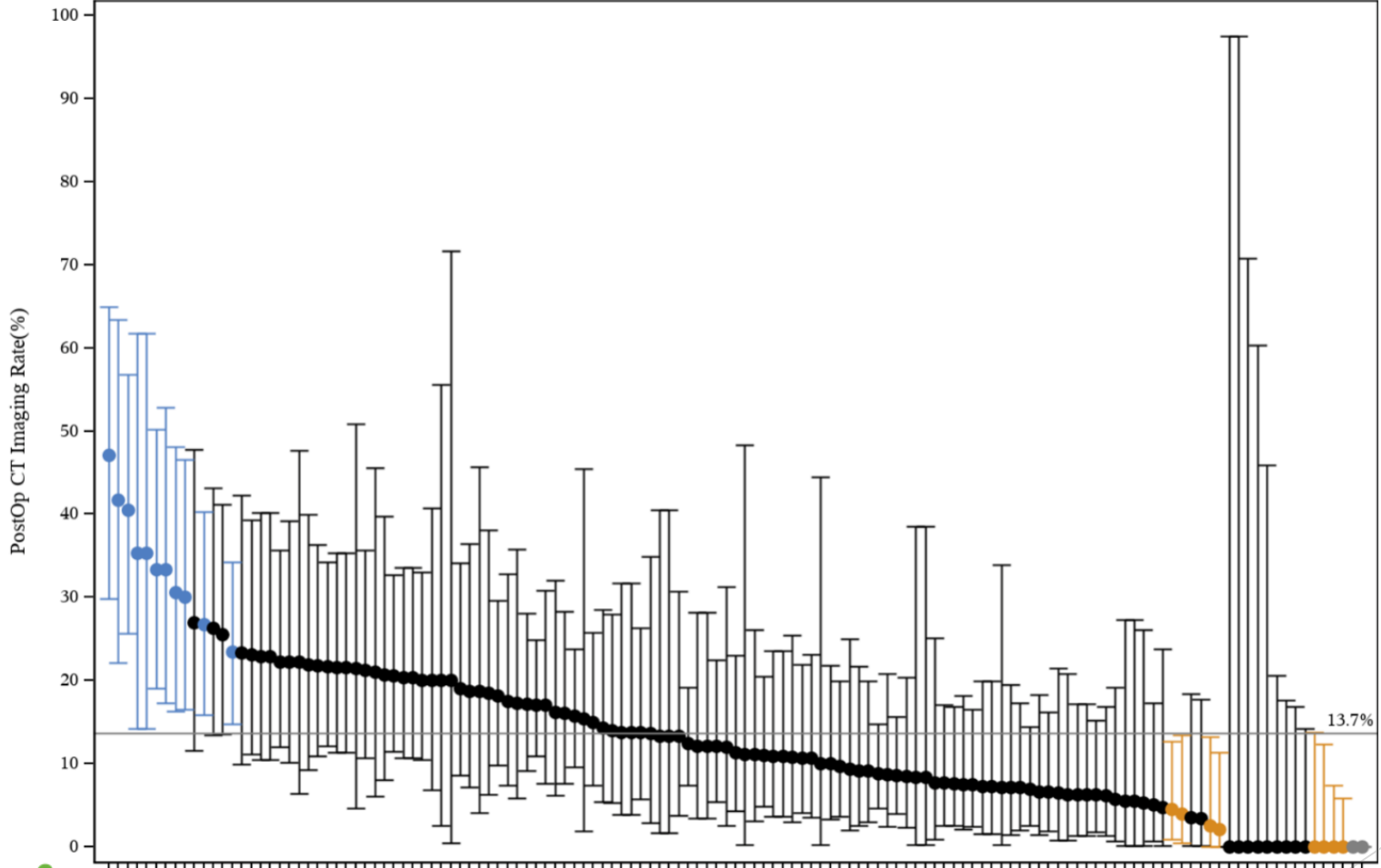
By June 30, 2022, the aggregate CT utilization rate for the Collaborative will be reduced from 24.5% to 15%.

Balancing Measure

The negative appendectomy rate for the Collaborative will remain at or below 1.75%.

Variation in CT Utilization *Complicated Appendicitis*

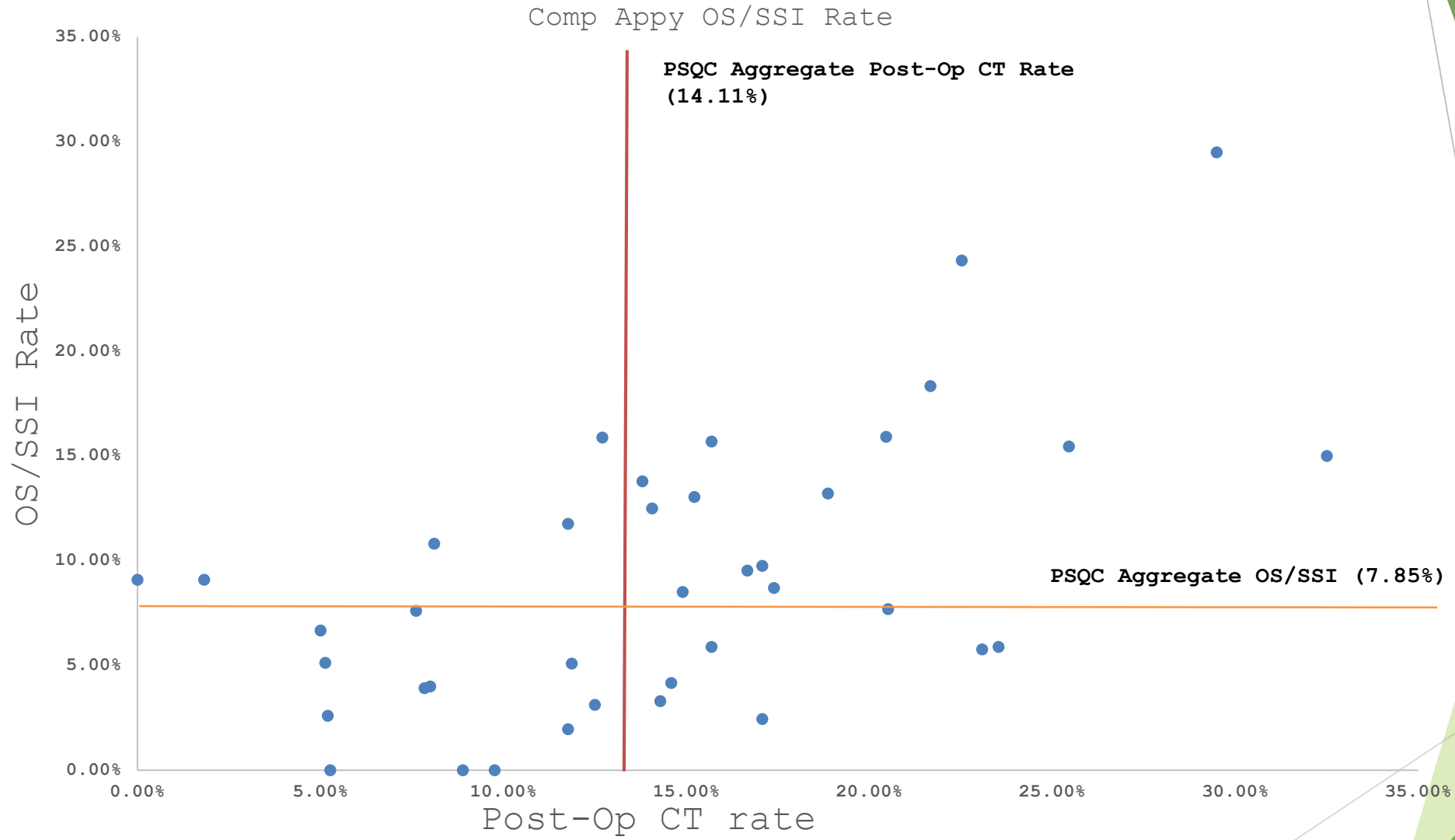
Postoperative CT Utilization (Complicated Patients)



