

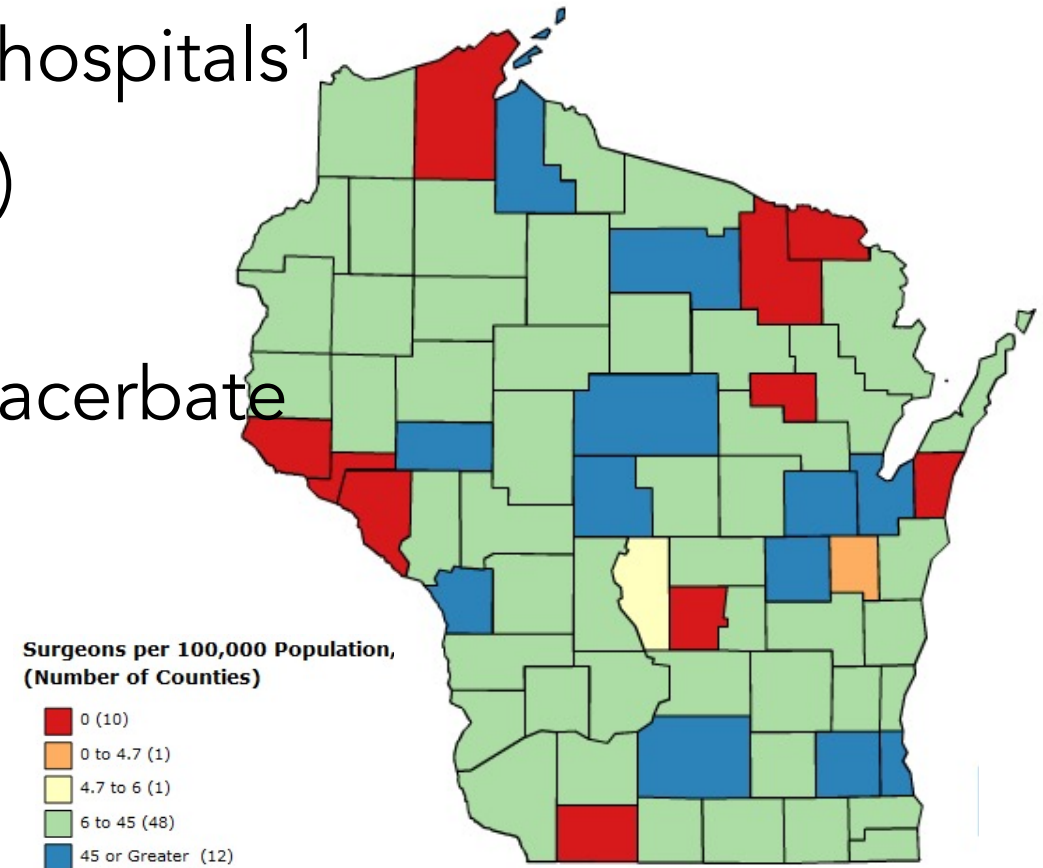
Statewide Quality Improvement: *Overview of the Surgical Collaborative of Wisconsin*

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Surgical Procedures in Wisconsin

- 129 non-federal general med-surg hospitals¹
- 492, 039 outpatient surgeries (74%)
169, 823 inpatient (26%)¹
- Rural state = QI efforts must not exacerbate health inequities
 - 65% of counties rural (47/72)
 - 14% (10) no surgeons²
 - 28% (20) fewer than 20 surgeons per 100,000 pop²



1. Wisconsin Hospital Association Information Center. Guide to Wisconsin Hospitals: Fiscal Year 2015. Madison, WI: September 2016.

2. The American College of Surgeons Health Policy Research Institute, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. Data Source: AMA Physician Masterfile, effective date October 2011; Census 2010, US Census Bureau. Data include non-federal, non-resident, clinically active physicians less than 80 years old. For more information on classification of specialties, see <http://www.acshpri.org/atlas/loadflash.php?s=102>

5 Core Components of Successful Collaboratives

1. Data platform for providing confidential, benchmarked performance reports to surgeons and hospitals
2. Mechanism for delivering guidelines and best practices for surgical care
3. Infrastructure for collaborative learning
4. Engaged surgeon champions in each hospital
5. Strong partnerships with surgical societies, payers, and quality improvement experts

SCW Mission Statement

SCW is a practice change community that aims to optimize quality and reduce costs by improving surgical care and fostering provider professional development across practice settings.

SCW Objectives

1. Ensure equal access to high-quality surgical care in communities across Wisconsin
2. Promote appropriate utilization of surgical care and control costs
3. Provide a performance improvement platform for Wisconsin surgeons



DEPARTMENT OF SURGERY
**Wisconsin Surgical Outcomes
Research Program (WiSOR)**
UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH



WISCONSIN DEPARTMENT
of HEALTH SERVICES



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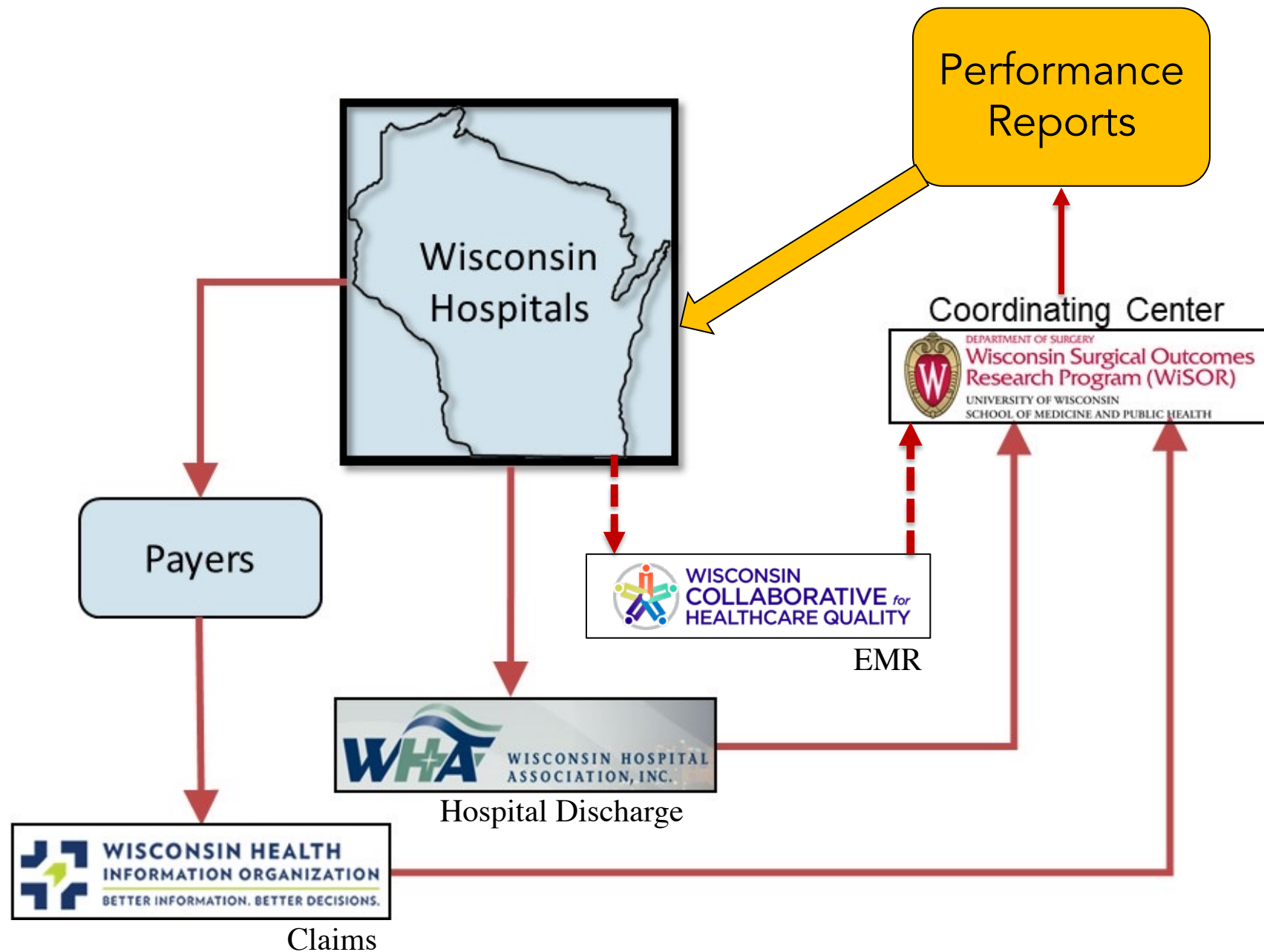
Data Platform

Confidential, benchmarked, risk and reliability-adjusted, performance reports

– Hospital-level and/or surgeon level



- Performance reports use existing administrative discharge and claims data
- No primary data collection required for participation



- SCW obtains existing data to put it back in hands of providers
- Reports every 6 months
- Clinically meaningful measures
- Risk and reliability-adjustment
- Benchmark performance with other hospitals and the state
- Confidential

Data Use for SCW

- Performance reports are a critical component of SCW interventions that provide surgeons and hospitals with
 - Baseline & ongoing assessments of performance (unadjusted and risk- & reliability-adjusted)
 - Comparative data on performance in other SCW hospitals and statewide
 - Descriptive information on patient demographics
- Evaluation of SCW activities pre- and post-initiative implementation

Data Accuracy & Reliability

Type of Measure (Examples)	Hospital Discharge Data (WHA)	Insurance Claims (WHIO)	Primary Data Collection
Surgery	X	X	
Hospital Use (ED; Readmission; Length of Stay)	X	X	
Outpatient Services, including Pharmacy		X	
Complications; SSI; VTE			X
Clinical Structure and Process			X

Performance Reports



SCW Confidential Performance Report for Hospital X
Quality Initiative: Reducing Postoperative Opioid Prescribing
Reporting Period: January-December 2017

Figure 2. Unadjusted median morphine equivalent dose provided to patients following Lumpectomy and Mastectomy

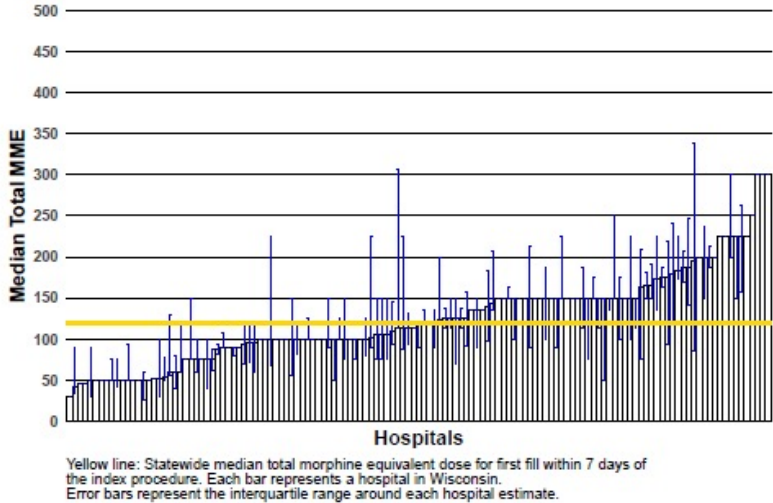


Table 2. Case volume and opioid initial fill within 7 days of Lumpectomy and Mastectomy

	Opioid Prescribing Recommendation*	Your Cases	Your Hospital	Participating Hospitals (n=52)	All WI Hospitals (n=158)
Number of Cases	—	—	—	1121	2384
Hydrocodone (Norco) 5 mg Tablets (Median, IQR)	—	—	—	20 (10-30)	20 (15-30)
Codeine (Tylenol #3) 30 mg Tablets (Median, IQR)	—	—	—	24 (12-30)	20 (12-30)
Tramadol 50 mg Tablets (Median, IQR)	—	—	—	10 (10-20)	20 (10-20)
Oxycodone 5 mg Tablets (Median, IQR)	—	—	—	20 (15-30)	30 (20-30)
Hydromorphone (Dilaudid) 2 mg Tablets (Median, IQR)	—	—	—	40 (40-40)	30 (14-30)

*Please refer to the Wisconsin Surgical Analgesia Protocol (WiSAP) opioid prescribing recommendations for opioid naive patients



- Engagement of 74% of non-federal hospitals
 - All major health systems
 - 95 hospitals
 - 275 surgeons & quality leaders
- Representation across diverse settings
 - Academics
 - Private practice
 - Rural/Urban

Critical Access Hospitals



SCW Governing Leadership



Chair:
Jon Gould, MD
Medical College of
Wisconsin

- **Nadine Allen**, Clinical Quality Improvement Advisor, Wisconsin Hospital Association (WHA)
- **Barbara Boyer, MD**, Marshfield Clinic
- **Ashlie Dowdell**, Department of Health Services
- **Annie Dunham, MD**, General surgery resident, rural track, UW Health
- **Tracie Halvorsen, BSN, RN**, SSM Health, St. Mary's
- **Dana Henkel, MD**, SSM Health, St. Mary's
- **Neel Karne, MD**, Beloit Health System
- **Amanda Kong, MD, MS**, Medical College of Wisconsin, Froedtert
- **David Nerenz, PhD**, Michigan Spine Surgery Improvement Collaborative
- **Gabrielle Rude**, President/CEO, Wisconsin Collaborative for Healthcare Quality (WCHQ)
- **Dana Richardson, MA, BS**, CEO, Wisconsin Health Information System (WHIO)
- **Michael Roskos, MD**, Mayo Clinic Health System
- **Jill Ties, MD**, St. Croix Regional Medical Center
- **Joseph Weber, MD**, Aurora Health Care

Current Quality Initiatives



Current Projects for SCW

- Reduce re-excision rates for patients undergoing lumpectomy for breast cancer
- Increase adoption of Enhanced Recovery protocols for colorectal procedures
- Reduce post-operative opioid use and overprescribing
 - Reducing Surgery Related Opioid Prescriptions in the Medicaid Population
 - Addressing Opioid Prescribing in the State Line area
- SCW Rural Task Force – A focus on rural surgical quality improvement
- Develop a sustainable infrastructure to measure and improve colonoscopy quality

SCW Quality Initiative Framework

Phase 1: Information Dissemination

- Define current practice
- Develop & deliver individualized performance reports
- Identify evidence-based practices

Phase 2: Surgeon Engagement

- Consensus on SCW performance target
- Identify any additional data needs
- Small group action planning led by steering committee and standard forms
- Longitudinal small group support through phone calls and on-line community

Phase 3: Practice Change

- Provide additional supportive materials
- Monitor for new evidence
- Site visits and practice coaching
- Share successes and challenges
- Identify best practices

Phase 4: Standardize

- Disseminate final products
 - SCW endorsed best practices / guidelines
 - SCW developed and deployed measures
- Determine next steps
 - Identify new project or target
 - Reconvene yearly to assess new evidence but retire active work

Opioid Initiative



Opioid Epidemic Nationally



17.4% of the population filled at least one prescription for an opioid in 2017

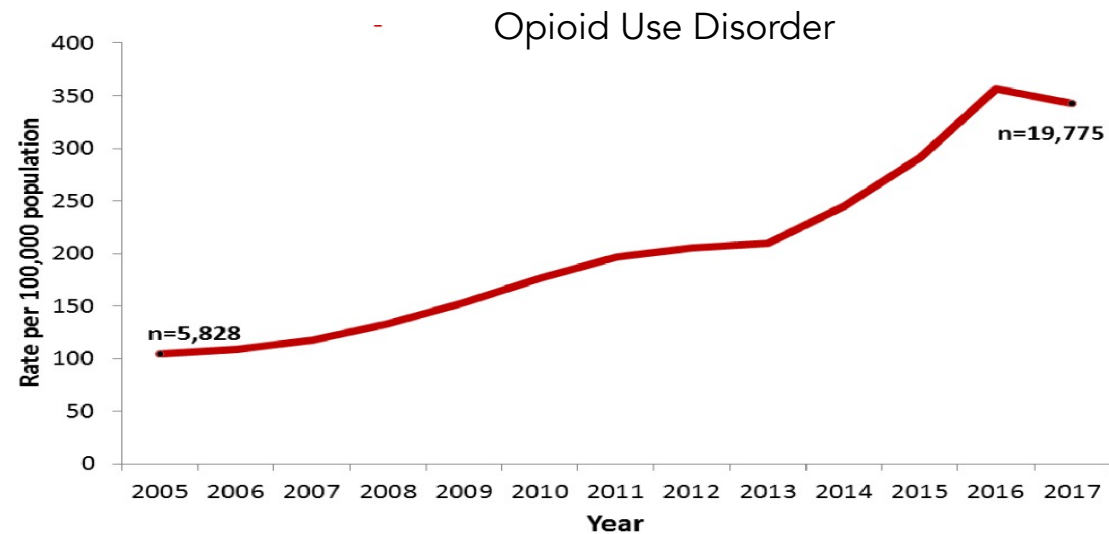


191,146,822 opioid prescriptions dispensed
➤ 58.5 prescriptions per 100 persons

Opioid Epidemic in Wisconsin

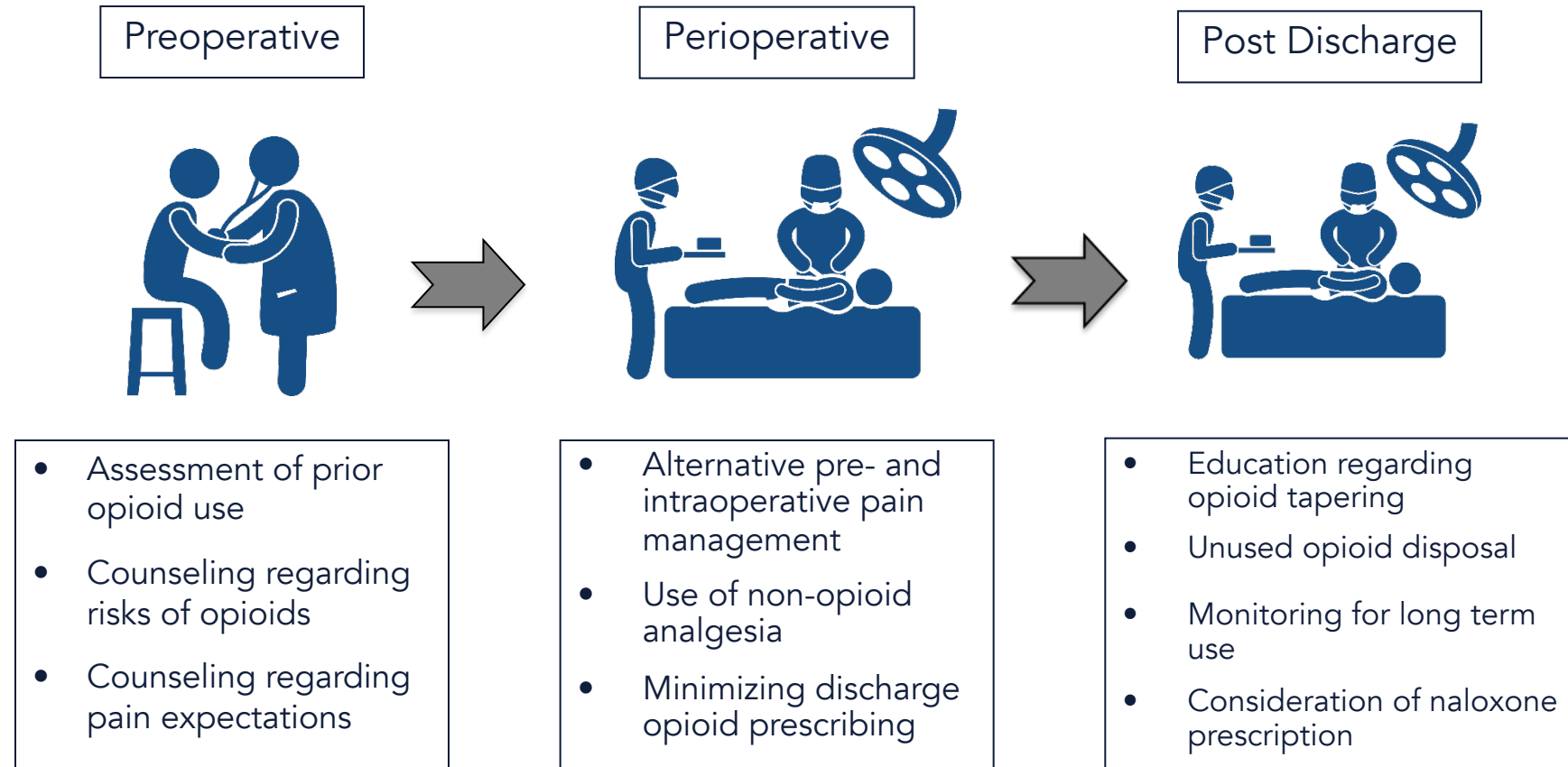
883 opioid overdose deaths in 2017

- 63% due to prescription opioids



Wisconsin Department of Health Services, Office of Health Informatics and Opioid Harm Prevention Program

SCW Comprehensive Approach to Opioid Stewardship



Reducing Postoperative Opioid Prescribing

The chart on the opposite side of this card provides recommendations for opioid-naïve patients, based on patient-reported data from MSQC and published studies. Previous studies have shown that when patients are prescribed fewer pills, they consume fewer pills with no changes in pain or satisfaction scores. Many patients use 0-5 pills. Recommendations are for patients with no preoperative opioid use. For patients taking opioids preoperatively, prescribers are encouraged to use their best judgment.



COUNSELING PATIENTS

Set expectations: "Some pain is normal. You should be able to walk and do light activity, but may be sore for a few days. This will gradually get better."

Set norms: "Half of patients who have this procedure take under 10-15 pills."

Non-opioids: "Take acetaminophen and ibuprofen around the clock, and use the stronger pain pills only as needed for breakthrough pain."

Appropriate use: "These pills are for pain from your surgery and should not be used to treat pain from other causes."

Adverse effects: "We are careful about opioids because they have been shown to be addictive, cause you harm, and cause overdose if used incorrectly or abused."

Safe disposal: "Disposing of these pills prevents our children from accidentally overdosing. You can take your pills to an approved collector (including police station) or mix pills with kitty litter in a bag and throw them in the trash."

Pocket Information Cards

Opioid Prescribing Recommendations for Surgery

Procedure	Hydrocodone (Norco) 5 mg tablets	Oxycodone 5 mg tablets
	Codeine (Tylenol #3) 30 mg tablets	Hydromorphone (Dilaudid) 2 mg tablets
	Tramadol 50 mg tablets	
Laparoscopic Cholecystectomy	15	10
Laparoscopic Appendectomy	15	10
Inguinal/Femoral Hernia Repair (open/laparoscopic)	15	10
Open Incisional Hernia Repair	30	20
Laparoscopic Colectomy	30	20
Open Colectomy	30	20
Ileostomy/Colostomy Creation, Re-siting, or Closure	40	25
Open Small Bowel Resection or Enterolysis	30	20
Thyroidectomy	10	5
Hysterectomy		
Vaginal	20	10
Laparoscopic & Robotic	25	15
Abdominal	35	25
Breast Biopsy or Lumpectomy Alone	10	5
Lumpectomy + Sentinel Lymph Node Biopsy	15	10
Sentinel Lymph Node Biopsy Alone	15	10
Simple Mastectomy ± Sentinel Lymph Node Biopsy	30	20
Modified Radical Mastectomy or Axillary Lymph Node Dissection	45	30
Wide Local Excision ± Sentinel Lymph Node Biopsy	30	20

Data Source

- Wisconsin Health Information Organization (WHIO) administrative claims data, January 1 2017-December 31 2020
- CDC algorithm (2020) to convert NDC drug codes to morphine equivalents
- Inclusion Criteria:
 - Patients who underwent identified common outpatient procedures
 - Procedures: Lap Chole; Breast Conserving Surgery, Mastectomy; Appendectomy; Inguinal Hernia Repair
 - Will be adding colectomy/proctectomy
 - 6 months of continuous insurance coverage prior to through 1 month following the month of surgery, including prescription drug coverage
- Exclusion Criteria:
 - Patients with opioid fill 6 months to 3 days before date of qualifying procedure
 - Patients with same-day second surgical procedures

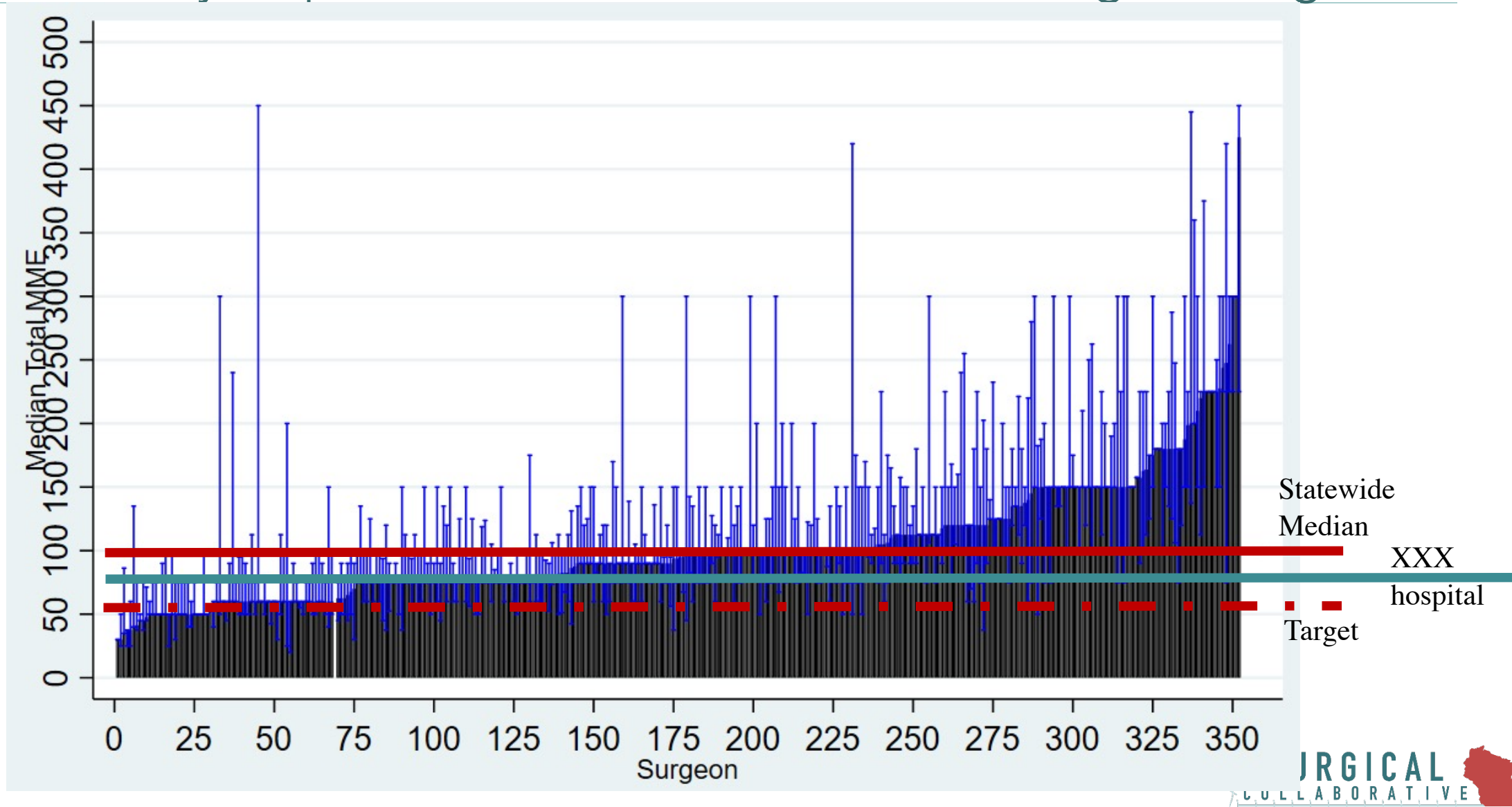
Performance Metrics

- Defining Opioid Fill
 - Analgesics-Opioid drug group (partial agonists not included)
 - Denied claims excluded
 - Days supply >0
- Opioid prescription fills 3 days before through 14 days after qualifying procedure
 - Distribution of total MME within fill window in 2017-18 and 2019-20
 - Characteristics of opioids prescribed and comparison to recommendations
- Opioid prescribing summarized during two time periods:
 - July 1 2017-June 30 2018
 - July 1 2019-June 30 2020

Percent of Patients with 1+ Opioid Fill within 14 Days of Surgery

	Percent
Appendectomy	54.7%
BCS	51.3%
Mastectomy	62.7%
Inguinal Hernia	57.3%
Lap Chole	55.8%

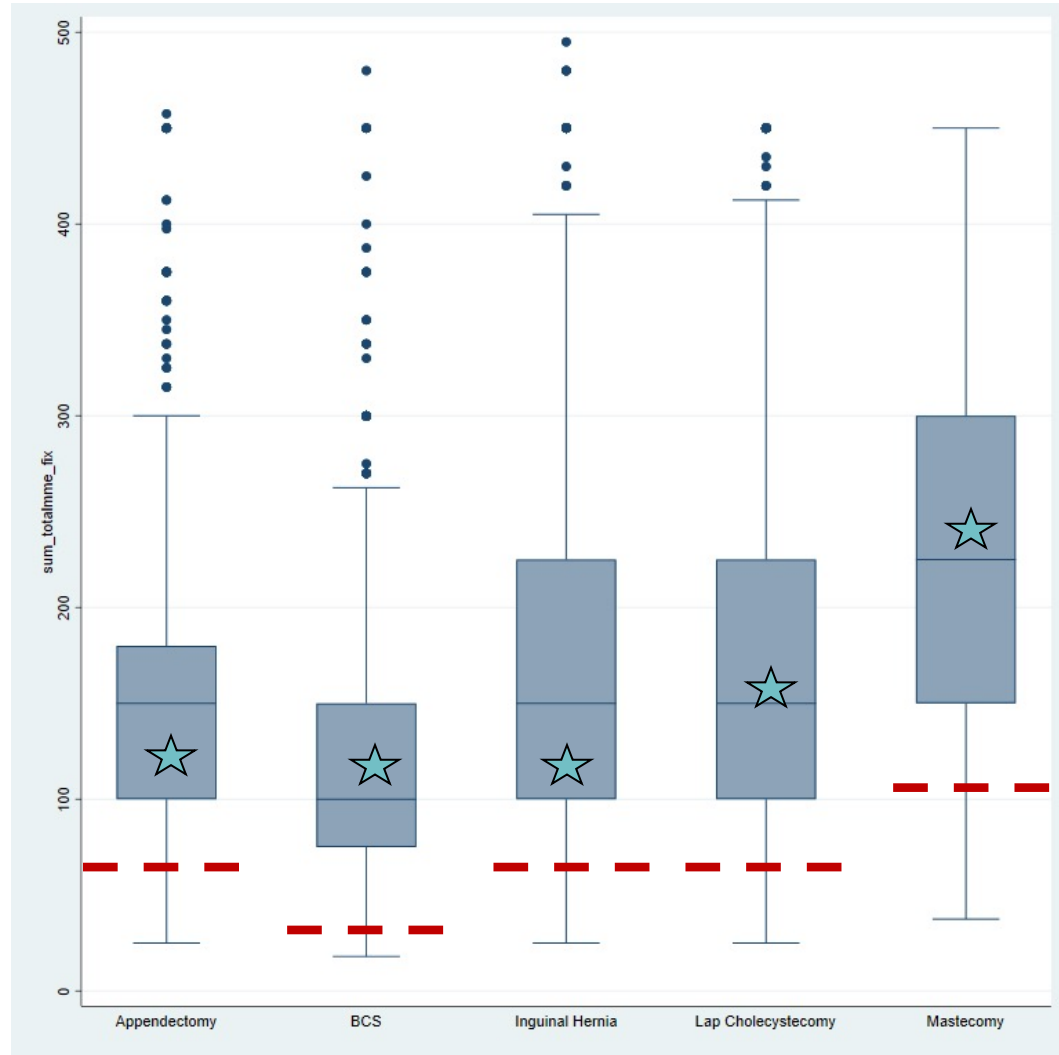
Variation in Median Total MME Filled -3 to 14 Days following Appendectomy, Lap Chole, Hernia Procedures Among WI Surgeons*



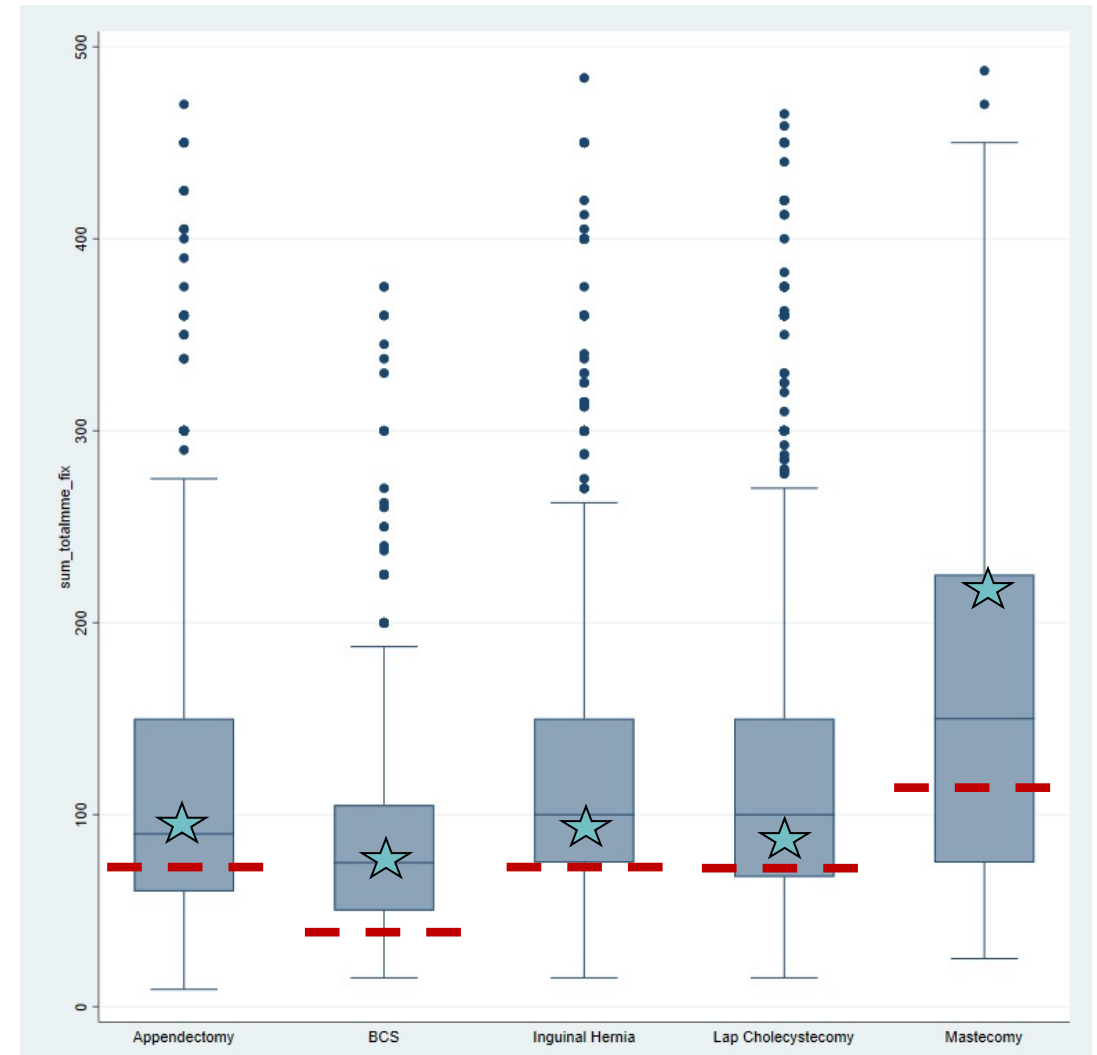
* Restricted to surgeons with minimum of 5 procedures over one-year period; Currently Engaged XXX hospital Surgeons Identified by NPI

MME for Patients with ≥ 1 Opioid Fill Within 14 days of Surgery

2017-18



2019-20



★ Currently Engaged Surgeons from XXX hospital Identified by NPI

Online Opioid Education Module



PAIN MANAGEMENT COUNSELING FOR THE SURGICAL PATIENT

Reducing Surgery Related Opioid Prescriptions



Public Initiative 19 days ago

[Leave Initiative](#)

Initiative Administrators



Enhanced Recovery Protocols for Colorectal Surgery



What are enhanced recovery protocols?

- Multidisciplinary, evidence-based clinical pathways
- Components span all aspects of perioperative care
- Specific protocols vary – hospitals can adapt to



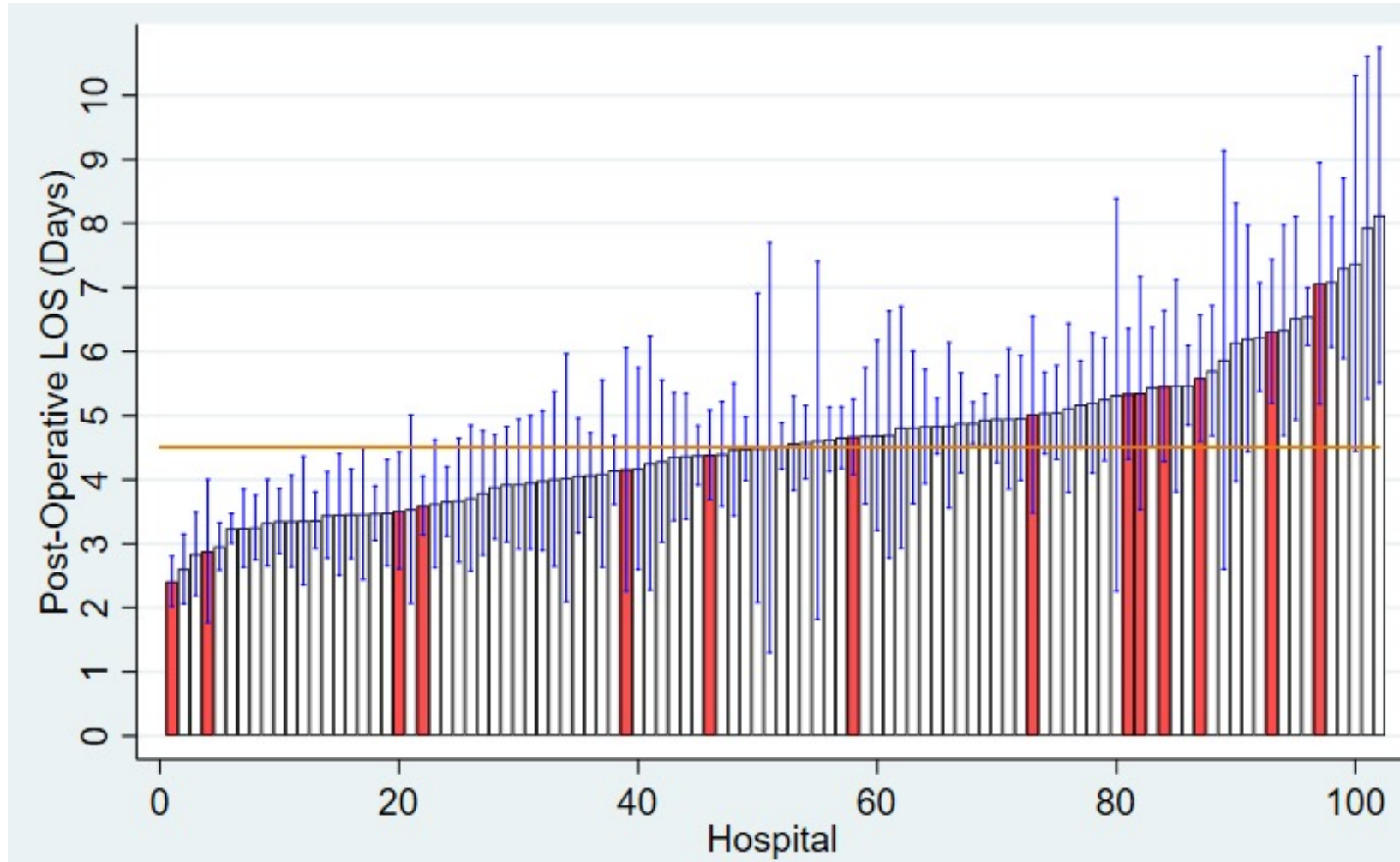
Components of Enhanced Recovery Protocols

Preoperative	Intraoperative	Postoperative
• Patient education and expectation setting • Mechanical bowel preparation and oral antibiotics • Preoperative bathing • Carbohydrate loading • Clear liquid diet allowed until 2 hours before surgery • Multimodal pre-anesthesia analgesics and anti-emetics • Glucose control • Normothermia	• Laparoscopic approach • Prophylactic antibiotics (choice, timing, weight-based dosing and re-dosing) • VTE prophylaxis • Skin preparation with an alcohol-containing agent • Regional anesthesia (epidural, spinal, transversus abdominus plane (TAP) block) • IV anesthetics • Normothermia • Goal-directed fluid management (euvolemia) • Avoidance of nasogastric tubes and drains	• VTE chemoprophylaxis • Multimodal opioid-sparing analgesic regimen • Early initiation of diet • Early and progressive ambulation and mobilization • Early foley catheter removal • Minimize IVF

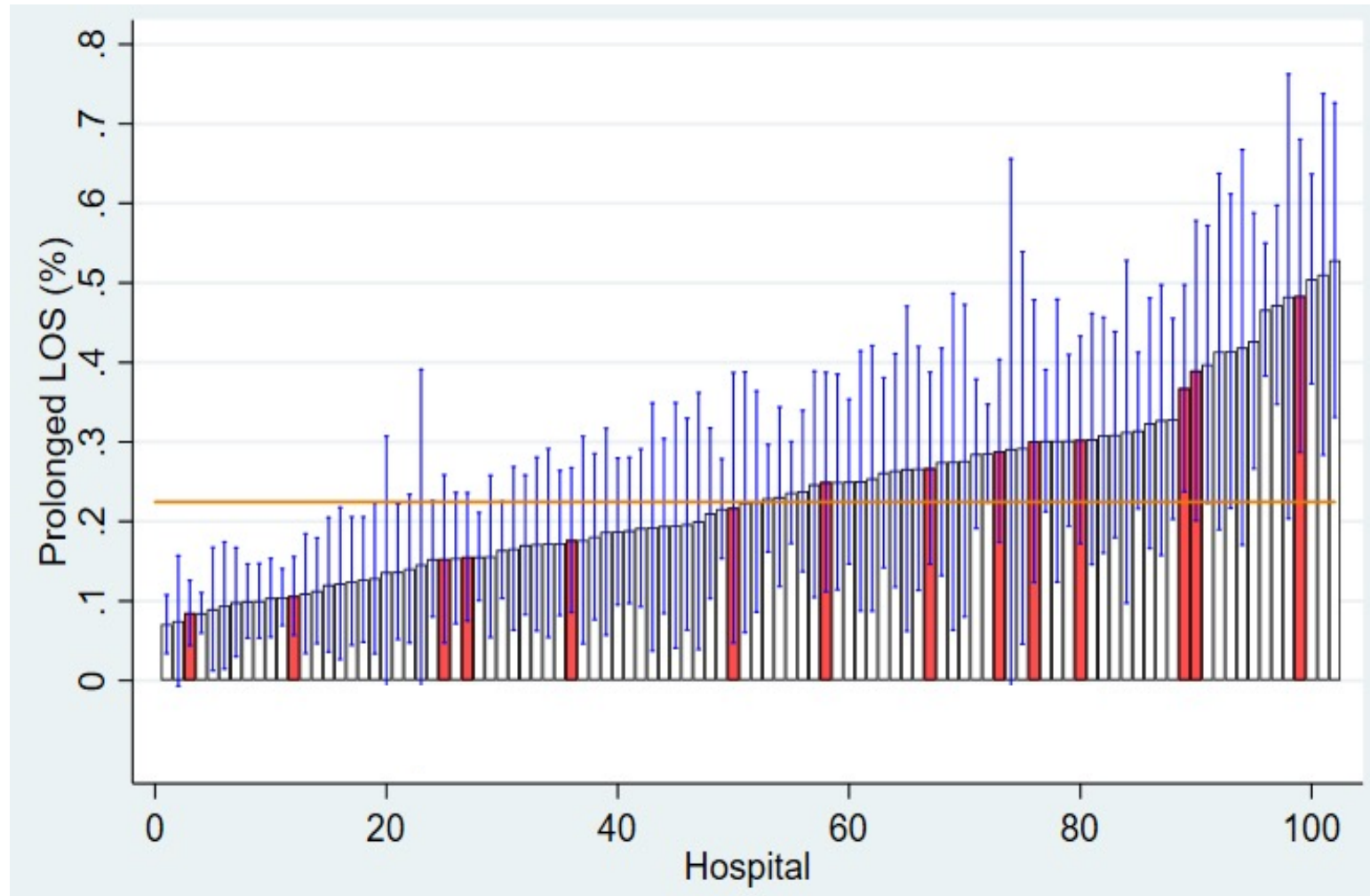
Why implement enhanced recovery?

