The Journey to Implement Enhanced Recovery After Surgery (ERAS®) Pathways Across the System

Deborah Cardenas, DNP, MSN, RN, CPHQ, Jodi Cichetti, MS, RN, CCM, CPHQ, CPPS, Nik Korgaonkar, MD, MBA, FACS, Samantha Kelly, MSN, RN, Tara Seitz, MSN, RN, Courtney Vangeli, MSN, BS, RN, Kristin Thomas, MA, Matthew Seitz, BS, BA, Jenna Jansen, MPH, FACHE, CPHQ and Shabnam Hafiz, MD, MPH

Description

Enhanced Recovery After Surgery (ERAS®) pathways for inpatient elective colorectal, emergent appendectomy and cholecystectomy were created using Epic® functionality and initiated within six months across six hospitals at a Pennsylvania health system. A multidisciplinary group implemented the initiative including quality, surgery, nursing, information technology(IT), pharmacy, and leadership.

Problem

Enhanced Recovery After Surgery (ERAS) pathways were used in only a few hospitals across the system. ERAS has been shown to result in improved patient outcomes such as a decrease in length of stay, complications, readmissions and costs. An initiative was undertaken to implement three ERAS surgical pathways systemwide.

Measurement

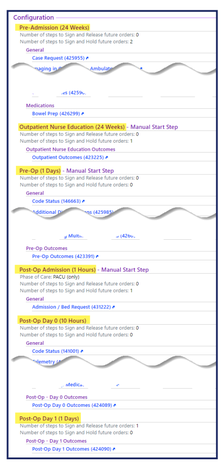
Using Premier Quality Advisor, risk-adjusted data for principal procedure codes for emergent appendectomy, emergent cholecystectomy and elective colorectal surgeries were obtained. Outcome measures for all included geometric and arithmetic length of stay, inpatient complication rates, 30-day readmission rate to inpatient setting and geometric cost per case.

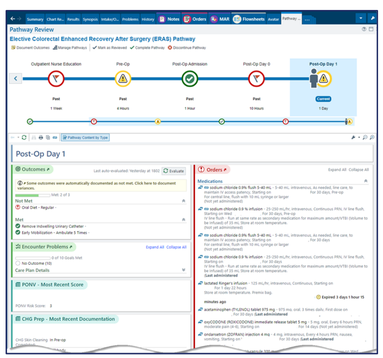
Analysis

Baseline outcome measure data were obtained from Premier Quality Advisor. Once the ERAS pathways were in use, data were evaluated and compared to baseline results. If present, statistical significance was identified in the results. System overview dashboards were developed in Epic to determine surgeon and nursing engagement for pathway utilization.

Implementation

ERAS pathways for elective colorectal and emergent appendectomy and cholecystectomy were implemented systemwide. Obstacles included delay in nurse manager/nurse educator involvement, pre-existing workflow variation, IT build limitations and individual utilization scorecard delay. Meetings were held with surgeons and nursing to provide outcome data, education and sharing of dashboard information for department monitoring.





Results/Discussion

Ten months of post implementation data with comparison to baseline data.

Metric	Emergent Appendectomy Baseline n = 98 4/22 – 3/23	Appendectomy Progress to Date n = 43 7/24 – 5/25	Emergent Cholecystectomy Baseline n = 277 4/22 – 3/23	Cholecystectomy Progress to Date n = 120 7/24 – 5/25	Elective Colorectal Baseline n = 235 4/22 – 3/23	Colorectal Progress to Date 7/24 – 5/25
Geometric Length of Stay (LOS) & Observed/ Expected (O/E)	1.76 days 1.01 O/E	1.64 days 0.88 O/E ↓0.12 days	2.70 days 1.01 O/E	2.65 days 1.03 O/E ↓0.05 days	3.36 days 1.04 O/E	2.66 days 0.85 O/E*** ↓0.7 days
Arithmetic Length of Stay (LOS)	2.14 days	2.07 days ↓0.07 days	3.41 days	3.29 days ↓0.12 days	3.98 days	3.10 days ↓0.88 days
Inpatient Complication Rate & Observed/ Expected (O/E)	12.24% 2.69 O/E**	7% 1.17 O/E ↓5.24%	13.4% 1.73 O/E***	8.4% 1.26 O/E ↓5%	12.3% 1.05 O/E	11% 1.01 O/E ↓1.3%
Thirty (30) Day Readmissions and Observed/ Expected (O/E)	6.32% 1.65 O/E	5.1% O/E 1.16 (through 3/25) ↓1.22%	2.61% 0.66 O/E**	4.6% O/E 1.05 (through 4/25) ↑1.99%	3.83% 0.56 O/E***	9.1% O/E 1. 50 (through 4/25) ↑5. 27%

Outcomes

1) Committed leaders across all disciplines are required for successful implementation of a systemwide initiative.
2) Multidisciplinary team member representation from all system entities is important from inception of the project.
3) Ongoing transparency of data to report progress, any related actions as necessary and reevaluation of strategies.

References

Ljungqvist, O., Scott, M., & Fearon, K. C. (2017). Enhanced Recovery After Surgery: A Review. JAMA surgery, 152(3), 292–298. https://doi.org/10.1001/jamasurg.2016.4952