Postoperative Imaging Utilization

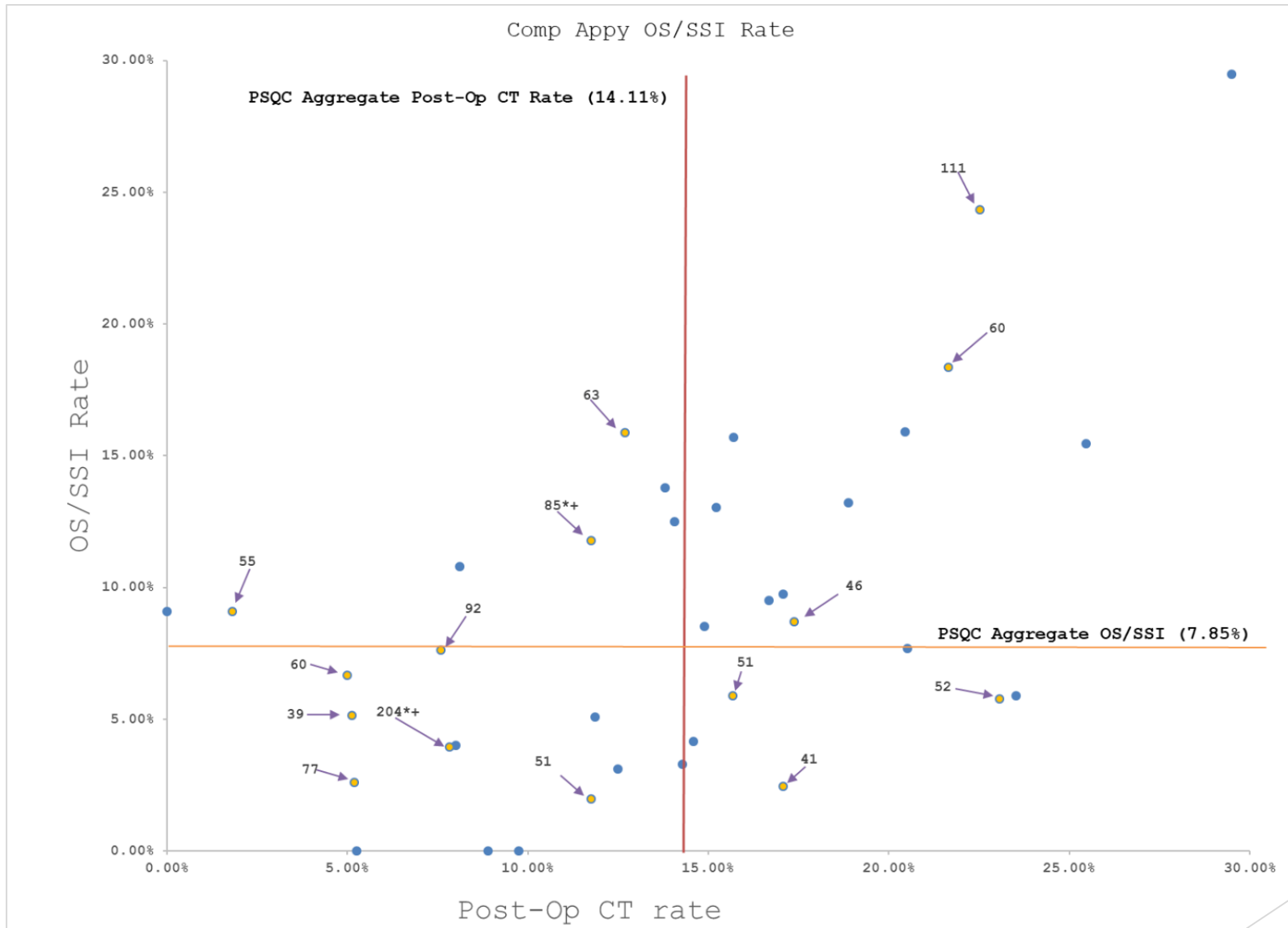
- ▶ Clinical Pathways
- ▶ Infection Rates
- ▶ Institutional US availability/quality
- ▶ Institutional MRI availability/quality
- ▶ Postop imaging selection criteria

OS/SSI Rate vs. Postop CT Rate



Project 2 Methodology

- ▶ Qualitative methods
 - ▶ Semi-structured interviews
 - ▶ Low and high outlier performance vs. all centers
 - ▶ Shared learning
 - ▶ Best practices, culture change, sustainability of implementation strategies
- ▶ Postop imaging utilization scorecards
- ▶ Implementation of specific QI initiatives



Project Timeline

Timeline for 2nd PSQC Project Targeted Appy Post-Op CT Utilization

| Task | CY2022 | | | | | | | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 15-Jun | 30-Jun | 15-Jul | 30-Jul | 15-Aug | 30-Aug | 15-Sep | 30-Sep | 15-Oct | 30-Oct | 15-Nov | 30-Nov | 15-Dec | 30-Dec |
| Draft Interview Guide | → | | | | | | | | | | | | | |
| Review interview guide/finalize | → | → | → | | | | | | | | | | | |
| Request permission to unmask sites for interviews | | | | → | → | | | | | | | | | |
| Identify interviewees at each site | | | → | → | → | | | | | | | | | |
| Set-up interviews | | | | | | → | → | | | | | | | |
| PSQC SAR released | | | | * | | | | | | | | | | |
| Conduct interviews | | | | | | | → | → | → | → | → | → | → | |
| Analyze transcripts | | | | | | | | → | → | → | → | → | → | → |
| Identify best practices | | | | | | | | | | → | → | → | → | → |

Project Timeline-2023

| Task | CY2023 | | | | | | | | | | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | 15-Jan | 30-Jan | 15-Feb | 28-Feb | 15-Mar | 30-Mar | 15-Apr | 30-Apr | 15-May | 30-May | 15-Jun | 30-Jun | 15-Jul | 30-Jul | 15-Aug | 30-Aug | |
| PSQC SAR released | | | ★ | | | | | | | | | | | | | | |
| Develop implementation bundle | → | | | | | | | | | | | | | | | | |
| Train all sites on implementation bundle | | | | → | | | | | | | | | | | | | |
| Meet with sites, review progress | | | | | → | | | | | | | | | | | | |
| PDSA Cycles | | | | | | → | | | | | | | | | | | |
| Develop interim report on process findings | | | | | → | | | | | | | | | | | | |
| Present prelim at APSA | | | | | | | | | → | | | | | | | | |
| Webinar for members on process experiences | | | | | | | | | | | → | | | | | | |
| Continue meeting with sites, receiving feedback | | | | | | | | | → | | | | | | | | |
| Present prelim at ACS Q&S | | | | | | | | | | | | | | → | | | |
| PSQC SAR released | | | | | | | | | | | | | | ★ | | | |
| Webinar for members on SAR measures | | | | | | | | | | | | | | | → | | |
| Develop report on outcomes | | | | | | | | | | | | | | | | → | |

Next Steps

- ▶ Conduct interviews
- ▶ Qualitative analysis
- ▶ Identify best practices
- ▶ Develop implementation guide
- ▶ Share with collaborative

ACS NSQIP PEDIATRIC

Antibiotic Duration in Complex Appendicitis

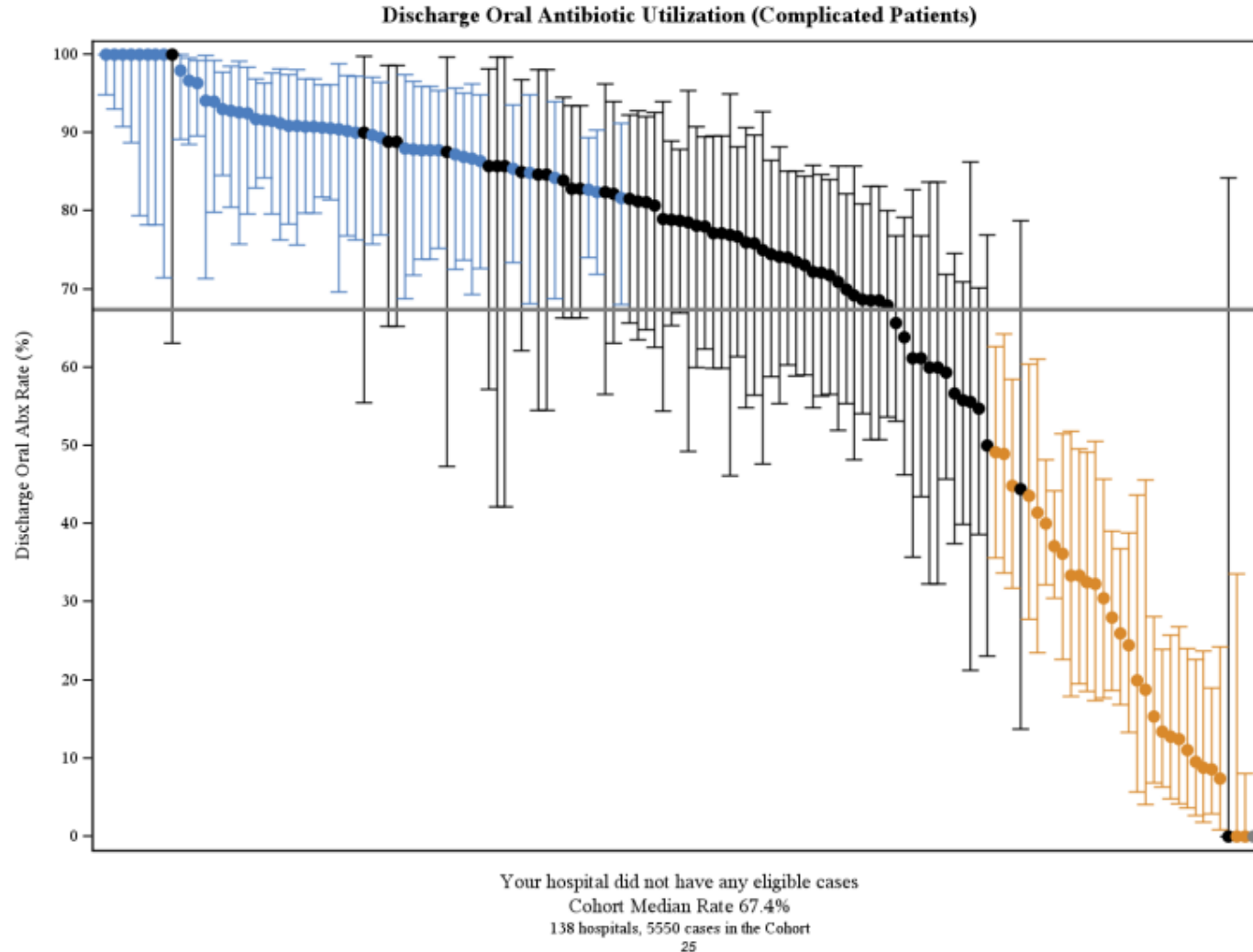
Erich Grethel, Monica Lopez



Background

- NSQIP-P cohort there is wide variability in antibiotic prescription practice
 - Most recent NSQIP-P SAR reveals usage of oral antibiotics on discharge ranging from 0% to 100%, with a median of about 65%
- Lack of universally accepted treatment with regard to antibiotic therapy after appendectomy for complex appendicitis in pediatric patients
- Antibiotic stewardship protects patients from harms caused by unnecessary antibiotic use and combats antibiotic resistance