- Consistently demonstrated to be effective
 - Decreased postoperative length of stay
 - Decreased complications (SSI, UTI, VTE)
 - Decreased opioid use
 - Decreased costs
 - Improved patient satisfaction
- Becoming standard of care
- Challenging for individual hospitals to institute on their own. Economies of scale and collaboration

Risk & Reliability Adjusted Median Length of Hospital Stay Following Colorectal Procedures in Wisconsin Hospitals (January-December 2019)



Risk & Reliability Adjusted Average Predicted Probability of a Prolonged Length of Stay for Patients Undergoing Colorectal Procedure (January-December 2019)



How can Surgical Collaborative of Wisconsin (SCW) help?

- Example order sets
- Patient education materials
- Strategies for engaging team members and administration
- Shared learning between SCW hospitals
- Benchmarked performance reports
- Nutritional supplement procurement

Reducing Repeat Operations for Women with Breast Cancer



Background

- Breast cancer is the most commonly diagnosed cancer in women in the United States
- Approximately 65-70% of women undergo breast conserving surgery (lumpectomy)
- Studies suggest a target lumpectomy re-excision rate of 10%
- In 2017, re-excision rates at WI hospitals ranged from 5% to >50%

Background

- Statewide Surgical Collaborative of Wisconsin (SCW) initiative undertaken beginning in 2018 to support surgeon efforts to reduce re-excisions
 - Goal: Implement evidence-based strategies that promote best practices

Reducing Repeat Operations for Women with Breast Cancer

Margin Status	Stage I or II Invasive Breast Cancer (+/- DCIS)	DCIS Alone (no invasion)
Positive Margin (tumor on ink)	Re-excise	Re-excise
Close Margin (<2mm)	No further surgery	Re-excise
Negative Margin (2mm or greater)	No further surgery	No further surgery

*Recommendations are not influenced by systemic treatment, receipt of WBRT, tumor biology, or other factors.

Stage I and II Invasive Breast Cancer (+/- DCIS). A positive margin, defined as ink on invasive cancer or ductal carcinoma in situ (DCIS), is associated with two-fold increase in IBTR. This increased risk is not nullified by: delivery of a boost dose of radiation, delivery of systemic therapy (endocrine therapy, chemotherapy, or biologic therapy), or favorable biology. Wider margin widths do not significantly lower this risk. The routine practice to obtain wider negative margin widths than no ink on tumor is not indicated.

DCIS (No invasive cancer). Margins of at least 2 mm are associated with a reduced risk of IBTR relative to narrower negative margin widths in patients receiving WBRT. The routine practice of obtaining negative margin widths wider than 2 mm is not supported by the evidence.



CALLER Toolbox to Reduce Reoperation and Improve Cosmetic Outcomes

Tool	% CALLER participants recommending	Level of evidence / consensus	Strength of recommendation
Oncoplastic lumpectomy	100%	Lower 2A uniform	Strong-moderate
Specimen orientation	95%	Lower 2A nonuniform	Strong
Cavity shaves	75%	Lower 2A nonuniform	Strong-moderate
SSO- ASTRO ^a guideline	94%	High 2A nonuniform	Strong-moderate
Minimally invasive breast biopsy	94%	High 1 nonuniform	Strong
Lesion localization	94%	Lower 2A nonuniform	Strong
Specimen imaging and surgeon review	100%	Lower 2A uniform	Strong
Intraoperative pathology	89%	Lower 2A-2B nonuniform	Strong-moderate
Preoperative multidisciplinary planning	100%	Lower 2A uniform	Strong-moderate
Complete diagnostic mammography; U/S as needed	94%	Lower 2B nonuniform	Strong-moderate

SURGEON

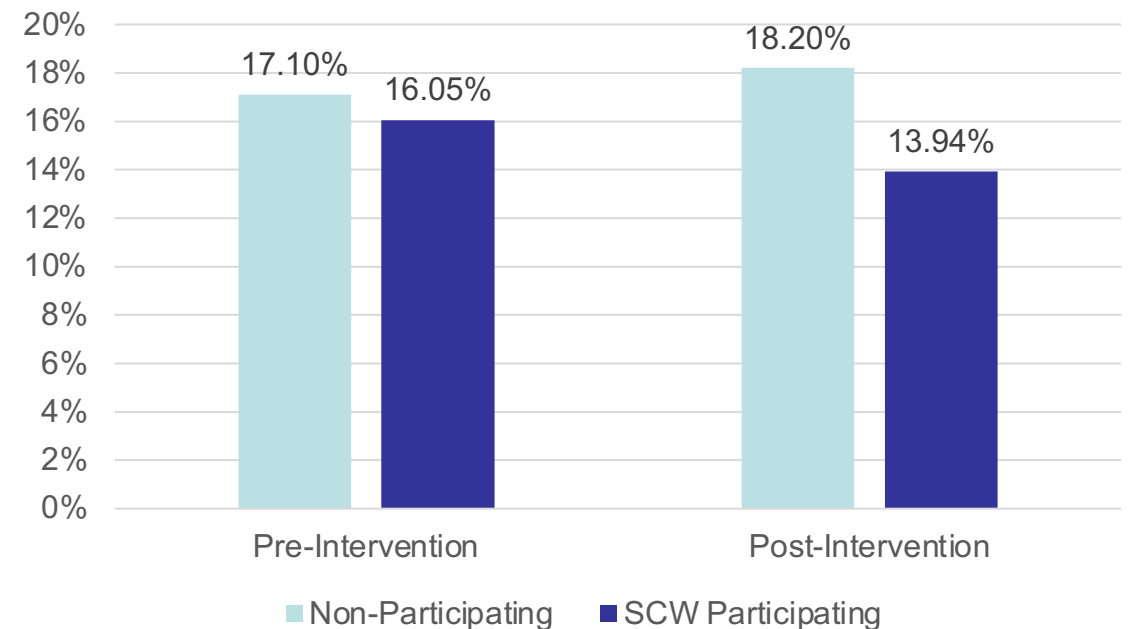
SYSTEM

Key Findings and Outcomes

- No baseline difference between SCW participating and non-participating hospitals in breast re-excision rate
- Significant reduction in breast re-excision at SCW participating hospitals using a difference-in-differences analysis to account for secular trends and adjust for age, payer, and baseline rates
- No change in mastectomy rate
OR=1.2, 95% CI=0.9 - 1.6

OR = 0.68; 95% CI=0.52-0.89

Breast Re-Excision within 60 Days of Breast Conserving Surgery



Baseline 2017: N=2592 SCW participating; N=883
in non-participating hospitals

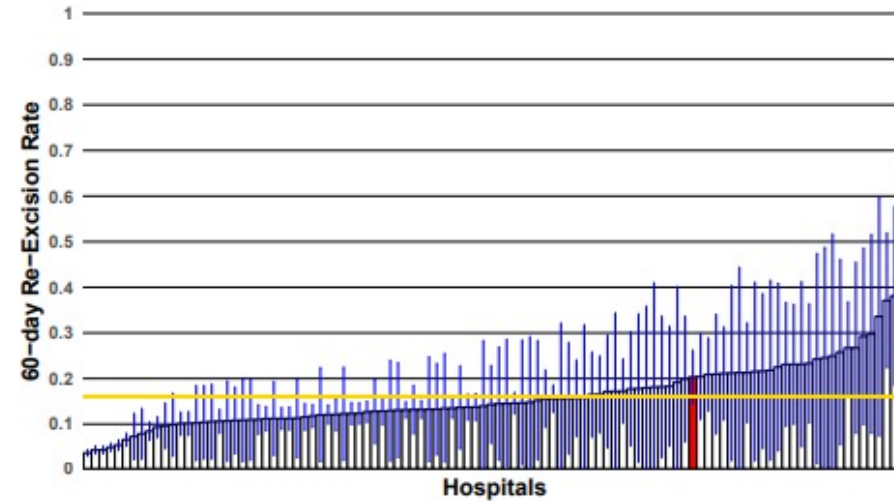
This Surgeon's Story



SCW Confidential Performance Report for Caprice C Greenberg, MD MP
UW Hospital and Clinics Authority
Quality Initiative: Reducing Repeat Operations for Women with Breast Cancer
Reporting Period: January 2018 - December 2018



1



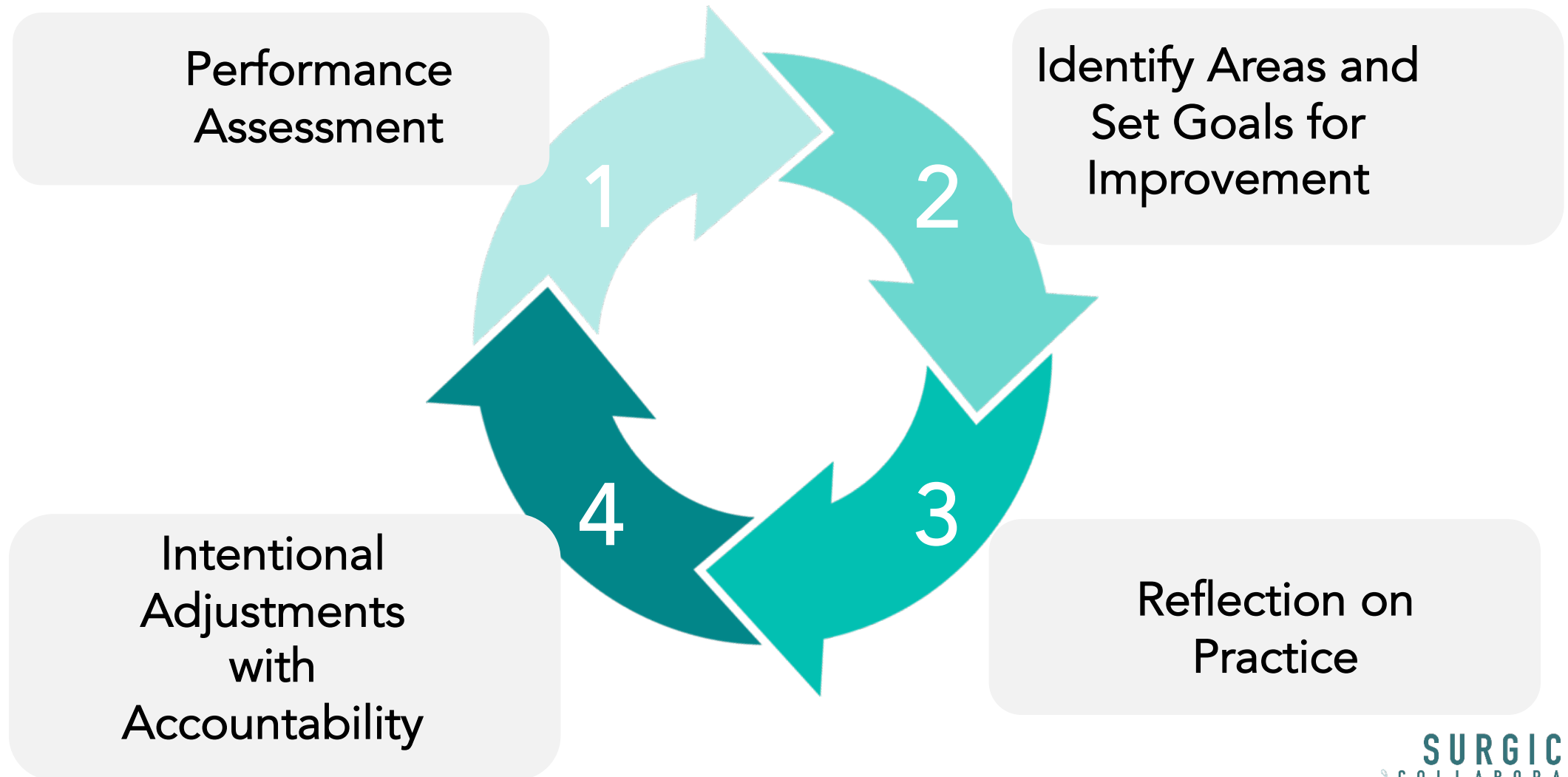
Reducing Repeat Operations for Women with Breast Cancer

Table 1. Unadjusted and risk- and reliability adjusted re-excision and mastectomy rates

	Your Cases	Your Hospital	Participating Hospitals (n=62)	All WI Hospitals (n=108)
60-Day Re-Excision Rate				
Unadjusted	23%	18.7%	13.3%	14.6%
Risk- and Reliability-Adjusted	—	20.3%	14.7%	16%
Mastectomy Rate				
Unadjusted	33%	32.3%	29.5%	29.3%
Risk- and Reliability-Adjusted	—	34.7%	28.6%	28.7%

*Estimates based on low volume presented as <5

Improving Surgical Performance



Performance Assessment

- Benchmarked quality metrics

Identify Areas and Set Goals for Improvement

- Drop re-excision rate from 23% to 15%



Intentional Adjustments with Accountability

Reflection on Practice through Surgical Coaching

Ann Surg Oncol
DOI 10.1245/s10434-015-4759-x

Annals of
SURGICAL ONCOLOGY
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY



ORIGINAL ARTICLE – BREAST ONCOLOGY

Toolbox to Reduce Lumpectomy Reoperations and Improve Cosmetic Outcome in Breast Cancer Patients: The American Society of Breast Surgeons Consensus Conference

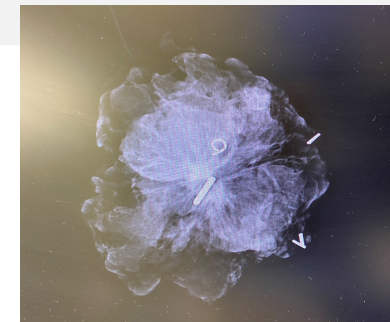
Jeffrey Landercasper, MD, FACS¹, Deanna Attai, MD², Danya Atisha, MD³, Peter Beitsch, MD, FA
Linda Bosserman, MD, FACP⁵, Judy Boughey, MD, FACS⁶, Jodi Carter, MD, PhD⁶, Stephen Edge,
Sheldon Feldman, MD, FACS^{8,9}, Joshua Froman, MD¹⁰, Caprice Greenberg, MD, MPH¹¹, Cary Ku
FACS¹², Monica Morrow, MD, FACS^{13,14}, Barbara Pockaj, MD, FACS¹⁵, Melvin Silverstein, MD, F
Lawrence Solin, MD, FACP, FASTRO¹⁶, Alicia Staley¹⁷, Frank Vicini, MD¹⁸, Lee Wilke, MD, FACS^{19,21}
MBBS, FRCR²¹, and Hiram Cody III, MD, FACS^{23,24}

The NEW ENGLAND JOURNAL of MEDICINE

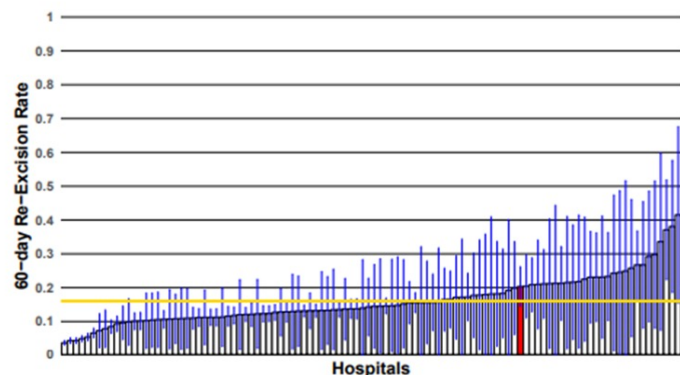
ESTABLISHED IN 1812 AUGUST 6, 2015 VOL. 373 NO. 6

A Randomized, Controlled Trial of Cavity Shave Margins in Breast Cancer

Anees B. Chagpar, M.D., M.P.H., Brigid K. Killelea, M.D., M.P.H., Theodore N. Tsangaris, M.D.,
Meghan Butler, Karen Stavris, R.N., M.S.N., Fangyong Li, M.P.H., Xiaopan Yao, Ph.D., Veerle Bossuyt, M.D.,
Malini Harigopal, M.D., Donald R. Lannin, M.D., Lajos Pusztai, M.D., D.Phil., and Nina R. Horowitz, M.D.



2018 Baseline



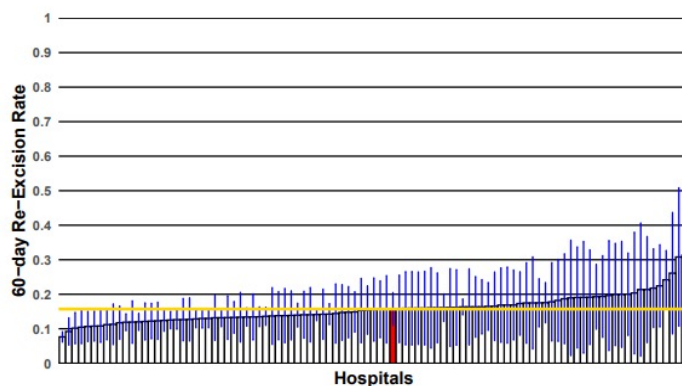
Reducing Repeat Operations for Women with Breast Cancer

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*Estimates based on low volume presented as <5

2019 Follow-up



Reducing Repeat Operations for Women with Breast Cancer

Table 1. Unadjusted and risk- an reliability adjusted re-excision and mastectomy rates

	Your Cases	Your Hospital	Participating Hospitals (n=56)	All WI Hospitals (n=102)
Open Biopsy Rate				
Unadjusted	<5	1.2%	5.5%	7.1%
Risk- and Reliability-Adjusted	–	1.6%	7.6%	10.1%
60-Day Re-Excision Rate				
Unadjusted	13.8%	15.9%	14.6%	15.4%
Risk- and Reliability-Adjusted	–	15.7%	15.4%	15.7%
Mastectomy Rate				
Unadjusted	34.1%	30.8%	31.3%	31.3%
Risk- and Reliability-Adjusted	–	34.3%	30.6%	30.6%

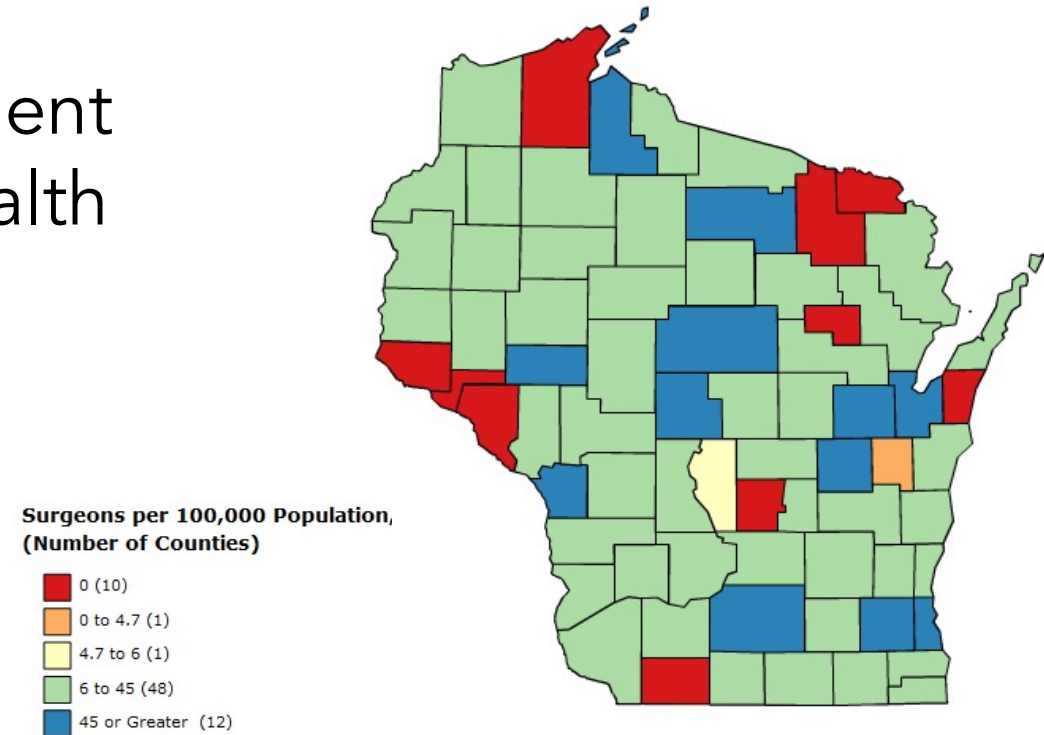
*Estimates based on low volume presented as <5

A Focus on Rural Surgical Quality Initiatives



SCW Rural Focus

- Rural state = Quality improvement efforts must not exacerbate health inequities
 - 65% of counties rural (47/72)
 - 14% (10) no surgeons¹
 - 28% (20) fewer than 20 surgeons per 100,000 pop²

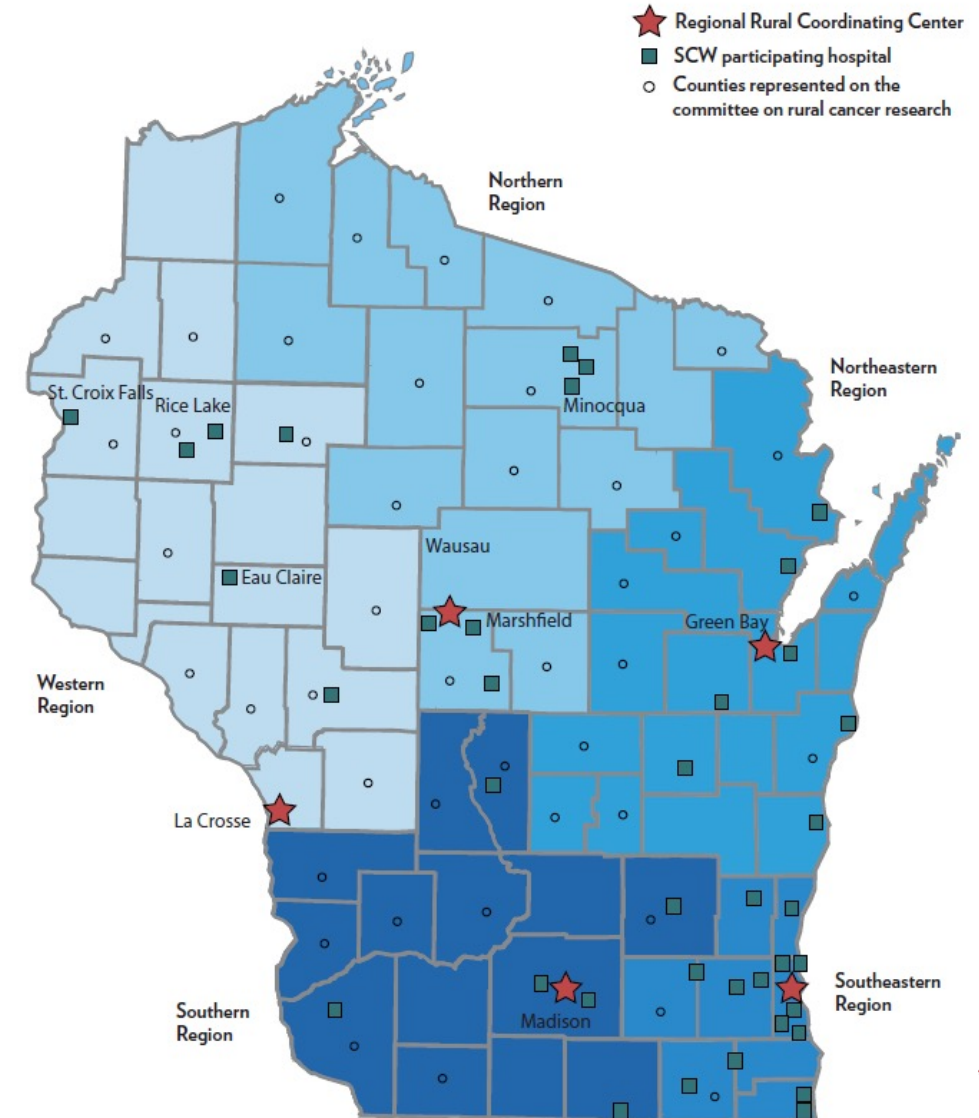


Quality Challenges unique to rural surgery

- Often lone surgeons/small groups
- Patients can be sicker/more reluctant to seek care
- Challenges associated with transfer
- Challenges associated with case volume/diversity
- Concern that quality/outcomes data may be used to push for centralization of surgical care

Rural Regional Collaborative Network

- In late May 2019, SCW launched its Rural Task Force, to build upon the informal relationships that already exist between rural hospitals within regions of the state
- The Goal of the Rural Task Force is to:
 - Identify the highest priority areas for which rural surgeons seek increased support and collaborative learning opportunities
 - Test a novel partial-pooling measurement algorithm endorsed by the NQF Rural MAP to increase data accessibility and usability for low case-volume institutions
 - Determine if case-based telehealth conference can increase surgical engagement and decrease burnout



Colonoscopy Initiative



Colonoscopy Initiative

- Colonoscopy is a cornerstone of many rural surgical practices, representing the second most commonly performed procedure and an estimated 40% of a rural general surgeon's practice.
- SCW has partnered with WCHQ and RWHC to create education materials, offer targeted interventions and facilitate accurate data collection

Colonoscopy Quality Indicators

Quality Indicators for Colonoscopy ^{1,2}			
Frequency with which...			
Preprocedure			Target
1.	Colonoscopy is performed for an appropriate indication and documented		> 80%
2.	Informed consent is obtained and fully documented		> 98%
3.	Colonoscopies follow recommended post-polypectomy and post-cancer resection surveillance intervals and 10-year intervals between screening colonoscopies in average-risk patients		≥ 90%
4.	Ulcerative colitis and Crohn's colitis surveillance is recommended within proper intervals		≥ 90%
Intraprocedure			
5.	The procedure note documents the quality of preparation		> 98%
6.	Bowel preparation is adequate to allow the use of recommended surveillance or screening intervals (outpatient exams)		≥ 85%
7.	Visualization of the cecum by notation of landmarks and photodocumentation of landmarks is documented		-
	Cecal intubation rate with photography (all examinations)		≥ 90%
	Cecal intubation rate with photography (screening)		≥ 95%
8.	Adenomas are detected in asymptomatic average-risk individuals (screening)		-
	Adenoma detection rate for male/female population		≥ 25%
	Adenoma detection rate for male patients		≥ 30%
	Adenoma detection rate for female patients		≥ 20%
9.	Withdrawal time is measured		> 98%
	Average withdrawal time in negative-result screening colonoscopies		≥ 6 minutes
10.	Biopsy specimens are obtained when colonoscopy is performed for chronic diarrhea		> 98%
11.	Recommended tissue sampling when colonoscopy is performed for surveillance of ulcerative and Crohn's colitis		> 98%
12.	Endoscopic removal of pedunculated polyps and sessile polyps < 2 cm is attempted before surgical referral		> 98%
Postprocedure			
13.	Incidence of perforation by procedure type and post-polypectomy bleeding		-
	Incidence of perforation - all examinations		< 1:500
	Incidence of perforation - screenings		< 1:1000
	Incidence of post-polypectomy bleeding		< 1%
14.	Post-polypectomy bleeding is managed without surgery		≥ 90%
15.	Appropriate recommendation for timing of repeat colonoscopy is documented and provided to patient after reviewing histology		≥ 90%
1. List of potential quality indicators from Rex DK, Schoenfeld PS, Cohen J, et al. Quality indicators for colonoscopy. American Journal of Gastroenterology. 2015;110:72-90.			
2. Endorsed by the American Society for Gastrointestinal Endoscopy (ASGE) and the American College of Gastroenterology (ACG).			

Post Colonoscopy Follow Up

Table A. US Multi-Society Task Force Recommendations for Post-Colonoscopy Follow-up in Average-Risk Adults with Normal Colonoscopy or Adenomas^{3,4}

Baseline colonoscopy finding	Recommended interval for surveillance colonoscopy	Strength of recommendation	Quality of evidence
Normal	10 y	Strong	High
1-2 tubular adenomas < 10 mm	7-10 y	Strong	Moderate
3-4 tubular adenomas < 10 mm	3-5 y	Weak	Very low
5-10 tubular adenomas < 10 mm	3 y	Strong	Moderate
Adenoma ≥ 10 mm	3 y	Strong	High
Adenoma with tubulovillous or villous histology	3 y	Strong	Moderate
Adenoma with high-grade dysplasia	3 y	Strong	Moderate
> 10 adenomas on a single examination	1 y	Weak	Very low
Piecemeal resection of adenoma ≥ 10 mm	6 mo	Strong	Moderate

Table B. US Multi-Society Task Force Recommendations for Post-Colonoscopy Follow-up in Average-Risk Adults with Serrated Polyps^{3,4}

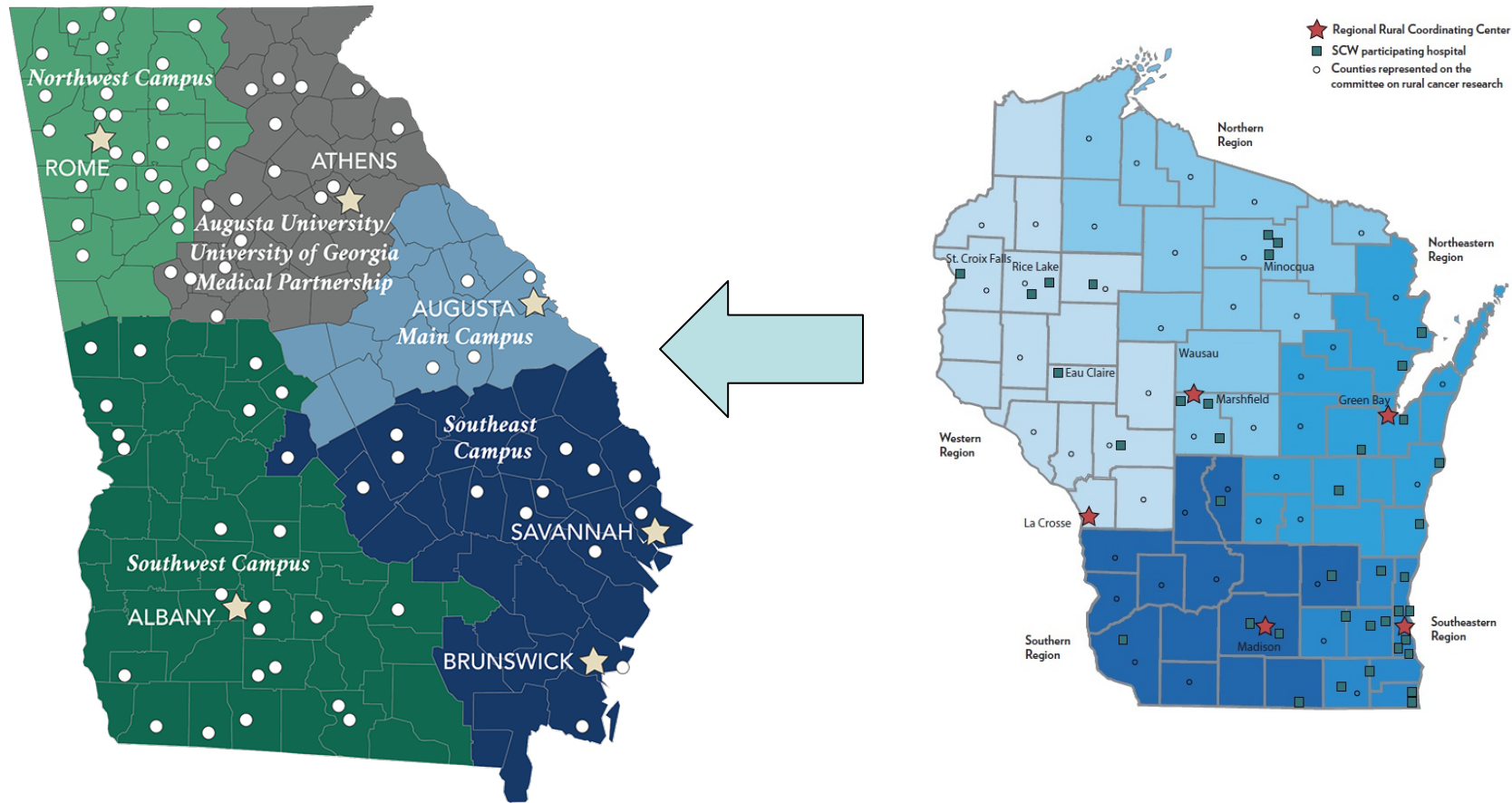
Baseline colonoscopy finding	Recommended interval for surveillance colonoscopy	Strength of recommendation	Quality of evidence
≤ 20 HPs in rectum or sigmoid colon < 10 mm	10 y	Strong	Moderate
≤ 20 HPs proximal to sigmoid colon < 10 mm	10 y	Weak	Very low
1-2 SSPs < 10 mm	5-10 y	Weak	Very low
3-4 SSPs < 10 mm	3-5 y	Weak	Very low
5-10 SSPs < 10 mm	3 y	Weak	Very low
SSP ≥ 10 mm	3 y	Weak	Very low
SSP with dysplasia	3 y	Weak	Very low
HP ≥ 10 mm	3-5 y	Weak	Very low
TSA	3 y	Weak	Very low
Piecemeal resection of SSP ≥ 20 mm	6 mo	Strong	Moderate

3. Gupta S, Lieberman D, Anderson JC, et al. Recommendations for Follow-up After Colonoscopy and Polypectomy: A Consensus Update by the US Multi-Society Task Force on Colorectal Cancer. *Gastrointestinal Endoscopy*. 2020;91(3):463-485.

4. Endorsed by the U.S. Multi-Society Task Force on Colorectal Cancer, the ASGE, the ACG, and the American Gastroenterological Association (AGA)

HP = hyperplastic polyp; SSP = sessile serrated polyp; TSA = traditional serrated adenoma

Rural Regional Collaborative Network



SCW Funding Acknowledgement

- Wisconsin Partnership Program
- University of Wisconsin School of Medicine and Public Health
- UW Department of Surgery
- UW Carbone Cancer Center
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- The Gunderson Foundation
- Howard Olson Foundation
- Wisconsin Department of Health Services
- National Cancer Institute
- Anthem Blue Cross/Blue Shield
- State of Wisconsin



Thank you



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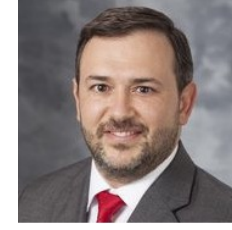
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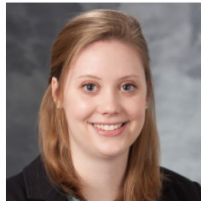
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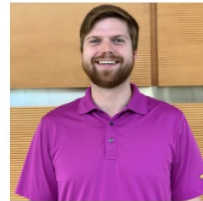
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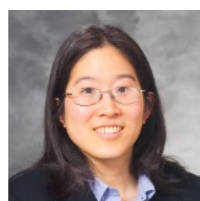
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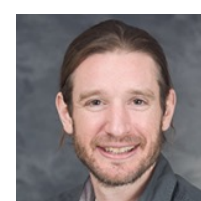
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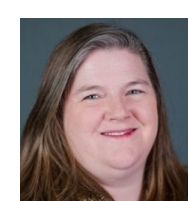
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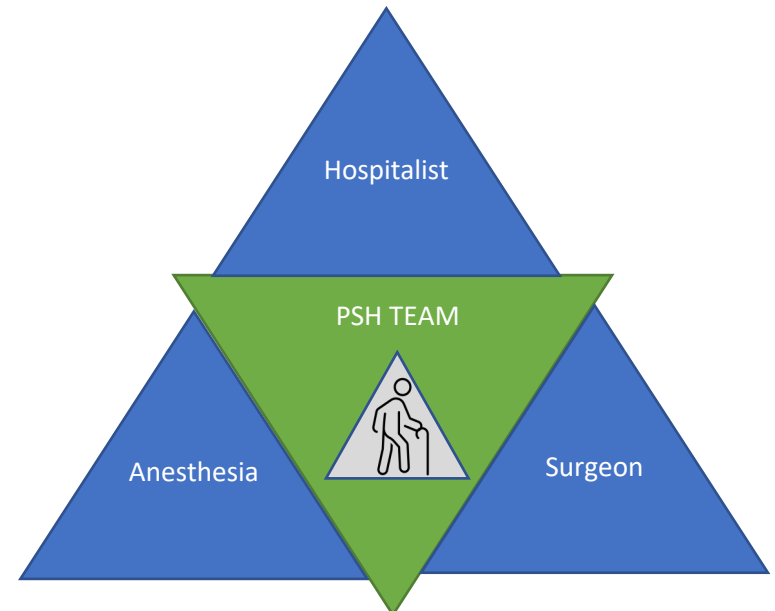
service | quality | integrity | compliance

Pam Weigandt, MD
CEO & President
Strategic Health Partners, LLC

Lisa H. Brown, MSN, FNP-C
Principal Consultant &
Director of Perioperative Services
Strategic Health Partners, LLC

BEYOND ANESTHESIA - PERIOPERATIVE SURGICAL HOME

The **Perioperative Surgical Home** coordinates the patient's care from the decision for surgery through discharge using evidence-based pathways to connect the patients with the services and specialists to ensure they experience optimum outcomes.



PSH TEAM FOCUS: Optimize vs “Clear”

Coordination of Care

- ▲ Specialists risk assessment/ guidance on risk reduction options
- ▲ PCP involvement in preoperative optimization and postoperative care

Reduced Variability

- ▲ Evidenced based pathways
- ▲ Errors reduced as processes become familiar

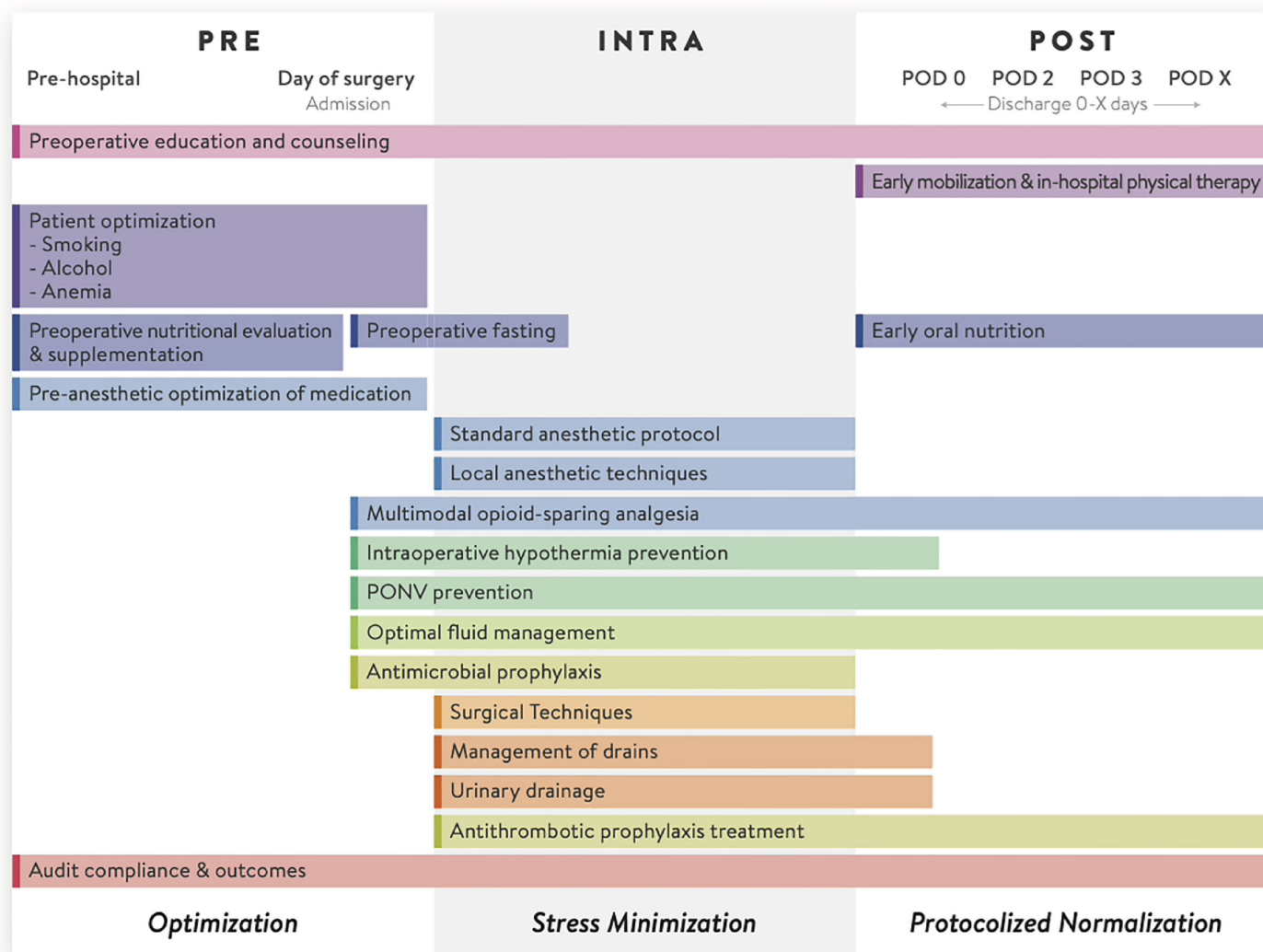
Implementation of ERAS Protocols

- ▲ Perioperative Team is in the ideal position to facilitate implementation

Enhance Communication

- ▲ Liaison for all involved (Patient/family/healthcare team members)
- ▲ Identify and address discharge obstacles early in the process

ERAS FLOW



The Spine Journal 2021 21729-752DOI: (10.1016/j.spine.2021.01.001)

OPERATIONS

WHICH PROVIDER SHOULD SEE THE PATIENT?

