

Teamwork, Perseverance & a Risk-Adjusted, Outcomes-Based Program Aide in Decreasing Post-op Complication Rates



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BACKGROUND

- Vidant Medical Center's (VMC) Pediatric Surgical team sought out a program to compare surgical outcomes with other Pediatric Hospitals
- The American College of Surgeons (ACS) National Surgical Quality Improvement Program-Pediatrics (NSQIP-Peds) collects Pre-op, Intra-op & Post-op variables & provides risk adjusted outcome-based comparison data
- VMC joined NSQIP-Peds in October of 2014 to identify & validate performance improvement initiatives

PROJECT AIM

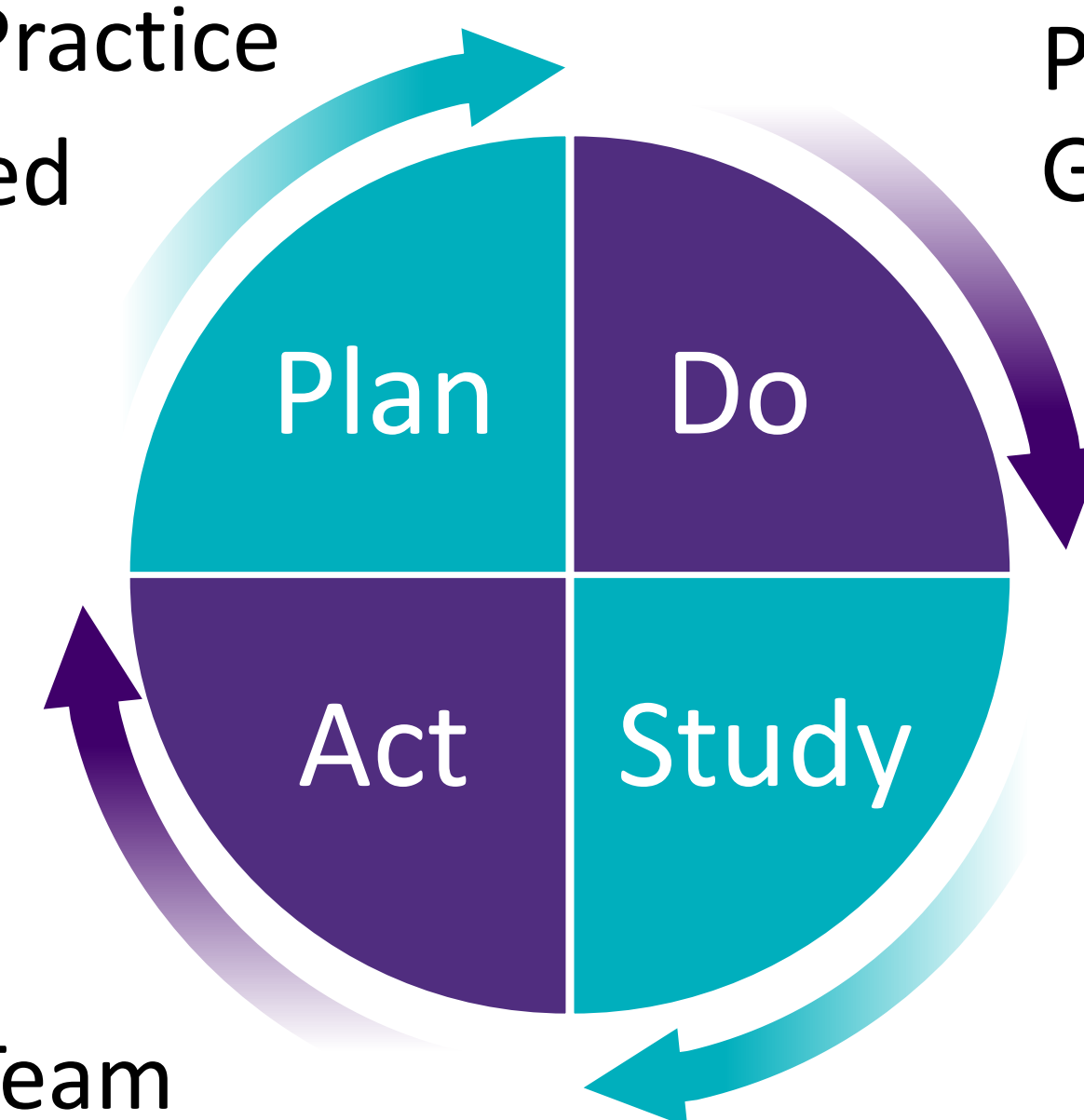
Reduce post-operative complications in pediatric surgeries by 50% within 1 year by utilizing a risk-adjusted, outcomes based program to guide & validate performance improvement initiatives.

PROJECT DESIGN / STRATEGY

- Reports received from NSQIP-Peds were reviewed by the pediatric surgery team
- Outcomes identified an opportunity to reduce post-operative complications including Surgical Site Infections (SSI)
- Drilldowns narrowed the problematic area to one specific surgery type - appendectomy
- Surgical protocol updates based on Best Practice were initiated
- Risk adjusted & non-risk adjusted reports tracking trends were followed & shared with a new Children's Quality Team
- Further initiatives beyond the operating room were developed

CHANGES MADE (PDSA CYCLES)

- 2015 NSQIP data identified VMC as a high outlier for Postop Occurrences
- VMC Identified variations in Appendicitis care between surgeons when compared to Best Practice
- Plan to create standardized Appendectomy Protocol