Discharge Oral Antibiotic Usage in Complicated Patients



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Trial of Short-Course Antimicrobial Therapy for Intraabdominal Infection

R.G. Sawyer, J.A. Claridge, A.B. Nathens, O.D. Rotstein, T.M. Duane, H.L. Evans, C.H. Cook, P.J. O'Neill, J.E. Mazuski, R. Askari, M.A. Wilson, L.M. Napolitano, N. Namias, P.R. Miller, E.P. Dellinger, C.M. Watson, R. Coimbra, D.L. Dent, S.F. Lowry,* C.S. Cocanour, M.A. West, K.L. Banton, W.G. Cheadle, P.A. Lipsett, C.A. Guidry, and K. Popovsky, for the STOP-IT Trial Investigators†

- 518 Adult patients
- Set duration of 4+/-1 days of antibiotic administration after source control of intra-abdominal infections
- Similar outcomes to those treated with longer duration antibiotics (2 days after resolution of fever, leukocytosis, ileus/ max 10 days)
- Median duration of antibiotic therapy was 4.0 days in the experimental group, as compared with 8.0 days in the control group

Pediatric Literature

Journal of Pediatric Surgery 55 (2020) 1026–1031



Contents lists available at ScienceDirect

Journal of Pediatric Surgery

journal homepage: www.elsevier.com/locate/jped surg



Effectiveness of a clinical pathway for pediatric complex appendicitis based on antibiotic stewardship principles☆☆☆

Megan E. Cunningham ^a, Huirong Zhu ^a, Connor T. Hoch ^b, Annalyn S. DeMello ^a, Nakada D. Gusman ^a, Sara C. Fallon ^a, Monica E. Lopez ^{a,*}

^a Texas Children's Hospital, Division of Pediatric Surgery, 6701 Fannin Street, Houston, TX 77030
^b Baylor College of Medicine, 1 Baylor Plaza, Houston, TX 77030, USA



Journal of Pediatric Surgery (2010) 45, 1198–1202



Journal of
Pediatric
Surgery

www.elsevier.com/locate/jped surg

A complete course of intravenous antibiotics vs a combination of intravenous and oral antibiotics for perforated appendicitis in children: a prospective, randomized trial

Jason D. Fraser, Pablo Aguayo, Charles M. Leys, Scott J. Keckler, Jason G. Newland, Susan W. Sharp, John P. Murphy, Charles L. Snyder, Ronald J. Sharp, Walter S. Andrews, George W. Holcomb III, Daniel J. Ostlie, Shawn D. St. Peter*

Department of Surgery, The Children's Mercy Hospital, Kansas City, MO 64108, USA

Journal of Pediatric Surgery 54 (2019) 272–275



Contents lists available at ScienceDirect

Journal of Pediatric Surgery

journal homepage: www.elsevier.com/locate/jped surg

Colorectal

Prospective evaluation of a clinical response directed pathway for complicated appendicitis

Nick Lansdale ^a, Samantha Fryer ^b, Mairead Stockdale ^b, James Bancroft ^b, Jennifer Orr ^b, Harriet Corbett ^b, Simon Kenny ^{b,*}

^a Department of Paediatric Surgery, Royal Manchester Children's Hospital, UK
^b Department of Paediatric Surgery, Alder Hey Children's Hospital, Liverpool, UK

Aim of Project

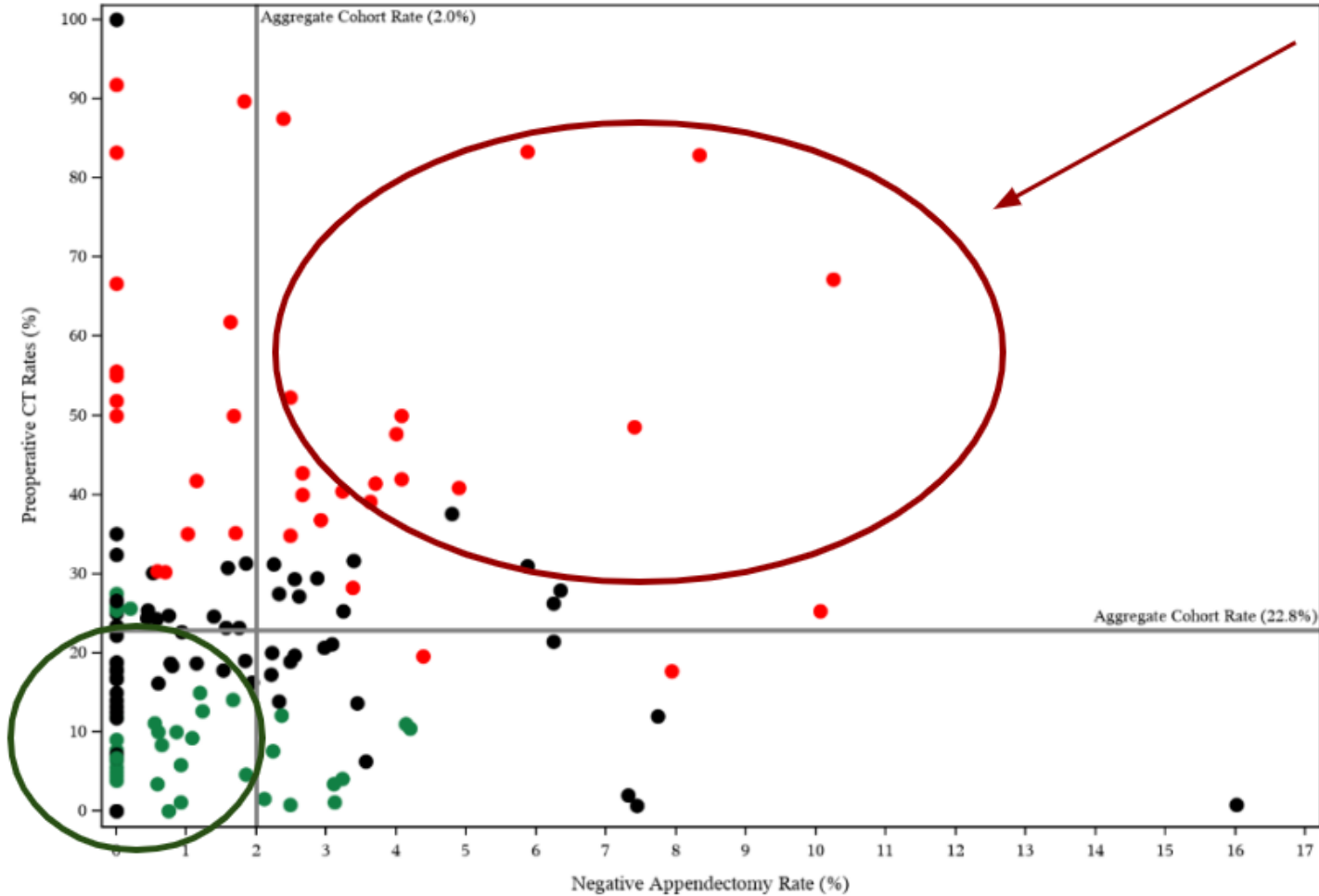
- *Evaluate the Collaborative cohort antibiotic usage (oral and IV) after appendectomy for complex appendicitis*
- *Baseline data*
 - *discharge antibiotic information plotted against length of stay in morbidity excluded patients (primary outcome)*
 - *discharge antibiotic information plotted against surgical site infections (secondary outcome)*
 - *discharge antibiotic information plotted against return to ED/re-hospitalization (alternative secondary outcome/balance metric).*
- *Understand outliers of centers that discharge these patients without antibiotics, have shorter hospital stay, and less postoperative occurrences*
- *Use qualitative methods to ascertain postop protocols from low and high outliers*