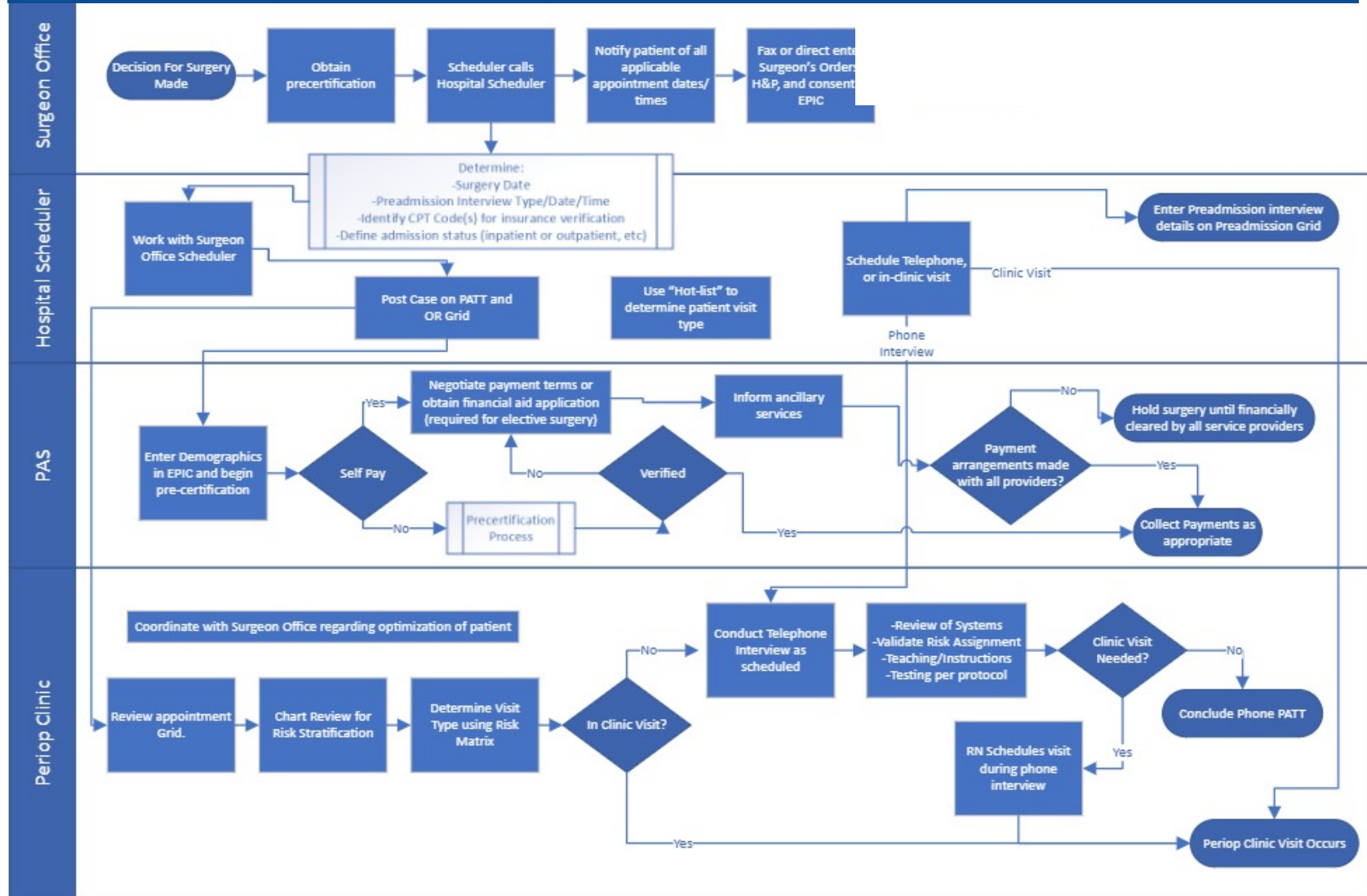
When: Initial screening asap from decision for surgery

Why: To begin care coordination and individual optimization pathway

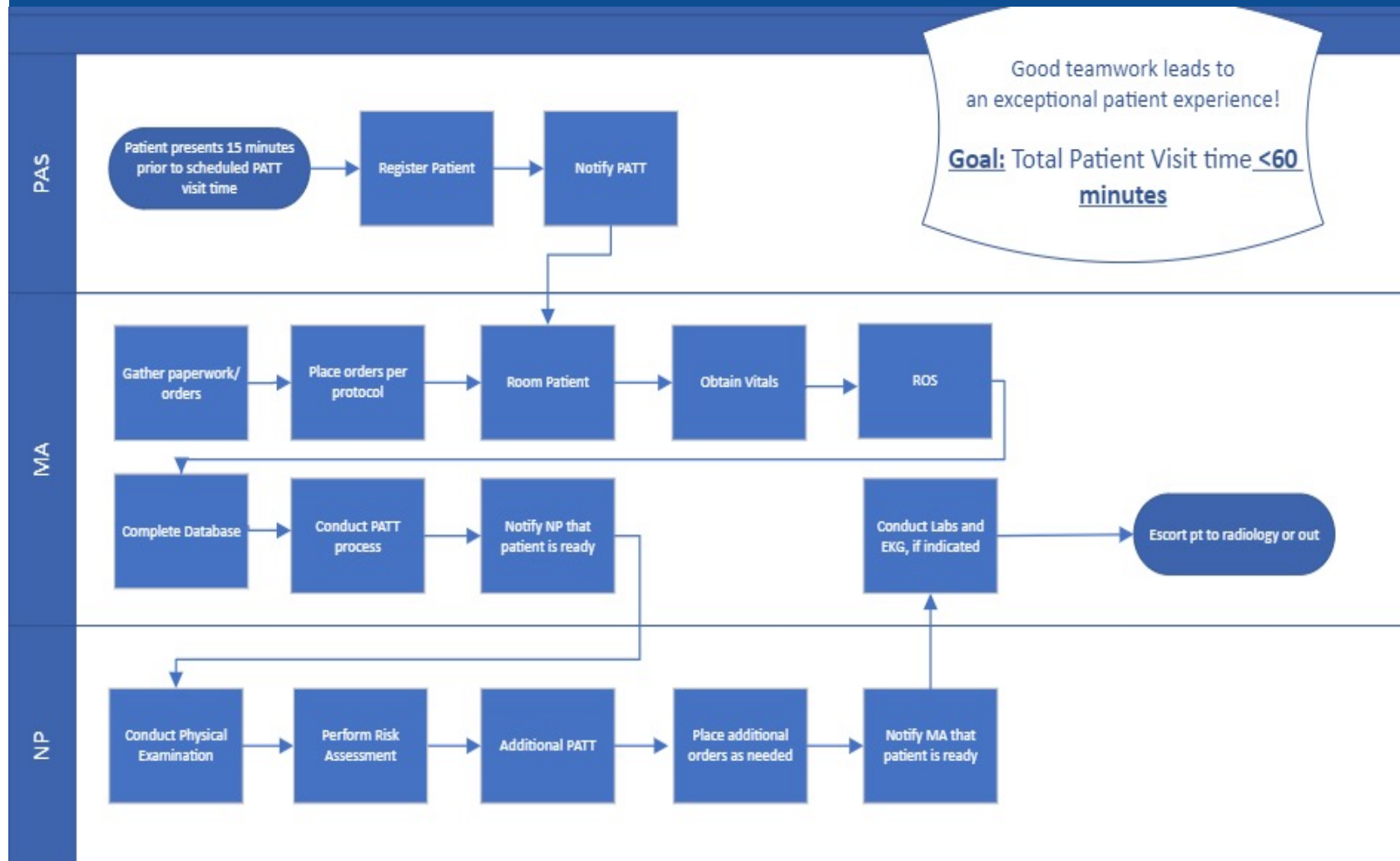
What: Initial risk stratification to align patient's needs with acuity level of provider

			Surgical Classification				
			Minimally invasive	Airway Required	Moderately Invasive	Intrathoracic or Fluid shifts	Highly Invasive
			1	2	3	4	5
ASA Classification	Healthy	I	RN	RN	RN	NP	NP
		II	RN	RN	NP	NP	NP
	Severe, systemic disease	III	RN	NP	NP	NP	NP/MD
		IV	NP	NP	NP	NP/MD	NP/MD

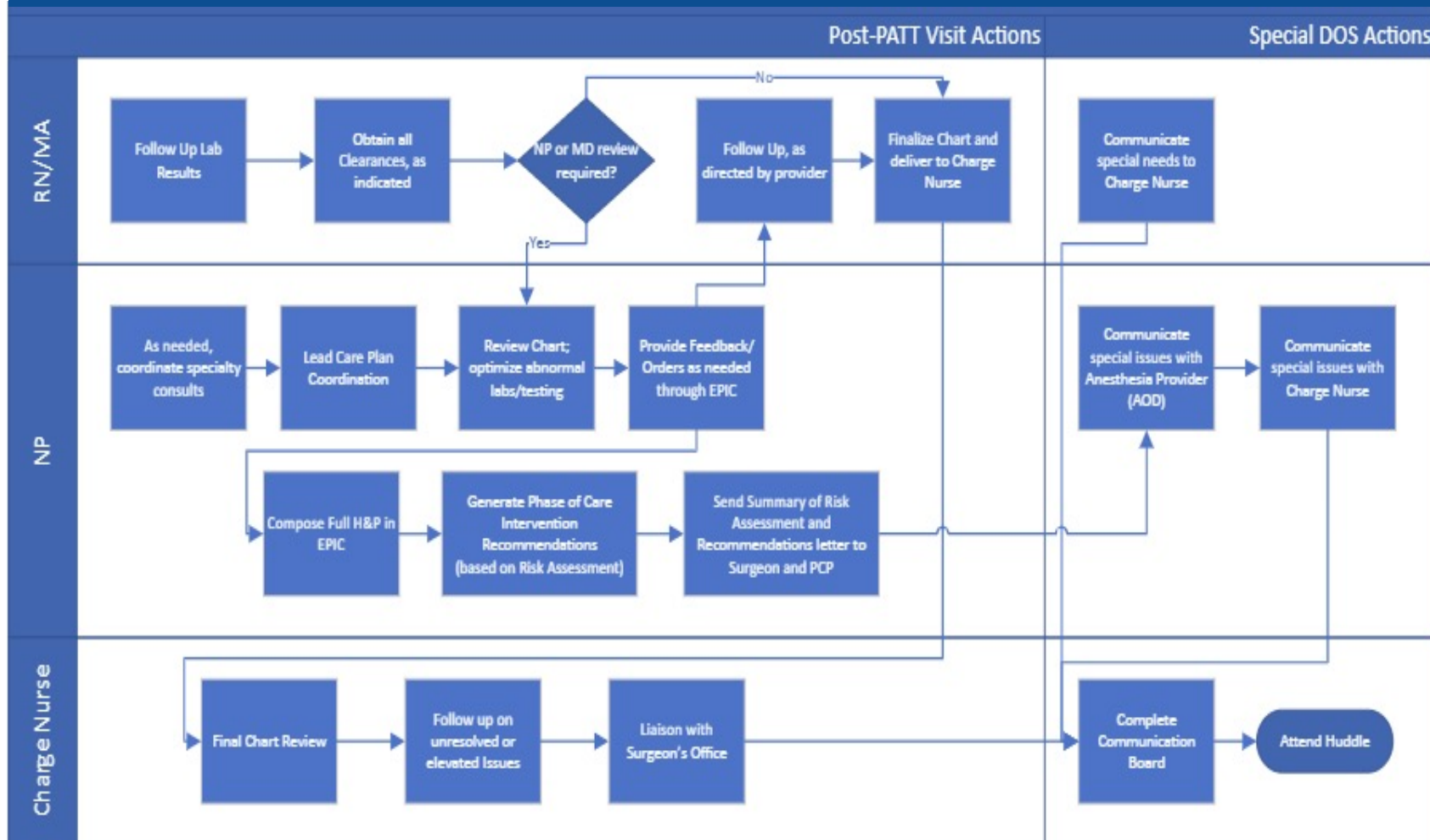
SCHEDULING THE PATIENT



PATT VISIT FLOW



POST PATT/PSH FOLLOW-UP



CLINICAL PATHWAY

WHAT LABS SHOULD I ORDER?

When: Prior to surgery

Why: To identify issues prior surgery that can be corrected

What: Individualized testing to guide optimization opportunities and support risk stratification

Specific Procedures	Lab window	T&X Urine										
		CBC	BMP	PT/INR	Hgb	UA**	CMP	T&S	2unit	Preg	K+	CXR
All Vascular Cases	30 days	X	X					🔥				
AAA	30 days	X	X					🔥				
All Total Joints	60 days	X	X									
Spine with Implants	60 days	X	X			X						
Total Hip Revision	60 days								🔴🔴			
Craniotomies	60 days	X	X			X			🔴🔴			
Interventional Cerebral Angiogram	60 days		X						🔴🔴			
TAH for Cancer	6 mo	X						🔥				
Open Myomectomy	6 mo	X						🔥				
Cystectomy	6 mo	X						🔥				
Nephrectomy	6 mo	X						🔥				
Adrenalectomy for Pheo	6 mo	X						🔥				
VATS	6 mo	X						🔥				
Thoracotomy	6 mo								🔴🔴			
Systemic Disease Conditions												
CV Disease/ HTN	6 mo		X									
Malignancy w/in last 6 months	6 mo	X										
Radiation Therapy w/in last 3 month	6 mo											X
Liver Dx/ Hx of Hep B/C or ITP	6 mo			X-PTT								
ESRD - dialysis	DOS										X	
Anemia within last 6 months	14 days				X							
NIDDM/IDDM	6 mo		X	X								
Childbearing age/ Female	DOS									X		
Diuretic Therapy adjusted w/in 3 months	7 days		X									
Coumadin Therapy w/in 24 hrs				X								
Covid + currently	24 hrs			X-BMI								

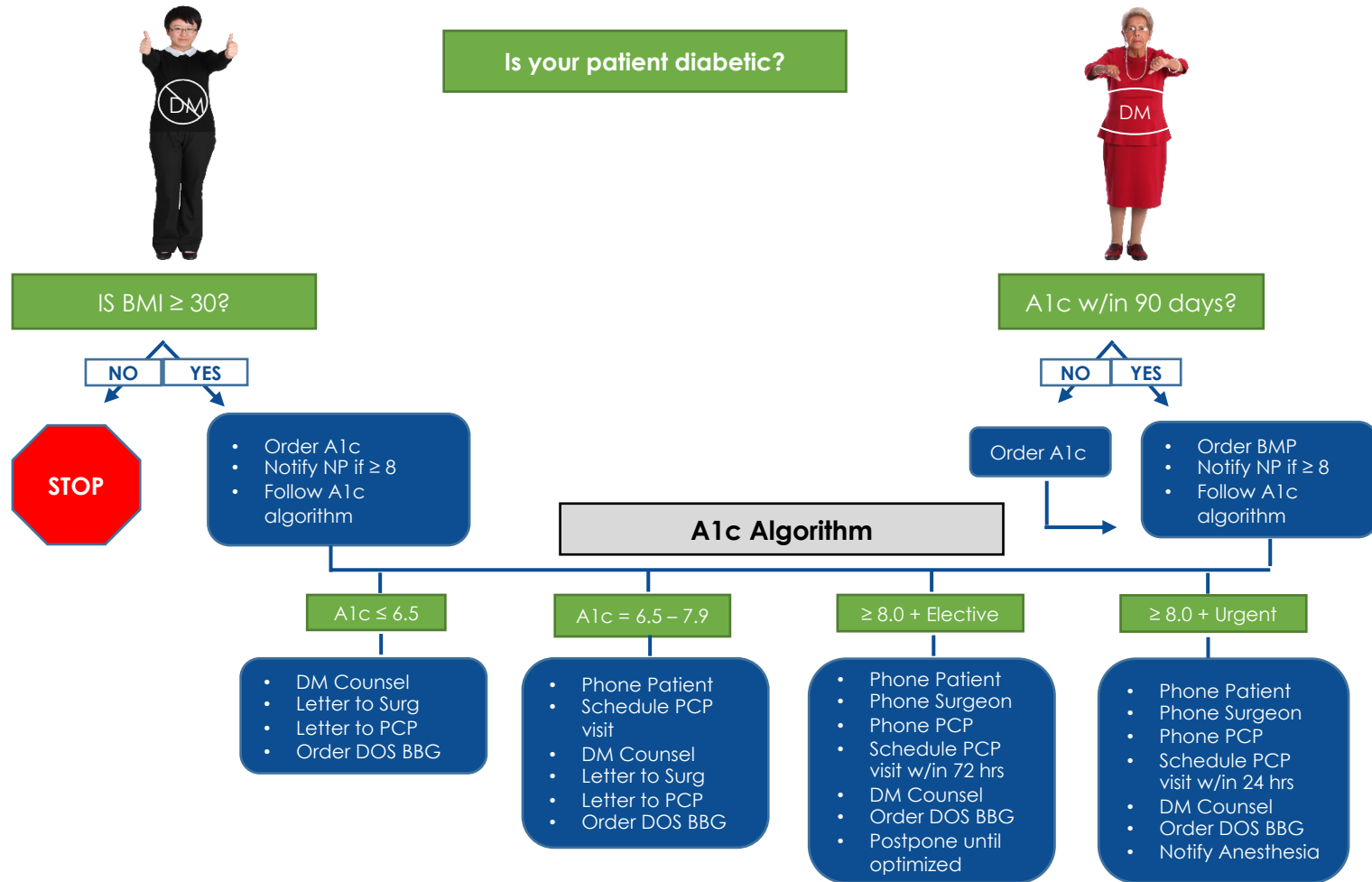
UA Cultures **ONLY if UA = (+) nitrates and w/BC's w/ bacteria and/or leukocyte esterase

DOES MY PATIENT NEED GLYCEMIC MGMT?

When: Path chosen during PATT phone triage process immediately following surgery scheduling

Why: To identify patients at high risk for undiagnosed hyperglycemia or uncontrolled DM in order to reduce risks

What: Evidence based pathways individualizing hyperglycemic management for patients with either diagnosed or heightened risk of DM

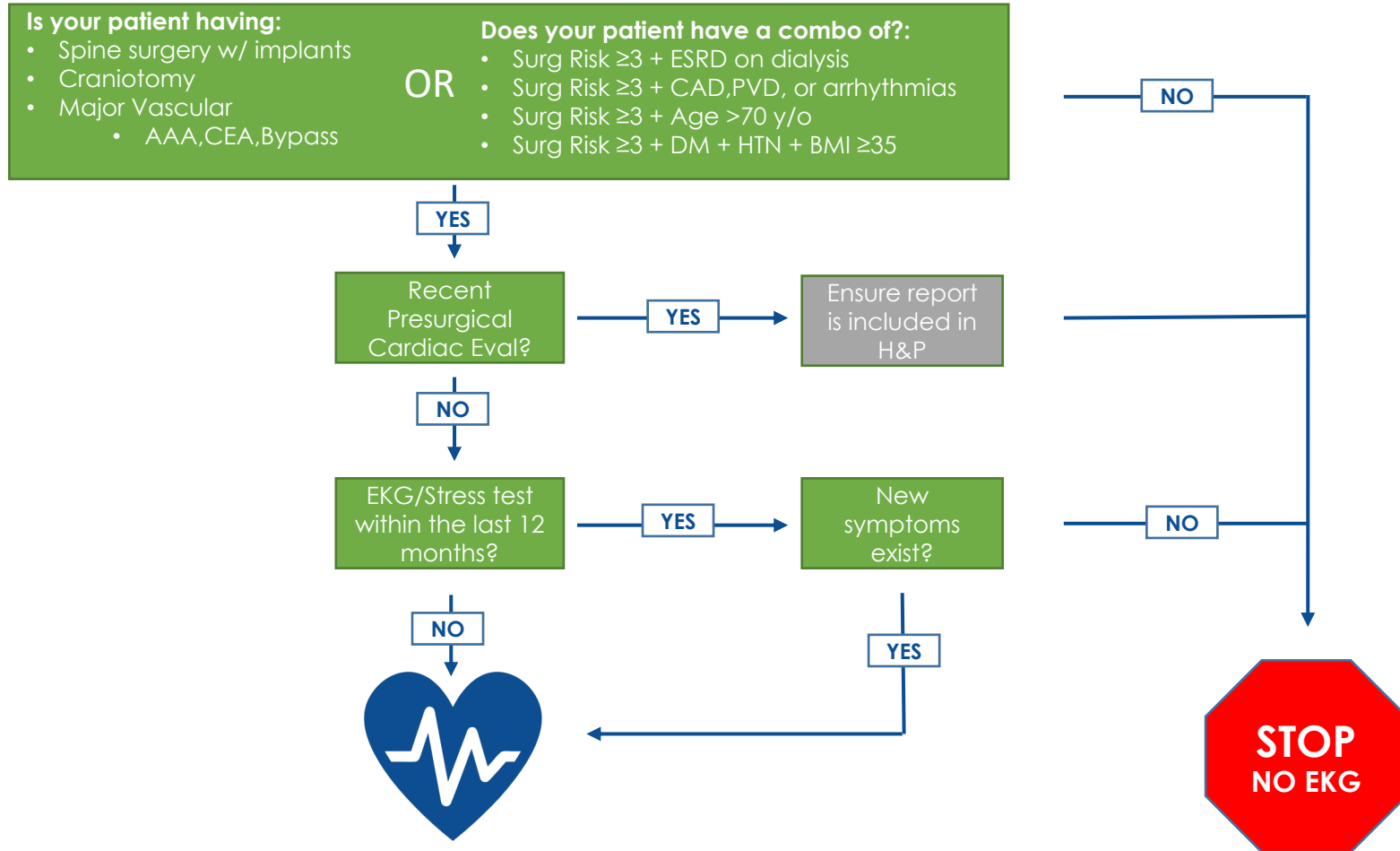


DOES THIS PATIENT NEED AN EKG?

When: Anytime a decision is needed on whether to perform a 12 lead EKG

Why: To identify unknown cardiac risk in high potential patients

What: Risk stratified testing pathways to avoid unnecessary testing



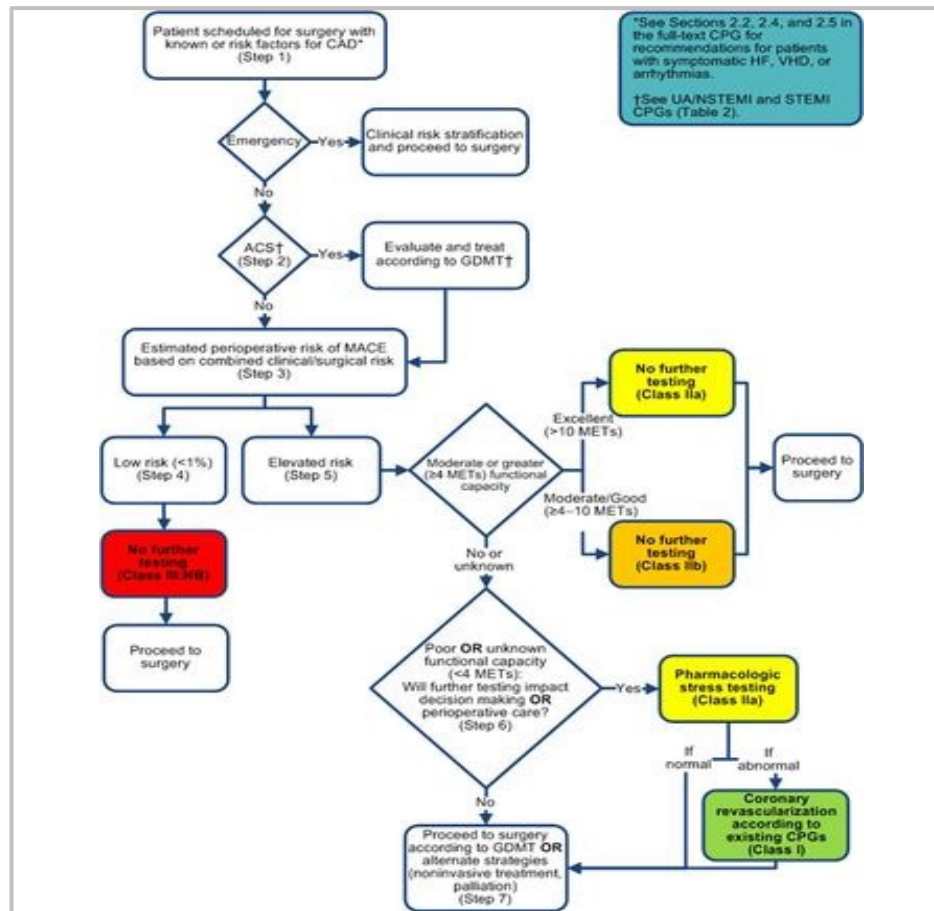
DOES MY PATIENT NEED ADDITIONAL CARDIAC TESTING?

When: Performed during the initial screening

Why: To risk stratify patients with known CAD

What: Risk stratified testing pathways to avoid unnecessary testing

ACC/AHA Stepwise Approach to Cardiac Assessment for CAD

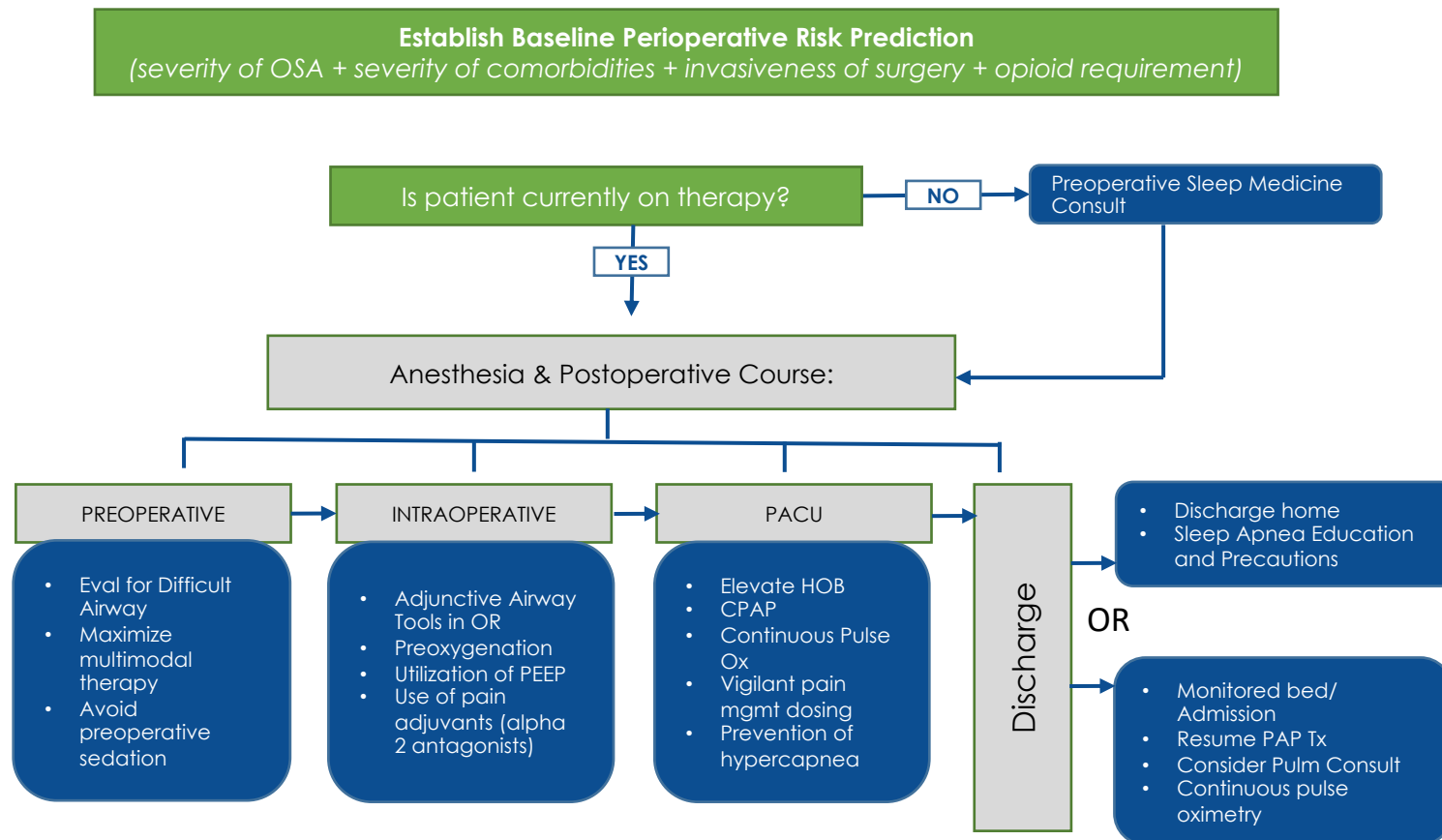


DOES MY PATIENT HAVE SLEEP APNEA RISKS?

When: Focus on early preoperative identification of sleep apnea – diagnosis or risk identification

Why: To identify patients at high risk for undiagnosed or unmanaged sleep apnea in order to reduce risks

What: Use of sleep studies and STOP-Bang scores ≥ 6 to identify patients requiring pulmonary intervention either diagnosed or heightened risk of OSA



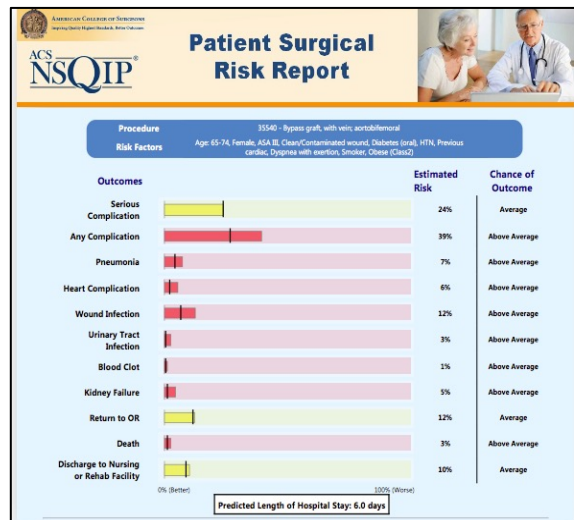
*Adapted from the Vancouver Acute Department of Anesthesia – April 2013

PATHWAYS – Disease Specific

- ▲ BMI
- ▲ Hypertension & Glycemic Optimization
 - ▲ DOS pathways for BS >275; DBP >105
- ▲ Thyroid Disease
- ▲ Anemia
- ▲ COPD/ Asthma
- ▲ Opioid Stewardship/ Chronic Pain
 - ▲ MES (Morphine Equivalent Scores)
 - ▲ Opioid free/sparing
- ▲ VTE prophylaxis/bridging
- ▲ Frailty/DEAR/Delirium
- ▲ PT/OT prehabilitation

RISK CALCULATORS

RISK CALCULATORS



CHA₂DS₂-VASc Score for Atrial Fibrillation Stroke Risk ☆

Calculates stroke risk for patients with atrial fibrillation, possibly better than the CHADS₂ Score.

When to Use	Pearls/Pitfalls	Why Use
Age	<65 0 65-74 +1 ≥75 +2	
Sex	Female +1 Male 0	
CHF history	No 0 Yes +1	
Hypertension history	No 0 Yes +1	
Stroke/TIA/thromboembolism history	No 0 Yes +2	
Vascular disease history (prior MI, peripheral artery disease, or aortic plaque)	No 0 Yes +1	
Diabetes history	No 0 Yes +1	

Result:

CONFIDENTIAL MEDICAL REPORT
St. Joseph's Hospital
HealthEast Care System
45 West 10th Street
St. Paul, Minnesota 55102
Tel: 651-232-3000

Patient Label:

Clinical Outcome Measure
Delirium Elderly At-Risk (Revised)

Date: _____

The Delirium Elderly At-Risk (DEAR) instrument is used to assess a patient's risk for developing postoperative delirium. Please assess your patient per the table below.

1. Cognitive Impairment • Current diagnosis of dementia or • Previous postoperative delirium New or worsening confusion and/or hallucinations that developed following a prior surgery	Yes ☐ Skip to #7	No ☐ Go to #2
2. Patient Age • Age ≥ 80 years old	Yes ☐ Go to #3	No ☐ Go to #3
3. Sensory Impairment • Patient is hearing impaired or • Patient has low vision	Yes ☐ Go to #4	No ☐ Go to #4
4. Functional Status • Patient requires assistance with any of the following: Bathing, Dressing, Toileting, Grooming or Feeding	Yes ☐ Go to #5	No ☐ Go to #5
5. Substance Use • Patient consumes > 3 drinks of alcohol per week or • Patient takes benzodiazepines > 3 times per week Examples include: Alprazolam (Xanax), Clonazepam (Klonopin), Diazepam (Valium), Lorazepam (Ativan) and Temazepam (Restoril)	Yes ☐ Go to #6	No ☐ Go to #6
6. Impaired Cognitive Performance* • Clock-drawing score = Fail See Page 2	Skip ☐ Go to #7	Yes ☐ Go to #7
7. High Risk for Delirium • Item #1 = Yes or • Items #2 through #6 = Yes to ≥ 2 items	Yes ☐ Screening Completed	No ☐ Screening Completed

* Skip this item if #1 through #6 are all No

Instructions: The circle above is a clock face. Ask your patient to place numbers and hands (small and large) on the face so that the time reads ten minutes after three o'clock. These instructions can be repeated as often as requested but no other directions or assistance should be given. Do not cover up or conceal any time pieces in the room. After your patient has completed this task, please score their effort using the table below.

	Pass	Fail
• Hands and numbers are all present and in the correct position, patient corrects without prompting or assistance	☐	☐
• There are slight errors in placement of hands or one missing number without number spacing errors	☐	☐
• There are moderate errors in placement of hands, confusion as to the small and large hands or number spacing errors alone	☐	☐
• Placement of hands is significantly off-center or number spacing is inappropriate	☐	☐
• Clock hands are used inappropriately or there is use of a digital display, circling of numbers or other non-clock features	☐	☐
• Numbers are circled to one end of the clock, reversed in order or absent	☐	☐
• There is a significant distortion in the number sequence, counter-clockwise order, many missing numbers or numbers placed outside of the clock face border	☐	☐
• Numbers and clock face are no longer connected in the drawing	☐	☐
• Only vague representation of a clock or irrelevant spatial representation used	☐	☐
• Result cannot be interpreted or no attempt is made to draw a clock	☐	☐

Staff Signature, Date and Time: _____

03-2013 DAF
Age Appropriate 2002/34-188 / An General Doc 1985-63-178 (replaced)
Page 3 of 3

CHART COMMUNICATION

SMITH, JOHN DOE'S **NSQIP Risk Score for "any complication" = 16.6% and "serious complication" = 12.1%¹**

Risk Factor	+ Findings	Pre-op Recommendation	Intra-op Recommend.	Post-op Recommendation
Elevated risk for pulmonary event	DOE SOB COPD + OSA on BiPAP NSQIP - 5.2% ¹ (above average)	Weight loss, diet modifications, IS - prehabilitation Avoid Pre-op sedation premedication Inhaler use DOS Opioid reducing pain management techniques	GETA, adjunctive airway tools, Preoxygenation at 100% with continuous PAP at 10cmH2O x 3-5 min with 25 degree head tilt Maintain PEEP between 6 and 10 with tidal volume approx. 8cc/kg Utilize pain adjuvants (alpha 2 antagonists) to reduce anesthesia requirements	BiPAP in PACU + OSA. Post-op – continuous pulse oximetry during sedation times, Vigilant paid med dose titration to prevent hyper-somnolence transition from opioids as soon as possible IS
Elevated risk for VTE	CAD Afib NSQIP - 2.8% ¹ (above average) CHADSVASC - 8pts = 15.2%²	TED/SCd's, RX prophylaxis per surgeon orders – NO INDICATION FOR BRIDGING Pt education on DVT/VTE prevention and detection	TED/SCd's, RX prophylaxis per surgeon orders	TED/SCD's, Pt eval and treat if needed, OOB with ambulation as soon as cleared by surgeon for 2hours DOS

NSQIP Risk estimate for readmission - 13.7%¹

PREHABILITATION/NUTRITION

PSH TARGET FOR NUTRITIONAL INTERVENTION

General

▲ colon resections, major abdominal

GYN/ONC

▲ TAH, laparotomy, Lap/Davinci hysterectomy

UROLOGY

▲ cystectomy, prostatectomy, nephrectomy

JOINTS

▲ TKR, THR, TSR, revisions

NEURO

▲ craniotomy, ALIF, PLIF, total disc replacement

VASCULAR

▲ AAA, lower extremity bypass

INPATIENT TRAUMA

SUCSESSES

CASE STUDIES

Length of Stay (LOS)

Independent study in 2018, revealed decreased LOS by 1.9 days after implementation of PSH and ERAS for cystectomy w/ ileal conduit, >75 years of age.

Cost Savings

Preoperative lab savings of approximately \$400 per/pt. Increased savings notable for neuro/ortho spine population of \$750 per/pt and \$1500 per/pt for those undergoing total joint replacement (Data from 2015 & 2016)

Quality Metrics

A PSH participating hospital received an above average Fall 2020 Leapfrog Safety Score of 0.365 (national range 0.00-2.97/ average 0.809) for surgical site infection after colon surgery.

PSH VALUE EQUATION

The Spine Journal 2021 21729-752DOI: (10.1016/j.spine.2021.01.001)

PSH TEAM VALUE EQUATION

Cost Effectiveness

- ▲ OR utilization increases (FCOTS/ Cancellations/ Case retention)
- ▲ Lower testing expenses = higher reimbursement
- ▲ Reduction in transfusion and T&S rates increase value
- ▲ PSH model is revenue positive vs PATT model

Quality Based Savings

- ▲ Documentation improves risk adjustment scores (RAI)
- ▲ Reduction in postoperative complications, readmissions, LOS
- ▲ Improved communication

Provider Value Equation

- ▲ Surgeons/Anesthesiologists less encumbered; increases productivity

Patient Value Equation

- ▲ Engages and empowers patient to participate actively
- ▲ Targeted testing decreases cost while improving quality and safety
- ▲ Feel “cared” for because the PSH team coordinates their care centrally vs “handoffs” between specialties

VALUE ADD CONTINUED

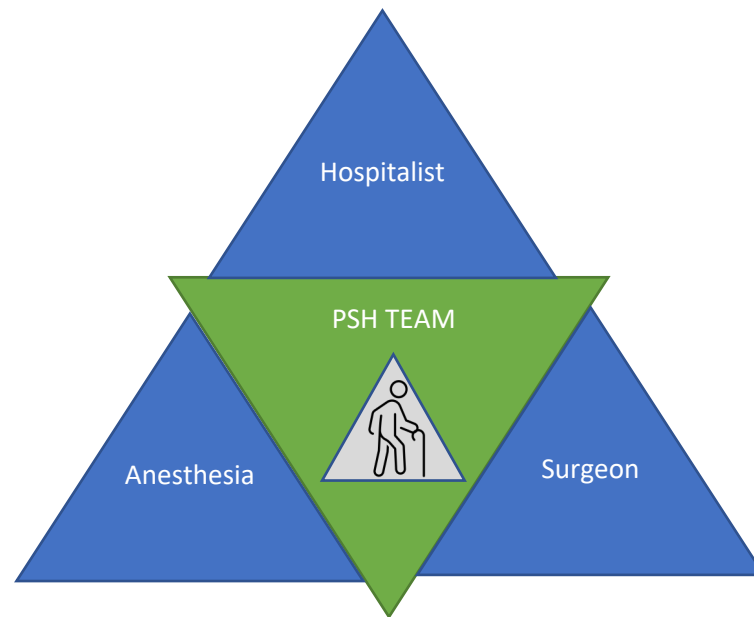
- ▲ Procedure Pass design and implementation
- ▲ Orthopedic Multidisciplinary Committee
- ▲ Post op Rounding
- ▲ Transitional Care Mgmt – connection to PCPs
- ▲ Anemia Clinic
- ▲ ERAS for L&D
- ▲ Quality Review/ Outcomes Committee

SUPPORT NEEDED

- ▲ Buy-in from related service lines and administration
- ▲ Facilitation to reach volumes to support 2 FT NPs within 6 months – 300+ patients
- ▲ EPIC support
 - ▲ Data Collection/ Reporting
 - ▲ Ease of Medical Referral for Surgeons
- ▲ Support from PATT team to transition model
- ▲ Physical space – 2 exam rooms per NP; 1 PC/workspace per NP

MISSION STATEMENT: STRATEGIC HEALTH PARTNERS

"Improving the lives of those we serve."





