

Improving Outcomes Through Enhanced Recovery After Surgery (ERAS) Protocol Adoption

Rebecca Jablonski, MSN, RN, CPAN, CNL; Miles Lane, BS

Introduction

ERAS: Evidence-based, patient centered protocol with focus on:

- Patient education, preparation, optimization
- Mitigating physiologic stress response and inflammatory process
- Multi-modal adjuncts to pain management

Pre-ERAS Implementation

- High LOS, 30-Day Readmissions, Complication rates
- Non-standardized, highly variable processes

Post-ERAS Implementation:

- Multidisciplinary teams, break silos of care, education
- Current evidence, best practices, synergistic contributions
- Order sets with built-in ERAS elements
- Monitoring trends, communicating results

Methods

- To achieve this overall look at our ERAS Protocol Adoption, we pulled all Elective Hospital Encounters with a Performed Procedure included in our ERAS Procedure Groupers from EPIC.
- We calculated the delta from ERAS Implementation for each ERAS Case by Service Line.
- We then filtered the data to include +/-9 Quarters (i.e. 36 months Pre-ERAS and 36 months Post-ERAS) of Encounter data. Based on these implementation dates, not all Service Lines have complete Pre- and Post- ERAS data.
- The LOS data was then analyzed with a Wilcoxon Rank Sum to compare the median LOS.

ERAS Implementation Timeline

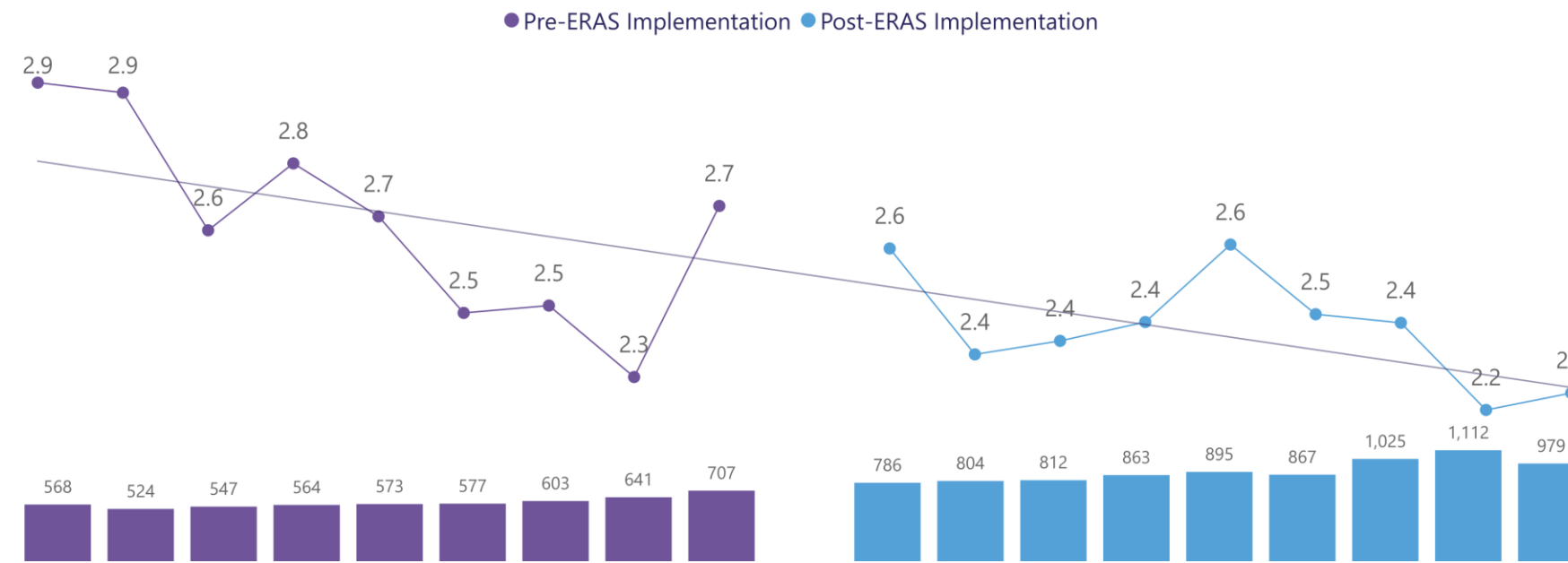
Date	Service Line	Date	Service Line
11/14/17	Ortho (Hip/Knee/Shoulder)	02/02/22	OB (C-Sections)
05/17/18	Colon	06/20/23	Ortho (Foot & Ankle)
07/21/20	OB (GYN/ONC)	01/27/25	Thoracotomy*
11/01/20	Ortho (Spine)	TBD	Breast*
02/25/21	Cardiothoracic	* Not included in data	

Results

- These first two visuals show data for each of 9 Implemented Service Lines and cover a period of 9 Quarters (36 months) Pre- and Post-ERAS Implementation:

Elective ERAS ALOS

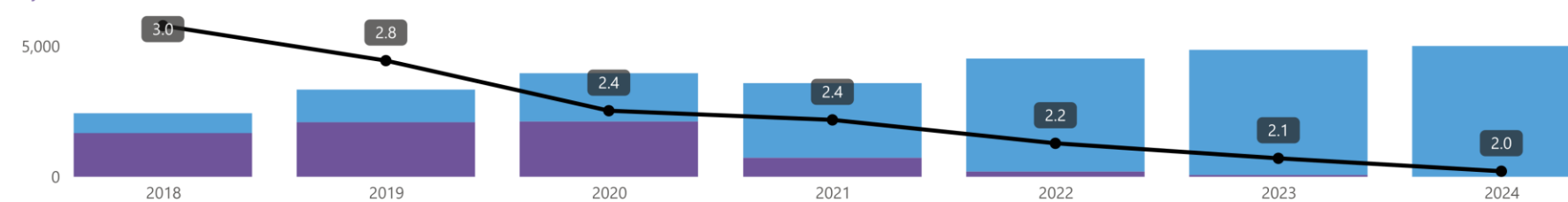
by Implementation Quarter and ERAS Period