Scatter Plot Example

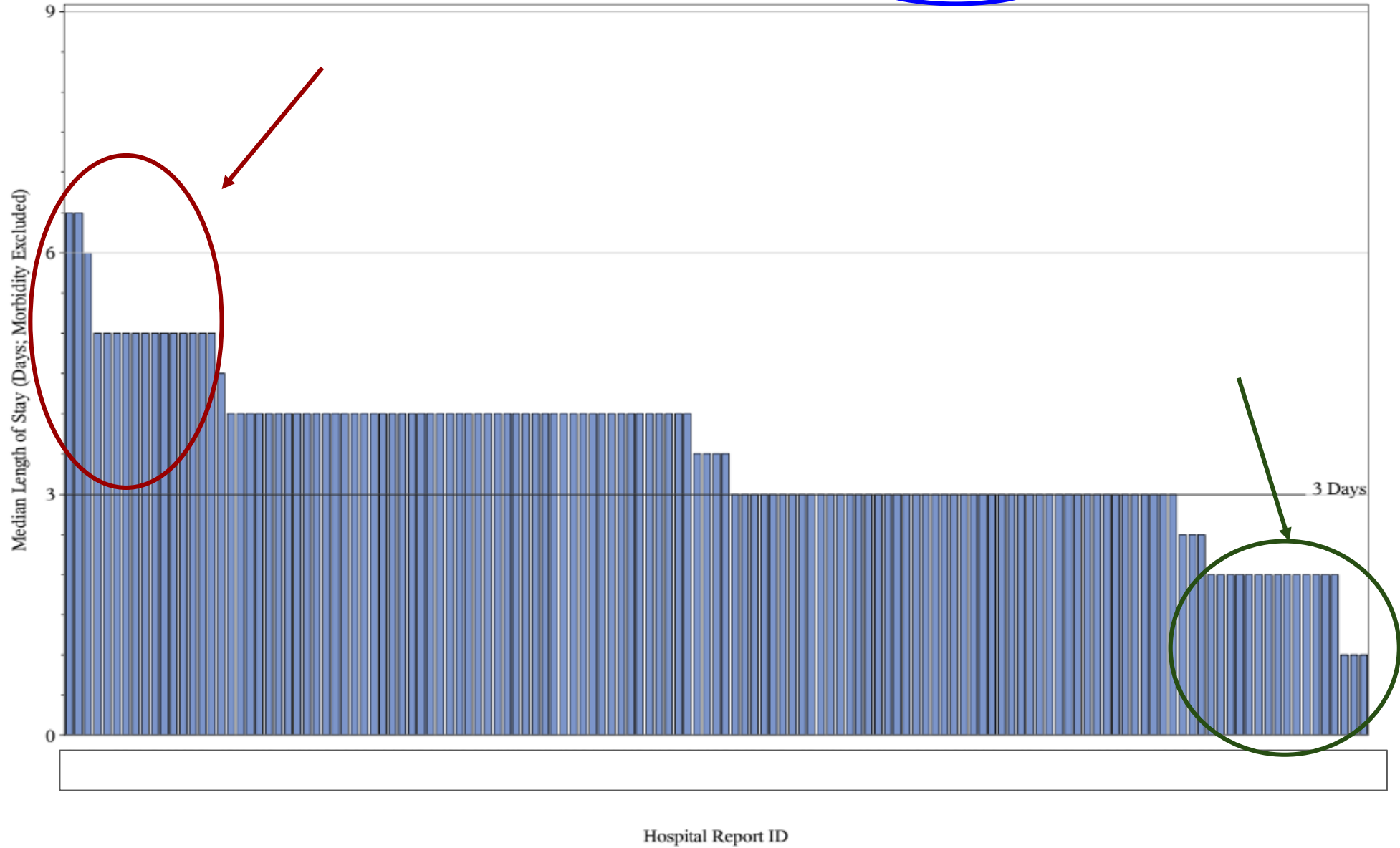
Appendectomy Report (July 2021)

ACS NSQIP Pediatric SAR

Negative Appendectomy vs. Preoperative CT Rates*



Median Length of Stay (Days; Morbidity Excluded) for **Complicated Cases**



Variables

- Evaluate in complex appendectomy patients as well as the morbidity excluded set
 - Length of stay
 - Antibiotics at discharge
 - Surgical site infections
 - Return to ED/OR
 - Readmission
 - Duration of postoperative antibiotics (days from source control)*
 - Method of antibiotics (IV vs oral - with time stamp for each)*
 - Type of oral antibiotic at discharge*
- Additional confounding factors include severity of complex appendicitis and method of source control

**additional data to be collected*

Suppositions and Implications

- *Hypothesis: no significant difference in postoperative occurrence rate in centers that discharge complex appendectomy patients with or without antibiotics*
- *Implication that antibiotic stewardship principles would dictate more judicious use of postoperative antibiotics after source control in this population*

Questions & Open Discussion



Monroe Carell Jr.
children's Hospital
at Vanderbilt





Stanford
Children's Health

Lucile Packard
Children's Hospital
Stanford

PSQC Opioid NSQIP Project

Stephen B. Shew, MD
July 18, 2022





Background

- Opioid Rx has been existing standard for postop analgesia
- American Pain Society 1996: *“Pain as 5th Vital sign”*
- Biased provider perceptions and variability in prescribing
- Poor provider to patient/parent opioid education
- Under-recognized misuse of opioid prescriptions
- Current opioid epidemic estimated costs by CDC:
 - >600,000 deaths
 - \$92 billion dollars