Georgia Quality Improvement Programs Multi-Institutional Collection of Postoperative Opioid Data Using ACS-NSQIP Abstraction

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Disclosures

Funding:

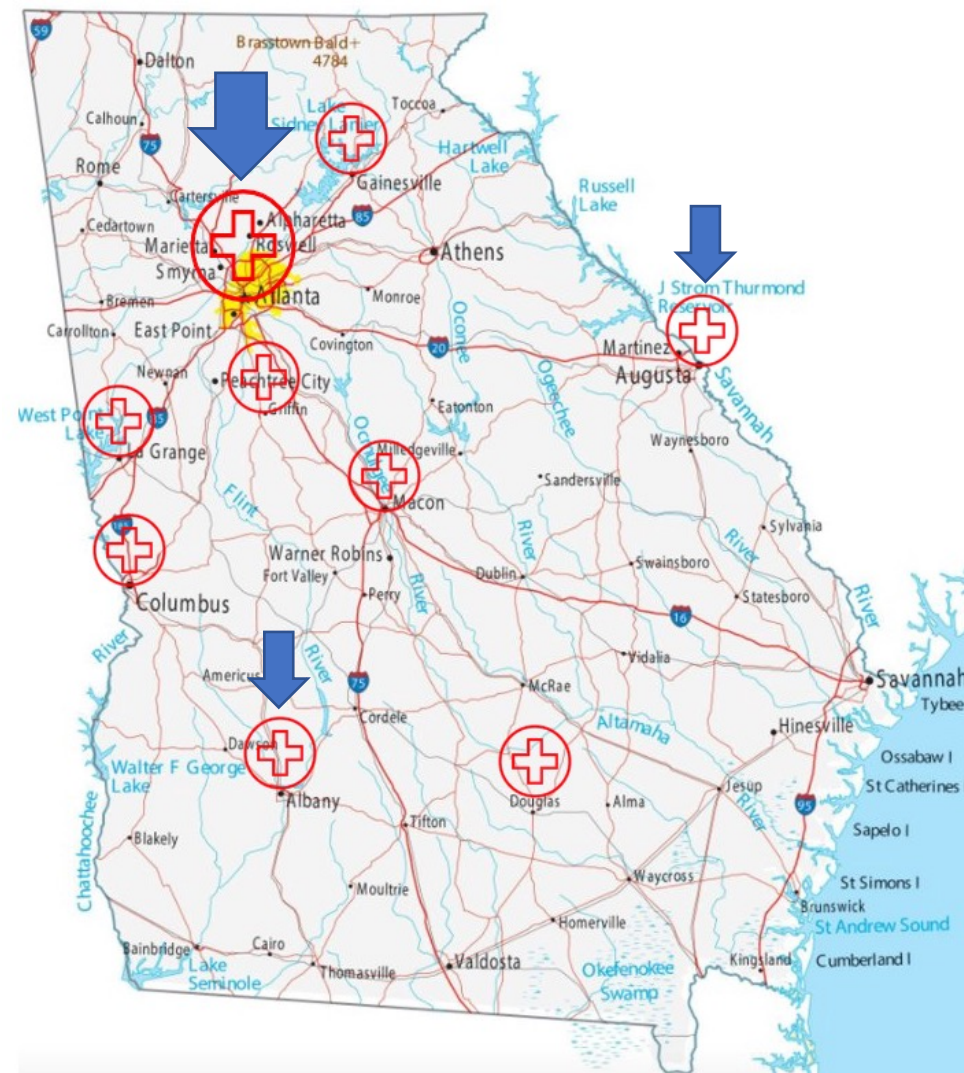
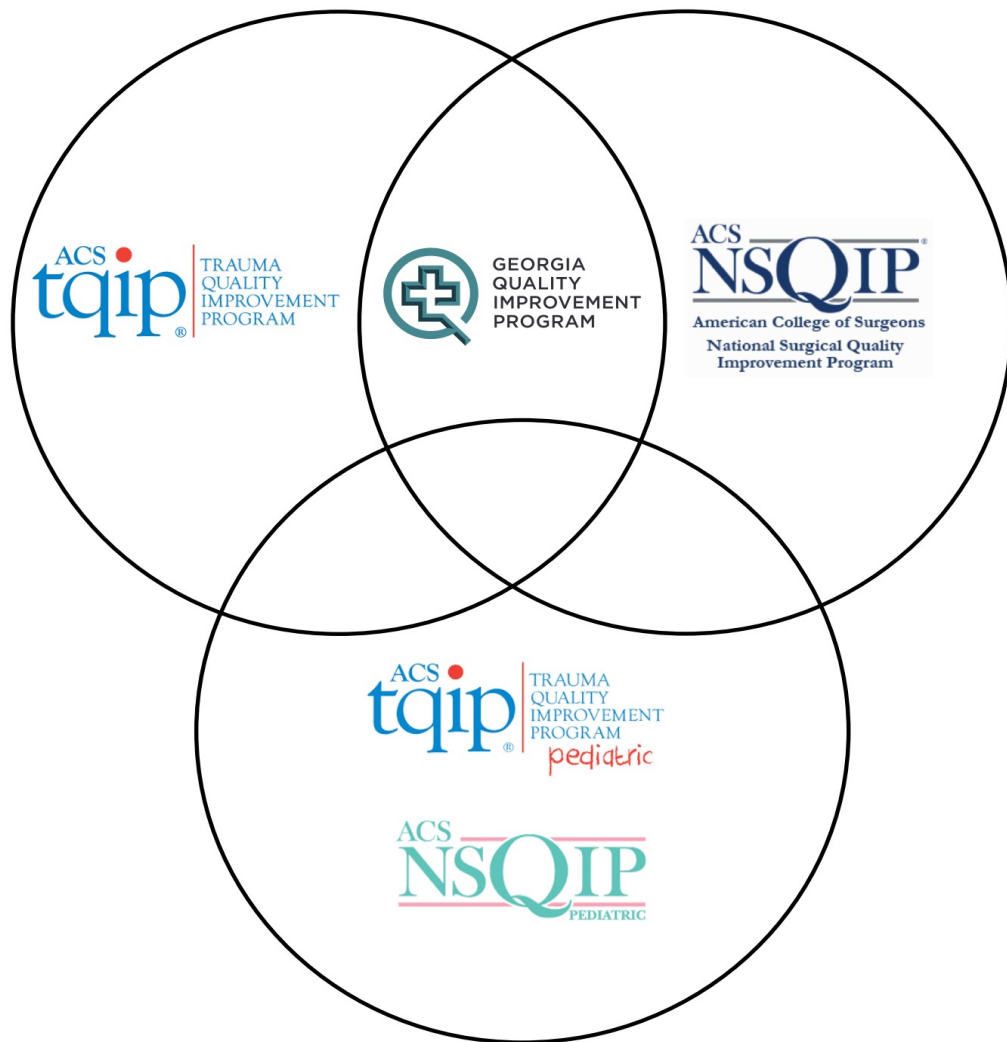
GA CTSA TL1



GA Quality Improvement Program



GEORGIA
QUALITY
IMPROVEMENT
PROGRAM





- 1/16 surgical patients prescribed opioids becomes a long-term user¹
- Overprescribing opioids after surgery is common, and there is a wide variation in opioid prescribing practices²⁻⁴
- There is minimal state-wide data in Georgia on the usage of perioperative opioid-sparing strategies (OSS) and postoperative opioid prescribing practices

Study Aims

Using 4 Pilot Hospitals in GA

1. To develop and optimize an opioid data capturing platform between GQIP center using ACS-NSQIP
2. To understand state-wide usage of opioid sparing strategies
3. To determine the avg post-surgical opioid prescriptions in (OMEs) for common surgical procedures and compare these to national guidelines⁵⁻⁶
4. To determine whether specific patient/surgical factors are associated with opioid sparing strategy use or discharge opioid prescriptions

Methods

- 7/2019, developed 4 custom NSQIP variables
- 7/2019-12/2019, poor capture of discharge OMEs using a "Free Text" Variable--> Custom Variable Optimization
- Recapture Data from 2/2020-5/2021, for 10 common General Surgery Procedures

Opioid Sparing Strategy Analysis:

- Logistic regression to determine associations with Opioid Sparing Strategy Use

Discharge Opioid Prescription:

- Calculated Median OMEs for each procedure
- Compared Prescribed OMEs to National Guideline Recommendations

Custom Variable Optimization

4. Total mg of each opioid prescribed upon discharge (Free Text)



1. Drug (select one)

✓ Oxycodone
Oxycodone
Hydrocodone
Percocet

2. Opioid Dose (select one)

✓ 5 mg
7.5 mg
10 mg

3. Number of Pills (select one)

✓ 5
6
7
8

4. Duration (select one)

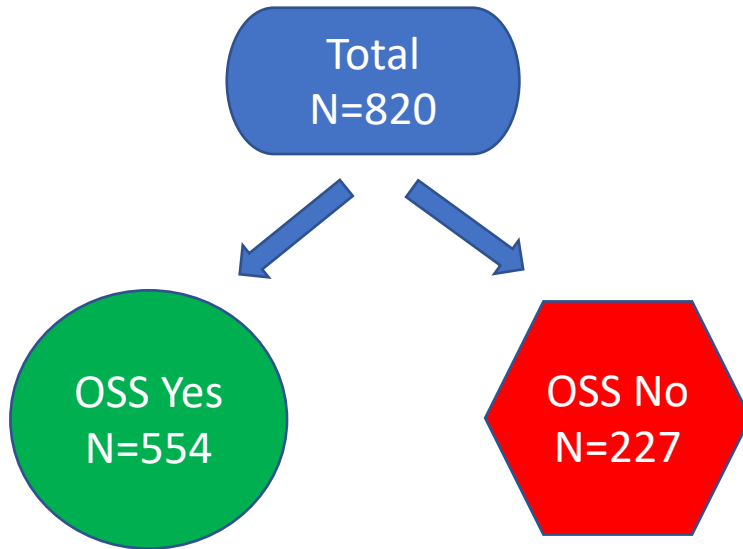
✓ 1 day
2 days
3 days
4 days

Available Data to Calculate Discharge

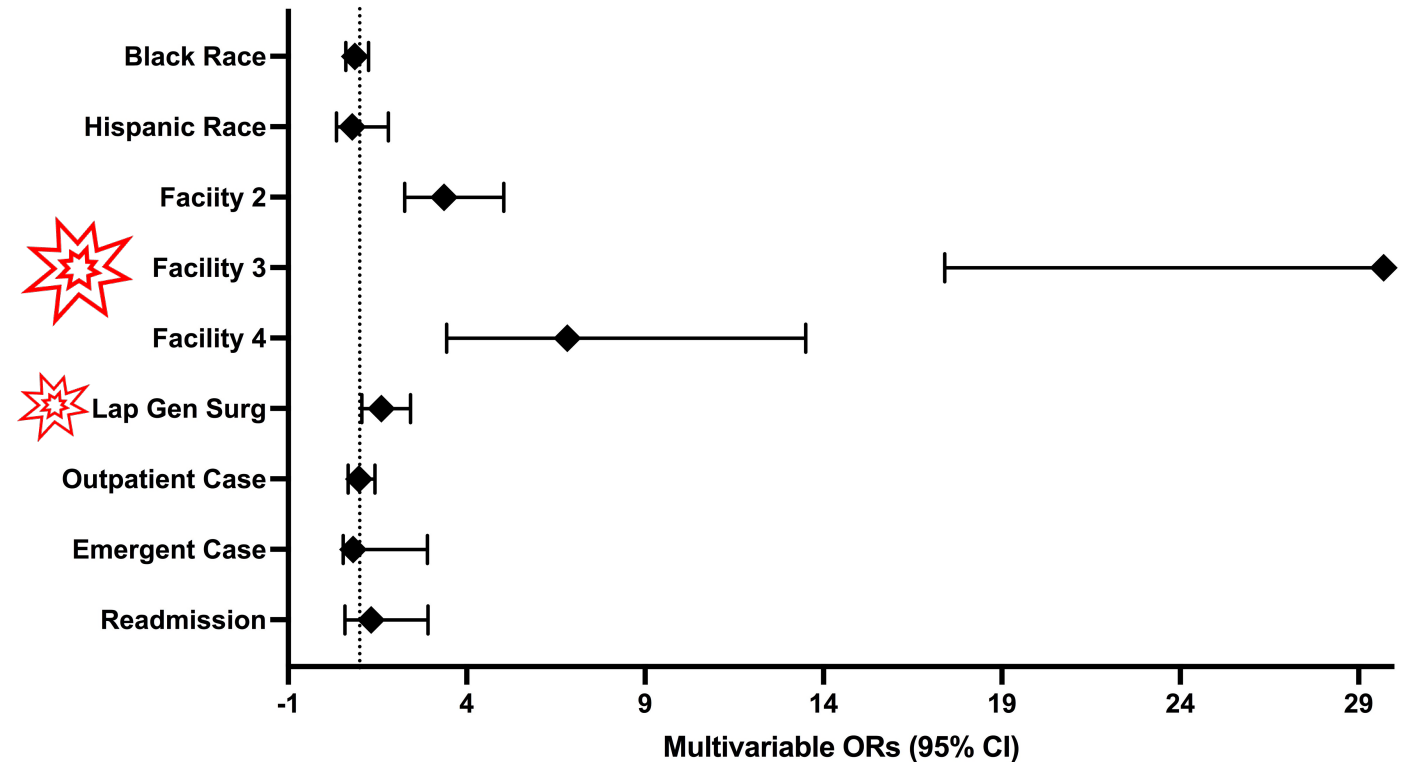
Prescription OMEs

- Free Text Variable: 26% of Cases
- Drop Down Selection Variables: 70% of Cases

Opioid Sparing Strategy



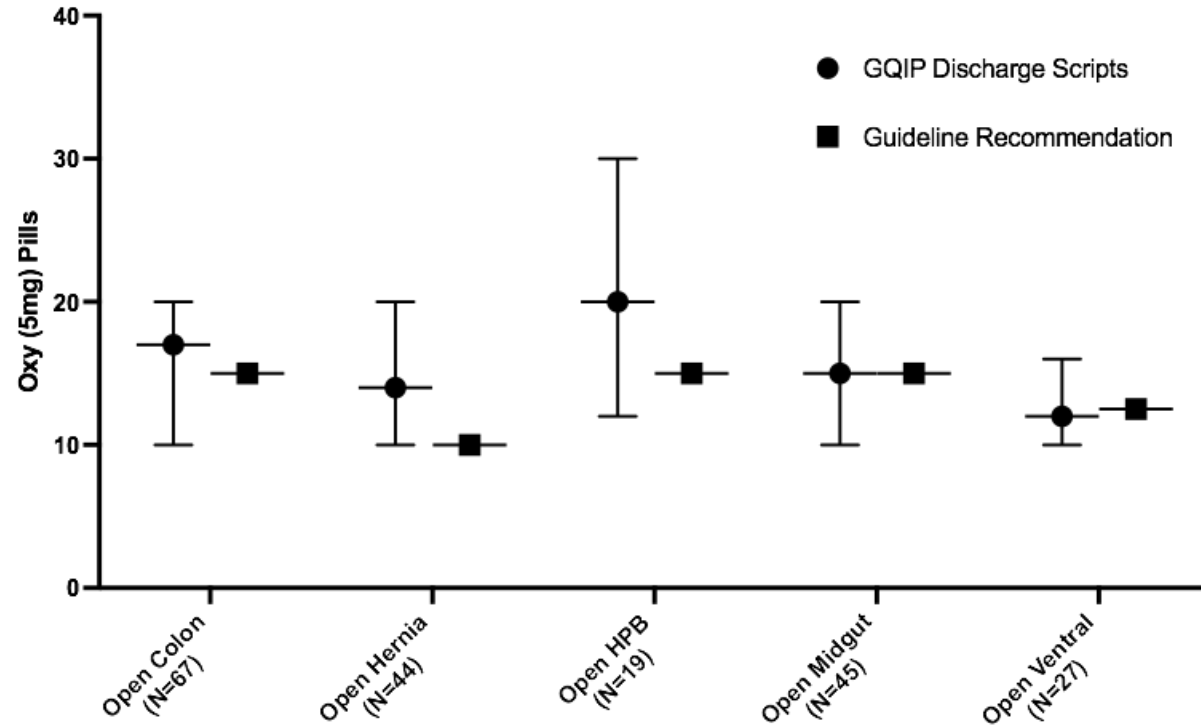
Forest Plot of Multivariable Logistic Regression Model Odds Ratios for Opioid Sparing Strategy Use



- African American pts had lower Univariate odds of OSS compared to Caucasian pts 0.69 (0.51, 0.94)
- Wide interfacility variation in OSS usage
- Increased odds of OSS use in Laparoscopic surgery compared to open surgery

Discharge Opioid Prescriptions

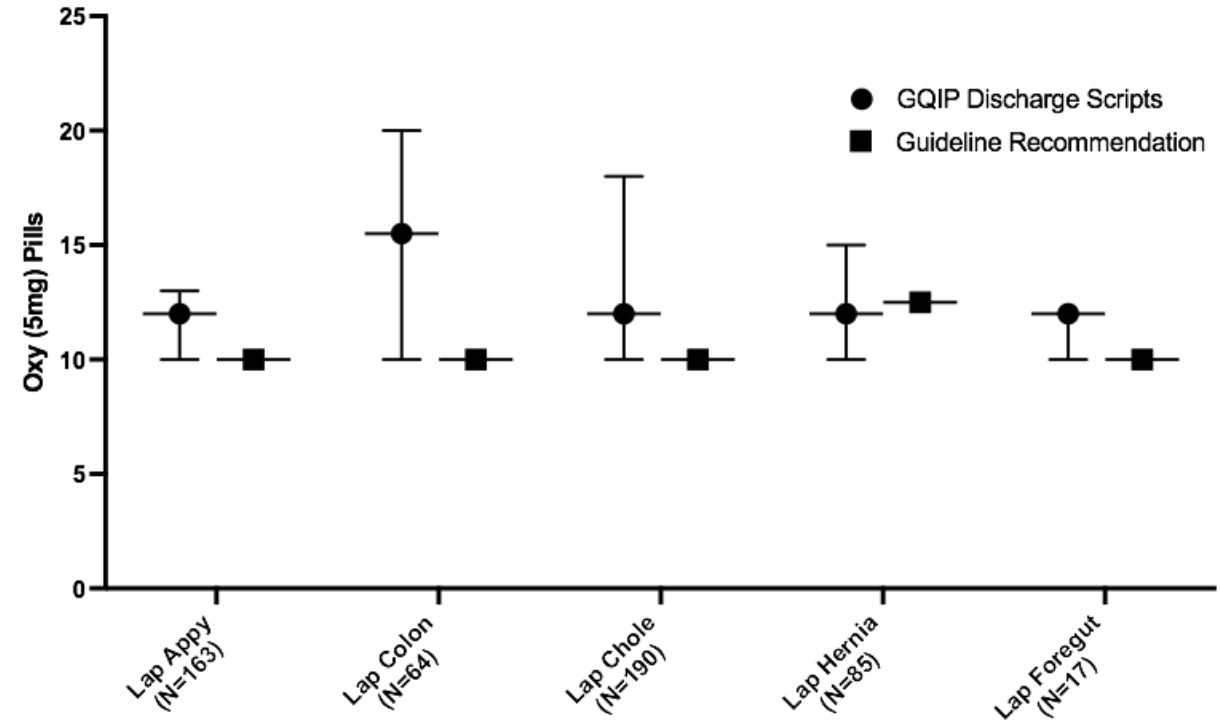
Open General Surgery Cases



Prescriptions > National Recommendations

1. Open Colon Surgery
2. Open Hernia Surgery
3. Open HPB Surgery
4. Laparoscopic Appendectomy
5. Laparoscopic Colon Surgery
6. Laparoscopic Cholecystectomy
7. Laparoscopic Foregut Surgery

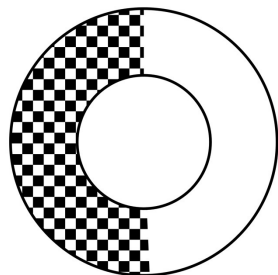
Laparoscopic General Surgery Cases



Prescriptions ≤ National Recommendations

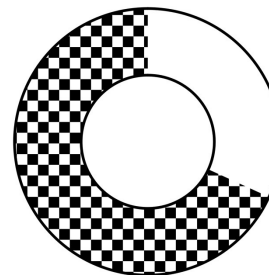
1. Open Midgut Surgery
2. Open Ventral Hernia Surgery
3. Laparoscopic Hernia Surgery

Open Colon % of Scripts > Guideline Cutoff



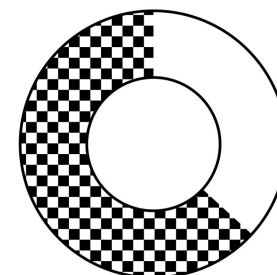
N=67

Open Hernia % of Scripts > Guideline Cutoff



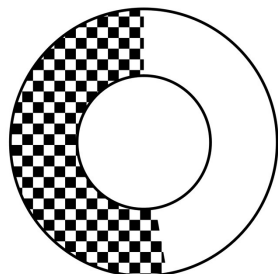
N=44

Open HPB % of Scripts > Guideline Cutoff



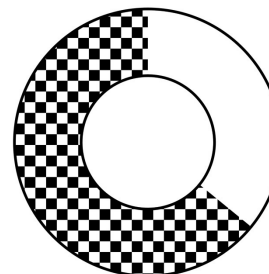
N=19

Lap Appy % of Scripts > Guideline Cutoff



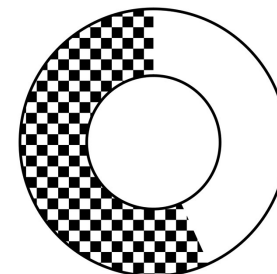
N=163

Lap Colon % of Scripts > Guideline Cutoff



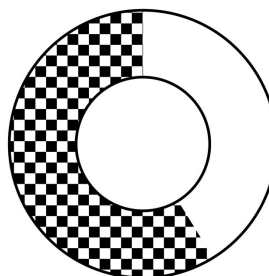
N=64

Lap Chole % of Scripts > Guideline Cutoff



N=190

Lap Foregut % of Scripts > Guideline Cutoff



N=17

**Percentage of
Prescriptions
Greater than
National Guideline
Recommendations**

□ % ≤ Guideline

▣ % > Guideline

Conclusions

- Drop-Down selection outperforms "Free Text" variables using custom NSQIP abstraction for discharge prescriptions
- There is facility and case type variation in use of an opioid sparing strategy
- 7-10 common general surgery procedures had increased prescription OMEs compared to national recommendations

Future

- Expand custom NSQIP variable collection to additional GQIP centers?
- Use claims data or other datasets to determine discharge prescriptions throughout Georgia, including Rural Georgia
- Expand discharge prescription work to the Trauma side of GQIP
- Develop consensus-based perioperative multimodal pain management and discharge prescription guidelines and implement in GA
- Develop a user friendly GQIP website as a guideline and project repository

References

1. Brummett CM, et al. New Persistent opioid use after minor and major surgical procedures in US adults. JAMA Surg 2017; 152:e170504.
2. Bicket MC, et al. Prescription opioid analgesics commonly unused after surgery: a systematic review. JAMA SURG 2017; 152(11).
3. Bartels K, et al. Opioid use and storage patterns by patients after hospital discharge following surgery. PLoS One 2016; 11:e147972
4. Bates C. et al. Overprescription of postoperative narcotics: a look at postoperative pain medication delivery, consumption and disposal in urological practice. J Urol 2011; 185: 551-555.
5. Brown CS, Vu JV, Howard RA, et al. Assessment of a quality improvement intervention to decrease opioid prescribing in a regional health system. BMJ Qual Saf. 2020;3:251-259.
6. Overton HN, Hanna MN, Bruhn WE. et al. Opioid-prescribing guidelines for common surgical procedures: an expert panel consensus. JAMA. 2018;4:411-418.

Appendix

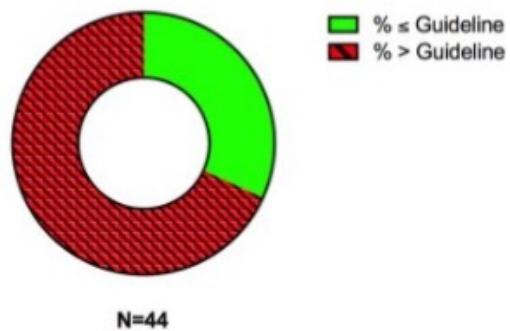
Results

- N=1,026
 - Discharge Prescription Analysis, N=721 (305 pts excluded for missing data)
 - Opioid Sparing Strategy Analysis, N=820 (206 pts excluded for missing data)
- Cases Included
 - Open General Surgery: Colon, Inguinal Hernia, Hepatobiliary, Midgut, Ventral Hernia
 - Laparoscopic General Surgery: Appendectomy, Colon, Cholecystectomy, Inguinal Hernia, Foregut

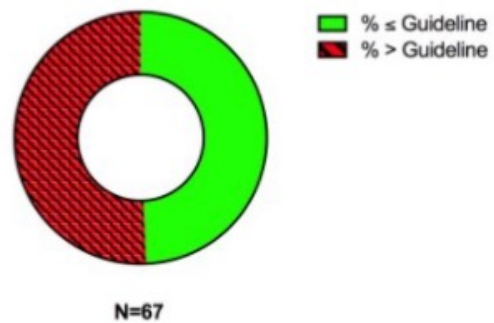
Table 1. GQIP Opioid Data for Open General Surgery Cases

Variable	Open Colon (N=67)	Open Hernia (N=44)	Open HPB (N=19)	Open Midgut (N=45)	Open Ventral (N=27)	Open Gen Surg (N=202)
Facility						
Facility 1	30 (46.9%)	26 (59.1%)	4 (21.1%)	15 (33.3%)	21 (77.8%)	96 (47.5%)
Facility 2	31 (46.3%)	17 (38.6%)	13 (68.4%)	25 (55.6%)	6 (22.2%)	92 (45.5%)
Facility 3	2 (3.0%)	1 (2.3%)	2 (10.5%)	5 (11.1%)	0	10 (5.0%)
Facility 4	6 (9.4%)	0	0	0	0	4 (2.0%)
Age	58.3 ± 13.8	56.9 ± 15.8	59.5 ± 11.6	54.2 ± 13.8	53.2 ± 14.9	56.5 ± 14.2
Sex						
Female	33 (49.3%)	3 (6.8%)	10 (52.6%)	23 (51.1%)	15 (55.6%)	84 (41.6%)
Male	34 (50.7%)	41 (93.2%)	9 (47.4%)	22 (48.9%)	12 (44.4%)	118 (58.4%)
Race						
White	42 (62.7%)	24 (54.6%)	8 (42.1%)	17 (37.8%)	10 (37.0%)	101 (50.0%)
Black	24 (35.8%)	18 (40.9%)	11 (57.9%)	27 (60.0%)	17 (62.9%)	97 (48.0%)
Hispanic	1 (1.5%)	2 (4.6%)	0	1 (2.2%)	0	4 (2.0%)
Admit Status						
Inpatient	67 (100%)	8 (18.2%)	17 (89.5%)	45 (100%)	14 (51.9%)	151 (74.8%)
Outpatient	0	36 (81.8%)	2 (10.5%)	0	13 (48.2%)	51 (25.3%)
Case Status						
Elective	47 (70.2%)	37 (84.1%)	18 (94.7%)	28 (62.2%)	18 (66.7%)	148 (73.3%)
Emergent	20 (29.9%)	7 (15.9%)	1 (5.3%)	17 (37.8%)	9 (33.3%)	54 (26.7%)
Readmission	7 (10.5%)	0	1 (5.3%)	5 (11.1%)	1 (3.7%)	14 (6.9%)
Reoperation	2 (3.1%)	0	0	2 (4.4%)	0	6 (3.0%)
Opioid Sparing						
Yes	23 (46.0%)	8 (28.6%)	8 (53.3%)	17 (47.2%)	4 (30.8%)	60 (42.3%)
No	27 (54.0%)	20 (71.4%)	7 (46.7%)	19 (52.8%)	9 (69.2%)	82 (57.8%)
Discharge Script (Total MME)	124.5 ± 65.5 128 (75-150)	116.7 ± 60.2 105 (75-150)	151.6 ± 68.9 150 (90-225)	115.3 ± 45.6 113 (75-150)	112.0 ± 74.7 90 (75-120)	121.7 ± 62.5 105 (75-150)
Discharge Script (Oxy 5mg)	16.6 ± 8.7 17 (10-20)	15.6 ± 8.0 14 (10-20)	20.2 ± 9.2 20 (12-30)	15.4 ± 6.1 15 (10-20)	14.9 ± 9.9 12 (10-16)	16.2 ± 8.3 14 (10-20)
Guideline						
≤	33 (49.3%)	14 (31.8%)	7 (36.8%)	26 (57.8%)	15 (55.6%)	--
>	34 (50.7%)	30 (68.2%)	12 (63.2%)	19 (42.2%)	12 (44.4%)	--

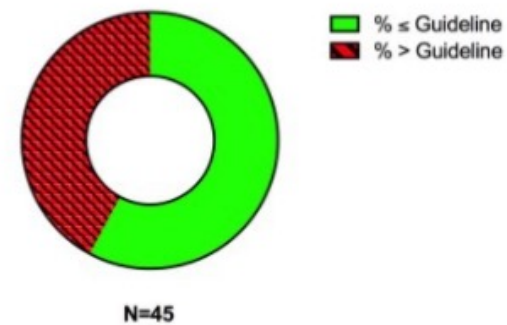
Open Hernia % of Scripts > Guideline Cutoff



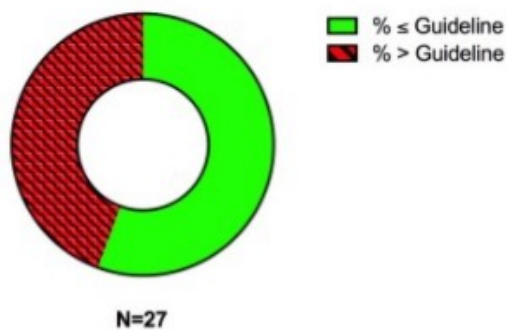
Open Colon % of Scripts > Guideline Cutoff



Open Midgut % of Scripts > Guideline Cutoff



Open Ventral % of Scripts > Guideline Cutoff



Open HPB % of Scripts > Guideline Cutoff

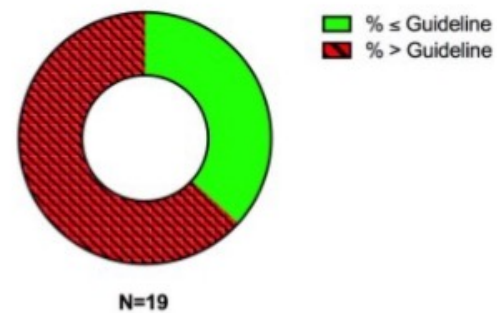
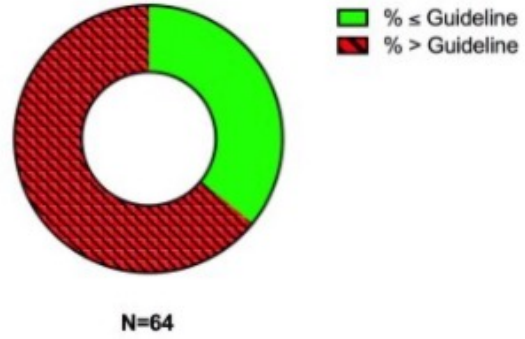


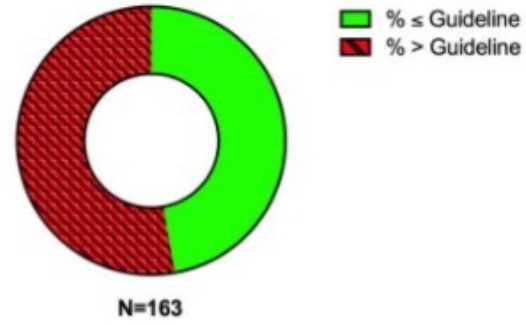
Table 2. GQIP Opioid Data for Laparoscopic General Surgery Cases

Variable	Lap Appy (N=163)	Lap Colon (N=64)	Lap Chole (N=190)	Lap Hernia (N=85)	Lap Foregut (N=17)	Lap Gen Surg (N=519)
Facility						
Facility 1	62 (38.0%)	30 (46.9%)	86 (45.3%)	55 (64.7%)	2 (11.8%)	235 (45.3%)
Facility 2	35 (21.5%)	27 (42.2%)	48 (25.3%)	15 (17.7%)	15 (88.2%)	140 (27.0%)
Facility 3	53 (32.5%)	1 (1.6%)	37 (19.5%)	7 (8.2%)	0	98 (18.9%)
Facility 4	13 (8.0%)	0	19 (10.0%)	8 (9.4%)	0	46 (8.9%)
Age	41.0 ± 15.5	59.3 ± 12.8	48.0 ± 15.9	53.7 ± 16.9	63.1 ± 12.6	48.6 ± 16.8
Sex						
Female	82 (50.3%)	33 (51.6%)	138 (72.6%)	15 (17.7%)	12 (70.6%)	280 (53.9%)
Male	81 (49.7%)	31 (48.4%)	52 (27.4%)	70 (82.4%)	5 (29.4%)	239 (46.1%)
Race						
White	100 (61.4%)	33 (51.6%)	96 (50.5%)	55 (64.7%)	12 (70.6%)	296 (57.0%)
Black	49 (30.1%)	29 (45.3%)	83 (43.7%)	29 (34.1%)	4 (23.5%)	194 (37.4%)
Hispanic	14 (8.6%)	2 (3.2%)	11 (5.8%)	1 (1.2%)	1 (5.9%)	29 (5.6%)
Admit Status						
Inpatient	72 (44.2%)	64 (100%)	89 (46.8%)	4 (4.7%)	12 (70.6%)	241 (46.4%)
Outpatient	91 (55.8%)	0	101 (53.2%)	81 (95.3%)	5 (29.4%)	278 (53.6%)
Case Status						
Elective	68 (41.7%)	62 (96.9%)	160 (84.2%)	83 (97.7%)	17 (100%)	390 (75.1%)
Emergent	95 (58.3%)	2 (3.2%)	30 (15.8%)	2 (2.4%)	0	129 (24.9%)
Readmission	3 (1.8%)	7 (10.9%)	5 (2.6%)	4 (4.7%)	0	19 (3.7%)
Reoperation	1 (0.6%)	2 (3.1%)	1 (0.5%)	3 (3.5%)	0	7 (1.3%)
Opioid Sparing						
Yes	90 (66.7%)	40 (75.5%)	97 (59.9%)	34 (50.0%)	7 (46.7%)	268 (61.9%)
No	45 (33.3%)	13 (24.5%)	65 (40.1%)	34 (50.0%)	8 (53.3%)	165 (38.1%)
Discharge Script (Total MME)	88.8 ± 33.8 90 (75-100)	123.3 ± 56.4 116 (75-150)	102.4 ± 51.0 90 (75-135)	109.3 ± 67.6 90 (75-112)	89.3 ± 41.4 90 (75-90)	101.5 ± 51.2 90 (75-135)
Discharge Script (Oxy 5mg)	11.8 ± 4.5 12 (10-13)	16.4 ± 7.5 15.5 (10-20)	13.6 ± 6.8 12 (10-18)	14.6 ± 9 12 (10-15)	11.9 ± 5.5 12 (10-12)	13.5 ± 6.8 12 (10-18)
Guideline						
≤	77 (47.2%)	23 (35.9%)	82 (43.2%)	45 (52.9%)	7 (41.2%)	--
>	86 (52.8%)	41 (64.1%)	108 (56.8%)	40 (47.1%)	10 (58.8%)	--

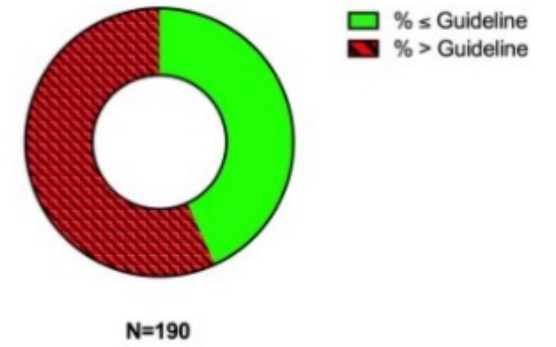
Lap Colon % of Scripts > Guideline Cutoff



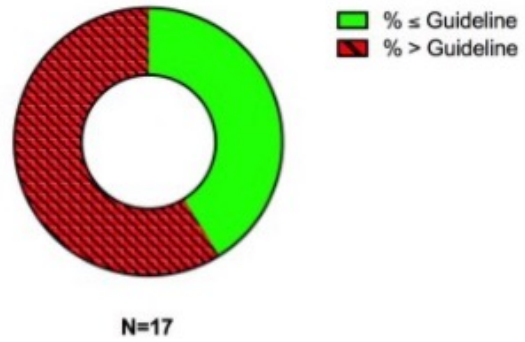
Lap Appy % of Scripts > Guideline Cutoff



Lap Chole % of Scripts > Guideline Cutoff



Lap Foregut % of Scripts > Guideline Cutoff



Lap Hernia % of Scripts > Guideline Cutoff

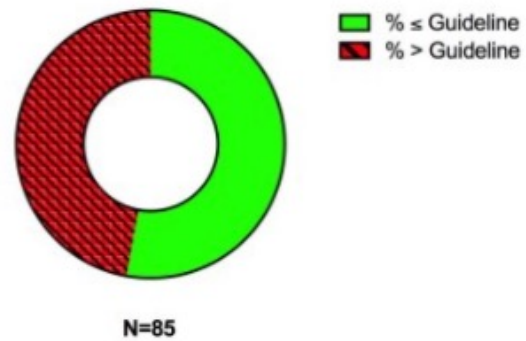


Table 4. Univariate & Multivariable Odds Ratios Modeling Variable Odds on Opioid Sparing Strategy Usage

Variable	Opioid Sparing No (N=277)	Opioid Sparing Yes (N=554)	Univariate OR (95 CI)	Multivariable OR (95 CI)
Facility				
Facility 1	158 (57.0%))	79 (14.3%)	REF	REF
Facility 2	86 (31.1%)	134 (24.2%)	3.12 (2.12-4.57)	3.37 (2.26-5.04)
Facility 3	20 (7.2%)	296 (53.4%)	29.6 (17.5-50.1)	29.7 (17.4-50.8)
Facility 4	13 (4.3%)	45 (8.1%)	6.92 (3.53-13.58)	6.82 (3.44-13.5)
Age	53.4 ± 16.0	54.3 ± 16.6	0.99 (0.99-1.00)	--
Sex				
Female	132 (47.6%)	293 (52.9%)	REF	--
Male	145 (52.3%)	261 (47.1%)	0.81 (0.61-1.08)	--
Race				
White	145 (52.4%)	335 (60.5%)	REF	REF
Black	120 (43.3%)	192 (34.7%)	0.69 (0.51-0.94)	0.87 (0.61-1.25)
Hispanic	12 (4.3%)	27 (4.9%)	0.97 (0.48-1.98)	0.79 (0.35-1.81)
Case Type				
Open Gen Surg	90 (32.8%)	111 (20.3%)	REF	REF
Lap Gen Surg	184 (67.2%)	435 (79.7%)	1.92 (1.38-2.66)	1.61 (1.06-2.43)
Admit Status				
Inpatient	162 (58.5%)	269 (48.6%)	REF	REF
Outpatient	115 (41.5%)	285 (51.4%)	1.49 (1.12-2.00)	0.98 (0.68-1.43)
Case Status				
Elective	217 (78.3%)	422 (76.2%)	REF	REF
Emergent	60 (19.8%)	132 (23.8%)	1.13 (0.80-1.56)	0.82 (0.54-2.92)
Opioid Script				
<= Guideline	106 (44.2%)	166 (47.0%)	REF	--
> Guideline	134 (55.8%)	187 (53.0%)	0.89 (0.64-1.24)	--
Readmission	13 (4.7%)	25 (4.5%)	0.96 (0.48-1.91)	1.32 (0.59-2.92)
Reoperation	8 (2.9%)	10 (1.8%)	0.62 (0.24-1.58)	--



Future Deliverables from Pilot Study:

- Aim 1 (Multicenter Opioid Collection Platform):
 - Further Optimize an opioid data capturing platform for GQIP hospital collaboration
- Aim 2 (Avg MMEs for Gen Surg Cases):
 - Capture additional data from other centers surrounding General Surgery opioid discharge scrips
 - Develop a State-wide guideline for opioid discharge scrips, to bring the majority of procedures within opioid guideline recommendations
- Aim 3 (Opioid Sparing Strategy):
 - Protocolize the usage of a State-wide (vetted) opioid-sparing strategy plan for every general surgery procedure
 - Formalize a state-wide definition
- Aim 4 (Pain Management Disparities):
 - Continue to be cognizant of potential disparities across the state with regards to pain medication prescriptions

Additional Directions

- Use this data to partner with State Health Office
 - Rural Health Grant
- Expand this to Trauma Collaborative
 - Study "common" trauma patient mechanisms and the use of multimodal pain management in trauma and outpatient prescriptions

Methods

- 4 of 10 centers were selected to collect data on multimodal pain management and opioid prescription data
- 4 custom NSQIP variables were developed
 - Perioperative opioid usage
 - Perioperative non-opioid usage
 - Opioid sparing strategy
 - Discharge opioid prescriptions
- Optimization of collection platform
 - Discharge prescriptions was expanded from 1-"Free Text" Variable to 4- Drop-down Selection Variables
- Data Collection via SCRs, *2nd collection from 2/2020-5/2021
- Descriptive Stats, Inferential Stats, Logistic Regression & Linear Regression

Table 5, Open General Surgery Cases, Linear Regression Variable Association with Amount of Opioids Prescribed at Discharge

Variable	Descriptive stats (N=202)	Discharge Script (MME)	SLR Coefficient Estimate (Std Error, p-value)	Multiple LR Coefficient Estimate (Std Error, p-value)
Age	56.5 ± 14.2	--	--	--
Race				
White	101 (50.0%)	120 (75-150)	-3.43 (8.89, 0.70)	5.40 (10.6, 0.61)
Black/Hispanic	101 (50.0%)	105 (75-150)		
Admit Status				
Outpatient	51 (25.3%)	100 (75-135)	11.1 (10.3, 0.28)	-3.89 (13.4, 0.77)
Inpatient	151 (74.8%)	113 (75-150)		
Case Status				
Elective	148 (73.3%)	105 (75-150)	0.04 (10.1, 0.99)	7.38 (13.0, 0.57)
Emergent	54 (26.7%)	113 (75-150)		
Length of Stay	4 (1-7)	--	--	--
Readmission				
No	188 (93.1%)	109 (75-150)	-9.80 (17.3, 0.57)	-14.2 (23.0, 0.54)
Yes	14 (6.9%)	83 (75-150)		
Opioid Sparing				
No	82 (57.8%)	105 (75-140)	11.4 (10.5, 0.28)	14.3 (11.0, 0.19)
Yes	60 (42.3%)	135 (75-165)		
Facility				
Facility 1	96 (47.5%)	90 (75-135)	--	--
Facility 2	92 (45.5%)	135 (90-180)	--	--
Facility 3	10 (4.9%)	83 (60-135)	--	--
Facility 4	4 (2.0%)	150 (143-263)	--	--