- These last two visuals show 7 complete years to compare Pre- and Post-ERAS Implementation periods:

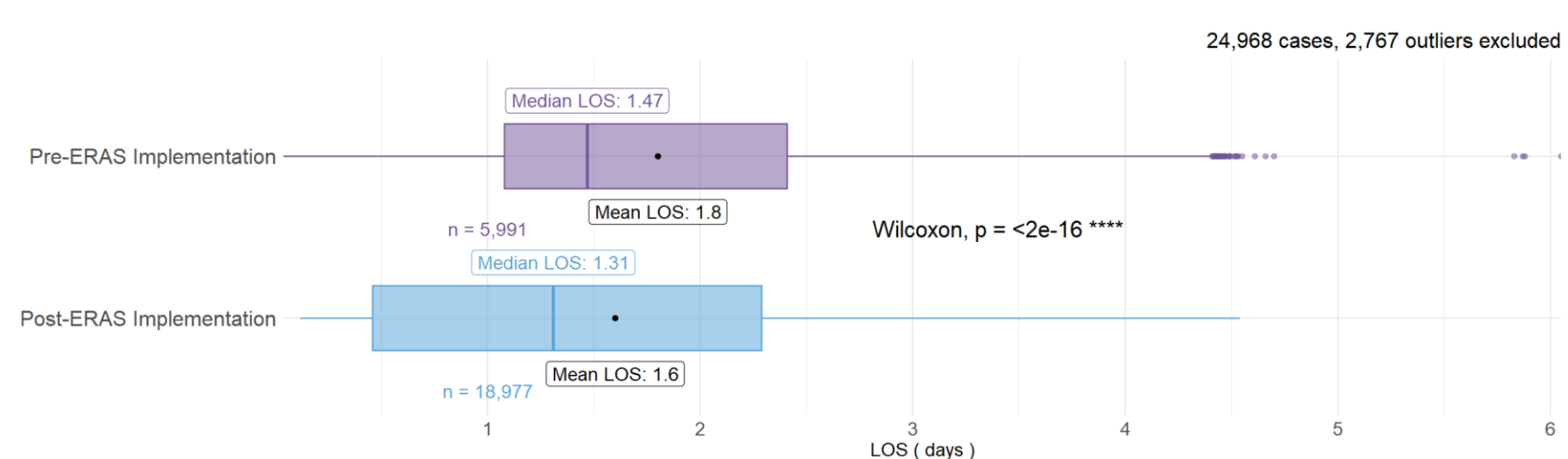
Total Elective ERAS Encounters and Total Elective ERAS ALOS

by Year and ERAS Period



Total Elective ERAS LOS

by ERAS Implementation Period



Discussion

- Initial service lines in orthopedics and colorectal surgery secured C-Suite buy-in and paved the way for additional service line adoption
- Surgeon buy-in through results, order set compliance, reduced practice variability
- Initial and continuing education occurs with team members
- Component documentation and a consistent source of truth
- Expectation setting, auditing, sharing wins and opportunities
- Post-ERAS Implementation cases have a statistically lower LOS ($p < .001$), and our hospital has been able to adopt ERAS across multiple surgical subspecialties and establish better control of length of stay.
- Average length of stay reduction for ERAS cases translated into \$7.4M saved by healthcare system, estimated as of CY2023

References

Elias, K. (2017). Understanding Enhanced Recovery After Surgery Guidelines: An Introductory Approach. *Journal of Laparoendoscopic & Advanced Surgical Techniques* 27(9). DOI: 10.1018/lap.2017.0342

Lawson, T., Weekes, L., & Hill, M. (2018). Ensuring Success and Sustainability of a Quality Improvement Project. *British Journal of Anaesthesia* 18(5), 147-152. Doi: 10.1016-j.bjae.2018.02.002

Memtsoudis, S., Fiasconarao, M., Soffin, E., Liu, J., Wilson, L., Poeran, J., Bekeris, J., & Kehlet, H. (2020). Enhanced Recovery After Surgery Components and Perioperative Outcomes: A Nationwide Observational Study. *British Journal of Anaesthesia*, 124(5), 638-647. DOI: 10.1016/j.bja.2020.01.017

Ozcelik, M. (2024). Implementation of ERAS Protocols: In Theory and Practice. *Turkish Journal of Anaesthesiology & Reanimation* 52(5), 163-168. DOI: 10.4274-TJAR.2024.241723

Pickens, R., Cochran, A., Lyman, W., King, L., Iannitti, D., Martinie, J., Bader, E., Ocuin, L., Riggs, S., Davis, B., Matthews, B., Vrochides, D. (2021). *World Journal of Surgery* 45, 23-32. <https://doi.org/10.1007/s00268-020-05765-y>

Salamanna, F., Contartese, D., Brogini, S., Visani, A., Martikos, K., Griffoni, C., Ricci, A., Gasbarrini, A., & Fini, M. (2022). Key Components, Current Practice and Clinical Outcomes of ERAS Programs in Patients Undergoing Orthopedic Surgery: A Systematic Review. *Journal of Clinical Medicine* 11(4222). <https://doi.org/10.3390-jcm11144222>