Opioid Prescription Misuse

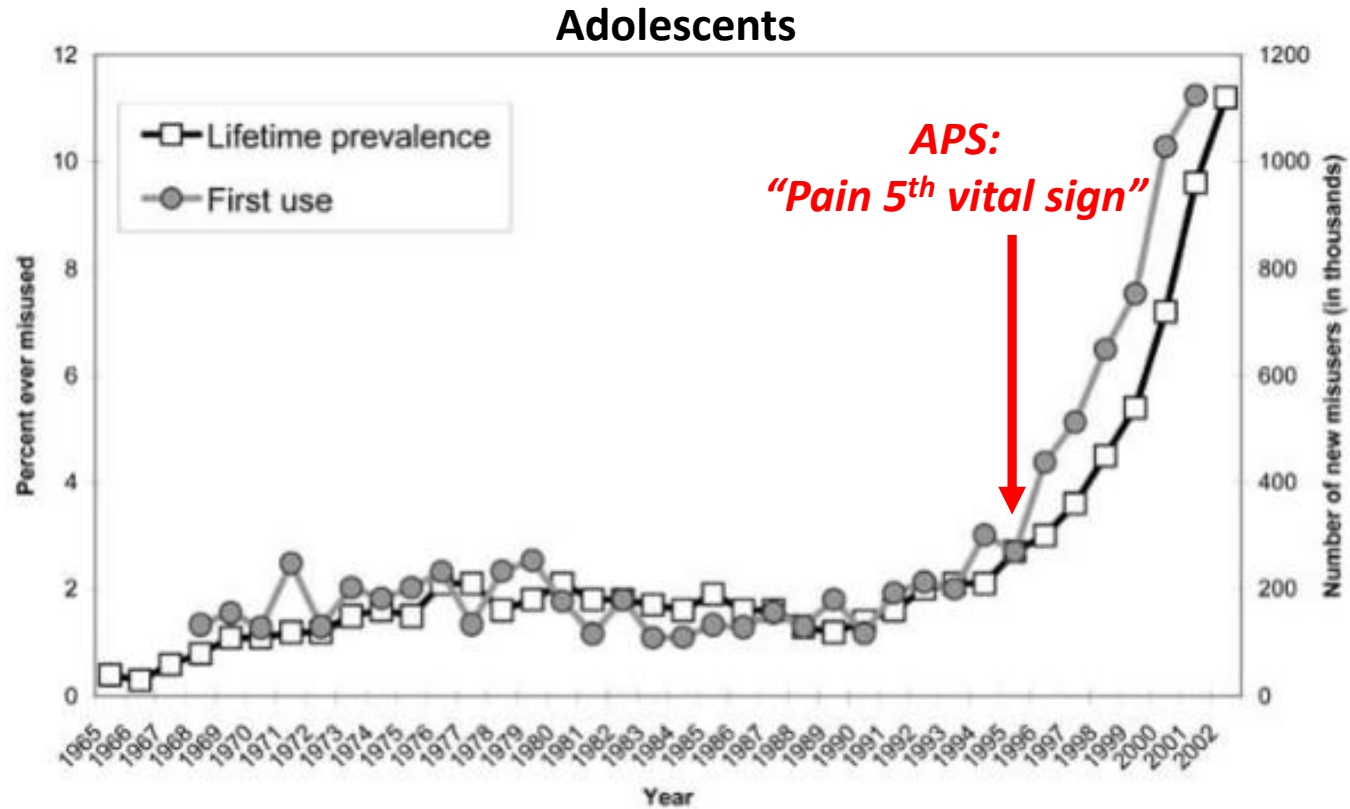
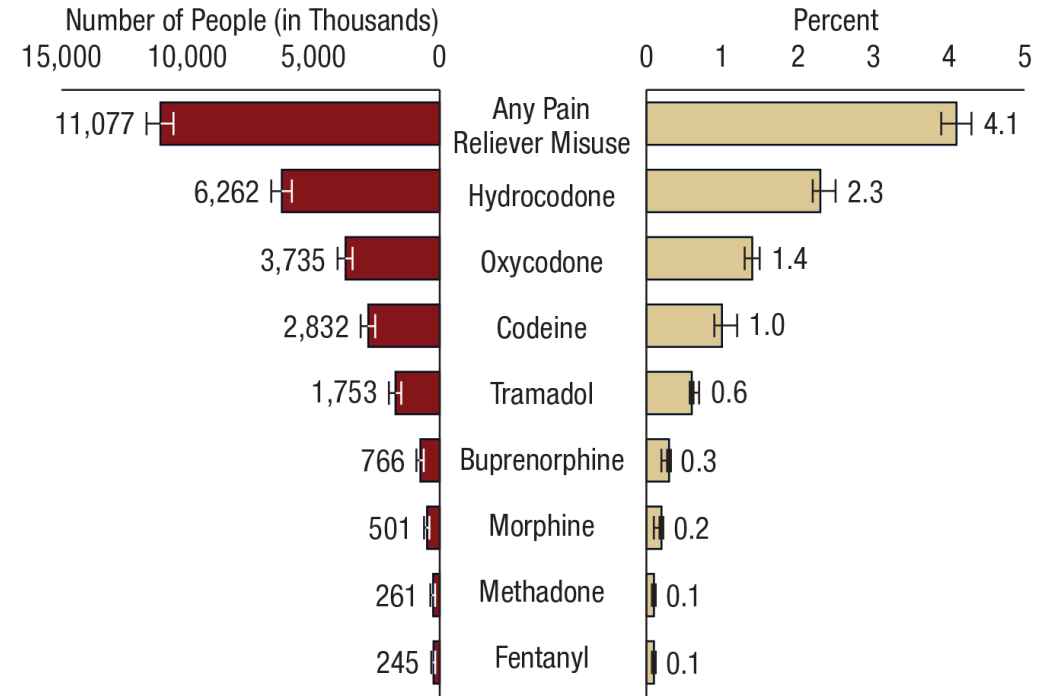
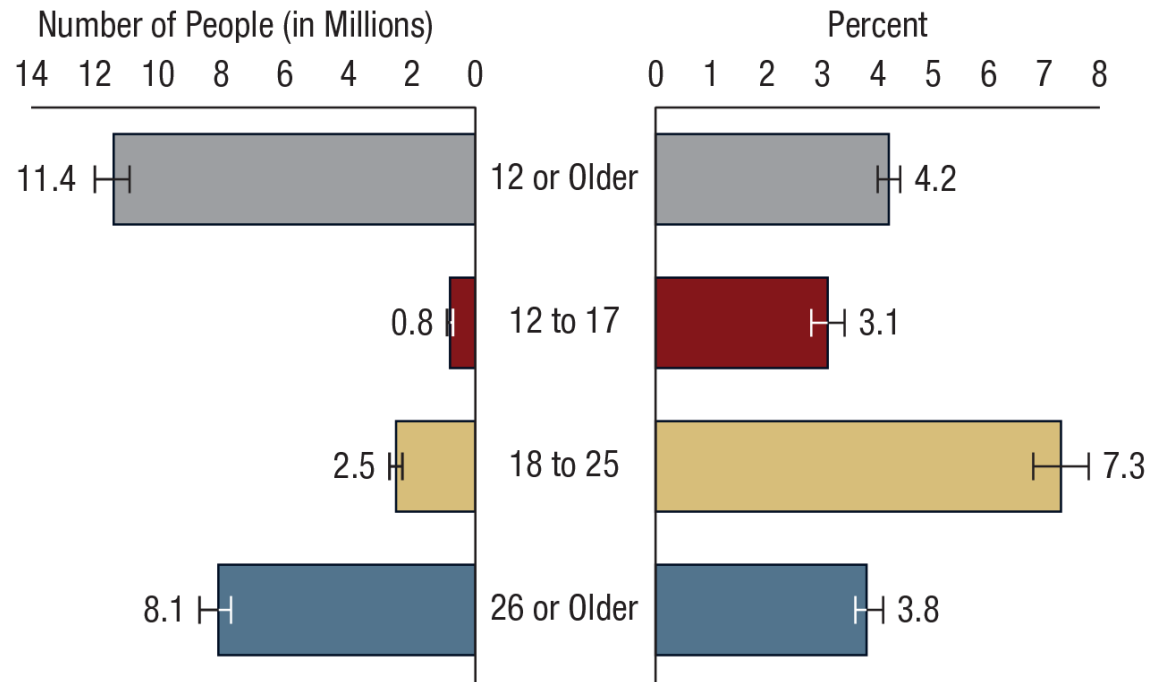


Fig. 1. Historical trends in lifetime prevalence (left scale) and incidence (right scale) of prescription opioid misuse among youth. 1965–2002.

Sung HE et al. J Adolesc Health 2005



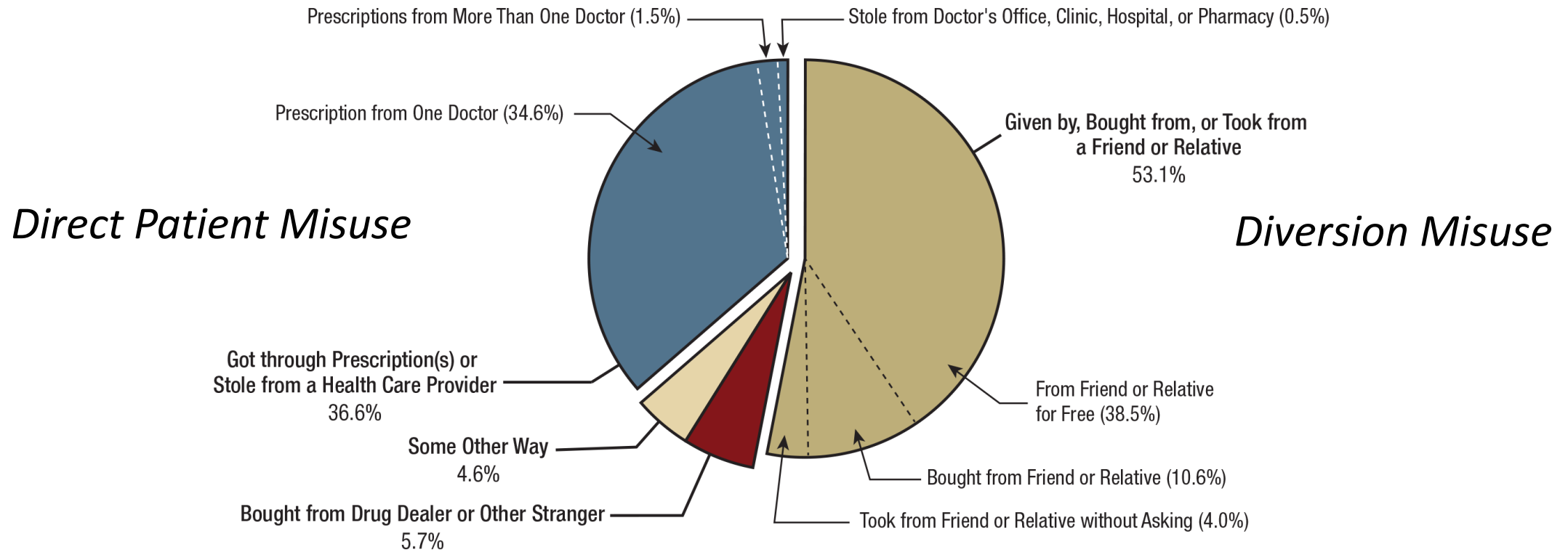
Opioid Prescription Misuse



from SAMHSU – Substance Abuse and Mental Health Services Admin, based on 2017 NSDUH survey



Opioid Prescription Misuse



11.1 Million People Aged 12 or Older Who Misused Prescription Pain Relievers in the Past Year

from SAMHSU – Substance Abuse and Mental Health Services Admin, based on 2017 NSDUH survey



Opioid Rx – Variation for Appy

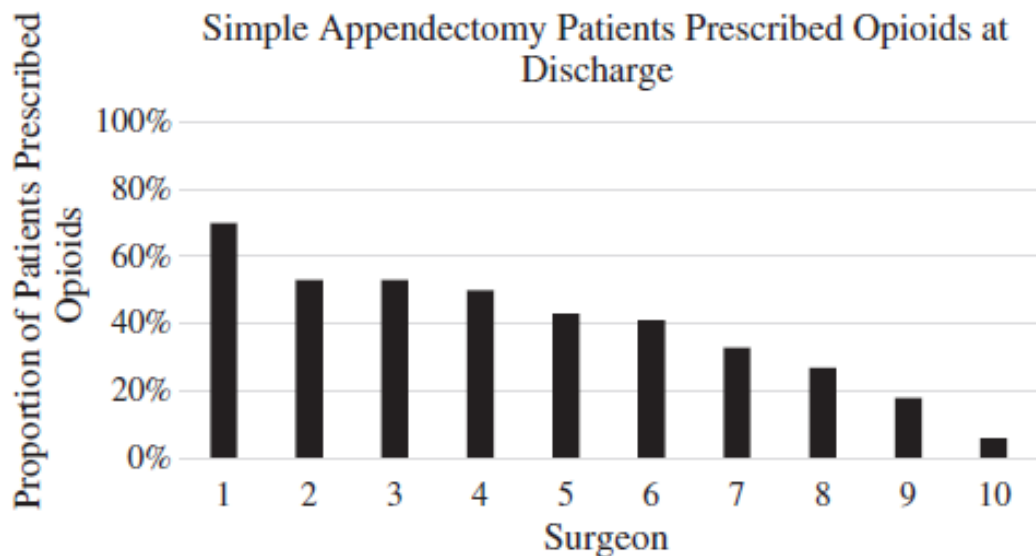


Fig. 2. Proportion of patients receiving opioid prescriptions at discharge after appendectomy for simple appendicitis by surgeon.