Table 6, Lap General Surgery Cases, Linear Regression Variable Association with Amount of Opioids Prescribed at Discharge

Variable	Descriptive stats (N=202)	Discharge Script (MME)	SLR Coefficient Estimate (Std Error, p-value)	Multiple LR Coefficient Estimate (Std Error, p-value)
Age	48.6 ± 16.8	--	--	--
Race				
White	296 (57.0%)	90 (75-113)	5.56 (4.62, 0.23)	3.66 (5.21, 0.48)
Black/Hispanic	223 (42.9%)	90 (75-135)		
Admit Status				
Outpatient	278 (53.6%)	90 (75-113)	2.71 (4.58, 0.55)	--
Inpatient	241 (46.4%)	90 (75-135)		
Case Status				
Elective	390 (75.1%)	90 (75-135)	-7.81 (5.26, 0.14)	-7.65 (6.07, 0.21)
Emergent	129 (24.9%)	90 (75-113)		
Length of Stay	1 (0-2)	--	3.07 (1.04, 0.003)	2.49 (1.17, 0.03)
Readmission				
No	500(96.3%)	90 (75-135)	21.6 (12.3, 0.08)	19.6 (13.7, 0.15)
Yes	19 (3.7%)	90 (75-150)		
Opioid Sparing				
No	165 (38.1%)	90 (75-113)	2.21 (5.32, 0.68)	3.03 (5.31, 0.57)
Yes	268 (61.9%)	90 (75-135)		
Facility				
Facility 1	235 (45.3%)	75 (64-113)	--	--
Facility 2	140 (27.0%)	90 (90-150)	--	--
Facility 3	98 (18.9%)	75 (75-90)	--	--
Facility 4	46 (8.9%)	150 (90-180)	--	--

Table 7, Breast & Ortho Cases, Linear Regression Variable Association with Amount of Opioids Prescribed at Discharge

Variable	Descriptive stats (N=202)	Discharge Script (MME)	SLR Coefficient Estimate (Std Error, p-value)	Multiple LR Coefficient Estimate (Std Error, p-value)
Age	64.5 ± 10.8	--	--	--
Race				
White	93 (46.3%)	140 (140-210)	0.86 (6.31, 0.89)	0.66 (6.70, 0.92)
Black/Hispanic	108 (53.7%)	150 (140-210)		
Admit Status				
Outpatient	45 (22.4%)	210 (140-210)	-8.82 (7.49, 0.24)	-15.4 (8.30, 0.06)
Inpatient	156 (77.6%)	140 (140-210)		
Case Status				
Elective	197 (98.0%)	150 (140-210)	--	--
Emergent	4 (2.0%)	145 (140-150)		
Length of Stay	1 (1-2)	--	--	--
Readmission				
No	197 (98.0%)	150 (140-210)	--	--
Yes	4 (2.0%)	150 (145-180)		
Opioid Sparing				
No	19 (9.5%)	210 (210-210)	-16.9 (10.4, 0.11)	-17.7 (10.4, 0.09)
Yes	150 (88.8%)	140 (140-210)		
Facility				
Facility 1	190 (94.5%)	140 (140-210)	--	--
Facility 2	11 (5.5%)	150 (140-210)	--	--
Facility 3	--	--	--	--
Facility 4	--	--	--	--



AHRQ Safety Program for Improving Surgical Care and Recovery
A collaborative program to enhance the recovery of surgical patients

Improving Surgical Care & Recovery (ISCR)

Muhammad Irfan Saeed, MD, FACS



AMERICAN COLLEGE OF SURGEONS
Inspiring Quality: Highest Standards, Better Outcomes



Disclosures: No Financial Conflicts



- 478 bed Academic Health Center with Level 1 Trauma
- 154 bed Children's Hospital
- More than 80 Outpatient Practice Sites
- Currently enrolled in the ISCR Colorectal, Orthopedic & EGS service lines

Objectives

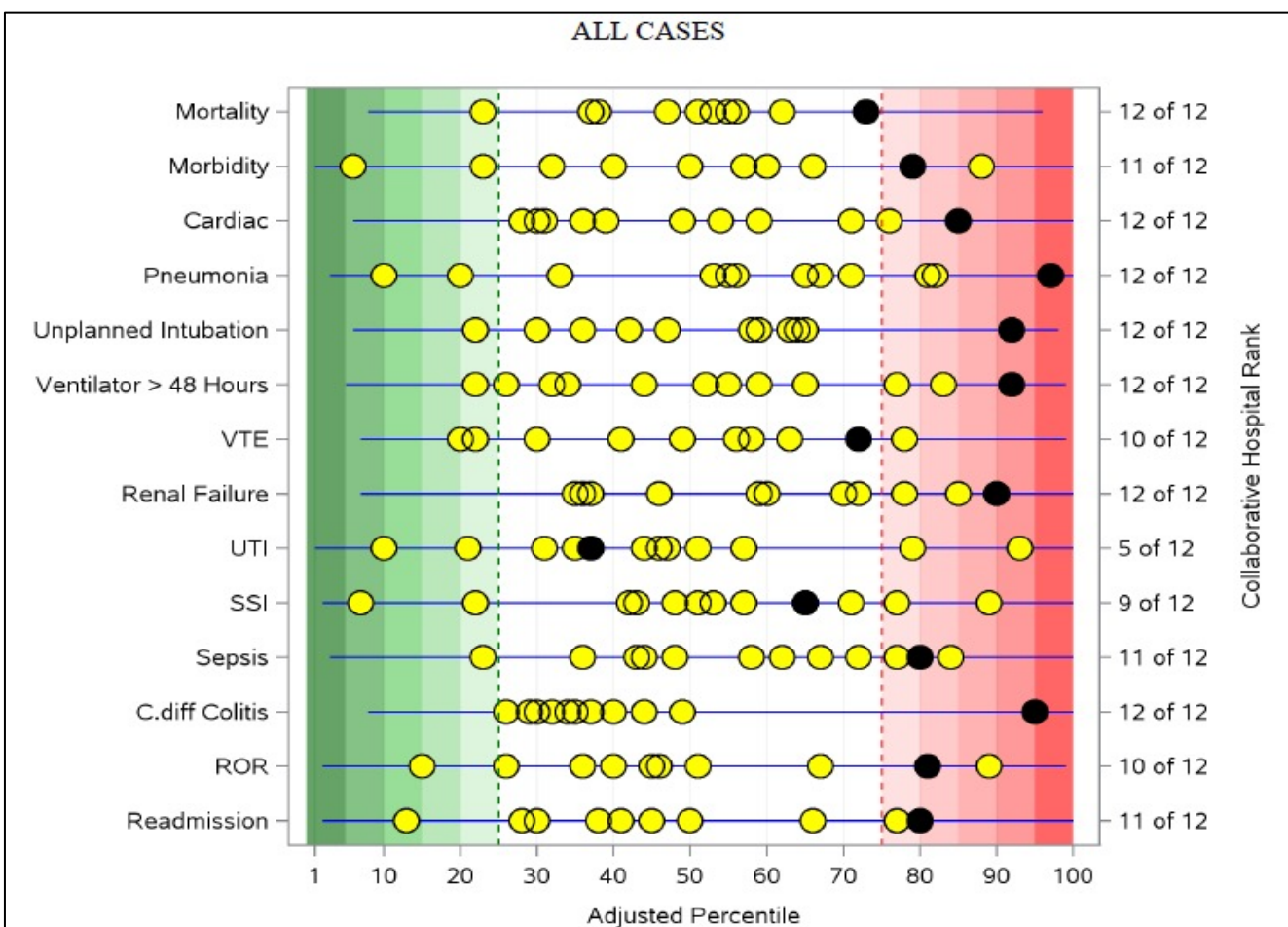
- **What is Improving Surgical Care & Recovery (ISCR) Program?**
- **Goals & Benefits of ISCR**
- **Implementation Process**
 - **With potential challenges of implementation**
- **Monitoring Data at AU Health**
 - **Examples of ISCR reports for 2 service lines**
 - **Research accomplishments**

What is ISCR?

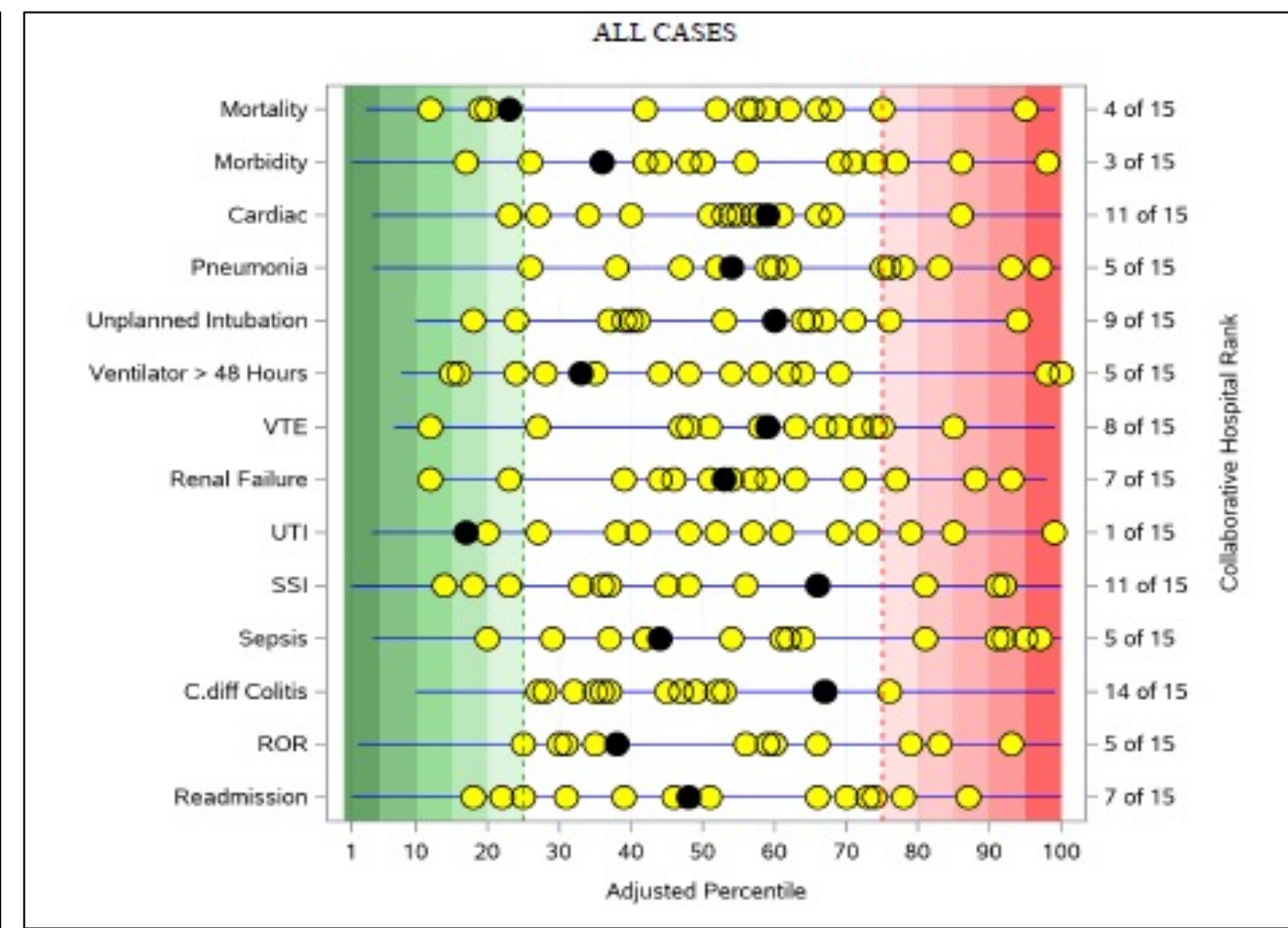
- Collaboration between AHRQ, ACS, and Johns Hopkins (5 year grant that ends December 2022)
- Supports hospitals across U.S. in the implementation of evidence based ERAS pathways as part of the national perioperative collaborative
- Participation is voluntary with no fee to join the program at this time
- 4 ISCR Service Lines:
 - **Colorectal** - Includes all applicable Colorectal CPT codes
 - **Orthopedics** - Includes all Total Hip, Total Knee & Hip Fracture Procedures
 - **Emergency General Surgery (EGS)** - Includes Urgent & Emergent Cholecystectomy, Appendectomy and Other Exploratory Laparotomy Procedures to include the Colorectal Procedures
 - **GYN** - Includes applicable Hysterectomy/ Myomectomy CPT codes
- Currently 342 unique hospitals enrolled in ISCR
 - 208 hospitals in 1 ISCR service line
 - 86 hospitals in 2 ISCR service lines
 - 36 hospitals in 3 ISCR service lines
 - 12 hospitals in all 4 ISCR service lines
- Differences from Adult NSQIP for Abstraction:
 - Additional mandatory ERAS variables (with applicable criteria) for each specific service line of enrollment
 - Provides ISCR benchmarking reports for each service line of enrollment

Why we needed the ISCR Program?

GSQC AU Health Report
Jan 2017 to Dec 2017 procedures



GSQC AU Health Report
Jan 2020 to Dec 2020 procedures



Goals of ISCR Program

- **Multi-modal analgesia & reduce opioid usage**
- **Decrease variability among surgeons**
- **Improve surgical outcomes**
- **Reduce length of stay and readmissions**
- **Improve patient experience and satisfaction**
- **Encourages multidisciplinary collaboration and culture of safety**

Benefits of ISCR Program Participation

- Provided with the [clinical pathways/ protocols](#) for the specific surgical procedures of service line enrollment
- Provided with [evidence based research papers](#) for surgery and anesthesiology that is pertinent for the specific surgical service line
- Provided with [educational resources](#) such as checklists, pamphlets, ERAS booklets, guidelines and educational tools, order sets and other resources that can be modified for each organization/ EMR
- Provided with accessibility to [ISCR benchmarking reports](#) to monitor process measure compliance and outcomes measure results

Example of ISCR Colorectal Resources

ISCR Colorectal Checklist

(ISCR) ERAS Colorectal Pathway

PRIOR TO SURGERY

Preop ERAS Patient Education

PEROPERATIVE AREA

Mechanical bowel preparation completed at home
Oral antibiotics completed at home
Bathing completed at home
Glucose checked and appropriate action taken
Carbohydrate drink completed preoperatively (follow procedure for diabetics)
Multimodal Pre-Anesthesia – Gabapentin, Tylenol, etc....
Preoperative Normothermia- blankets or forced air warmer
Regional analgesia (Epidural, Spinal or TAP, completed or consented if applicable)

INTRAOPERATIVE AREA

Prophylactic Antibiotic administered prior to the surgery
Subcutaneous heparin administered prior to the surgery
Forced air warmer applied to achieve Normothermia
Standard Anesthesia Pathway to include Regional, Non-Narcotic Analgesia, N&V Prophylaxis
Ventilation- Tidal volume 6-8 ml/kg
Euvolemia- agreement with anesthesia & surgery for intraop fluid volumes for specific surg procedures
Avoid Drains/ NG Tubes

RECOVERY ROOM

ERAS PACU Phase 1 Orders Initiated/ ERAS Lidocaine Infusion Order Initiated

INPATIENT NURSING UNIT

Enhanced recovery order set used postoperatively:

- VTE Prophylaxis
- Multimodal analgesia with non-narcotic meds & medication for postop N&V
- Early Alimentation
- Early Ambulation
- Early Urinary Catheter Removal
- Minimize IV Fluids
- Discharge Planning

ISCR Colorectal Evidence Based Journal Articles

COLLECTIVE REVIEW

Surgical Technical Evidence Review for Colorectal Surgery Conducted for the AHRQ Safety Program for Improving Surgical Care and Recovery

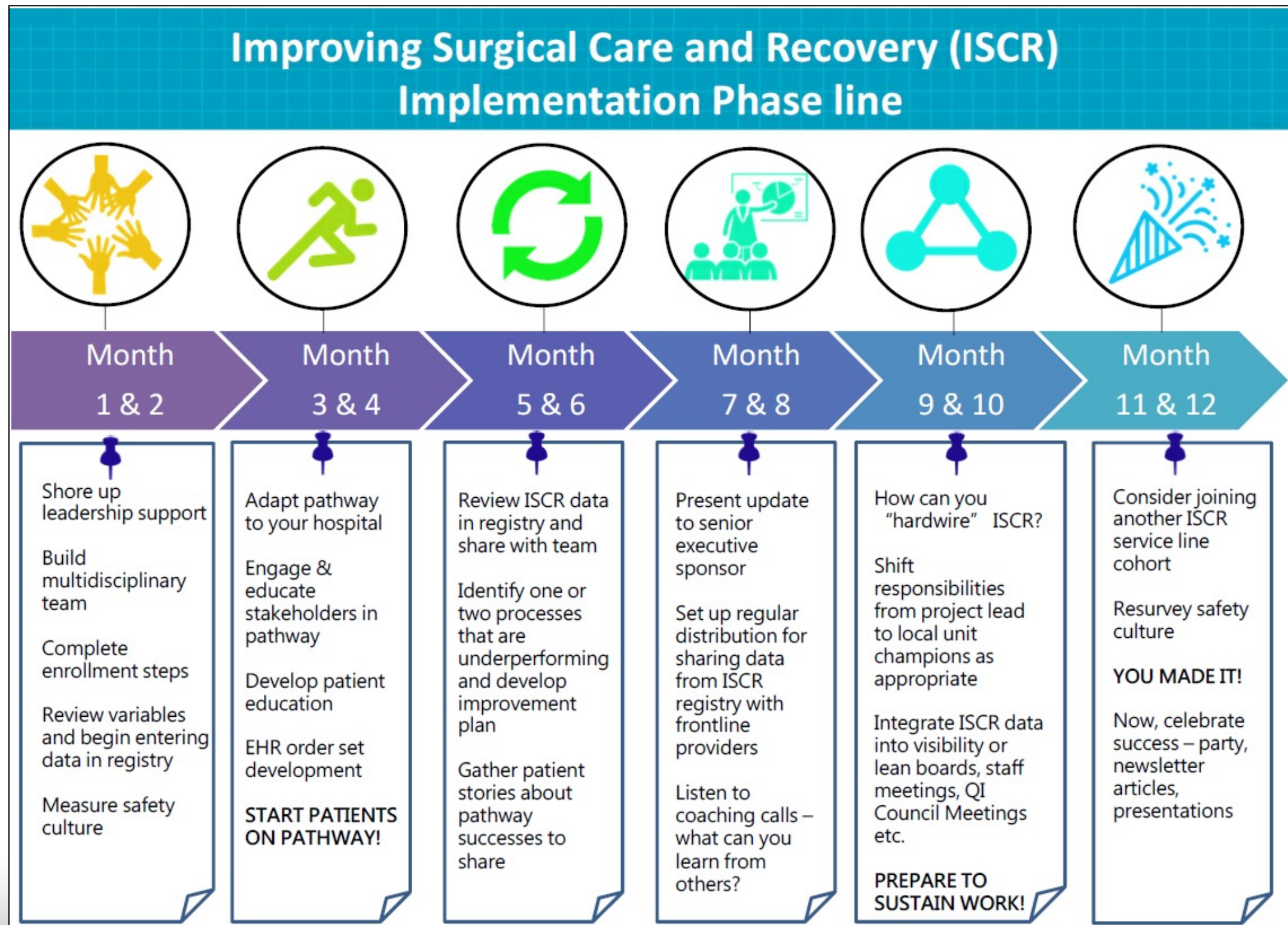
Kristen A Ban, MD, Melinda M Gibbons, MD, MSHS, FACS, Clifford Y Ko, MD, MS, MSHS, FACS, Elizabeth C Wick, MD, FACS

PRACTICE PARAMETERS

Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures

*An Updated Report by the American Society of Anesthesiologists Task Force on Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration**

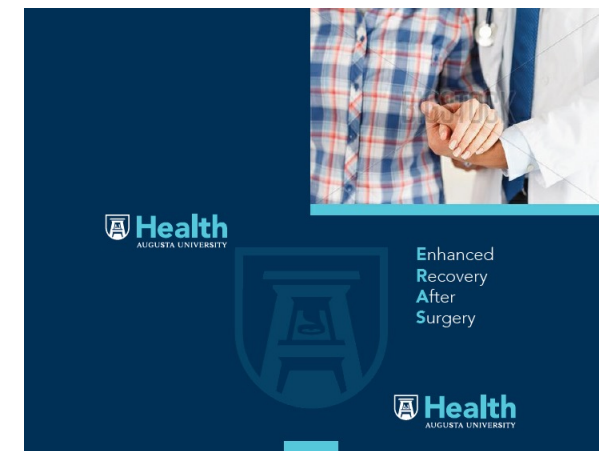
ISCR Projected Implementation Timeline



Barriers to ISCR Implementation

- **Resistance to change by provider and patients**
 - Culture change for the guidelines (such as Gatorade)
 - Education to the multiple providers
 - Setting patient expectations
- **Limited resources**
 - Nursing resources (Navigators) and abstraction resources
 - Identifying local surgeon champions for each service line
 - Staffing resources pulled to assist in other areas during the pandemic
- **Lack of consistency in staffing**
 - Rotating residents
 - Large surgical or anesthesia practices
- **IT Challenges**
 - Consistent buy in from IT leadership to develop & implement the standardized order sets in a timely manner
- **Providers' belief that implementation would be too difficult**
- **Developing multidisciplinary team**

How we started the ISCR Implementation



- Obtained leadership support and completed enrollment requirements
- Built our multidisciplinary team & scheduled consistent meetings
(meetings continued using Microsoft TEAMS during pandemic)

Our ISCR Steering Committee Team: Lead surgeon champion & local surgeon champions for each specific service line, anesthesia providers, hospitalist, perioperative leaders, SCR(s) / Project Lead, ERAS Nurse Navigator(s), IT representative, Preoperative/ Postoperative Nursing representatives, Nursing Unit representatives

- Reviewed the pathway & resources, engaged provider support, developed order sets and booklet/ pamphlets & reviewed opportunities at each meeting
(electronic educational tools were developed by our Navigators during pandemic & PDSA review of issues)
- Presented updates to senior leadership, engaged with ISCR, and developed timelines for projected service line start dates

Examples of Some Additional ISCR Variables in the Abstraction

Ortho ERAS form

Enhanced Recovery	
Orthopedics	
Outpatient Opioids <= 10 Days Before Admit	☐ Yes ☐ No
Evidence of Advanced Care Planning	☐ Yes ☐ No
Pre-admission Counseling	☐ Yes ☐ No
Preop Delirium	☐ Yes ☐ No
Smoking Cessation 4 Weeks Preop	☐ Yes ☐ No
Tranexamic Acid (TXA) Use	☐ Yes ☐ No
Use of Regional Anesthesia	
Multi-modal Pain Management	☐ Yes ☐ No
First Postop Mobilization	MM/DD/YYYY HH:MM
N/A	☐
Foley Removal	MM/DD/YYYY HH:MM
Foley Not Placed	☐
Date Pain Controlled with PO Medication	MM/DD/YYYY
N/A	☐
Medical DVT Prophylaxis Continued 28 Days Postop	☐ Yes ☐ No
Weight Bearing as Tolerated (WBAT) on POD #1	
Postop Delirium	☐ Yes ☐ No
Opioid Prescribed at Discharge	☐ Yes ☐ No

Emergency General Surgery ERAS form

Enhanced Recovery	
Outpatient Opioids <= 10 Days Before Admit	☐ Yes ☐ No
Patient Education	☐ Yes ☐ No
Preop VTE Chemoprophylaxis	
Surgical Approach	
Anti-emetic Prophylaxis	☐ Yes ☐ No
Multi-modal Pain Management	☐ Yes ☐ No
First Postop VTE Chemoprophylaxis Dose	MM/DD/YYYY HH:MM
N/A	☐
First Postop Mobilization	MM/DD/YYYY HH:MM
N/A	☐
First Postop Intake of Liquids	MM/DD/YYYY HH:MM
N/A	☐
First BID Mobilization	MM/DD/YYYY HH:MM
N/A	☐
First Postop Intake of Solids	MM/DD/YYYY HH:MM
N/A	☐
Foley Removal	MM/DD/YYYY HH:MM
Foley Not Placed	☐
Prolonged Foley Catheterization	
IV Fluid Discontinuation	MM/DD/YYYY HH:MM
N/A	☐
Date of Return of Bowel Function	MM/DD/YYYY
N/A	☐
Opioid Prescribed at Discharge	☐ Yes ☐ No

Review Our Data for Opportunities

ISCR Elective Total Hip/ Knee Procedures

ISCR (ERAS) Process Measures	Jan 1, 2020 to Mar 31, 2021 Our Rates <u>Baseline Data</u>	Jan 1, 2020 to Mar 31, 2021 ISCR Rates	Apr 1, 2021 to Jan 31, 2022 Our Rates <u>Post Implementation Data</u>	Apr 1, 2021 to Jan 31, 2022 ISCR Rates
# of Reviews	159		173	
First Postop Mobilization w/in 24 hours of surgery end time	91.6%	88.9%	90.6%	88.4%
Medical DVT Prophylaxis for 28 Days Postop	98.1%	58.2%	98.8%	60.4%
Weight Bearing as Tolerated POD#1	98.1%	93.4%	100%	94.8%
Transexamic Acid (TXA) Use	97.5%	85.3%	97.1%	87.3%
Multi Modal Pain Management	76.1%	82.1%	99.4%	86.9%
Postop Foley Removal by POD#1	100%	99.0%	100%	99.1%
ISCR (ERAS) Outcomes Measures				
30 Day Readmissions	5.7%	3.0%	4.6%	3.0%
30 Day Unplanned Returns to OR	3.1%	1.5%	2.9%	1.4%
30 Day SSIs	1.9%	1.5%	3.5%	1.6%
30 Day UTIs	0.0%	0.7%	0.0%	0.6%
30 Day VTEs/ PEs	1.9%	0.8%	0.6%	0.7%

EGS Service Line for Appendectomy Procedures

Urgent & Emergent procedures

ISCR Process Measures- baseline data

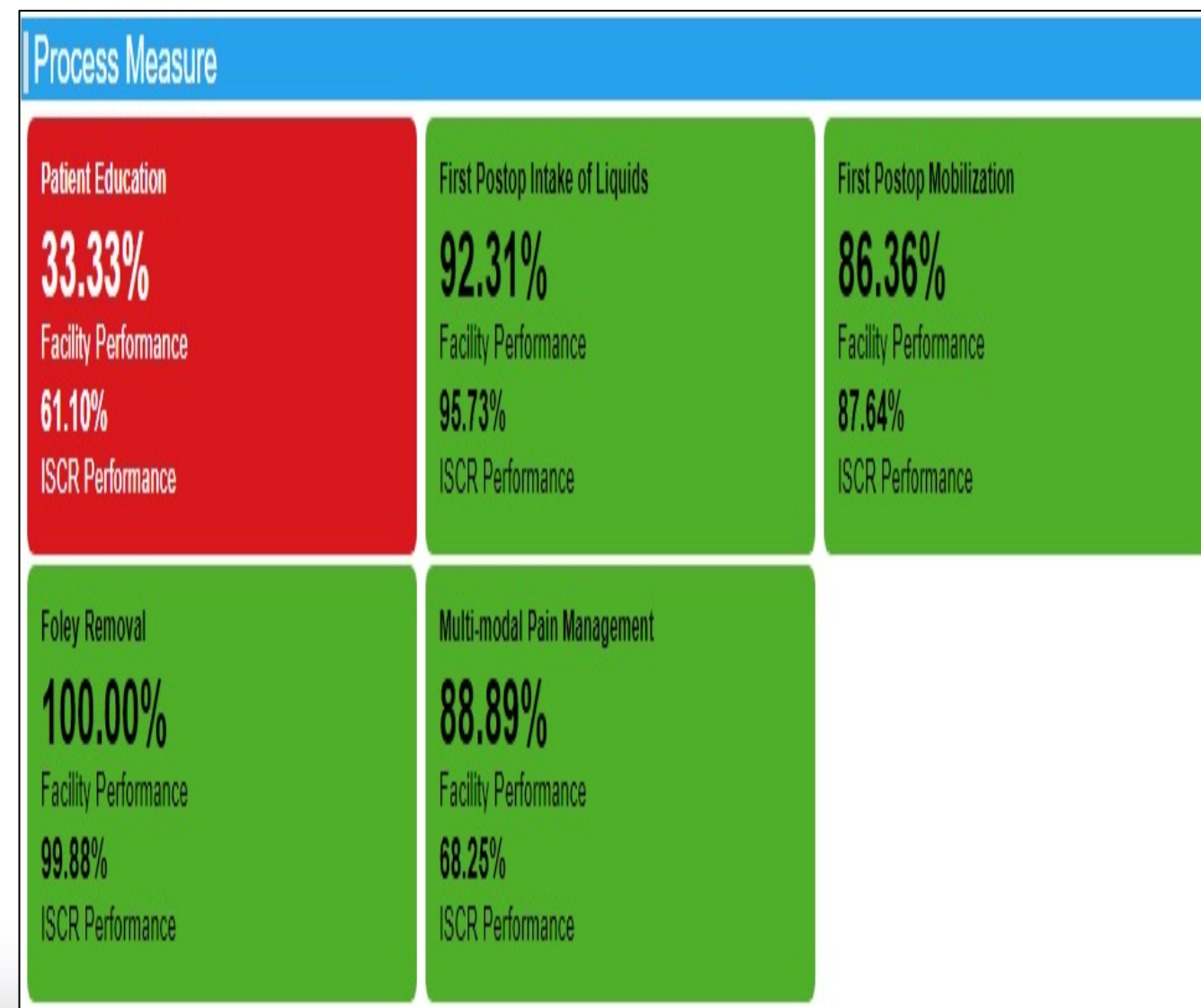
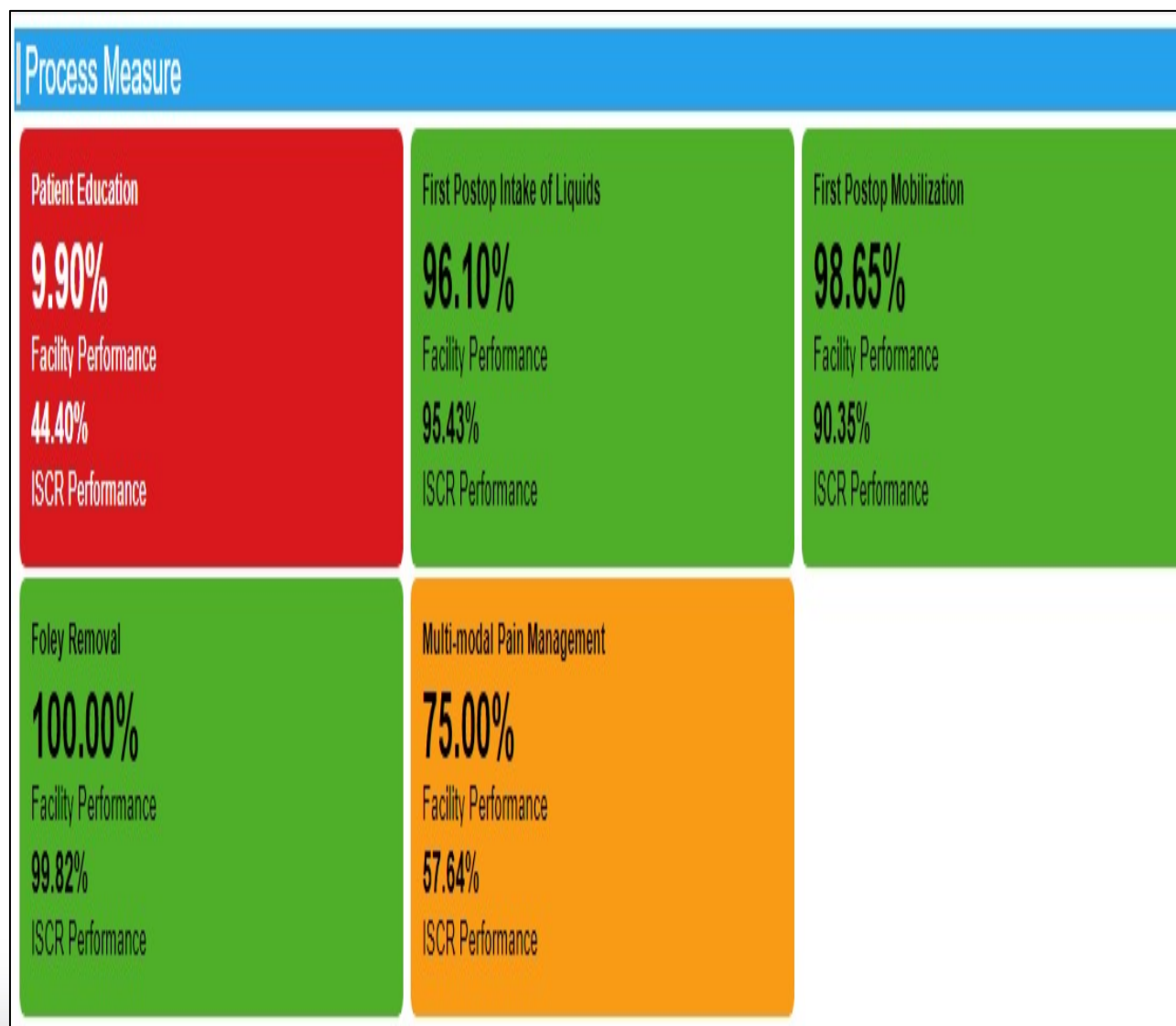
Jan 1, 2020- Aug 14, 2021

101 procedures

ISCR Process Measures- - implemented 8/15/21

Aug 15, 2021 to Jan 31, 2022

36 procedures



Legend:

- - > 80% Adherence
- - Between 70% and 80% Adherence
- - < 70% Adherence

Patients discharged on POD 0 w/ no documentation of liquids/ mobilization selected as "N/A" which removes these measures from modeling

EGS Service Line for Appendectomy Procedures

Urgent & Emergent procedures

ISCR Outcomes Measures- baseline data

Jan 1, 2020- Aug 14, 2021

101 procedures

ISCR Outcomes Measures- - implemented 8/15/21

Aug 15, 2021 to Jan 31, 2022

36 procedures

Postoperative Occurrences		
30-Day Readmission 0.99% Facility Performance 4.02% ISCR Performance	30-Day SSI 1.98% Facility Performance 3.83% ISCR Performance	30-Day UTI 0.00% Facility Performance 0.29% ISCR Performance
30-Day VTE 0.00% Facility Performance 0.17% ISCR Performance	Length of Stay (Mean Days) 1.76 Facility Performance 1.60 ISCR Performance	Return of Bowel Function (Mean Days) 0.25 Facility Performance 0.67 ISCR Performance

Postoperative Occurrences		
30-Day Readmission 8.33% Facility Performance 3.60% ISCR Performance	30-Day SSI 5.56% Facility Performance 4.45% ISCR Performance	30-Day UTI 0.00% Facility Performance 0.44% ISCR Performance
30-Day VTE 2.78% Facility Performance 0.19% ISCR Performance	Length of Stay (Mean Days) 2.64 Facility Performance 1.63 ISCR Performance	Return of Bowel Function (Mean Days) 0.56 Facility Performance 0.68 ISCR Performance

3 Readmissions- 1 unrelated to the surgery

2 SSIs- both PATOS, but this is not a consideration in ISCR assignments/ reports

Research Accomplishments

2020 ACS Quality and Safety Conference

2021 ACS Quality and Safety Conference
ISCR Abstract Award Winner





BEST PRACTICES CASE STUDIES

VOLUME 11 / AUGUST 2020

ACS QUALITY and SAFETY CONFERENCE

August 21-24, 2020

facs.org/quality-programs





VIRTUAL



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ACS QUALITY and SAFETY CONFERENCE

AUGUSTA UNIVERSITY MEDICAL CENTER

Improvement in Early Alimentation
and Return of Bowel Function Rates with
Implementation of Improving Surgical Care
and Recovery (ISCR) in Colorectal Surgery



Adapting our Approach for Enhanced Recovery After Surgery (ERAS) and Improving Surgical Care and Recovery (ISCR) Patient and Staff Education During a Pandemic

Project Work Can Move Forward with Virtual Meetings and Electronic Resources

Interventions:

- Providing on-going multi disciplinary meetings and monitoring to address ERAS/ ISCR pathway implementation in a Microsoft TEAMS virtual format
- Converted to preoperative phone call interviews for ERAS/ ISCR patients (provided a contact person for questions)
- Modified our ERAS patient education booklet (in English and Spanish versions) which contains surgical preparation information and postoperative expectations for achieving optimal outcomes. Utilize electronic "pdf" versions of booklet as well as hard copy versions of the booklet
- Developed a staff ERAS education module that was loaded into HealthStream for electronic access
- Developed nursing unit tools to reinforce identification of ERAS patients (door tags/ patient folders)
- Developed preoperative "goodie bags" with CHG soap, Incentive Spirometer, & Carb Drink (Gatorade), and delivered goodie bags/ ERAS booklets to the Ortho clinic area

Lessons Learned:

Standardized protocols provide better outcomes. Be creative with options for reaching out to the staff and patients during challenging times

It has taken a commitment and some creativity with electronic resources from project team members to develop the tools, educate the staff, physicians and patients, and implement the ISCR (ERAS) protocols within our organization to achieve the successful results to provide safer patient care and better outcomes during a pandemic

ERAS patient Goody Bag Supplies



Results

ISCR Elective Colo-Rectal Surgeries
April 1, 2020 to April 30, 2021
54 procedures in the time frame

ISCR (ERAS) Elements	Our Rate	ISCR Rate
Pre-admission ERAS Counseling	77.4%	69.2%
Clear Liquids up to 2 Hours Prior to Induction	77.4%	69.2%
Preop VTE Chemoprophylaxis	75.9%	69.2%
Use of Regional Anesthesia	65.1%	55.8%
Multi Modal Pain Management	65.1%	62.8%
Postop Foley Removal	100%	95.6%
Post Postop VTE Prophylaxis	65.1%	69.2%

Conclusion

We implemented these processes in April 2020, and we were able to see relatively consistent compliance with ERAS and ISCR interventions by our staff

Dr. Muhammad Saeed, FACS (Adult NSQIP Surgeon Champion); Emily Schreiber, BSN, RN (ERAS Nurse Navigator); Peter Stoehr, BSN, RN (ERAS Nurse Navigator); Allen Kelly, MHA, BSN, NEA-BC (AVP Perioperative Services); Nancy Kottli, MSA, RN, CNOR (ISCR Project Lead/ SCR)

Steffen Meiler, MD (Anesthesiology); Akbar Herekar, MD (Anesthesiology); Paramvir Singh, MD (Anesthesiology); Sarah Cartwright, DNP, MSN-PH, BAH, RN-BC, CAPA (Anesthesiology and Perioperative, Clinical Practice Strategist); Krista Penn, MA, BSN, CCRN-K (Director of Perioperative Services); Andrea Putzier, RN, BSN, CCRN (Perianesthesia Nurse Manager); Holly Rippey, Med, BA (Quality Improvement Coordinator); LaDonna Walker, MSN, RN (Clinical Outcomes Manager); Maria Immonen, RN (Bariatric Coordinator); Maria Whittington, RN (Acute Care Surgery APP); Marjorie Borchik, APP; Virginia Hawkins (Director of Clinical Quality Excellence)

ACS Meritorious Award



AU Health received the High Risk Category - ACS Meritorious Award

The American College of Surgeons National Surgical Quality Improvement Program congratulates AU Medical Center for achieving “Meritorious” status with regard to the composite quality score in the High Risk category in the outcome areas of:

Mortality, Cardiac Occurrences, Respiratory Occurrences (PNA), Unplanned Intubation, Ventilator >48 Hours, Renal Failure, SSI & UTI for high risk surgical cases for the performance period of January 1, 2020 to December 31, 2020

The press release lists the top 10% of participating hospitals for achieving this award

Conclusion



It has taken a commitment from all project team members to:

- review the best practices/ protocols
- educate the staff and physicians on new initiatives
- implement the ISCR (ERAS) protocols that are case specific (not surgeon specific) within our organization
- provide data transparency and routine audits of processes

**to achieve the successful results
and provide safer care and better outcomes**

Acknowledgements

Thanks to the following persons for their contributions to improving the outcomes in our surgical patients:

Project Leaders:

Dr. Muhammad Saeed, Adult NSQIP/ ISCR Surgeon Champion
Nancy Kotti (RN), ISCR Project Lead/ Surgical Clinical Reviewer
Allen Kelly (RN), AVP, Perioperative Services
Dr. Kelly Homlar, Surgeon Champion- ISCR Orthopedic service line
Dr. Andrew Lawson, Surgeon Champion- ISCR Emergency General Surgery service line

Team Participants:

Emily Schreiber, ERAS Nurse Navigator	Peter Stoehr, ERAS Nurse Navigator	Dr. Steffen Meiler, Anesthesia
Dr. Akbar Herekar, Anesthesia	Dr. Paramvir Singh, Anesthesia	Sarah Cartwright, (RN) Anesthesia
Dr. Fairouz Chibane, Surgical Resident	Bao Ling Adam, Residency Program	Dr. Krisztina Nadasy, Hospitalist
Krista Penn, Perioperative Services Director	Andrea Putzier, Perioperative Nursing	Debra Marranci, Perioperative Nursing
Dipti Donald, Floor Nursing	LaDonna Walker, Floor Nursing	Maria Immonen, Clinic Nursing
Maria Whittington, Clinic Nursing	Marjorie Borchik, Clinic Nursing	Tina Dixon, Surgical Clinical Reviewer

Project Support:

Dr. Caprice Greenberg, Chairman of Department of Surgery	Virginia Hawkins, Director Clinical Quality Excellence
Dr. Phillip Coule, CMO	Erin Stillinger, Manager Clinical Quality Excellence
Dr. Pascha Schafer, CQO	

All other persons that supported the project efforts



QUESTIONS?