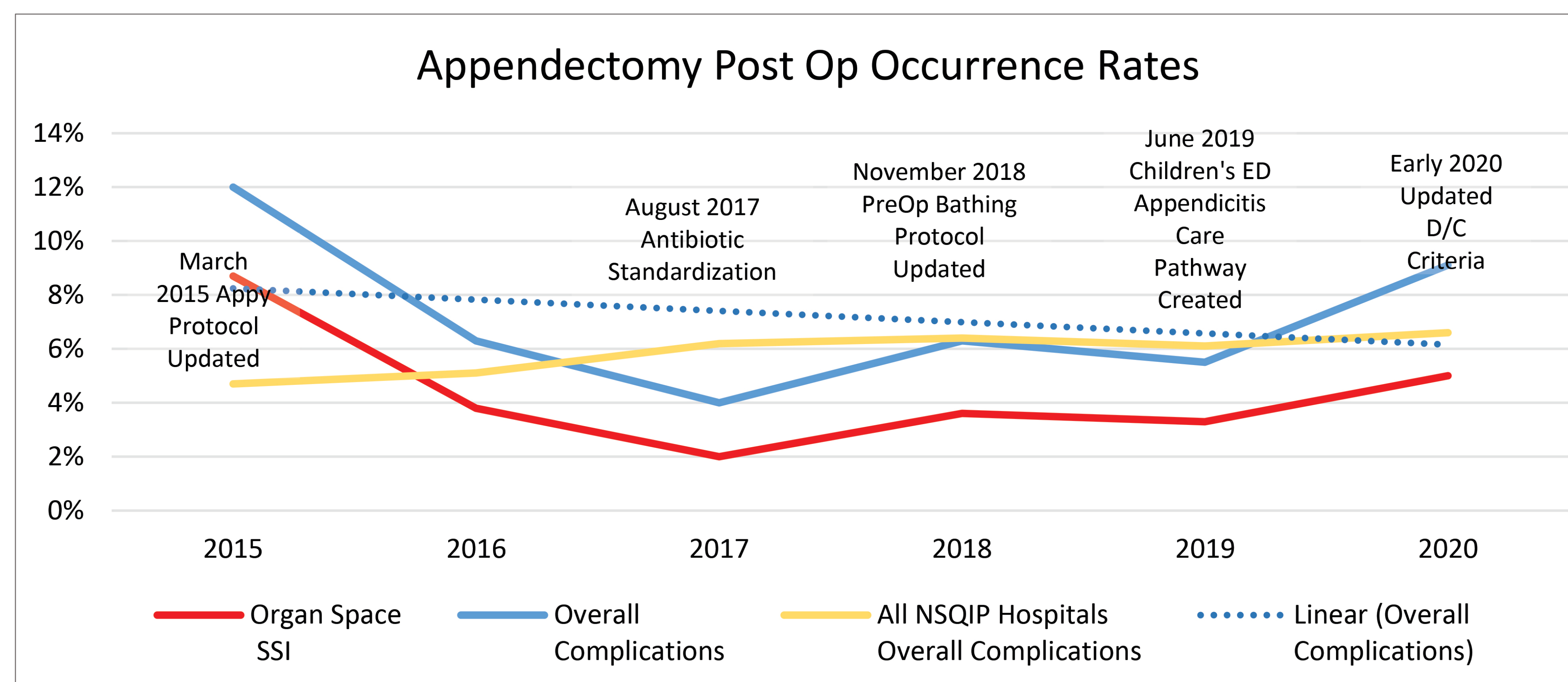
- Reviewed Best Practice for Appendectomy Care
- Created a Standardized Appendectomy Protocol
 - Shared a new Standardized Protocol with Pediatric General Surgery care team
 - Trialed new Protocol

- Surgical Quality group expanded to include representatives from our Children's Hospital Care Team
- Reviewed further areas for improvement strategies with a focus on care inside & outside the surgical suite

- NSQIP data followed and noted an immediate drop in Appendectomy postoperative occurrence rates
- Also noted a decrease in Overall General Surgery & All Surgery Morbidity Rates

RESULTS / OUTCOMES

| Model O/E | 01/15 - 12/15 | 07/15 - 06/16 | 01/16 - 12/16 | 07/16 - 06/17 | 01/17 - 12/17 | 07/17 - 06/18 | 01/18 - 12/18 | 07/18 - 06/19 | 01/19 - 12/19 | 07/19 - 06/20 | 01/20 - 12/20 |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| ALL Morbidity | 2.10H | 1.81H | 1.14 | 1.2 | 1.40H | 1.24 | 1.14 | 1.03 | 1.04 | 0.75 | 0.8 |
| ALL SSI | 2.08H | 1.35 | 1.03 | 1.73H | 1.72H | 1.47 | 1.16 | 0.93 | 1 | 0.97 | 0.94 |
| General Morbidity | 2.04H | 1.90H | 1.29 | 1.27 | 1.65H | 1.58H | 1.23 | 0.95 | 1.03 | 0.77 | 0.85 |
| General SSI | 1.94H | 1.32 | 1.13 | 1.86H | 1.86H | 1.62 | 1.26 | 0.95 | 0.99 | 1 | 1.07 |



LESSONS LEARNED

- Within 1 year, postoperative complications decreased by 48% & SSIs decreased by 56%
- Improvements noted in one specific procedure further reflect on overall performance (decreased appendectomy post op complication rates resulted in decreased General Surgery & All Surgical Morbidity rates)
- Access to non-risk-adjusted data provides real-time metrics of results post care change implementation
- Ability to monitor trends enhances collaboration between surgery & patient care teams identifying opportunities for multidisciplinary discussions & engagement

NEXT STEPS

- Identify further opportunities through multidisciplinary discussions to improve patient outcomes
- Outcome data can be shared to further expand the quality care team to include other surgical sub-specialties

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