Table 3

Postdischarge outcomes in simple appendicitis patients who did not receive opioids compared to those who did receive opioids. ED = emergency department.

| | No Opioids Received | Received Opioids | p-value |
|------------------------------------|---------------------|------------------|---------|
| n (%) | 139 (37.5) | 232 (62.5) | |
| ED visit | 6 (4.3) | 31 (13.4) | 0.005 |
| ED chief complaint abdominal pain | 3 (50) | 22 (70.0) | <0.001 |
| Readmission | 3 (2.2) | 12 (5.2) | 0.15 |
| Constipation | 0 (0) | 9 (3.9) | 0.02 |
| Constipation requiring readmission | 0 (0) | 4 (2.1) | 0.11 |

Tsao et al. JPS 2018



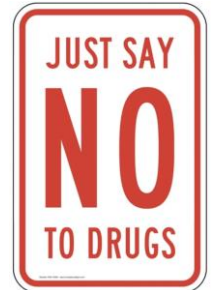
Common Opioid Stewardship Goals

- Decrease or eliminate postop opioid prescriptions
 - Limit opioid prescription dose number and refill
 - Minimize prescription variation by use of guidelines
 - Avoid inappropriate prescribing (eg., codeine, Tramadol)
- Maximize local / regional anesthesia modalities
 - Pre-incision blockade
- Maximize appropriate NSAID use
 - Preemptive analgesia admin
 - Postop routine RTC NSAID use
 - Multi-modality non-opioid meds w- alternate dose timing



Opioid Rx QI – Ped Surgery

- Stanford Ped Surgery Opioid Prescription QI in 2018
 - Universal surgeon consensus in division (rare)
 - Inspired by principles from the *'mother of opioid stewardship'*
 - **Goal:** Eliminate *all* opioid postop discharge prescriptions
 - *Exceptions:* Nuss procedure, Bariatric procedures, some trauma
 - Multi-modality meds and anesthesia
 - Limit dose prescriptions
 - Maximize local / regional anesthesia modalities
 - Standard alternating Tylenol / Ibuprofen



Multi-Institutional Quality Improvement Project to Minimize Opioid Prescribing in Children after Appendectomy Using NSQIP-Pediatric

Lorraine I Kelley-Quon, MD, MSHS, FACS, FAAP, Shadassa Ourshalimian, MPH, Justin Lee, MD, FACS, Katie W Russell, MD, FACS, Karen Kling, MD, FACS, Stephen B Shew, MD, FACS, Claudia Mueller, PhD, MD, FACS, Aaron R Jensen, MD, MED, MS, FACS, Lan Vu, MD, FACS, Benjamin Padilla, MD, FACS, Daniel Ostlie, MD, FACS, Caitlin Smith, MD, FACS, Thomas Inge, MD, FACS, Jonathan Roach, MD, FACS, Romeo Ignacio, MD, FACS, Katrine Lofberg, MD, FACS, Stephanie Radu, MCR, Autumn Rohan, BS, Kasper S Wang, MD, FACS



J Am Coll Surg 2022 Mar 1;234(3):290-298.
PMID: 35213491



Western Pediatric Surgery RESEARCH CONSORTIUM

The WPSRC is a multi-institutional surgical collaborative committed to advancing the care of infants and children through contemporary evidence-based research.





QI Goal:

***Decrease opioid Rx at time of discharge
for children undergoing laparoscopic
appendectomy across WPSRC consortium
sites***

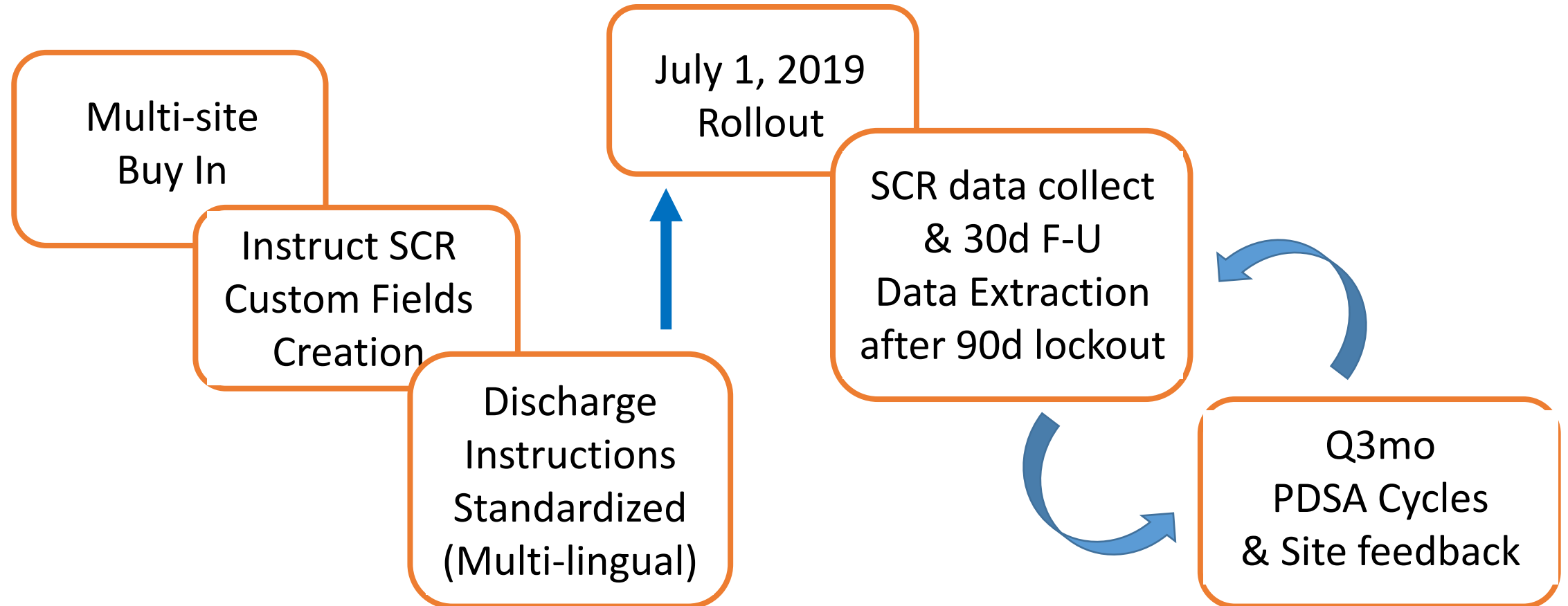
Baseline Opioid Stewardship – WPSRC sites

- 5 of 10 centers had existing protocols for eliminating opioid Rx after laparoscopic appendectomy
- Significant variation at remaining sites
- WPSRC member consensus:
 - pediatric surgeons *should* be eliminating opioid Rx after lap appy
 - multi-site buy-in would be attainable

Leveraging NSQIP-Peds for Multi-Institutional QI

- NSQIP platform customizable field inputs
- Opioid Rx variables at discharge (EMR) and SCR 30d follow-up
 - *Opioid type, dose, alternative source opioid Rx, persistent use at 30d*
 - *ER visit, Readmission (all-cause and cause)*
 - Likert 5-point satisfaction scale on 30d F-U (balancing measure)
- ***Strong SCR engagement***, minimal work added
- ***Engagement elicited and project endorsed by parent representative***
 - Uniform discharge instructions – alternating Tylenol & Ibuprofen