*American College of Surgeons
National Surgical Quality Improvement Program*

Surgical Clinical Reviewer (SCR) Tips for Success

**Nancy Kotti, MSA, BSN, RN, CNOR
Lead NSQIP Coordinator, AU Health**

Disclosures: No Conflicts



- 478 bed Academic Medical Center with Level 1 Trauma
- 154 bed Children's Hospital
- More than 80 Outpatient Practice Sites
- Enrolled in Adult NSQIP, Peds NSQIP, TQIP, & MBSAQIP
- Enrolled in ISCR Colorectal, Orthopedic & EGS service lines

Objectives

**Provide tips and information that may assist the
NSQIP Surgical Clinical Reviewer (SCR)**

Prioritize Tasks, Be Organized, Remain Focused

Strive to complete reviews well ahead of the 90-day lock date

- **Provide time for patient follow ups and Surgeon Champion reviews**
- **Complete reviews in an electronic manner (with little to no paper)- strive to be as efficient, as possible**
- **Know your timeframes for the various elements**
- **Remain focused on what is in the documentation (we cannot make assumptions)**
- **Work in a quiet location without distractions**
- **Put the clinical puzzle together**
- **Use your resources for questions/ guidance**
- **Be willing to always learn more & ask questions**



Difficult Clinical Scenarios

- Persevere & re-review the documentation with the criteria
- Brainstorm with another clinical reviewer - if using a resource outside the organization, send the scenario with no identifiers
- Utilize Clinical Support for guidance
- Summarize the case with key information & utilize your Surgeon Champion for reviewing occurrences



Clinical Support Responses

How are we handling the difficult scenarios?

- Review the actual documentation along with our NSQIP criteria during a collaborative review with Surgeon Champion & team members for postoperative occurrences– sometimes he will ask pertinent questions that require us to dig deeper for the clarification that is needed for determining the assignment

Patient:

MRN:

DOS:

Procedure: Repair of Incarcerated Ventral Hernia

Surgeon:

Preop Risk Factors:

Urgent Procedure

? y/o

BMI=?

Preop SIRS

Per Op Note: Findings- 13cm x 8cm fascial defect

Assigned: Superficial SSI

Per Date? ES Note: presents with complaint of drainage from her surgical wound. She states she had a hernia surgery approximately 2 weeks ago and had staples removed earlier this week. On Friday she noticed a foul smell and this evening noticed some brownish discharge from the top of her wound.

Physical Exam: Large incision with steri strips and small area of superficial dehiscence with mild purulence at the cephalad portion of incision without induration or surrounding erythema, otherwise incision is well-appearing, soft, non-tender, non-distended, obese. **Impression:** Superficial incisional surgical site infection; **Orders:** amoxicillin-clavulanate, 1 tab, PO, Tab, Q12HR, 14 day(s)

Per Date? Practice Site Note: presented to ED with concerns of superficial surgical site infection and was given course of Augmentin. No leukocytosis. Patient is doing well today. Denies fever chills nausea vomiting diarrhea, reports drainage from incision minimal. Wound well healing, small area of dehiscence noted superiorly

Clinical Scenario Example #1

The patient in the case you are abstracting was noted to have a history of PVD, and he was admitted to the ED with severe pain in his RLE

~12 hours prior to going to the OR, HR is 98, T is 101.1 F and WBC is 13.2

He went to the OR for a right femoral bypass due to a thrombus in his femoral artery which you capture in the sampling as the primary procedure. During the same OR encounter, the patient had a left great toe amputation and purulence was noted intraoperatively at the amputation site and there was a + intraoperative cx of MRSA from toe wound

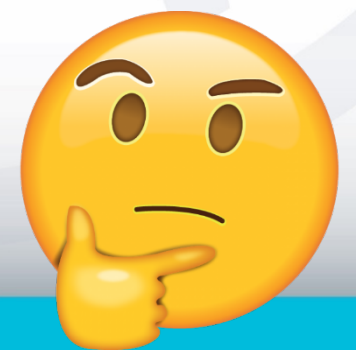
On POD1, the patient's WBC is 12.8, HR is 96, and RR 20. The patient remained on a Heparin gtt from the day of admission to the day of discharge (POD 17)

Would you assign preop Sepsis to this case?

Would Vein Thrombosis Requiring Therapy be assigned to this case?

Would you assign a postop SSI to this case?

Would you assign postop Sepsis or Septic Shock to this case?
If so, would PATOS be assigned to this case?



Clinical Scenario Example #1

The patient in the case you are abstracting was noted to have a history of peripheral vascular disease, and he was admitted to the ED with severe pain in his RLE

~12 hours prior to going to the OR, HR is 98, T is 101.1 F and WBC is 13.2

He went to the OR for a right femoral bypass due to a thrombus in his femoral artery which you capture in the sampling as the primary procedure. During the same OR encounter, the patient had a left great toe amputation and purulence was noted intraoperatively at the amputation site and there was a + intraoperative cx of MRSA from the toe wound

On POD1, the patient's WBC is 12.8, HR is 96, and RR 20. The patient remained on a Heparin gtt from the day of admission to the day of discharge (POD 17)

Would you assign preop Sepsis to this case? **Yes w/ SIRS & intraoperative findings of purulence & + cx in the primary surgical encounter**

Would Vein Thrombosis Requiring Therapy be assigned to this case? **No**

Would you assign a postop SSI to this case? **No**

Would you assign postop Sepsis or Septic Shock to this case? **Yes, Sepsis**
If so, would PATOS be assigned to this case? **Yes, Sepsis PATOS**



Clinical Scenario Example #2

Preop Risk Factors assigned:

Dx of CHF with recent LVEF of 30% & daily beta blocker

Dx of COPD with daily symbicort 2 puffs q 12 hrs

Surgery: Laparoscopic Cholecystectomy

POD 1 CXR: *Ill-defined linear band like opacities in the right middle lobe suggestive of pulmonary edema*

POD 1 Vital Signs: T=38.1

POD 1 Symptoms: wheezing, crackles, loose non-productive cough

POD 2 Symptoms: crackles

POD 1 H&P: *He has been having some hypoxia since last night, Mild wheezes on the right- We'll try 40mg of IV Lasix every 8 hours x2 doses to see if there is an improvement in his respiratory status*

POD 2 MD Progress Note: *Chest x-ray suggestive of pulmonary edema. Respiratory status somewhat improved today*

POD 3 MD Progress Note: *Feels that his breathing is improved. Plan to stop IV Lasix at midnight and resume his oral Lasix dose tomorrow. Now down to 2 L nasal cannula and satting 98-99%. We'll continue to wean oxygen off*

Per Discharge Summary: *had episodes of respiratory decompensation secondary to a CHF exacerbation/COPD exacerbation with accompanying fluid overload. The hospitalist was consulted and the patient was aggressively diuresed and medically managed, improving over the next 48 hour interval*

No postop abx prescribed, patient treated with diuretics

Would you assign postop PNA to this case?



Clinical Scenario Example #2

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Per Discharge Summary: *had episodes of respiratory decompensation secondary to a CHF exacerbation/COPD exacerbation with accompanying fluid overload. The hospitalist was consulted and the patient was aggressively diuresed and medically managed, improving over the next 48 hour interval*

No postop abx prescribed, patient treated with diuretics

Would you assign postop PNA to this case? No, we do not have 2 images for a patient with underlying pulmonary/ cardiac conditions & the MD documented that the imaging results are due to a non-infectious condition & abx are not prescribed for PNA

Challenging Adult NSQIP Renal Criteria Updates

Preop AKI and Postop Progressive Renal Insufficiency criteria changed significantly in Adult NSQIP with the July 2021 reviews

Prior to July 2021, Postop Renal Insufficiency was assigned with a rise of >2 mg/dl from the preop value during 30 days postop

The SCR must now determine the appropriate level of creatinine increase within 48 hours or 7 days

- For Postop Renal Insufficiency- creatinine options listed below in order of severity, and must select the most severe

Creatinine Variables from July 2021 & Jan 2022 Adult NSQIP Criteria

Creatinine Increase: An increase in serum creatinine based on two measurements, the latter of which must be within the 30-day postoperative timeframe.

1. A second creatinine value that has risen ≥ 0.3 mg/dL (≥ 26.5 $\mu\text{mol/L}$) within 48 hours of the first creatinine value
2. A second creatinine value that has increased to 1.5 to <2 times within 7 days of the first value
3. A second creatinine value that has increased to 2 to <3 times within 7 days of the first value
4. A second creatinine value that has increased to ≥ 3.0 times within 7 days of the first value
5. A second creatinine value that is ≥ 4.0 mg/dL (≥ 353.6 $\mu\text{mol/L}$) and has risen ≥ 0.3 mg/dL (≥ 26.5 $\mu\text{mol/L}$) within 48 hours from the first value
6. A second creatinine value that is ≥ 4.0 mg/dL (≥ 353.6 $\mu\text{mol/L}$) and has increased to ≥ 1.5 times within 7 days from the first value

Low Urine Output Variables from July 2021 Adult NSQIP Criteria

Removed with Jan 2022 Criteria

Low Urine Output: At least **ONE** criterion point listed below must be met:

- Urine volume <0.5 ml/kg/h for 6 hours
- Urine volume <0.5 ml/kg/h for 12 hours
- Urine volume <0.3 ml/kg/h for 24 hours
- Anuria for ≥ 12 hours

ACS Creatinine Calculator:

<http://cqi.facs.org/calculators/creatinine.html>

Example of a Recent NSQIP Postop Renal Assignment

Name:

MRN:

DOS:

Surgery: Right Hand Assisted laparoscopic Radical Nephrectomy: CPT Code: 50,545

Surgeon:

Pre op Risk Factors:

- BMI 33.65

34 yo M with no significant PMH presents today as a referral from Dr. ____ from ____ for new R renal mass seen on CT in March of 2021

I am currently finding the following documentation to assign:

Postop renal insufficiency- Increase in SCr of ≥ 0.3 mg/dL within 48 hours

POD 1: Cr. 1.67

POD 2: Cr. 2.00

Exclusion for assignment is Bilateral Nephrectomy, but this procedure is not bilateral

More Recent NSQIP Criteria

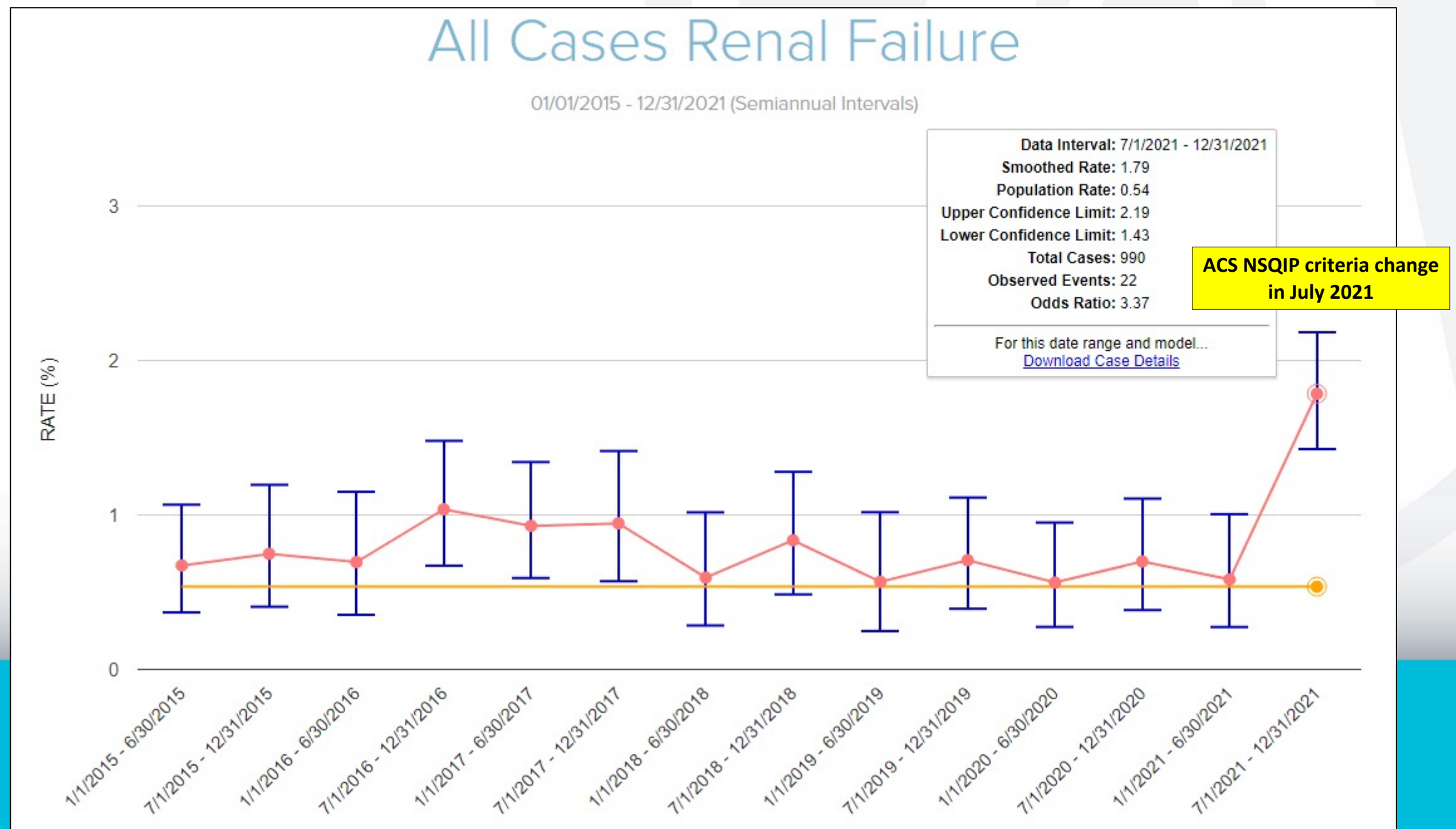
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Thoughts Regarding New Renal Criteria



Not only is this more burdensome for the SCR during abstraction, but our renal outcomes are significantly moving in the wrong direction



Learn Your Resources

Departmental Support

- Quality Director / Manager(s)
- NSQIP Team Members
- Other Quality Abstractors
- Quality Personnel
- Infection Prevention Personnel

Perioperative Resources

- AVP / Director
- Perioperative Nurse Manager(s)
- Perioperative Educator(s)
- Perioperative Team Leader(s)
- ERAS Nurse Navigator(s)

Surgery Support

- Surgeon Champion(s)
- Local Service Line Surgeon Champion(s)
- Service Line Chiefs/ Chairs
- Quality Champion(s)

Anesthesia Support

- Anesthesia Leader(s)
- Anesthesia Quality Champion(s)

IT Support

- IT Contacts/ Support
- Perioperative IT Gurus



Other

- IDX- Billing CPT Codes, Surgery Coders
- Residency Coordinators, Medical Staffing Office
- Other Healthcare Providers for project initiatives- clinics, floors, ICUs, RT, PT, Pharmacy....
- Resources for Patient Follow Up Calls, CLAS Services, Inmate Liaison
- Support from outside experienced abstractors
- Data analytics,...

How SCRs Make a Difference



- Provide healthcare providers with **accurate & reliable data**
- Identify issues or trends and alert key persons as soon as possible
- Provide support for performance improvement projects- **utilize the data!**
- Provide guidance for documentation opportunities
- Provide reliable data for research (with appropriate IRB approvals)
- Provide support and mentoring to less experienced abstractors



IT IS ALL ABOUT

Improving the Outcomes of our Surgical Patients



Acknowledgements

Thanks to the following persons for their contributions in supporting our NSQIP/ ISCR programs and improving the outcomes in our surgical patients

Organizational NSQIP/ ISCR Support:

Dr. Muhammad Saeed, Adult NSQIP/ ISCR Surgeon Champion
Dr. Christian Walters, Pediatric NSQIP Surgeon Champion
Dr. Kelly Homlar, ISCR Surgeon Champion- Ortho Service Line
Dr. Andrew Lawson, ISCR Surgeon Champion- EGS Service Line
Dr. Caprice Greenberg, Chairman of Department of Surgery
Dr. Phillip Coule, CMO
Dr. Pascha Schafer, CQO
Allen Kelly, AVP Perioperative Services
Virginia Hawkins, Director Clinical Quality Excellence
Erin Stilling, Manager Clinical Quality Excellence
Julie Hammond, Adult NSQIP Surgical Clinical Reviewer
Tina Dixon, Peds NSQIP Surgical Clinical Reviewer

All other organizational persons that support our efforts

And other Georgia Collaborative Surgical Clinical Reviewers that provided information and support for this presentation!

**THANK
YOU**

QUESTIONS?



Nancy Kotti
nkotti@augusta.edu

Residents in Quality

Jesse Codner

GQIP Winter Meeting 2022

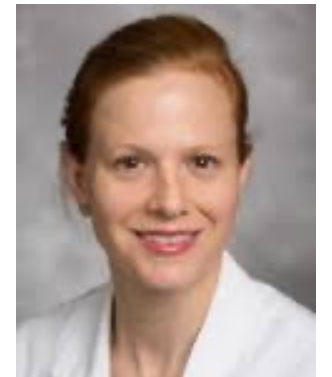


GEORGIA
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PROGRAM

Table of Contents

1. Mentorship / Culture
2. Resident Led Initiatives
3. GME Mandates
4. Dedicated Quality Research Tracks
5. Career Training

Mentorship / Culture



Resident Led Quality Groups

Resident Quality Committee



Current Members:

1-PGY5, 2-PGY4, 3-PGY3, 1-PGY2, 4-PGY1,
Total: 11 Residents

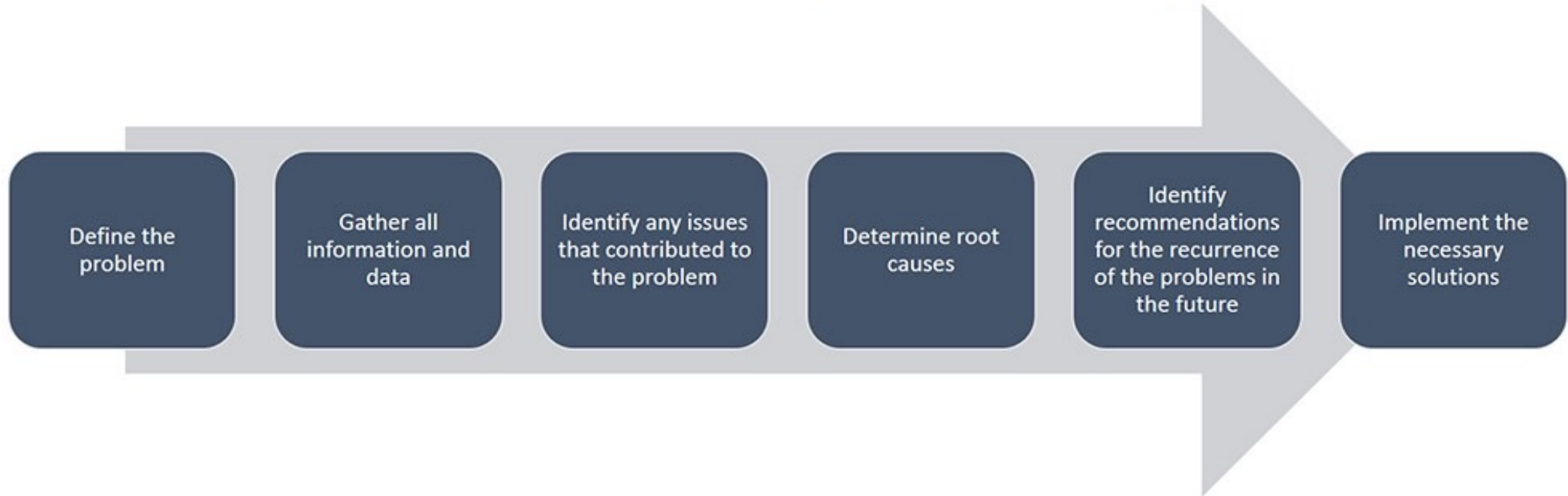


Activities:

Meet every month
Discuss and troubleshoot current quality projects
Lead Resident Quality Education
Quality Innovation stemming from M&M

Resident Mock RCA

Root Cause Analysis Basic Steps



ACS Red Book Club



Members:

Surgeon in Chief
Senior Attendings
Junior Faculty
Residents

GME Mandates

- GME mandates quality training in residency
- All PGY 1 & 2 residents from all Emory programs took part in a mock RCA
- Embeds these concepts early to facilitate quality as a natural part of your surgical career

Dedicated Research Tracks

QUALITY PROGRAMS
of the AMERICAN COLLEGE
OF SURGEONS



2017-2019, ACS Clinical
Scholar



2019-2021, NW Pediatric
Surgery Research Fellow



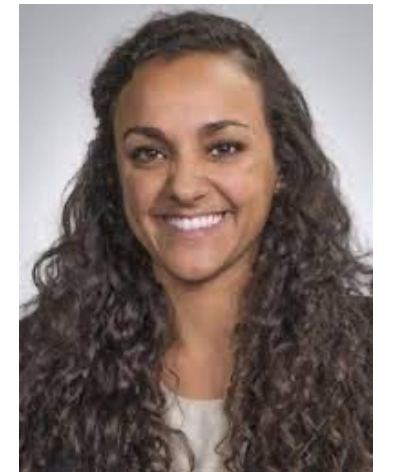
2018-2020



2019-2021



2020-2022



2021-2022



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GEORGIA TRAUMA
COMMISSION



2020-2022



2022-

Quality Career Training

- Apprenticeship Model?
- Quality based electives?
- Residency Requirements?
- Mentorship Programs?

Future

Next steps for GQIP to facilitate resident, fellow, and junior faculty involvement in GA state-wide quality improvement?

Surgery resident quality improvement projects at Augusta University

J. Andrew McKenzie, Adel Abuzeid, Andrew Lawson, Irfan Saeed
Department of Surgery, Medical College of Georgia at Augusta University

Georgia NSQIP Winter Meeting
March 11th, 2022

Introduction

- Program requirement to complete a QI project
 - ACGME requirement to ‘participate’
- PGY3 Residents are tasked to champion a project of their choosing
 - Multi-year project
- Faculty mentors are assigned based on project
- Resident champions recruit junior residents to join the QI project team
 - Goal is to prepare junior residents to lead projects

QI Resident Projects for Trauma, EGS, SCC Service line

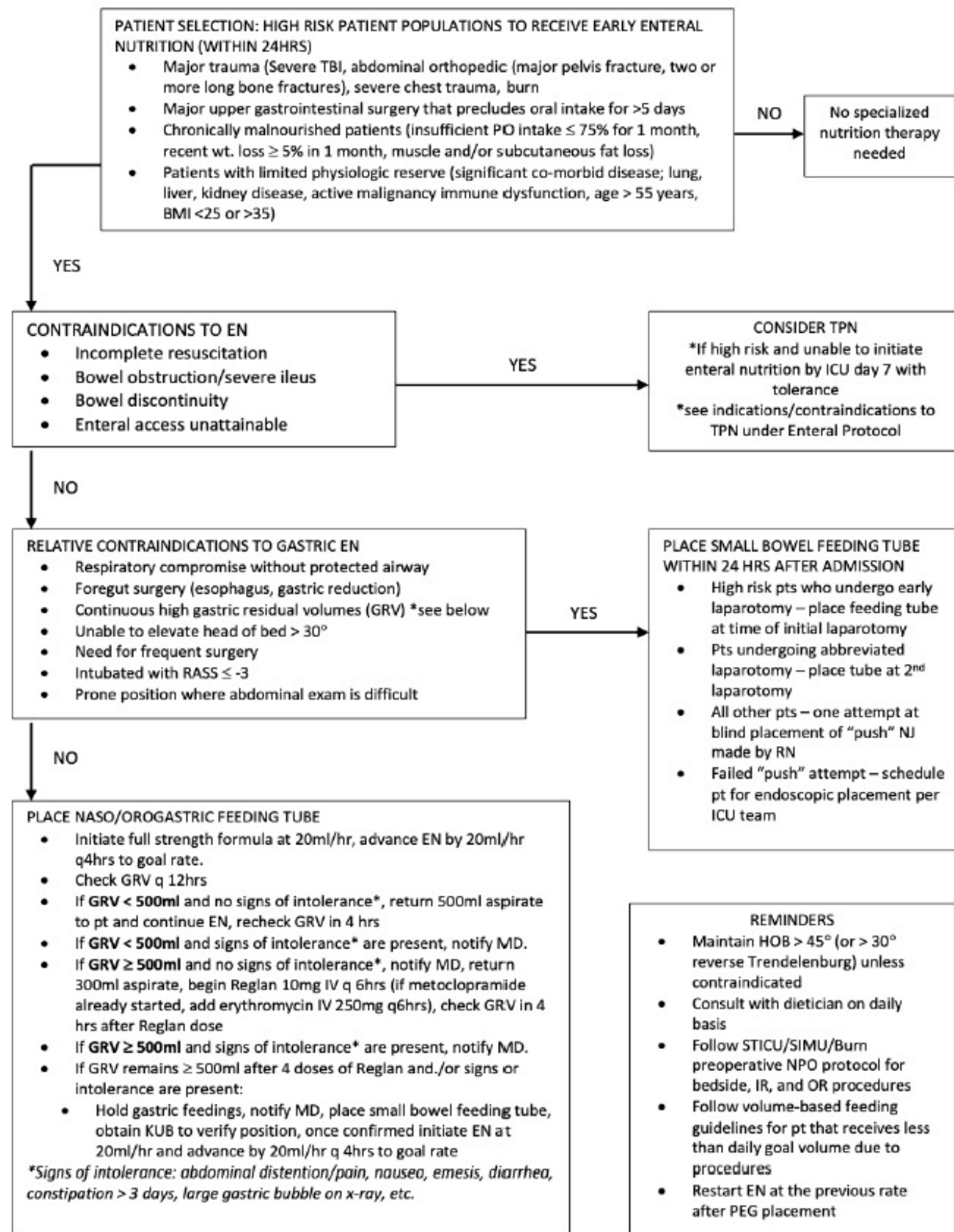
- Most fruitful for residents thus far
 - Volume and team-based care makes protocolization attractive
- Many of these projects may appear simple, but achieving consensus is no easy task
- Briefly will introduce some of the projects in the past 1-2 years

Multimodal Pain Management Guidelines

- Resident Champion: Martinez
- Faculty Champion: Lawson
- Intention:
 - Appropriate multimodal pain relief for patients in STICU
 - Avoiding the precipitation of chronic pain
 - Minimizing dependence of narcotics according to evidence-based practices.
- Rationale: Opiate monotherapy is no longer considered the gold standard for pain control with many studies demonstrating ineffectiveness, tendencies toward over sedation, and precipitation of chronic dependence.
- Early data is promising; reduction in ICU fentanyl use by 30%

Early Enteric Feeding Protocol

- Resident Champion: Komic
- Faculty Champion: Lawson
- Intent:
 - Screen patients for high risk of malnutrition
 - Trauma, major upper GI surgery, malnourished, physiologically frail
 - Timely initiation of enteral nutrition and enteral access, TPN if contraindicated
 - Flow chart to aid in management
- Rationale: Early Enteric Feeding has been shown to decrease wound complications, ventilator-associated pneumonia rate, and other infectious complications during an ICU course



Solid Organ Injury Guidelines

- Resident Champion: McKenzie
- Faculty Champion: Fox
- Intention:
 - Standardize the management of traumatic solid organ injuries
 - Hepatic, splenic, renal
 - Use AAST grade, physical exam
 - The goal of the guideline is to improve mortality and reduce costs
- Rationale: Solid organ injuries have significant morbidity and mortality. There has been inconsistent management of these patients at our institution

Spinal Cord Injury Guidelines

- Resident Champion: Bryant
- Faculty Champion: Lawson
- Intention:
 - Multifaceted approach to patients with SCI
 - Anticipating secondary injury that may occur with a result and provide preventative surgical or medical therapy
 - Prepare the patient for a potential dramatic change in lifestyle compared to Pre-trauma
 - Comprehensive system-based management
- Rationale: SCI is associated with multiple areas of secondary pathology, including, but not limited to decubitus ulcers, infection (ventilator-associated pneumonia, catheter-associated urinary tract infection, central-line associated blood stream infection), nutritional deficiency, and depression

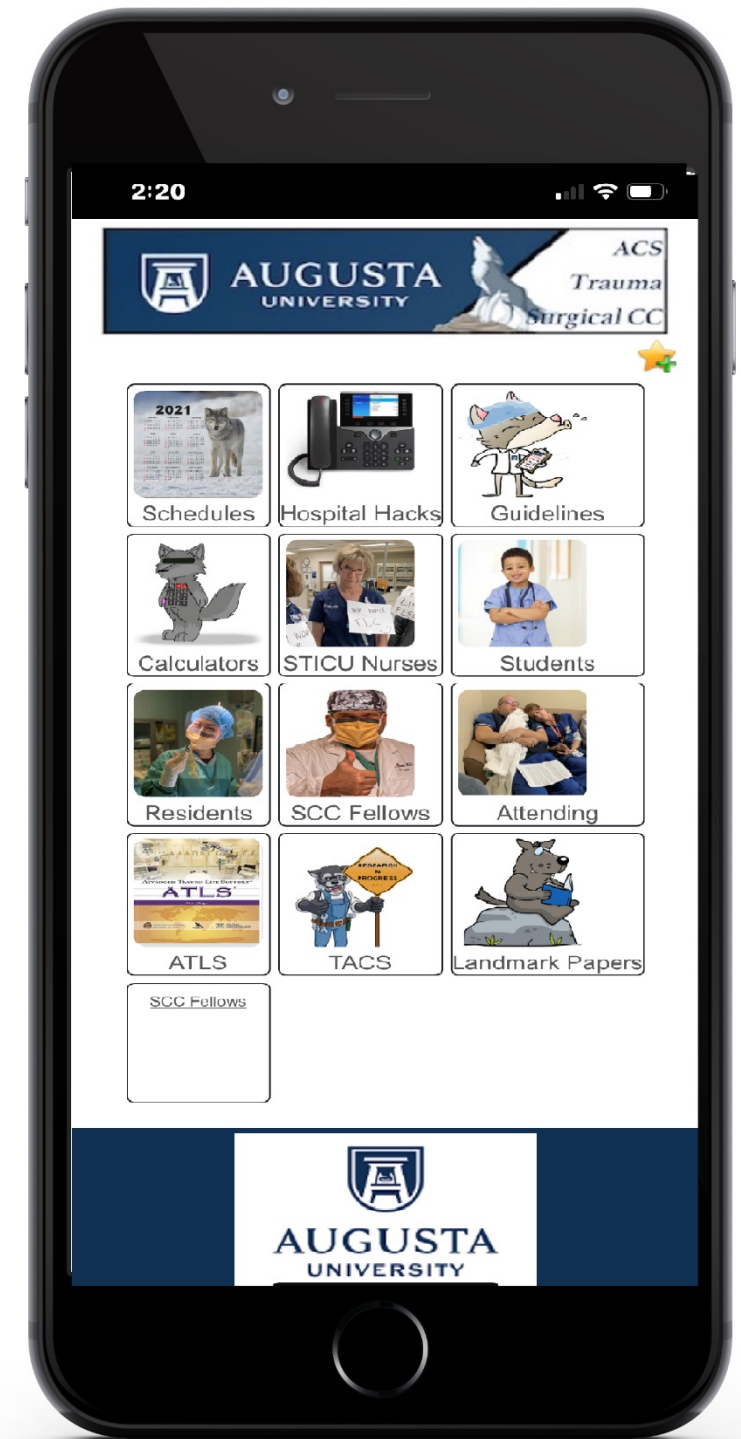
Other Projects

- Traumatic Hemothorax Management
 - Drevets/Fox
- Cervical Collar Removal Guidelines
 - McKenzie/Lawson
- T4 Replacement Protocol
 - McKenzie/Fox
- Ins and Outs projects
 - Worthey/Arora



Trauma App

- Resident Champion: Coffey
- Faculty Champion: Lawson
- Many guidelines created in the past year
- Needed a central repository easily accessible for residents and faculty
- [App Link](#)



Education QI initiatives – ostomy training

- Resident Champion: Chibane
- Faculty Champion: Jake Greenberg
- Assessment and training related to creation and pouching of an ostomy
 - Pre-training assessment
 - Undergo standardized training (video, presentation)
 - Use of a plastic model and Animal model
 - Post-training assessment
- Goal is to develop early surgical skills and serve as a model for future technical projects

Redesign of Block OR allocation to improve access to care

J. Andrew McKenzie, Rebecca Cirillo, Steven Holsten, Caprice Greenberg
Department of Surgery, Medical College of Georgia at Augusta University

Georgia NSQIP Winter Meeting
March 11th, 2022

Background

- Block allocation is how surgeons are assigned OR time
- Access to the operating room in a timely manor is important for patient care, financial metrics and surgeon satisfaction
- There is finite staff and physical space. To improve access, we need to get better, not larger

Problem

- Current block schedule was constrained, inflexible and did not fit the needs of the institution
- Surgeons were unhappy with their access to the operating room, especially with non-elective cases
 - 25-30% of our OR volume is non-elective
 - These cases often were done at the end of day, evening and overnight
 - As a work around, Surgeons wanted expanded block time to accommodate non-elective cases
- Surgeons were unhappy with the uncertainty of when a case would go

Problem (cont.)

- Block time assigned centrally, with limited data-based metrics to make decisions on appropriate allocation
- How do we fairly assign block allocation?
 - Utilization %
 - Clinical FTE
- Release time was also very short, with a significant number of services having day of surgery block release
 - Difficult to re-allocate time on day of surgery, not predictable
- There was no system in place to re-assign time

Goal of Project

- Increase access to the OR during prime-time hours for both elective and non-elective cases
 - Reduce # of cases carried over to evening/overnight and the following days
 - Tactic: Creation of clinical decision rooms, “CD rooms”
 - Rooms that are not filled by planned, elective cases, but are filled on day of surgery with add-ons
 - Remove the need for expanded block time for non-elective cases

Goals (cont.)

- Re-balance time available to each service based on utilization
 - Ensure all surgeons have access to the OR, but services need to utilize it
 - Ongoing process, evaluated multiple times a year with an independent committee responsible for reviewing utilization data
 - Goal is for the block allocation to fit the service, and the service not be constrained by the block allocation
- Philosophy change: assign time to services rather than individual surgeons
 - Practical reasons: at a system level, difficult to manage individual surgeons, but section/division chiefs can better allocate appropriate time within their pool

Data Collection

- Each service had a utilization % calculated for FY21 (July 20-June 21)
- Data was collected based on minutes in the OR during prime time
 - OR in to OR out, with turn-around time unless prolonged gap due to surgeon availability
- The total for each service was divided by their current block allocation, giving a utilization %.
- Clinical FTE provided by departments

Results

- Each service had a utilization %
 - We incorporated # of cFTE
 - 80% utilization/20% cFTE
- Reduced total number of schedulable ORs by two to accommodate CD rooms
- Completely Re-Assigned time based on above

Total Min Used (During Prime Time)	Total OR Minutes During Prime Time/Assigned Block Time
1466	25%
72721	52%
159693	74%
54660	64%
37976	92%
358179	65%
247871	81%
730054	65%
108994	67%
138581	55%
53345	64%
91331	48%
72371	65%
32699	56%
147083	80%
85650	100%
1662620	67%

TRAUMA		TRAUMA		TRAUMA		TRAUMA		TRAUMA	
CD ROOM		CD ROOM		TRANSPLANT		CD ROOM		CD ROOM	
CARDIOTHORACIC		OMFS		CD ROOM		CARDIOTHORACIC		CARDIOTHORACIC	
ACUTE CARE		ACUTE CARE		ACUTE CARE		ACUTE CARE		ACUTE CARE	
MIS		SURG ONC		SURG ONC		SURG ONC		OMFS	
CARDIOTHORACIC - EMERGENCY		CARDIOTHORACIC - EMERGENCY		CARDIOTHORACIC - EMERGENCY		CARDIOTHORACIC - EMERGENCY		CARDIOTHORACIC - EMERGENCY	
NEURO		NEURO		NEURO		NEURO		NEURO	
CD ROOM		NEURO		NEURO		NEURO			
OTO		OTO		OTO		OTO		OTO	
OTO		OTO		OTO		OTO		OTO	
OPHTHALMOLOGY	CD ROOM			OTO		OPHTHALMOLOGY		OPHTHALMOLOGY	
PLASTICS		CD ROOM		PLASTICS				PLASTICS	
						UROLOGY (CYSTO)		UROLOGY (CYSTO)	
ORTHO		ORTHO		ORTHO		ORTHO		ORTHO	
ORTHO		ORTHO		ORTHO		ORTHO		ORTHO	
ORTHO TRAUMA		ORTHO TRAUMA		ORTHO TRAUMA		ORTHO TRAUMA		ORTHO TRAUMA	
ORTHO		ORTHO		CD ROOM		CD ROOM			
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OPEN HYBRID	UROLOGY	CT STRUCTURAL HEART		VASCULAR		VASCULAR		VASCULAR	

Impact

- Outcome measured:
 - Rooms running at 1700, 1900, # of add-on cases at 0700, utilization
 - Subjectively, access improved versus prior system, but significant impacts from COVID, staff shortages
- Went live with CD rooms in October, went live with redesigned block schedule in January, full impact to be determined
- Future
 - Complete data collection/analysis.
 - CD rooms improve access to OR for inpatient cases. Measure impact on length of stay

Future QI initiatives

- Video evaluation is a theme for many of the future projects
- OR Black Box
- Coaching Study with Utah, MGH, BWH
 - Evaluating impact coaching has on surgery residents technical skills (OSATS, Zwisch)
 - Video-based review/coaching project
- Trauma video review
 - Standardized video review of trauma resuscitations, with focus on team function

Questions



GEORGIA DEPARTMENT
OF COMMUNITY HEALTH

Georgia State Office of Rural Health



Nita Ham
Director, SORH Program

March 2022



Mission:

The mission of the Department of Community Health is to provide access to affordable, quality health care to Georgians through effective planning, purchasing, and oversight.

SORH Office: High Level Overview

- Division of the Georgia Department of Community Health
 - Commissioner Caylee Noggle
- SORH Offices exist in all 50 states
- Supported by HRSA funds; program established in 1999
- Georgia office established in 2000
 - 1 of only 2 Divisions of DCH not based in Atlanta
 - Decision made to place SORH office in a rural community
 - Located in Crisp County, Cordele



SORH Office: High Level Overview

- Four program sections
 - SORH Program
 - Hospital Services
 - Primary Care Office
 - Farmworker Health Program
- 10 total staff
 - 1 Executive Director
 - 4 Program Directors
 - 5 support staff divided between program sections



SORH Office: High Level Overview

- Primary mission of SORH

To improve access to quality health care in Georgia's rural and underserved areas and reduce health disparities in Georgia's diverse populations.