QI Implementation Plan



Demographics of NSQIP pts

Table 1. Cohort Demographics

| Variable | Total, N = 1,524 | Preintervention, n = 730 | Postintervention, n = 794 | p Value |
|-------------------------------------|---------------------|-----------------------------|------------------------------|---------|
| Male sex, n (%) | 891 (58.5) | 435 (59.6) | 456 (57.4) | 0.393 |
| Race, n (%) | | | | 0.694 |
| American Indian or Alaska Native | 16 (1.1) | 9 (1.2) | 7 (0.9) | |
| Asian | 57 (3.7) | 25 (3.4) | 32 (4.0) | |
| Black or African American | 27 (1.8) | 11 (1.5) | 16 (2.0) | |
| Multiracial | 2 (0.1) | 1 (0.1) | 1 (0.1) | |
| Native Hawaiian or Pacific Islander | 6 (0.4) | 4 (0.6) | 2 (0.3) | |
| Unknown | 439 (28.8) | 219 (30.0) | 220 (27.7) | |
| White | 977 (64.1) | 461 (63.2) | 516 (65.0) | |
| Hispanic ethnicity, n (%) | | | | 0.113 |
| Yes | 670 (44.0) | 340 (46.6) | 330 (41.6) | |
| No | 789 (51.8) | 363 (49.7) | 426 (53.7) | |
| Unknown | 65 (4.3) | 27 (3.7) | 38 (4.8) | |
| Insurance, n (%) | | | | |
| Private | 720 (47.2) | 333 (45.6) | 387 (48.7) | 0.222 |
| Public | 764 (50.1) | 366 (50.1) | 398 (50.1) | 0.997 |
| Self-pay | 14 (0.9) | 8 (1.1) | 6 (0.8) | 0.487 |
| Other | 106 (7.0) | 64 (8.8) | 42 (5.3) | 0.008 |
| Complicated appendicitis, n (%) | 463 (30.4) | 230 (31.5) | 233 (29.4) | 0.359 |
| Age at surgery, y, mean ± SD | 10.6 (3.7) | 10.4 (3.8) | 10.7 (3.6) | 0.044 |

Opioid Rx Run Chart by site

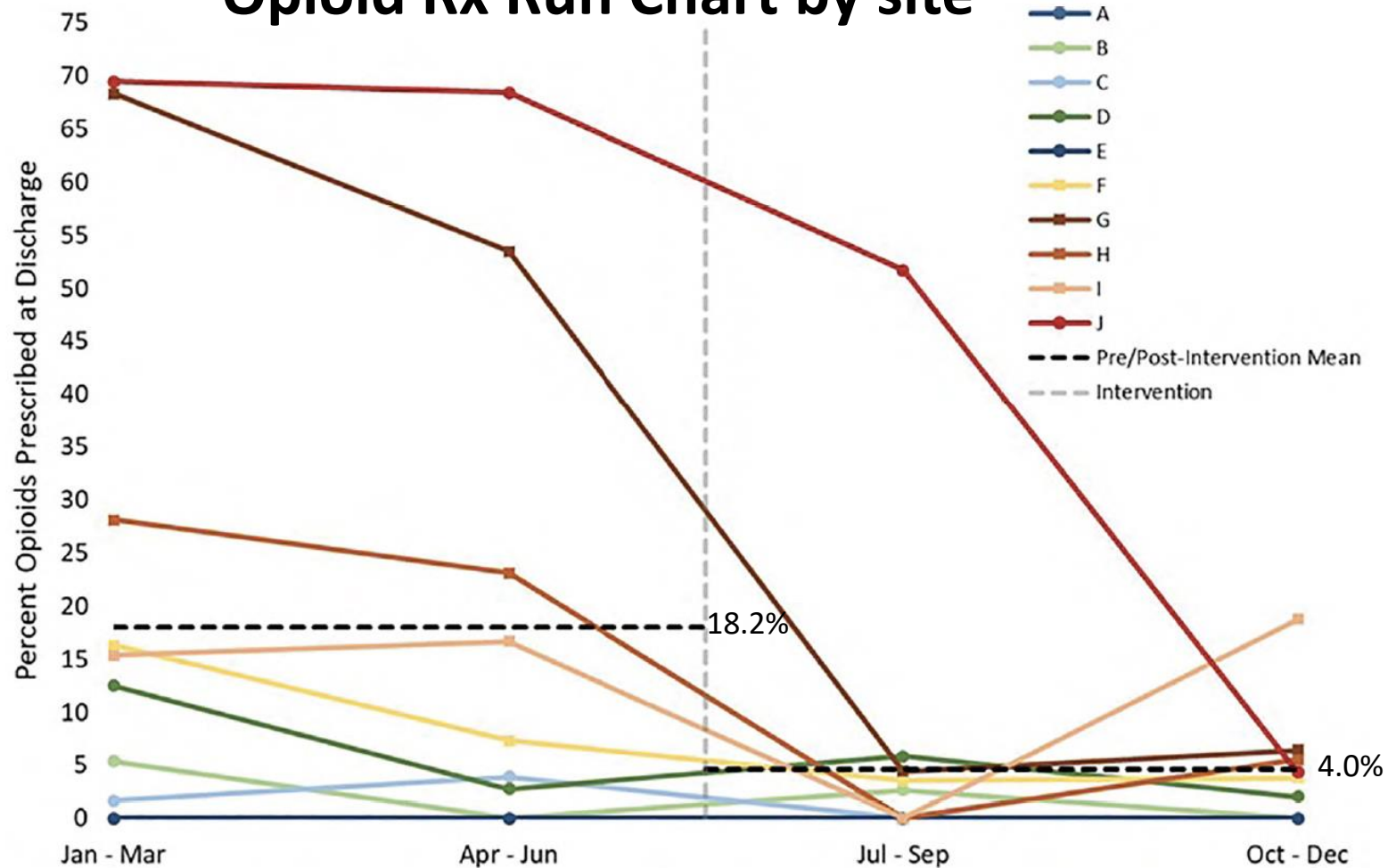


Figure 2. Run chart: percent of children receiving opioids at discharge by hospital (A–J) before and after the quality improvement intervention. No-Protocol Hospitals are highlighted in red/orange/yellow, Protocol Hospitals are highlighted in blue/green.

Outcomes based on type of appendicitis

Table 2. Overall Rate of Opioid Prescribing at Discharge and Balancing Measures

| Variable | Overall | | | | | |
|--|---|----------------------------------|---------|--|----------------------------------|---------|
| | Complicated appendicitis n = 463 (30.4%) | | | Uncomplicated appendicitis n = 1061 (69.6%) | | |
| | Preintervention, n = 230 (%) | Postintervention, n = 233 (%) | p Value | Preintervention, n = 500 (%) | Postintervention, n = 561 (%) | p Value |
| Discharged with opioid prescription, n (%) | 19 (8.3) | 5 (2.2) | 0.003 | 114 (22.8) | 27 (4.8) | <0.001 |
| 30-day ER visit, n (%) | 23 (10.1) | 35 (15.8) | 0.0694 | 41 (8.4) | 37 (7.3) | 0.5181 |
| Parent satisfaction score, mean ± SD | - | 4.7±0.7 | - | - | 4.8±0.6 | - |

ER, emergency room.

Outcomes based on *pre-existing* hospital opioid-free Rx protocol

Table 3. Rate of Opioid Prescribing at Discharge and Balancing Measures for Complicated Appendicitis

| Variable | Complicated appendicitis N = 463 (30.4%) | | | | | |
|--|---|------------------------------|---------|-----------------------------|-----------------------------|---------|
| | Protocol hospital | | | No-protocol hospital | | |
| | Preintervention, n = 122 | Postintervention, n = 145 | p Value | Preintervention, n = 108 | Postintervention, n = 88 | p Value |
| Discharged with opioid prescription, n (%) | 1 (0.8) | 1 (0.7) | 1.000 | 18 (16.7) | 4 (4.6) | 0.011 |
| 30-day ER visit, n (%) | 12 (9.8) | 26 (19.3) | 0.034 | 11 (10.4) | 9 (10.5) | 0.984 |
| Parent satisfaction score, mean ± SD | – | 4.8±0.6 | – | – | 4.6 ±0.9 | – |

ER, emergency room.

Table 4. Rate of Opioid Prescribing at Discharge and Balancing Measures for Uncomplicated Appendicitis

| Variable | Uncomplicated appendicitis N = 1061 (69.6%) | | | | | |
|--|--|------------------------------|---------|------------------------------|-------------------------------|---------|
| | Protocol hospitals | | | No-protocol hospitals | | |
| | Preintervention, n = 286 | Postintervention, n = 330 | p Value | Pre-intervention, n = 214 | Post-intervention, n = 231 | p Value |
| Discharged with opioid prescription, n (%) | 10 (3.5) | 3 (0.9) | 0.045 | 104 (48.6) | 24 (10.4) | <0.001 |
| 30-day ER visit, n (%) | 25 (8.7) | 18 (6.4) | 0.294 | 16 (7.8) | 19 (8.3) | 0.851 |
| Mean parent satisfaction score, mean ± SD | – | 4.8±0.5 | – | – | 4.7 ±0.7 | – |

ER, emergency room.



PSQC Opioid QI Proposal

Can we extrapolate opioid stewardship QI to PSQC sites ???



PSQC Opioid QI Proposal

QI Goals:

- Assess current variation in opioid Rx patterns across all NSQIP pts from PSQC sites and specialties
- Establish guidelines and resources for opioid stewardship to distribute to PSQC sites
- ***Decrease opioid Rx by 50% of baseline across PSQC sites in 1yr***
- Eliminate inappropriate opioid type prescribing
- Maintain equivalent counter-balance measures
 - 30-d ER revisit, patient/parent satisfaction score



PSQC Opioid QI Proposal

Implementation Plan:

- Utilize NSQIP platform and SCR / Surg champion engagement
- New standard, required variables to be created in NSQIP platform:
 - Opioid prescription (Y/N) – [REQUIRED]
 - Opioid type (drop down selection) – [REQUIRED]
 - Doses prescribed – [OPTIONAL]
- NSQIP platform to assess PSQC site practice patterns in opioid Rx
- Custom variables to further characterize opioid Rx
- Quarterly to semi-annual reports of site comparison to PSQC



PSQC Opioid QI Proposal

Implementation Tools:

- Shared parental education handouts
- Education to SCRs for NSQIP custom variable creation and data abstraction
- PDSA cycles q3mo, site feedback reports from PSQC
- Opioid stewardship coaching to high outlier opioid Rx sites



PSQC Opioid QI Proposal

Immediate Next Steps:

- Formation of PSQC Opioid Stewardship working group
- Selection of pertinent process and outcome variables and counter-balance measures
- Potential barriers to address / solve:
 - NSQIP creation of new standard variables → at least 18-24 months before in standard NSQIP SAR
 - Site engagement / bandwidth for custom variables and data management
 - DUAs



PSQC Opioid QI Proposal

Questions ?
Interested in being involved ???!!

Stephen Shew
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Terry Fisher
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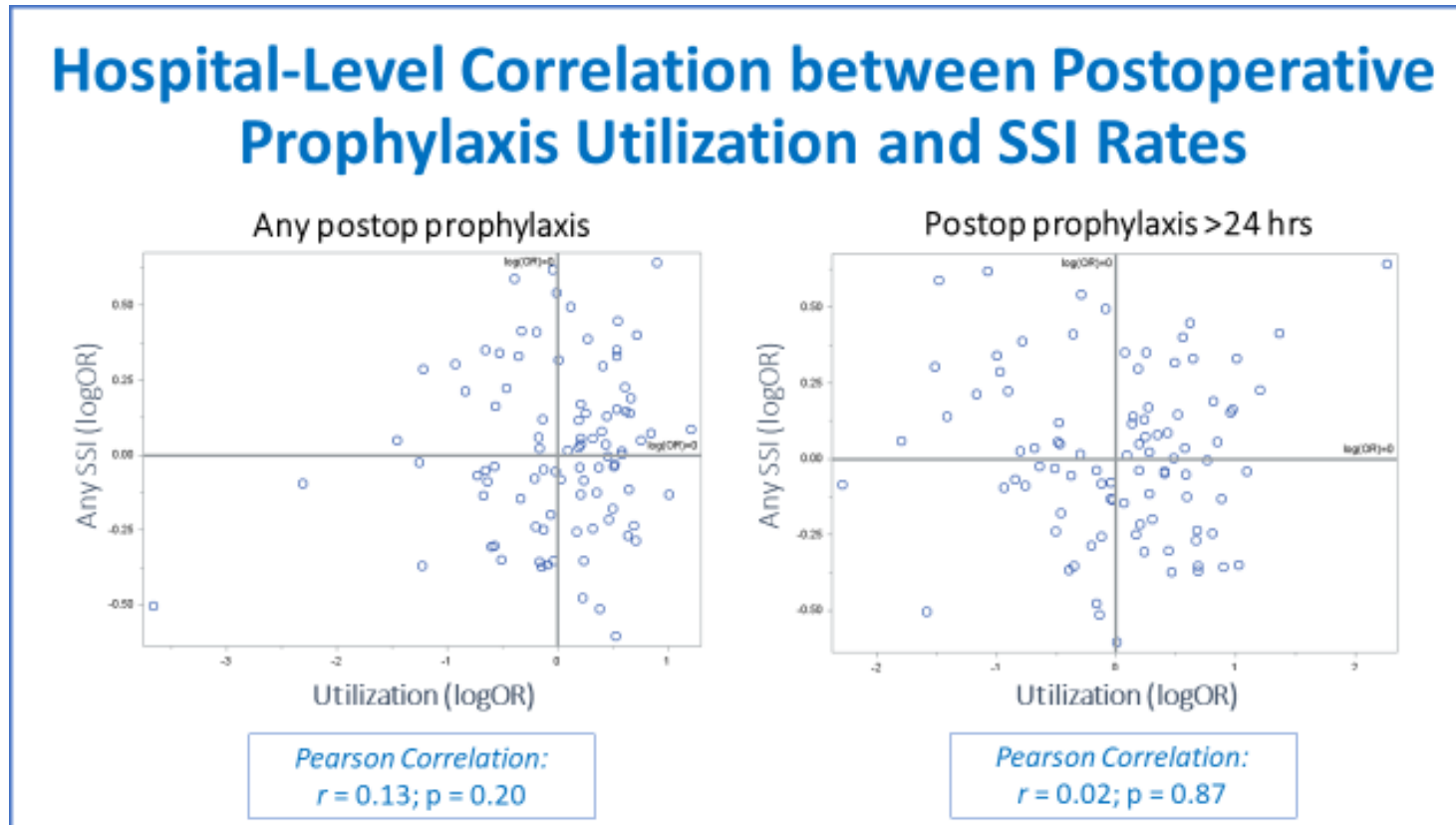
PSQC Antibiotic Stewardship

Shawn Rangel, MD

Objectives

- ▶ Survey low and high performers to determine best practices and disseminate
- ▶ Establish implementation/change teams at participating hospitals
- ▶ Procedure level comparative effectiveness analysis
- ▶ Identify procedure with best opportunity for improvement
- ▶ Dissemination and Implementation guide

Comparison of ABX Timing and SSI Post-Op



PSQC Colon Bundle Protocol

Justin Lee, MD

COLON BUNDLE PROTOCOL CHECKLIST

PROCEDURES TO INCLUDE: All colorectal procedures WITH anastomosis and abdominal closure

Preoperative

(Optional) Bowel preparation

(Optional) Chlorhexidine (SAGE) bath/wipes

Umbilical cleansing (alcohol cleaning of umbilicus prior to skin prep)

Preoperative antibiotic given within 1 hour of incision

Includes gram negative and anaerobic coverage

Intraoperative (Document in operative report)

Anastomotic leak test

Dedicated closure tray (instrument change and new drapes prior to skin closure)

Glove change prior to skin closure

(Optional) Placement of subcutaneous drain in grossly contaminated cases

Drain can be: vessel loop, penrose, umbilical tape, or other wicking object

Maintenace of normothermia (< 36 °C or > 38 °C for less than 30 minutes)

Postoperative

Perioperative antibiotics discontinued at 24 hours

If present, occlusive dressing removed at 48 hours to examine wound

| Intestinal procedures with anastomosis by CPT code | |
|--|--|
| INCLUDING ALL COLORECTAL PROCEDURES WITH INTRA-ABDOMINAL ANASTOMOSIS AND ABDOMINAL CLOSURE | |
| | eligible for inclusion |
| | possibly eligible for inclusion - if includes intra-abdominal colorectal anastomosis (or repair) |
| CPT code | |
| 44140 | Colectomy, partial; with anastomosis |
| 44143 | Partial removal of colon |
| 44144 | Partial removal of colon |
| 44145 | Colectomy, partial; with coloproctostomy (low pelvic anastomosis) |
| 44146 | Colectomy, partial; with coloproctostomy (low pelvic anastomosis), with colostomy |
| 44147 | Colectomy, partial; abdominal and transanal approach |
| 44150 | Colectomy, total, abdominal, without proctectomy; with ileostomy or ileoproctostomy |
| 44160 | Colectomy, partial, with removal of terminal ileum with ileocolostomy |
| 44205 | Laparoscopy, surgical; colectomy, partial, with removal of terminal ileum with ileocolostomy |
| 44207 | Laparoscopy, surgical; colectomy, partial, with anastomosis, with coloproctostomy (low pelvic anastomosis) |
| 44208 | Laparoscopy, surgical; colectomy, partial, with anastomosis, with coloproctostomy (low pelvic anastomosis) with colostomy |
| 44227 | Laparoscopy, surgical, closure of enterostomy, large or small intestine, with resection and anastomosis |
| 44604 | Suture repair large intestine, without colostomy |
| 44615 | Intestinal stricturoplasty (enterotomy and enterorrhaphy) with or without dilation, for intestinal obstruction |
| 44620 | Closure of enterostomy, large or small intestine; |
| 44625 | Closure of enterostomy, large or small intestine; with resection and anastomosis other than colorectal |
| 44626 | Closure of enterostomy, large or small intestine; with resection and colorectal anastomosis (eg, closure of Hartmann type procedure) |
| 44640 | Closure of intestinal cutaneous fistula |
| 44660 | Closure of enterovesicular fistula, without intestinal resection |
| 45111 | Proctectomy; partial resection of rectum, transabdominal approach |
| 45114 | Proctectomy, partial, with anastomosis; abdominal and transsacral approach |
| 45402 | Laparoscopic surgical proctopexy with sigmoid resection for prolapse |
| 45550 | Open proctopexy for prolapse w- sigmoid colon resection |
| 45800 | Closure of rectovesicular fistula |

V9

SSI COLON & RECTAL FACTORS

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Open Discussion



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