- Currently manage over \$40M in state and federal grant programs
- Each program section manages at least one federal grant program and multiple state funded grants
- Majority of state grant funds are legislatively directed
 - Funding amount and grant programs often change after each legislative session

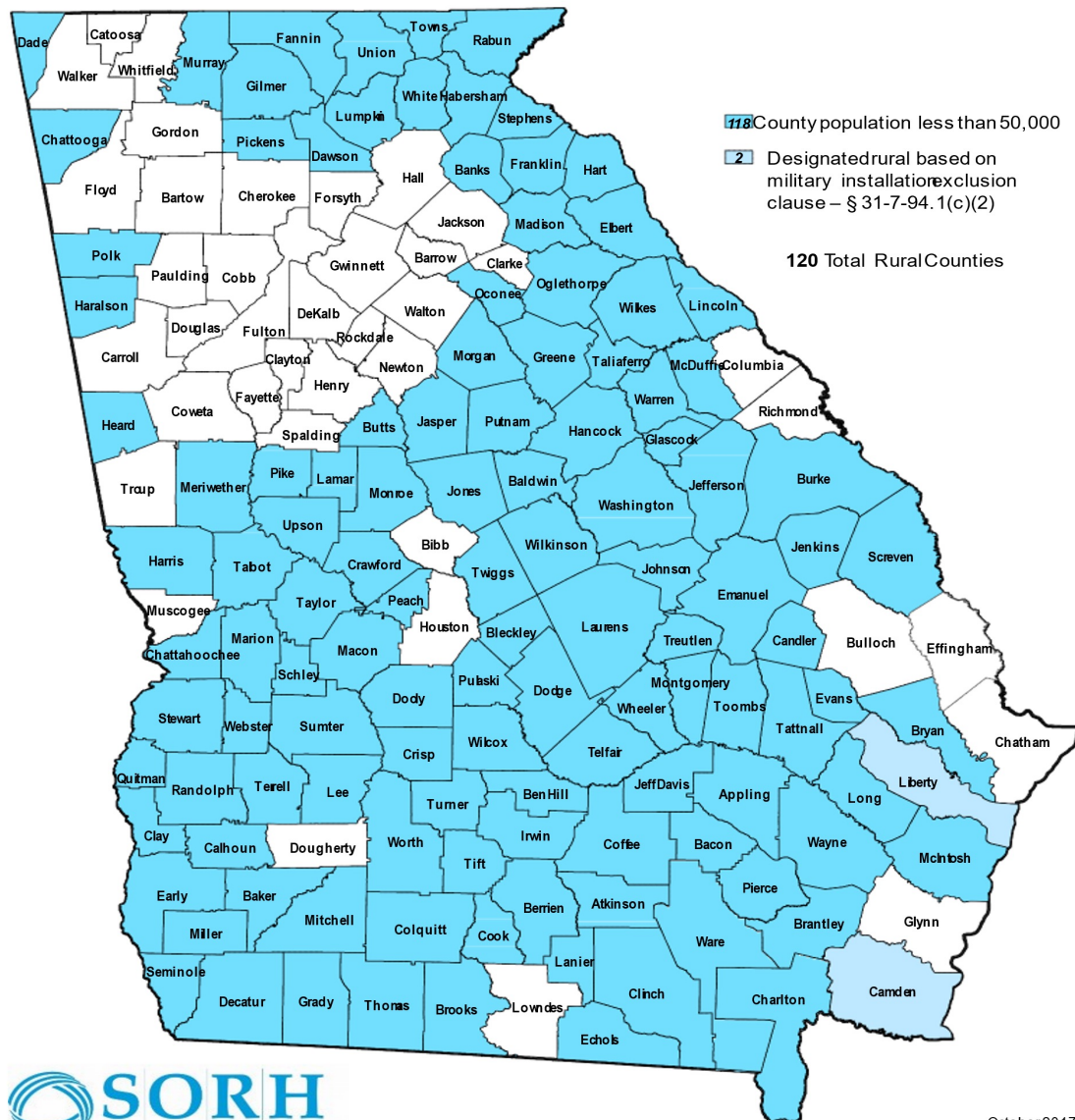


Rural Georgia

“Rural” is defined as having a county population of less than 50,000 residents

Georgia Rural Counties

Rural Hospital Organization Assistance Act of 2017



GEORGIA DEPARTMENT
OF COMMUNITY HEALTH



October 2017
<https://dch.georgia.gov/sorh>

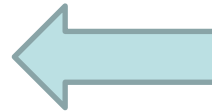
Rural Life

Statistics

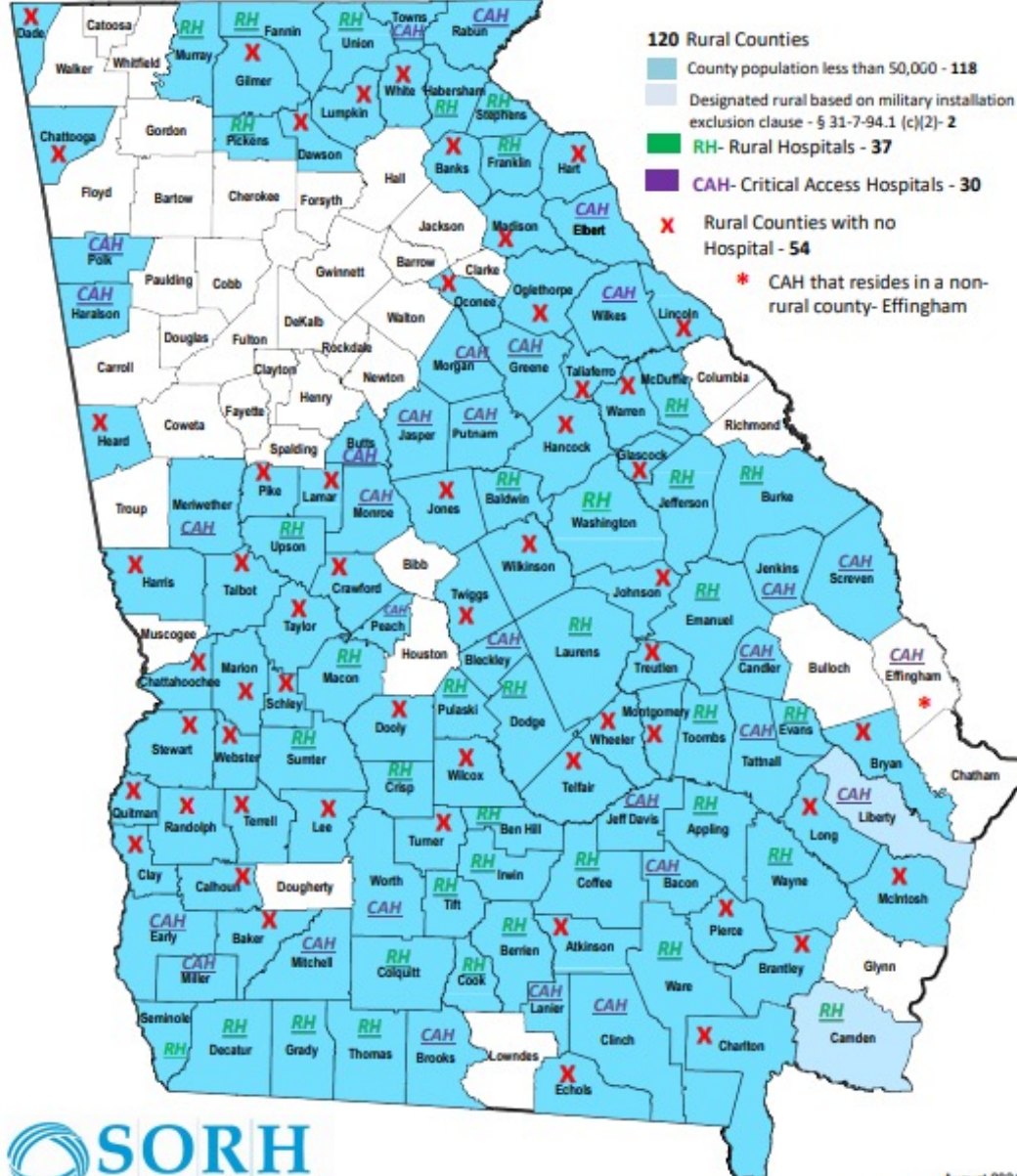
- County rankings are poor in areas such as
 - Education
 - Employment
 - Salaries/wages
 - Health/health related
 - Chronic conditions
 - Insured population
 - Healthcare access
 - Lifestyle choices

Business Development/Growth

- Challenges in many areas to include
 - Roadways & transportation
 - Telecommunications/broadband
 - Talent development/retention
 - Housing
 - Social/cultural
 - Refer to that side



Georgia Rural Counties with Rural Hospitals, Critical Access Hospitals, and Rural Counties without a Hospital Rural Hospital Organization Assistance Act of 2017



Rural Hospitals

- Major economic driver
 - Primary or secondary employer
 - Secondary to school systems
- 2010-2014 Georgia led country in rural hospital closures
- Led to creation of Rural Hospital Stabilization Grant Program
 - In year 6 @ \$30M funding

Rural Hospital CEOs

Administrative Challenges

- Talent: local or “outsider”?
- Aggressive, forward-thinking?
 - County Commissions
 - Hospital Boards
 - 2019 legislative directive
- CEO turnover
 - Average tenure is 3-5 years
 - % Move from one to another
 - Recent look-back
 - 33 of 67 rural hospitals
 - 40% in 3 years

Clinical Workforce Challenges

- ER Physicians
 - Hospital staff vs. staffing services
 - SORH hears C/O
 - Continuity of care
 - Community confidence
 - Keeping patients “local”
- Nursing/other clinical staff
 - Limited staff = multiple roles
 - Resistant to additional duties not required/ mandated
 - Often contributes to
 - Limited data collection
 - Questionable “clean” data



Rural Hospital Operating Rooms & ICUs

Georgia Hospital Association 2020 Data

- 67 Rural hospitals
 - GHA reported on 63
- Operating Rooms
 - 51 of 63 rural hospitals
- Intensive Care Units
 - 32 of 63 rural hospitals
- Bed Counts Vary
 - OR = 2-17
 - ICU = 3-26



GEORGIA DEPARTMENT
OF COMMUNITY HEALTH

Physician Shortages in Georgia

Georgia Board of Healthcare Workforce 2017 License Renewal Data

Physician Type:	Number of Georgia Counties Without Practicing Physician:	Percentage of These Counties Defined as Rural:
Physician; Any Type	8	100%
Family Medicine	11	100%
Internal Medicine	37	100%
Pediatrician	63	99.4%
OB/GYN	75	95%
General Surgeon	78	96%
Emergency Medicine	54	98%
Psychiatrist	84	96%



Provider Challenges: Example

- SORH PCO manages Conrad J-1 Visa Waiver Program
 - Breakdown of J-1 Visa Waiver applications per cycle year:
 - 2017: Primary Care 20 Specialist 10
 - 2018: Primary Care 19 Specialist 11
 - 2019: Primary Care 11 Specialist 19
 - 2020: Primary Care 15 Specialist 15
 - 2021: Primary Care 5 Specialist 25
 - 2022: Primary Care 1 Specialist 29



Provider Challenges: Family Life

- Move the family “to the country”
 - Move away from family/friends?
- Quality of Life
 - Spouse satisfaction
 - School systems
 - Social/cultural
- Resource limitations
 - Healthcare/Provider back-up
 - Everything else
 - Shopping/options/selections/choices



High Profile SORH Initiatives

- Georgia Rural Health Innovation Center
 - Legislatively directed
 - Mercer University School of Medicine
 - \$1.875M annually
- Remote Critical Care Services Grant
 - Legislatively directed
 - Rural hospitals partner with Emory
 - Currently \$450K per site/per year/3-year program



High Profile SORH Initiatives

- Rural Hospital Stabilization Grant Program
 - 2014 RHS Committee Findings
 - 2015 Legislatively directed program with annual funding
- Currently in Phase 6; \$30M funding to date
 - Phase 7 to begin in June 2022 @ \$9M
- Focus: Keep rural hospitals open
 - Improve quality of care
 - Increase market share/expand services/service areas
 - Keep local patients in local hospitals



SORH Data on Hand

- SORH collects limited data routinely
 - Primary role manage grants; reporting requirements vary
 - MBQIP Data
 - Critical Access Hospitals
- Can collect/facilitate collection of data specific to new initiatives as needed/requested
- Data Sources
 - DCH Data Analytics
 - Medicaid
 - HFRD
 - GRHIC
 - Rural providers/clinics
 - Needs assessments
 - Other Sources
 - CMS
 - GHA
 - Ga. Southern University
 - Rural Health Research Gateway



Integrating Into Rural Communities

- Purpose? Challenging for:
 - Short term initiatives/projects
 - Becoming a rural resident
- Close-knit communities
 - Many influential families for multiple generations
 - “Everybody knows everybody...”
- Suspicious/resistant to new ideas/initiatives
 - “Why?”
 - “What do we get out of this?”



Benefits of Partnerships with SORH

- Understands “rural”...
- Existing established relationships with rural hospital leaders, clinics, & communities
- SORH is beneficial in making introductions, connections, and “opening doors” for new programs and partnerships



Where Do We Go From Here?





Purpose:

Shaping the future of A Healthy Georgia by improving access and ensuring quality to strengthen the communities we serve.



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RURAL SURGERY QUALITY

Joe Sharma, MD, FACS, FACE

3/11/22

State of Rural Surgery (ACS)



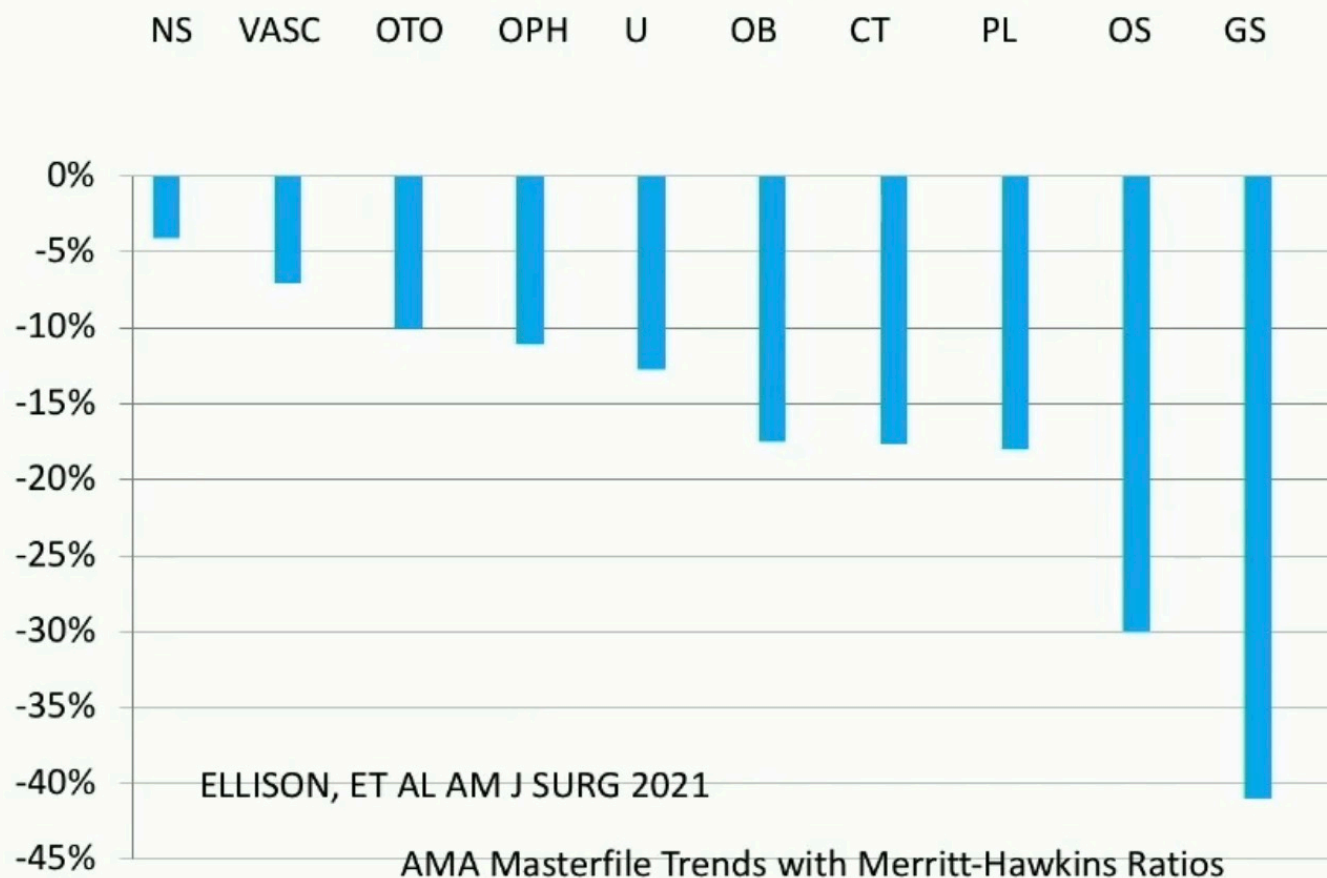
- Per capita supply of US general surgeons declines from 6.4/100,000 to 5.2 2001-2019 (Decline of 18%)
- Rural areas experienced decline of 29.1%
- In 2019, 60.1% of non-metropolitan counties had no active general surgeon
- 12% of General Surgery Residents elect to enter practice after completion of 5 yrs of training
- 1700 Rural Surgery jobs available



ACS CLINICAL CONGRESS 2020

Is There Really A Shortage of Surgeons? The Numbers Today

SHORTAGE



- Some of the challenges rural quality improvement efforts face, identified in a 2015 National Quality Forum (NQF) report, [Performance Measurement for Rural Low-Volume Providers](#), include:
 - Fewer healthcare providers
 - Lack of information technology
 - Fewer staff available to meet many different demands
 - [Limited resources available for quality improvement](#)
 - Serving a more vulnerable population, with poorer health status and behaviors
 - Exclusion from some quality initiatives for providers such as Critical Access Hospitals, Rural Health Clinics, and Federally Qualified Health Centers, which are paid differently

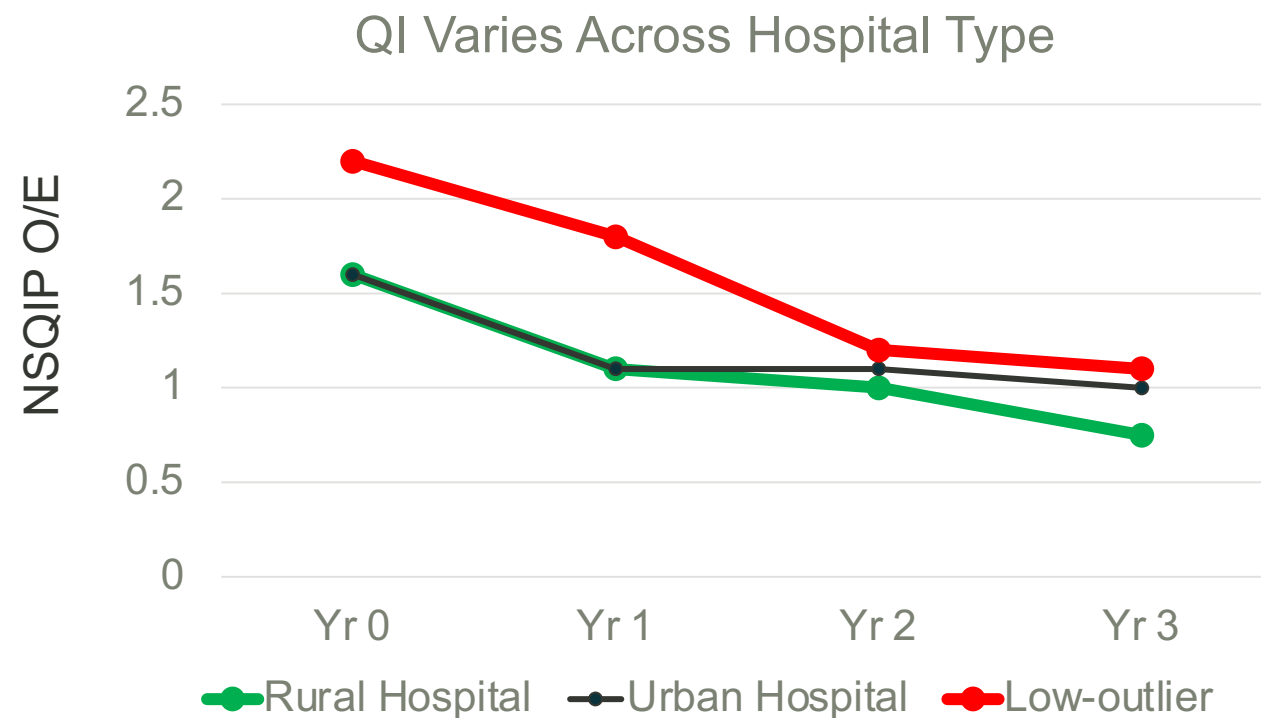
Collaborative Efforts in NSQIP



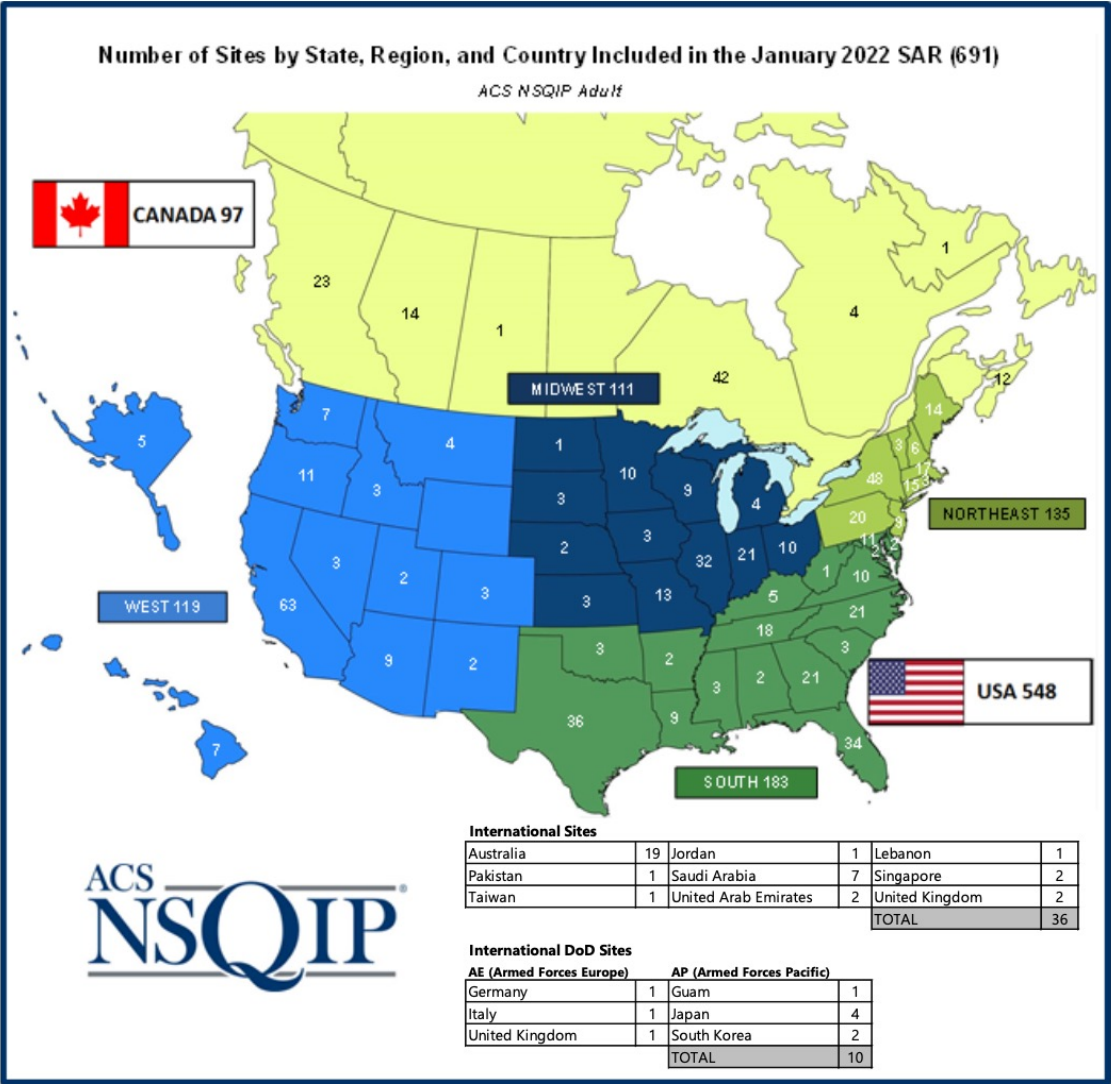
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- Colectomy
- Enhanced Recovery in NSQIP
- SSI Reduction and bundles
- Pulmonary Complication Reduction
- UTI Reduction
- Readmissions
- Return to OR
- Patient Education
- Resident Integration into NSQIP
- Surgical Culture observation and change
- Glucose management
- Opioid management
- Geriatric Screening Tool
- ICOUGH
- CT Utilization reduction

• Collaboratives (Statewide and Disease specific) have targeted improvement that impacts Rural hospitals and low-outliers with a larger improvement in outcomes



NSQIP and Rural Surgery





Site Characteristics and Included Cases Summary (January 2021 SAR)

Teaching Affiliation*	Number	Percent
Major	177	31.6
Minor	289	51.6
Non-Teaching	94	16.8
TOTAL	560	

Licensed Beds*	Number	Percent
Under 100	32	6
100-299	153	31
300-499	113	23
500 or more	202	40
TOTAL	500	

* Based on 560 U.S. hospitals appearing this SAR with data reported to the American Hospital Association (AHA).

Bed Size	Inpatient Procedures	Outpatient Procedures	TOTAL
Under 100 Beds	33,312	53,269	86,581
100-299 Beds	147,415	145,294	292,709
300-499 Beds	148,057	110,785	258,842
500 or more Beds	215,647	125,856	341,503
Non-Teaching	348,679	325,614	674,293
Teaching	199,732	111,735	311,467
TOTAL	548,411	437,349	985,760

Bed Size	Non-Teaching	Academic/Te	TOTAL
Under 100	81,165	5,416	86,581
100-299	239,577	53,132	292,709
300-499	189,850	68,992	258,842
500 or more	163,701	177,802	341,503
TOTAL	674,293	305,342	979,635

Cost of NSQIP



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ACS NSQIP®: Options and Pricing

American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®)

	Essentials	Small & Rural	Procedure Targeted	Measures	Pediatric
Base Price	\$27,000	\$10,000	\$29,000	\$15,000	\$29,000
System/Collaborative Discount*	(\$3,500)	N/A	(\$3,500)	N/A	(\$3,500)
3-Year-Contract Discount	(\$1,500)	N/A	(\$1,500)	N/A	(\$1,500)
Pediatric Discount	N/A	N/A	N/A	N/A	(\$2,000)
Hospital Best Case Price (Annual)	\$22,000	\$10,000	\$24,000	\$15,000	\$22,000

* Hospitals are eligible for either a system discount or a collaborative discount, but not both.

What's Next?



- As a Collaborative can we provide support for Quality in rural hospitals in Georgia?
- Increase ACS-NSQIP participation in Rural hospitals
- Lessons learned from Trauma System



Mythbusters: data

Tony Griffith MD, FACS
Surgical Quality Officer and Vice Service Line Lead

“en data est veritas”



Wellstar

Truth

Data tells a story



Wellstar

Myth

The same data tells only one story



Wellstar

Abstracted vs non Abstracted

Wellstar internal audit of our ACS data revealed >95% accuracy and completeness.

Audit of third party data i.e.-Premier

Revealed approximately 27% accuracy and completeness



Wellstar

Risk stratified abstracted data



Wellstar

**What percentage of decisions
in your institution are based
on third party non abstracted
data?**



Wellstar

Understand your database

**Some databases
allow user defined
parameters (bananas
to tomatoes)**

**Some such as NSQIP
have their own
definitions (apples to
apples)**



Wellstar

Understand your database

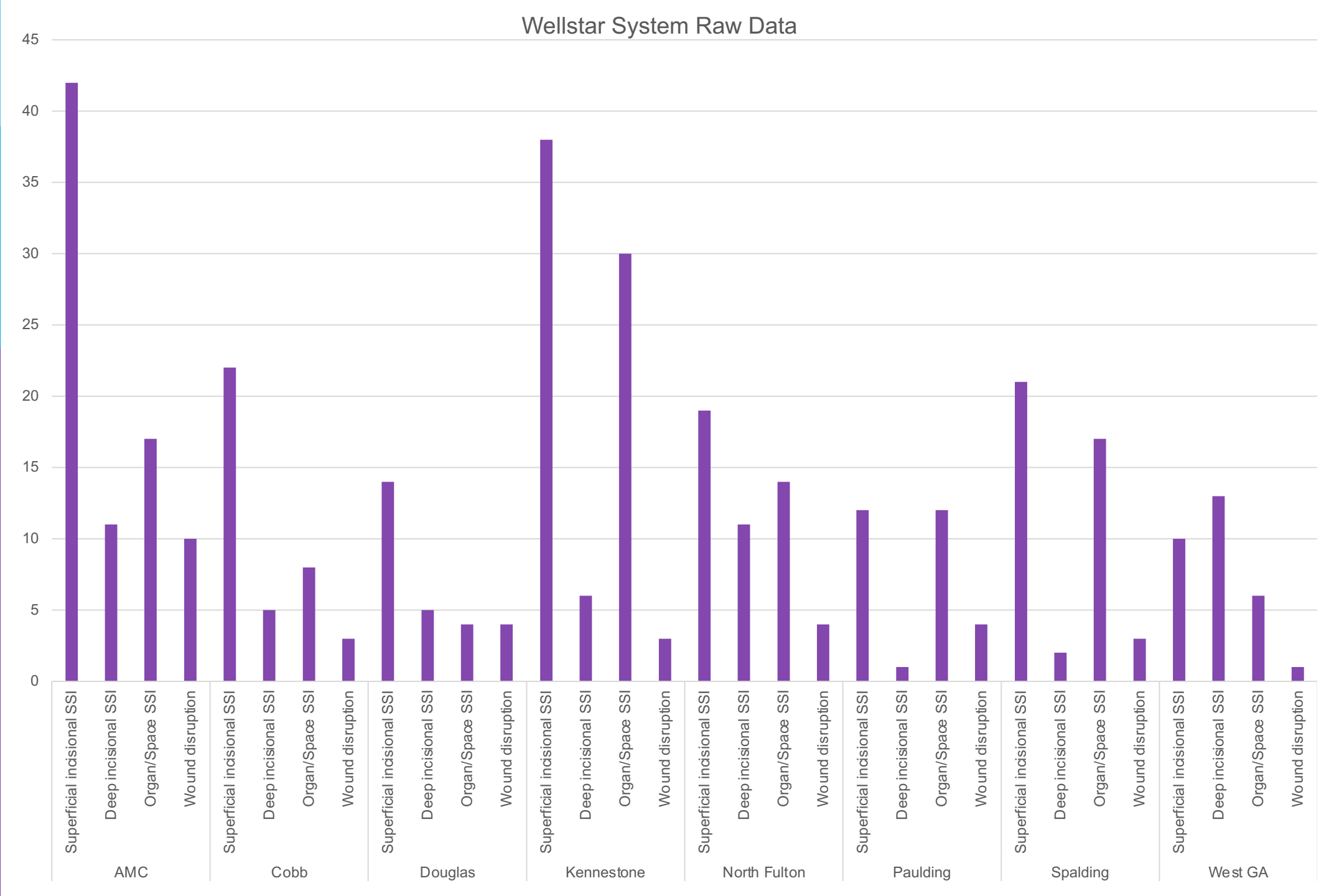
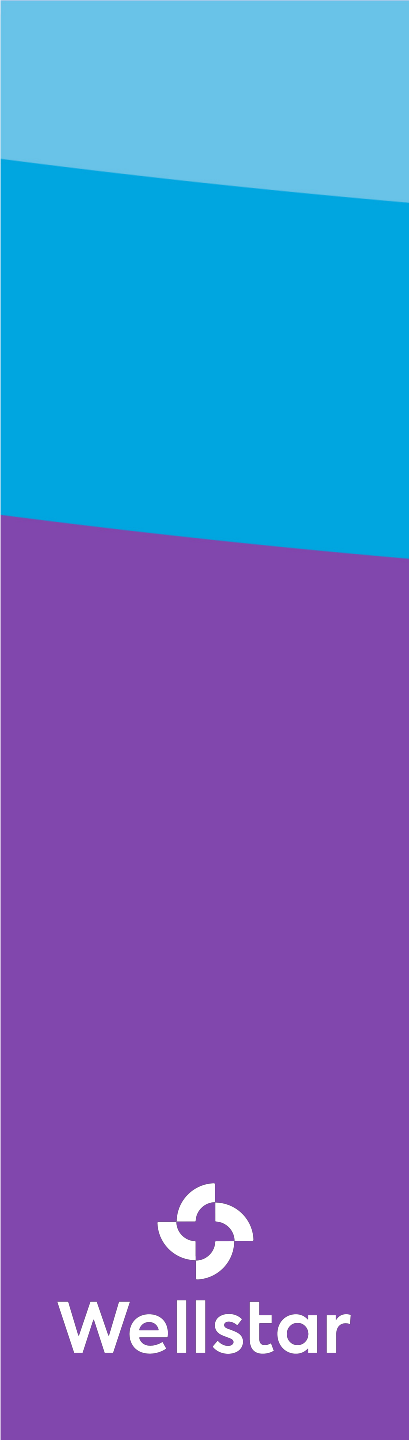
Beware of the numbers

integer only data for small numbers like LOS
for colorectal surgery (Vizient)

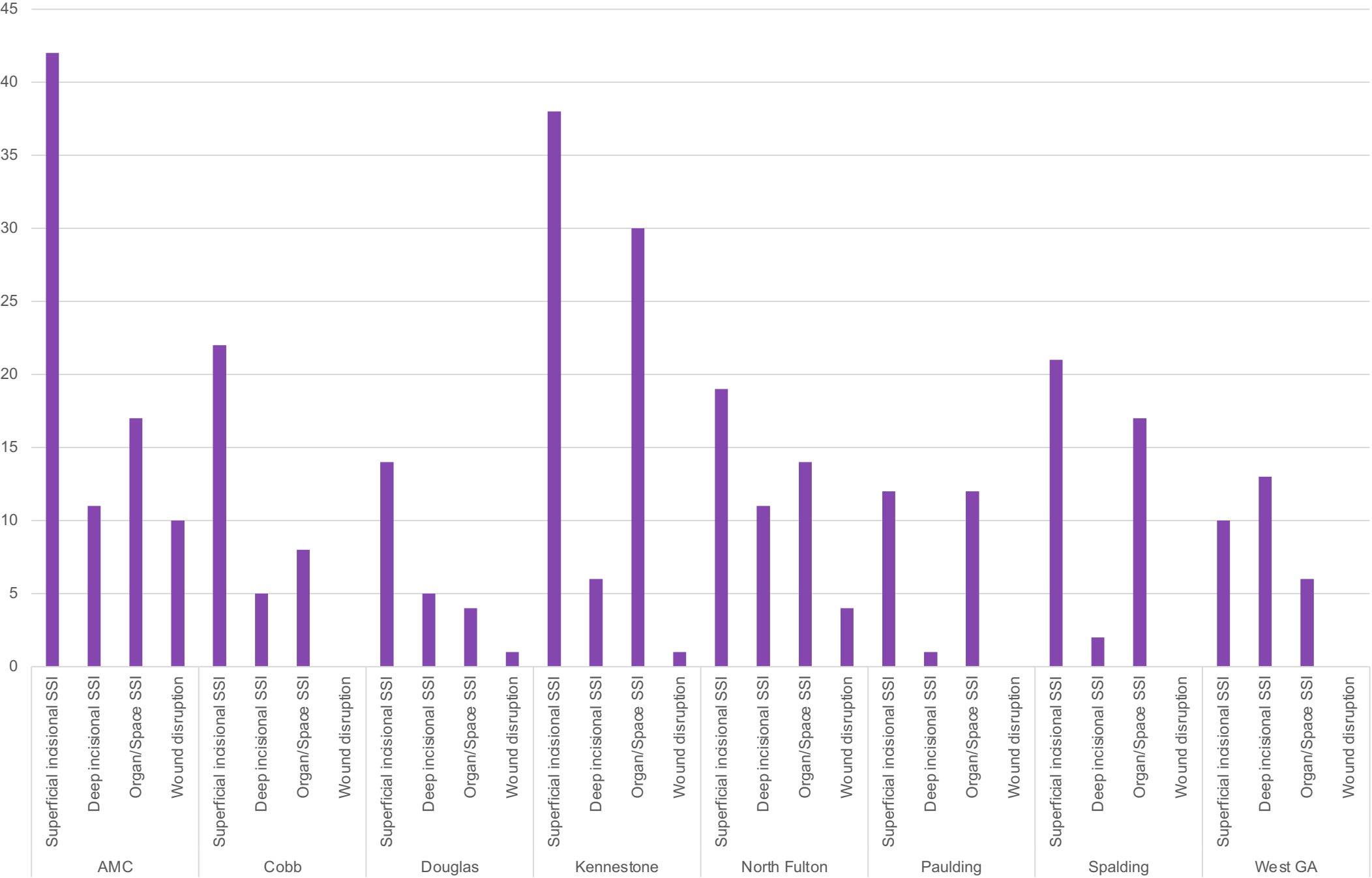
Proprietary statistical models (NSQIP etc.)



Wellstar

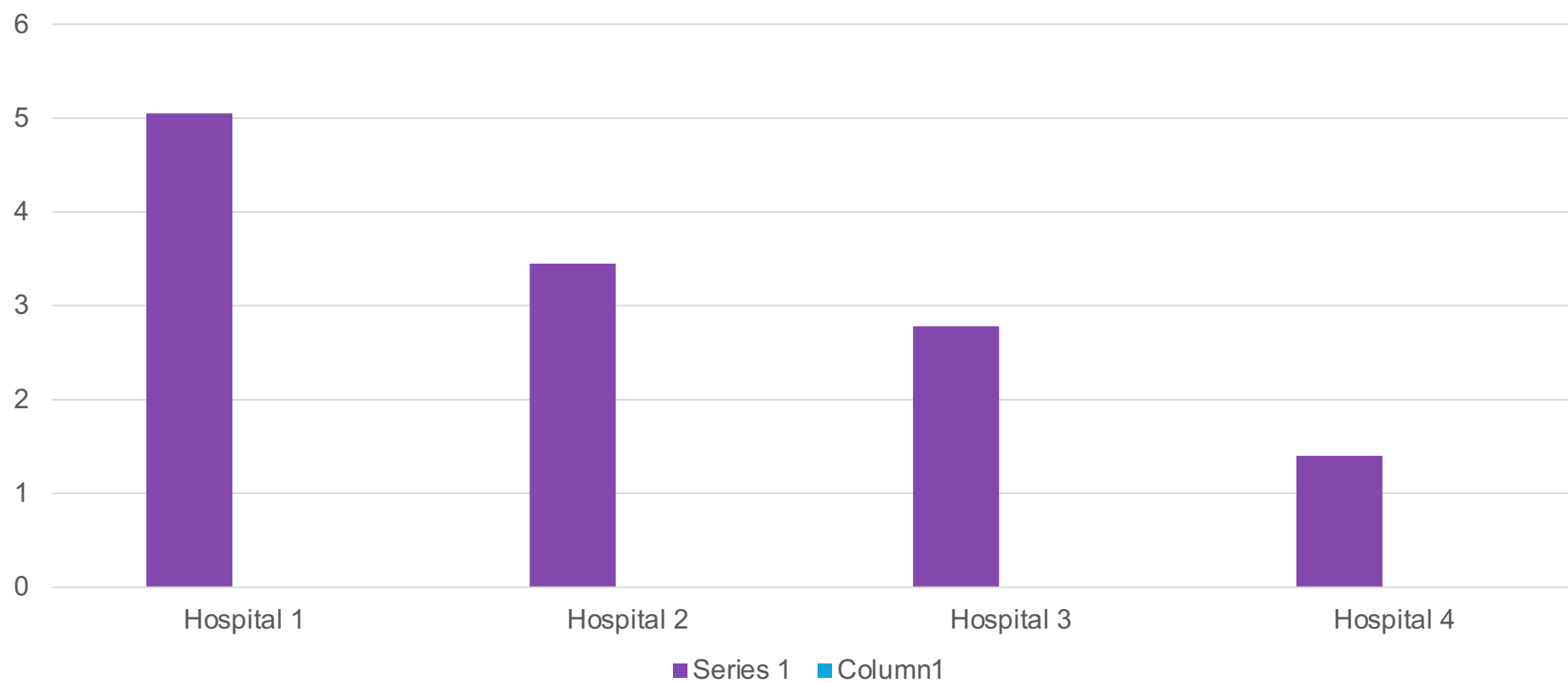


Wellstar System NSQIP SAR Data



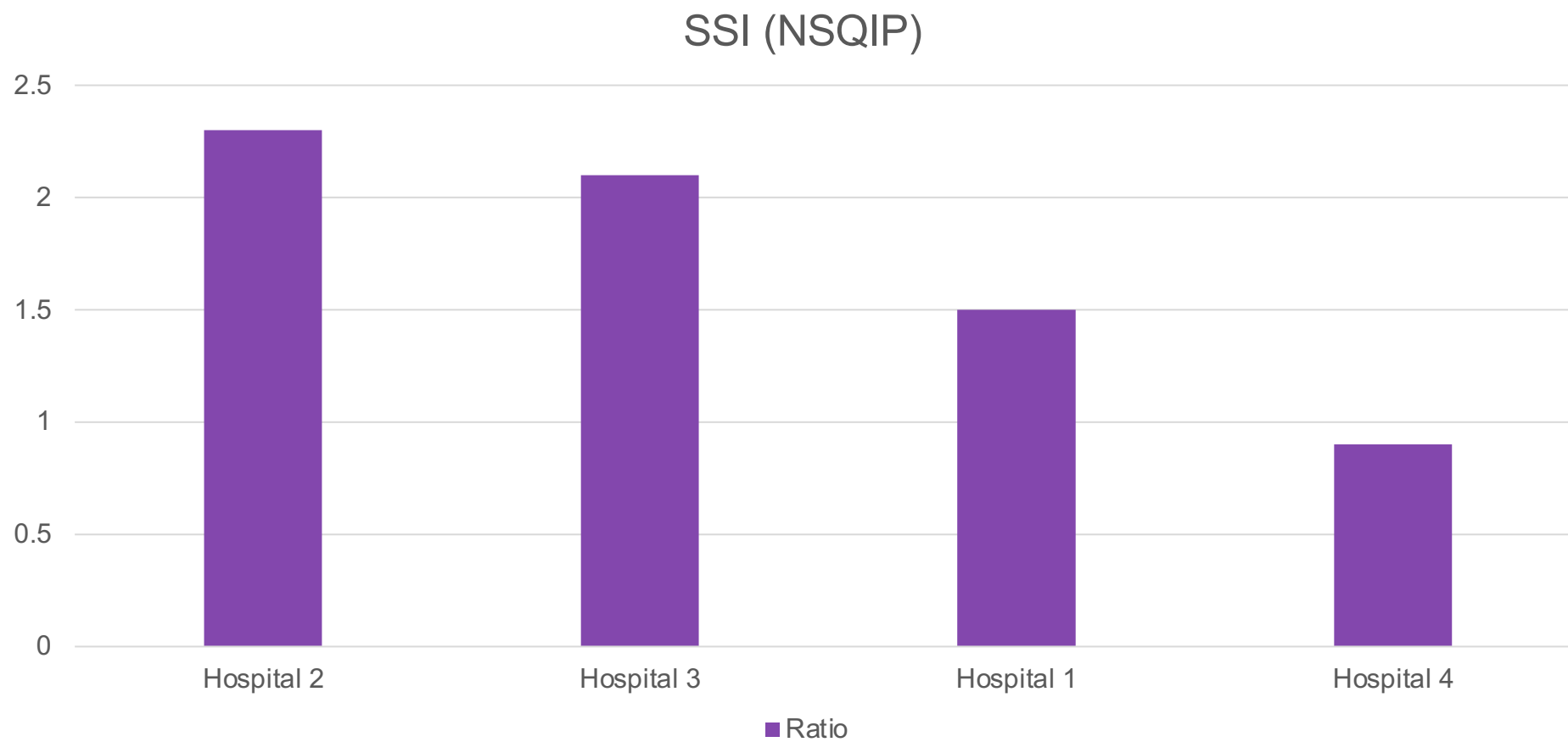
Fun with data

SSI (Raw Internal Data)



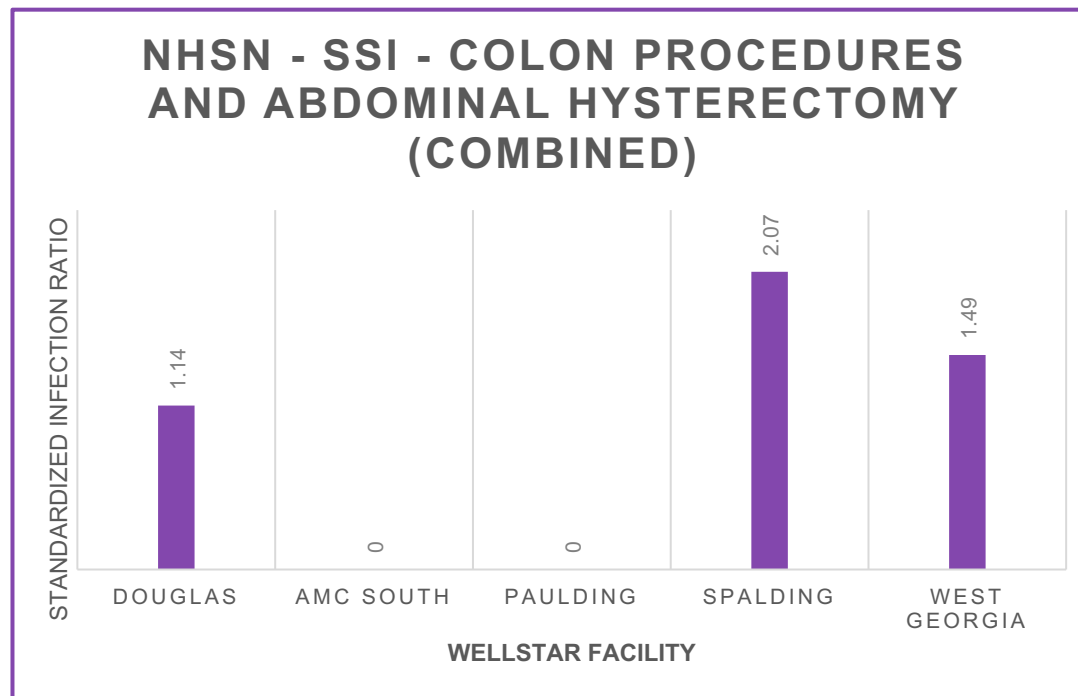
Wellstar

Fun with data



Wellstar

Vizient Quality and Accountability Study: Community Hospitals

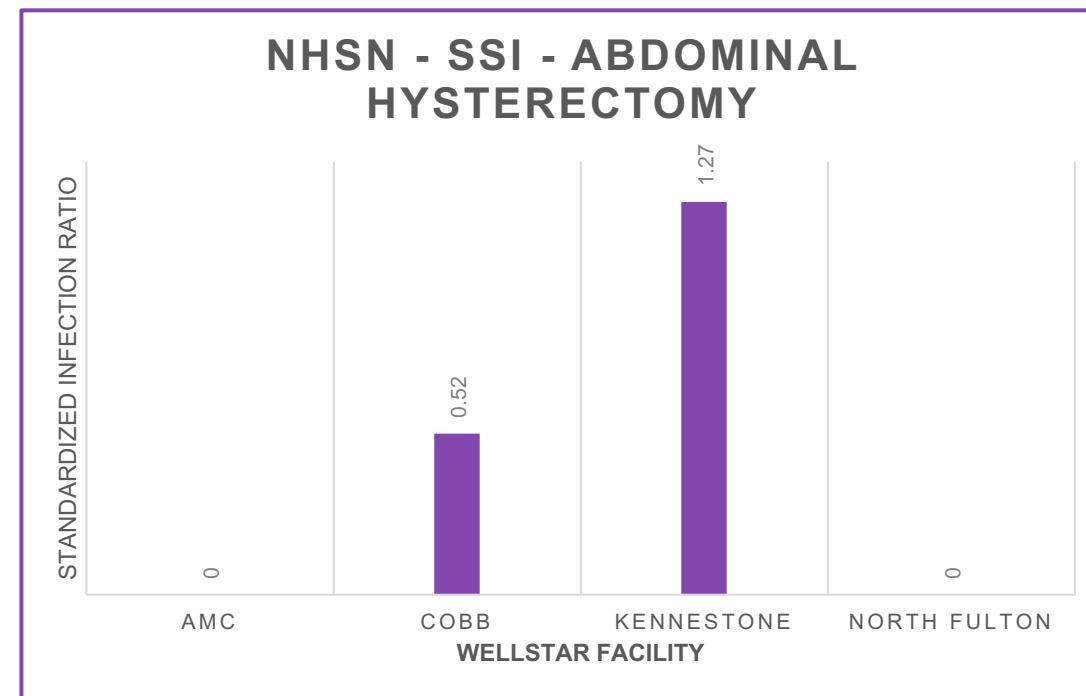
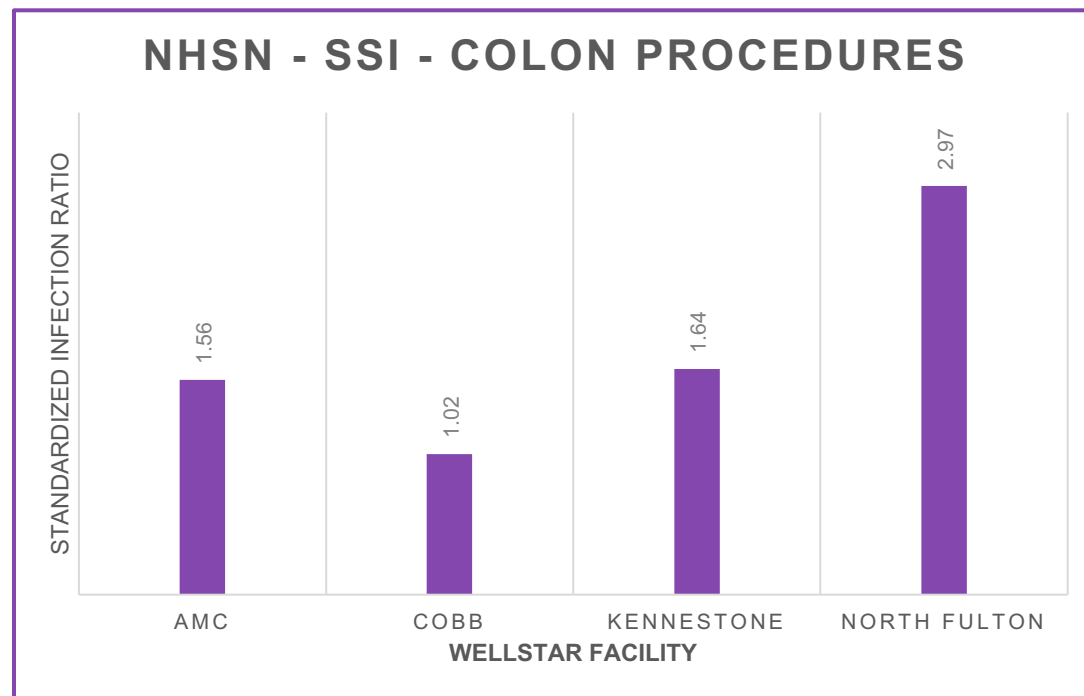


***For outcome measures, any strata with 0 observed deaths / events will be LV / Blank.**

Source: Vizient uses the CMS Report templates to extract data for each of the NHSN measures reported in the Q&A.

Data: Q3 2020 - Q2 2021

Vizient Quality and Accountability Study: Large, Specialized, Complex Care Medical Centers



***For outcome measures, any strata with 0 observed deaths / events will be LV / Blank.**

Source: Vizient uses the CMS Report templates to extract data for each of the NHSN measures reported in the Q&A.

Data: Q3 2020 - Q2 2021



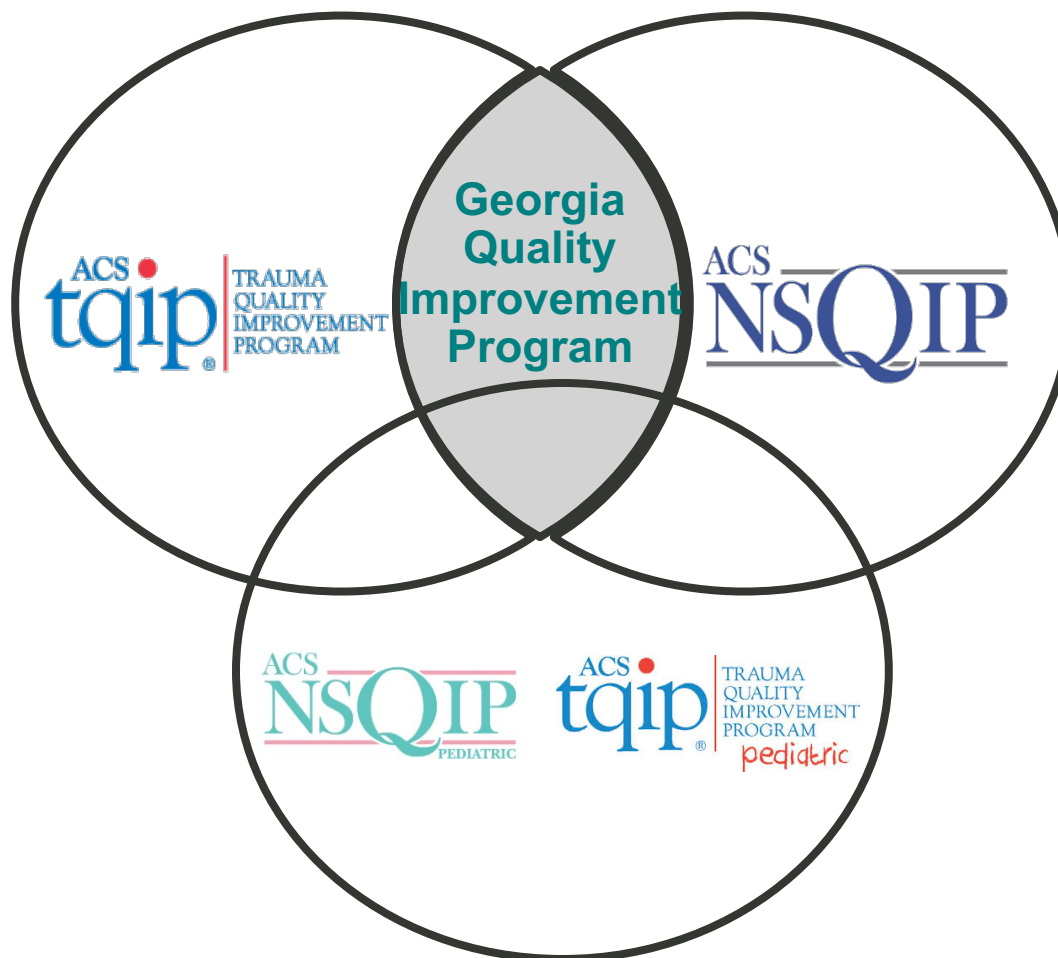
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Georgia Quality Improvement Program

Joe Sharma, MD, FACS, FACE
GQIP Chair



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Images obtained from the American College of Surgeons

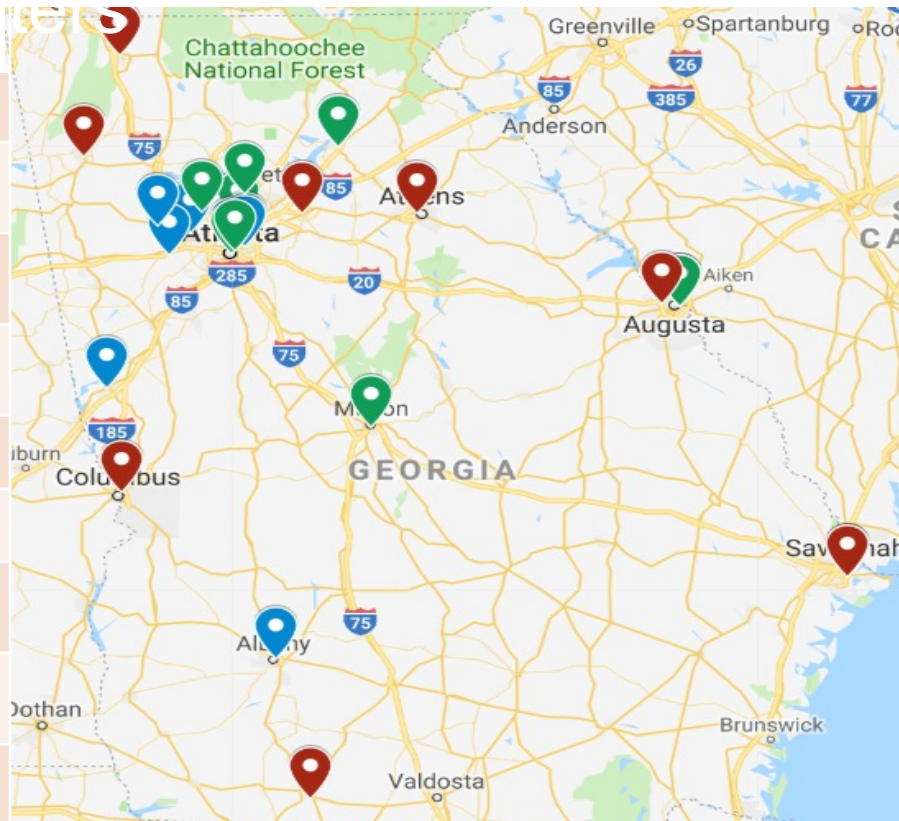


TQIP Only

NSQIP Only

TQIP & NSQIP

Archbold	Eisenhower Army	Atrium Navicent
Piedmont Columbus	Emory Johns Creek	Augusta University
Northeast Georgia	Emory St. Joseph's	Grady
Northside Gwinnett	Emory University	Hamilton
Piedmont Athens	Emory Midtown	Wellstar AMC
Piedmont Walton	Martin Army	Wellstar Cobb
Crisp	Northside Hospital-Atlanta	Wellstar Paulding
Doctors Hospital	Phoebe Putney	Wellstar Kennestone
Memorial Health	Wellstar Douglas	Wellstar North Fulton
Atrium Floyd	Wellstar Spaulding	Winn Army
Redmond	West Georgia	Hamilton
Fairview Park		
Piedmont Cartersville		



- **Red** marker = TQIP participating center only
- **Blue** marker = NSQIP participating center only
- **Green** marker = NSQIP and TQIP participating center

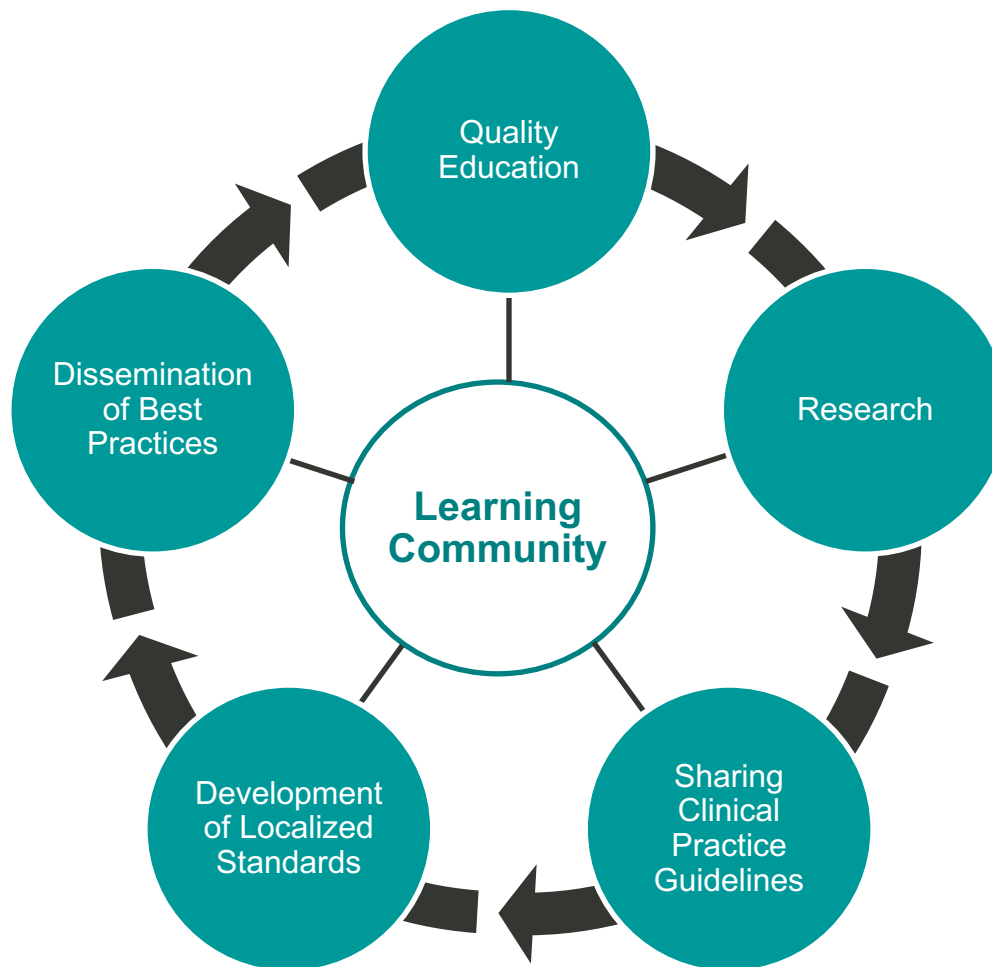


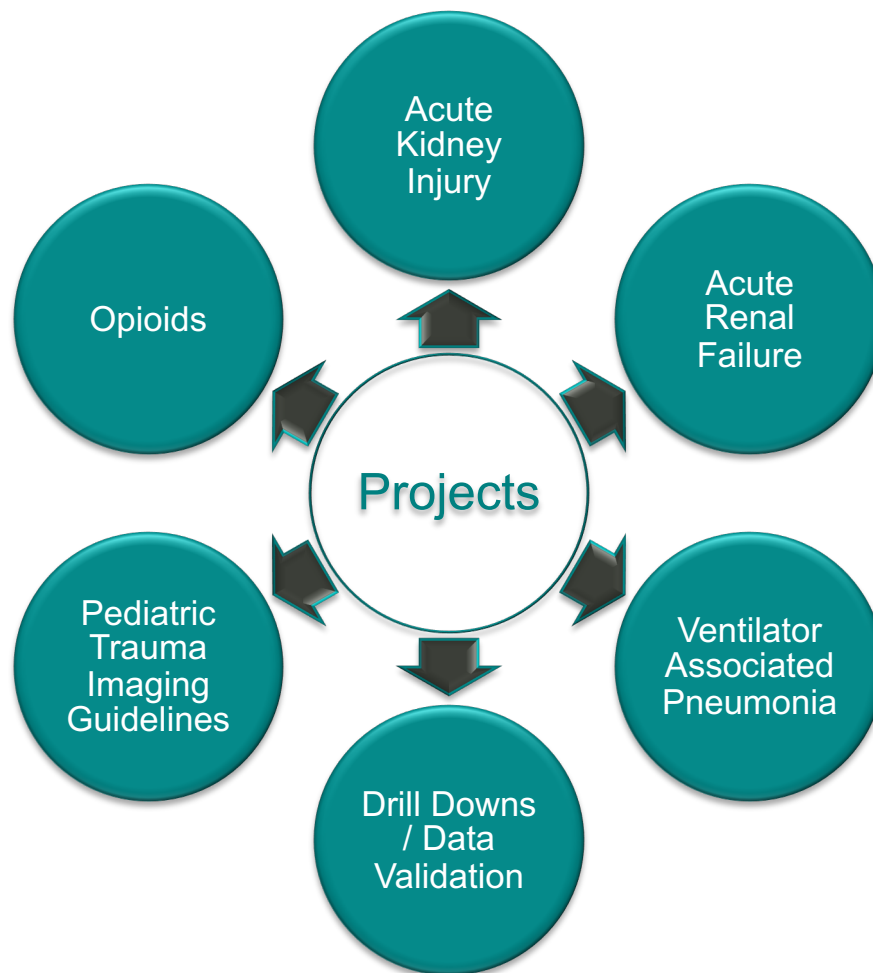
Vision

- Transparent, collaborative, supportive, non-punitive culture.
- Forum to share knowledge and best practices.
- Continually improve quality of care and prevent complications.

Goals

- Use available risk-adjusted clinical datasets
 - Maximize the exchange of information, quality improvement strategies, and best practices.
 - Participate in outreach to educate providers and the public on patient safety and quality improvement.
-







- Flagship project- opportunities in general surgery and trauma
 - Collection of common variables additional to NSQIP and TQIP
 - Important state-wide view of this complication across populations
 - Predictive tools and protective bundles (individually and joint)
-

AKI Protective Guideline



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Category	LOW RISK Standard Care	MODERATE RISK Increased Monitoring	HIGH RISK Aggressive Prevention
Foley	Consider Removal	Continue for Hourly UOP	Continue for Hourly UOP
Labs	As indicated	Serum BUN/Cr q 12 h Nephrocheck q 12 h (if available)	Serum BUN/Cr q 12 h Nephrocheck q 12 h (if available)
Imaging	None	Renal Ultrasound	Renal Ultrasound
Preload Monitoring	Not Needed	Institution Specific with at least q12 assessment (SVV/PAC/IVC diameter)	Institution Specific with at least q8 assessment (SVV/PAC/IVC diameter)
BP/CI Goal	None	SBP > 90/MAP > 65 CI > 2.0 Inotrope may be indicated if euvolemic	SBP > 90/MAP > 65 CI > 2.0 Inotrope may be indicated if euvolemic
Fluid Management	Routine	Fluid Challenge for hypovolemia (Component therapy only as indicated for associated anemia/coagulopathy)	Fluid Challenge for hypovolemia (Component therapy only as indicated for associated anemia/coagulopathy)
Pharmacologic Considerations	Routine	Avoid Nephrotoxins *	Avoid <u>Nephrotoxins</u> * Consider Pharmacology consult to adjust med dosing
Specialty Services	None	None	Consider Nephrology Consult

* NEPHROTOXINS TO AVOID

1. **IV CONTRAST:** Delay contrast studies as able. Consider oral NAC as premedication.

2. **ANTIBIOTICS:** Avoid as possible. Pharmacy to assist in management if required

- Vancomycin, Pipercillian/Tazobactam, Aminoglycosides, Amphotericin B

3. **NSAIDS/TORADOL**

4. **DIURETICS:** should be used with caution as dictated by evidence of heart failure as contributor to renal failure



Unnecessary imaging can be harmful to children.

Not all pediatric injuries require imaging. To limit unnecessary imaging, ensure each exam is absolutely necessary based on patient condition, these imaging guidelines, and physician discretion.

If your facility does not have the resources to treat the injury, send the patient to a facility with pediatric trauma services. Call your local/regional pediatric trauma center for additional guidance.

Check Before You Scan

If...

Altered mental status

Loss of consciousness for more than 5 seconds

Physical exam evidence of injuries centered on the head and neck region

For Children UNDER 2

- Scalp hematoma (other than frontal)
- Palpable skull fracture

For Children OVER 2

- Vomiting
- Signs of skull fracture
- Severe headache

consider a Head CT

[TQIP Best Practices in Imaging Guidelines, p. 18-19](#)

If...

unable to clinically clear C-spine*

If plain films are abnormal, transfer patient to a pediatric trauma center.

If patient meets Modified Memphis Criteria* for obtaining a CTA of the neck, or there is concern for blunt cerebral vascular injury based on established guidelines, then reconstruction of the cervical spine is appropriate HOWEVER you still cannot clear spine based on CT alone

Imaging is recommended when 3 or 4 of the following criteria are positive:

- GCS < 14
- GCS (Eye criterion) = 1
- Motor vehicle crash (MVC) mechanism of injury
- Age 24-36 months

consider Plain Films

[TQIP Best Practices in Imaging Guidelines, p. 26-27](#)

If...

Abnormal CXR in blunt trauma (widened mediastinum)

Penetrating trauma with concern for major vascular injury

consider a Chest CT Angiogram

[TQIP Best Practices in Imaging Guidelines, p. 37](#)

If...

Positive FAST

Abdominal wall bruising/ seat belt sign

GCS <14 with concern for abdominal injury

Thoracic wall trauma

Complaints of abdominal pain and/or tenderness to palpation

Decreased breath sounds

Inability to fully assess the abdomen with concern for abdominal trauma

consider an Abdomen/Pelvis CT with contrast

[TQIP Best Practices in Imaging Guidelines, p. 42](#)

* indicates further description available in FAQ section

Pediatric Trauma Imaging Guideline, Age <15

Pediatric Trauma Imaging Guidelines





COVID-19 Resource Center

The American College of Surgeons (ACS) **COVID-19 Resource Center** is an online resource for the surgical community facing the impact of Coronavirus Disease 2019 (COVID-19). Content has been developed or curated under the auspices of ACS Regents and Officers to bring surgeons trusted information, including best practices and guidance that specifically target the concerns and challenges surgeons face.

If you have any relevant information you want to bring to our attention, please email covid19@facs.org.

#TalkItUp >



Joint Statement >

ACS Joins Call for COVID-19
Vaccine Mandates
for All Health Workers

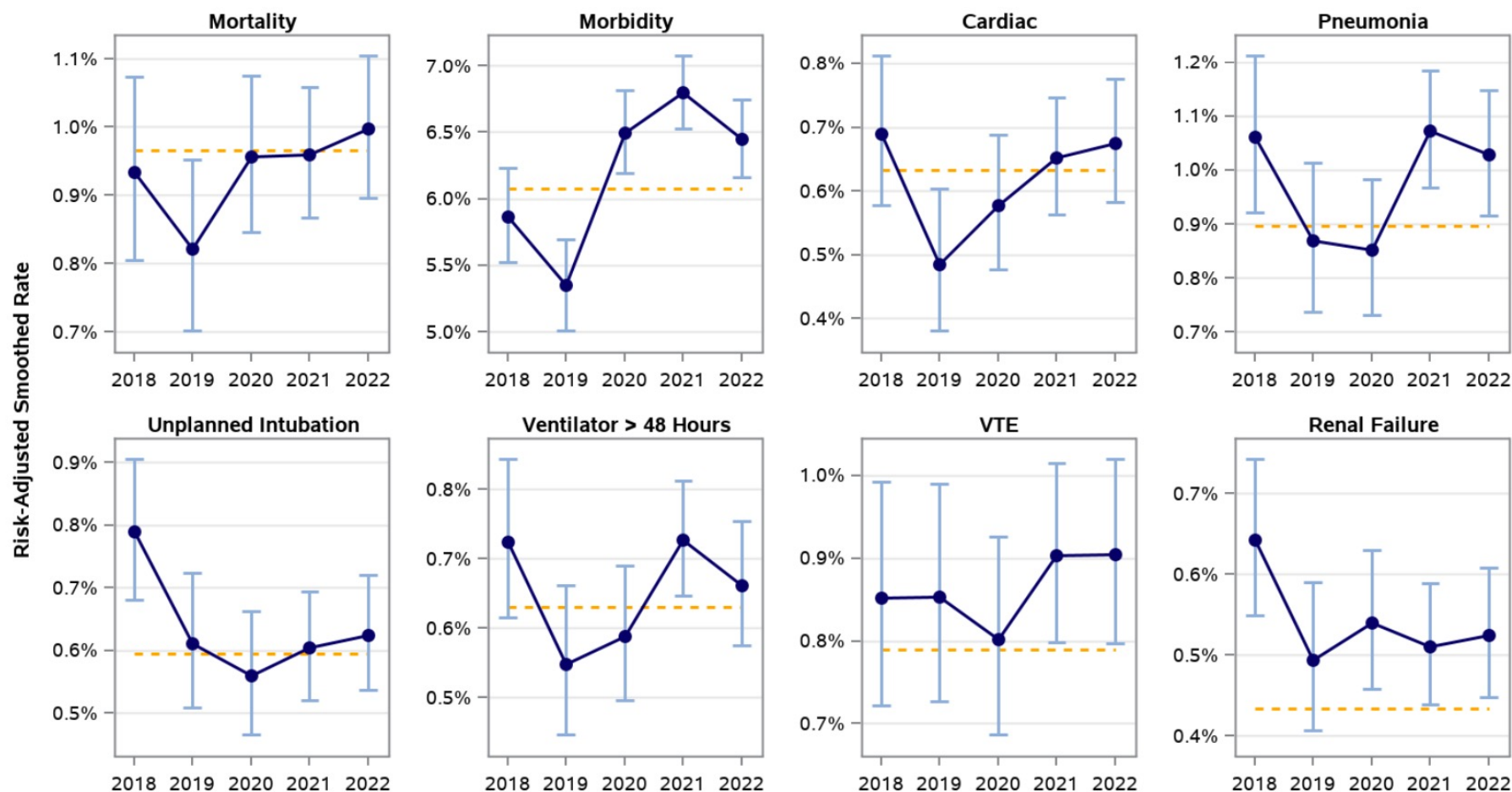
Well-Being >





ALL CASES

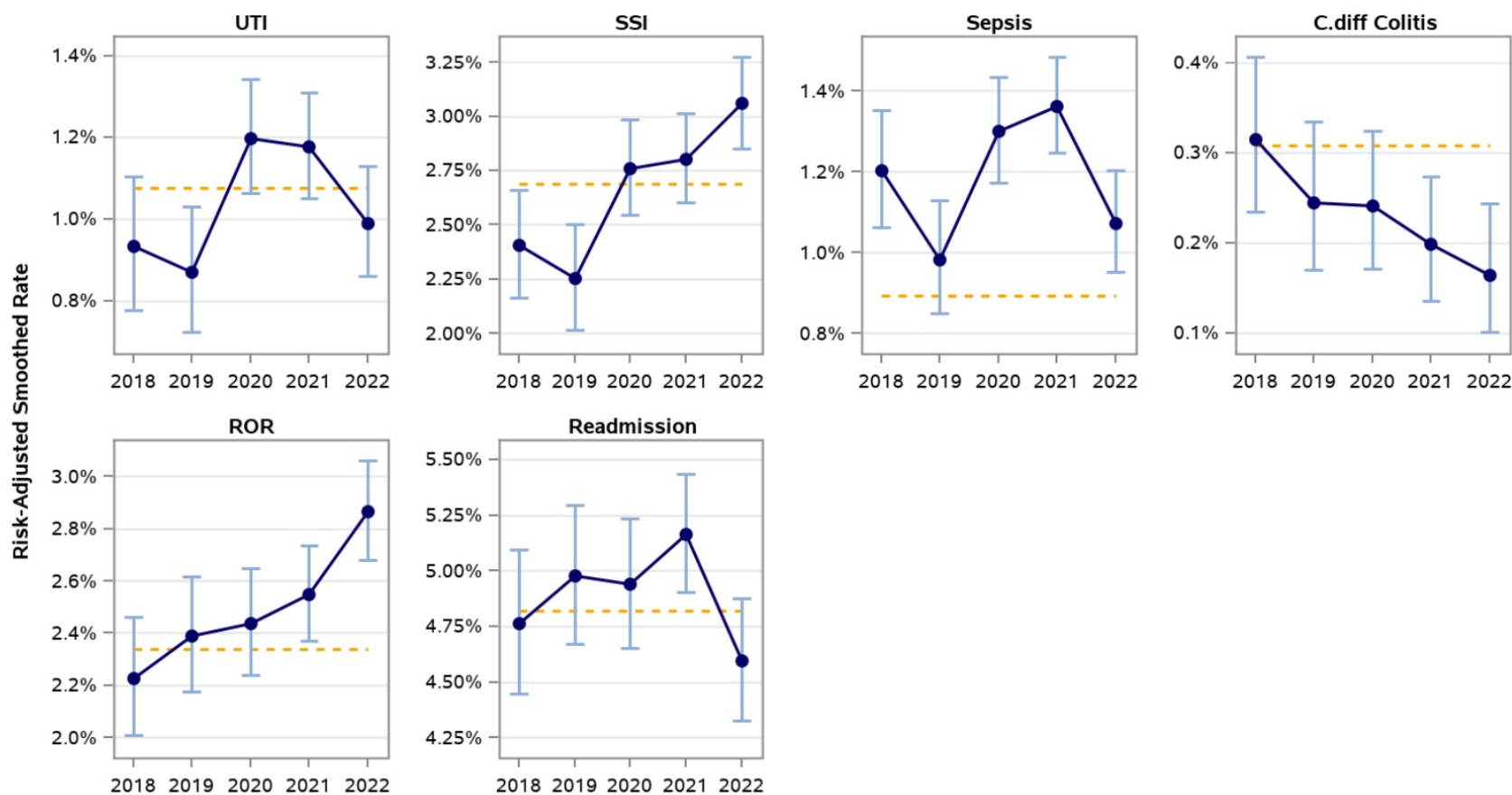
These graphs depict the risk-adjusted smoothed rates, with confidence intervals, computed for the collaborative over time compared to the NSQIP population rate over time. Each collaborative rate is calculated using 12-months of independent, non-overlapping data.





ALL CASES

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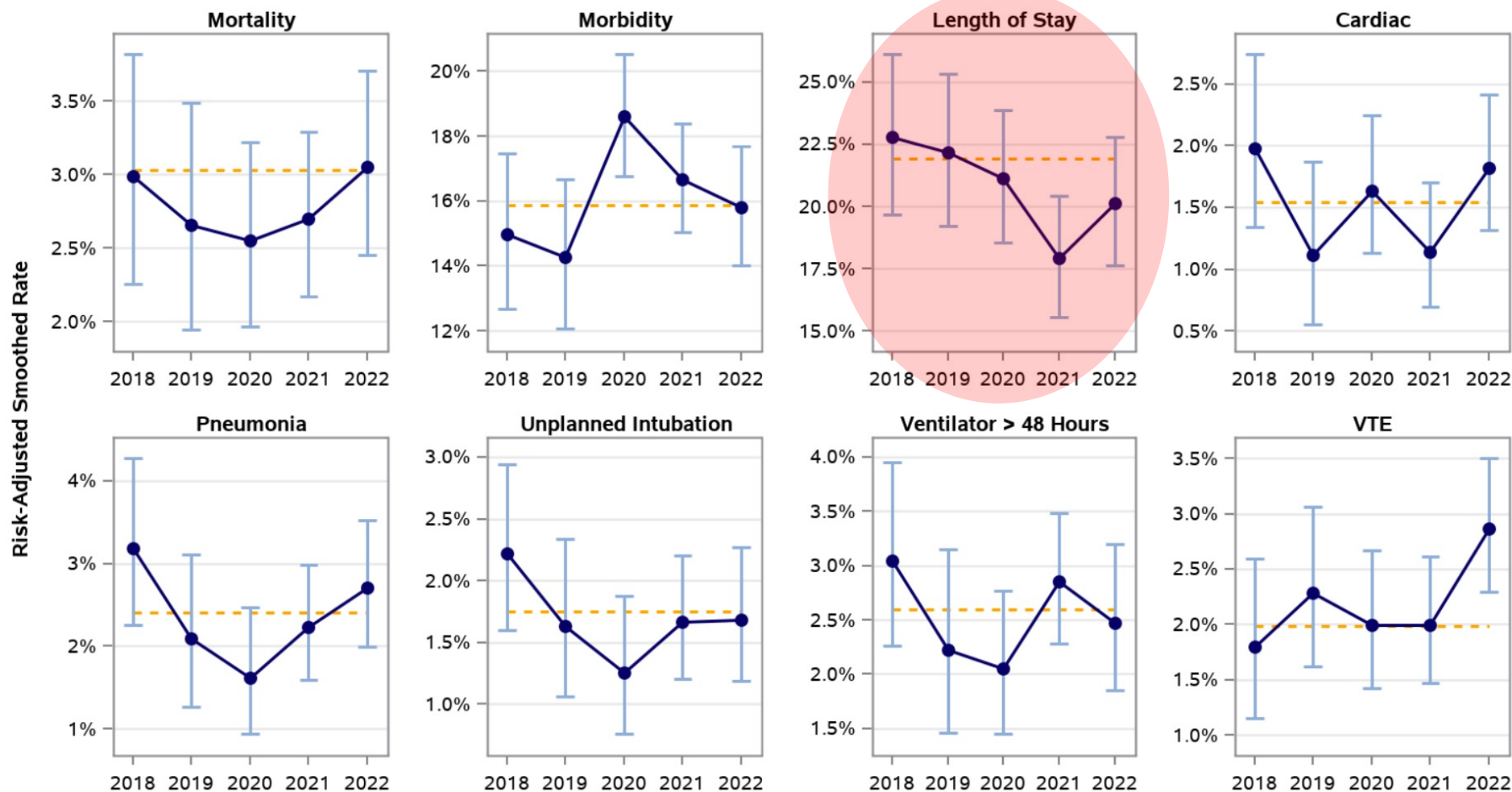


Semi-Annual Report - January



COLORECTAL

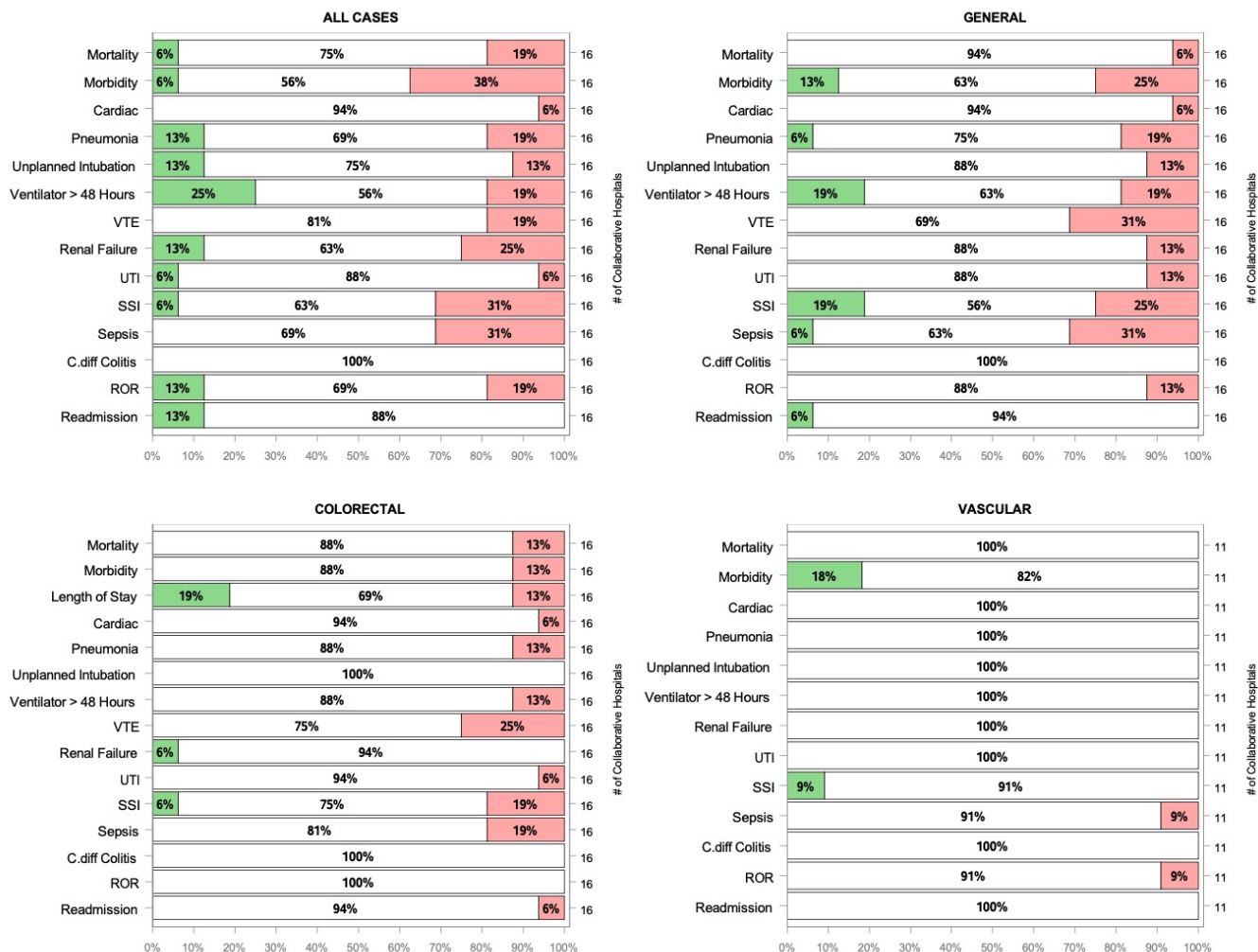
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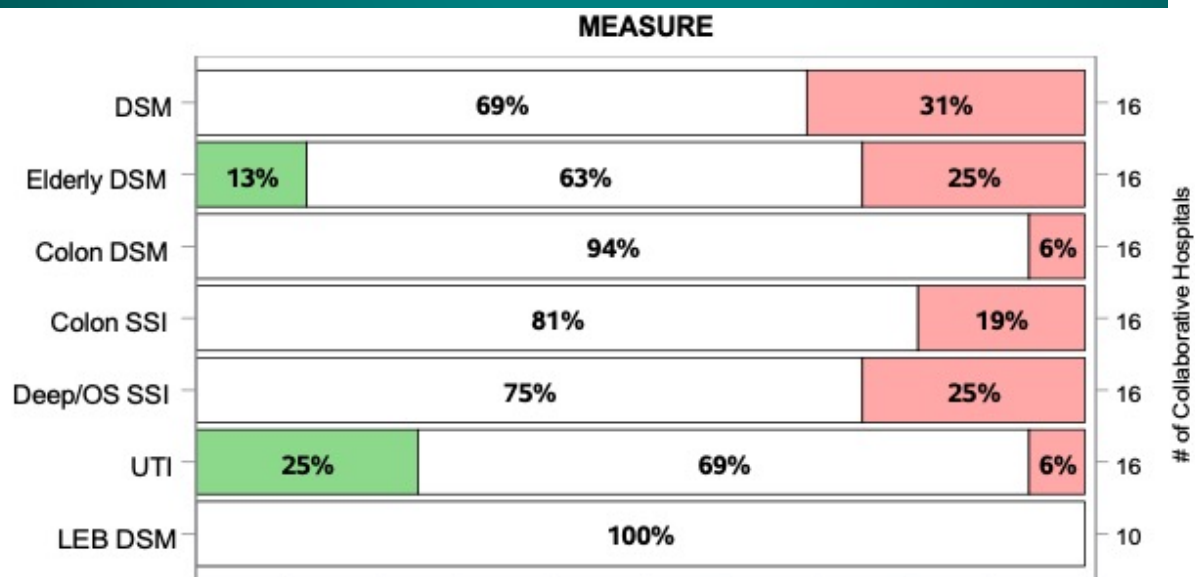




Surgery Dates July 1, 2020 to June 30, 2021

These graphs depict the percentage of collaborative hospitals assigned to the performance assessment categories based on the current SAR.





Model Name	Collaborative								NSQIP
	Total Cases	Observed Events	Observed Rate	Adjusted Rate *	95% Lower CL	95% Upper CL	Outlier **	Estimated OR	Population Rate
MEASURE DSM	20,604	1,505	7.30%	6.82%	6.52%	7.13%		1.04	6.58%
MEASURE Elderly DSM	7,271	721	9.92%	9.33%	8.75%	9.93%		1.01	9.25%
MEASURE Colon DSM	1,010	190	18.81%	17.00%	15.20%	18.89%		1.14	15.27%
MEASURE Colon SSI	1,010	83	8.22%	8.00%	6.56%	9.57%		1.12	7.20%
MEASURE Deep/OS SSI	20,604	299	1.45%	1.47%	1.33%	1.62%	High	1.16	1.27%
MEASURE UTI	19,508	165	0.85%	0.81%	0.68%	0.94%	Low	0.85	0.95%
MEASURE LEB DSM	73	2	2.74%	6.05%	2.96%	10.23%		0.65	9.06%



Complication	Number Avoided	Cost without a complication	Cost with complication	Diff	Cost Savings in Resource
Pneumonia	662	18939	49060	30121	\$19,940,102
UTI	233	19048	27166	8118	\$1,891,494
Superficial SSI	143	18851	28180	9329	\$1,334,047
Deep SSI	0	19178	32973	13795	\$0
Organ Space SSI	0	18990	35477	16487	\$0
Sepsis	272	18499	45361	26862	\$7,306,464
PE	0	19215	31405	12190	\$0
Readmission	0			11300	\$0
				TOTAL	\$30,472,107

TOTALS	
2014	18899
2015	21393
2016	18956
2017	17458
2018	15250
Total Pts 2014-2018	91956

Essentials of a Collaborative



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Resources

- Common Data Registry
- Leadership
- Culture
- Infrastructure
- Engaged Clinicians

Education/Training

- Guideline/Best Practices dissemination
- Training for QI

Key considerations

- Payor
- Benchmarks
- Bandwidth
 - Support staff
 - Research Scholars



“If culture eats strategy for breakfast, then infrastructure eats culture for lunch.”

Brent James