

Blundering the Bundle: Suboptimal Adherence to an SSI Prevention Bundle in Pediatric Patients Undergoing GI Surgery



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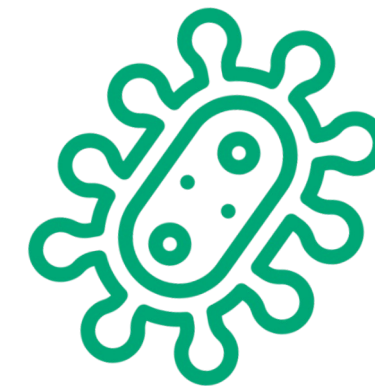
Background

- Surgical site infections (SSIs) are common complications after pediatric gastrointestinal (GI) surgery
- SSIs can → prolonged hospitalization, increased pain, psychological distress, and added \$\$\$
- Bundled interventions/guidelines have been developed to address modifiable risk factors
- Adherence to guidelines has not been well-studied

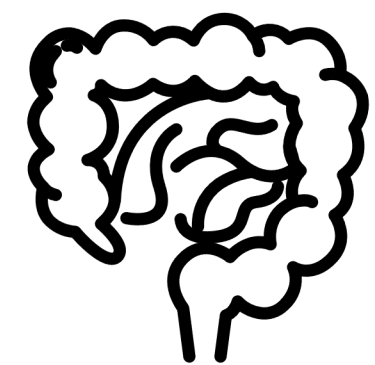
Definition of Outcome

Surgical site infection (SSI):

Any superficial site infection, deep space/organ infection, wound dehiscence, or percutaneous drainage of an intra-abdominal/intra-pelvic abscess



Research Question



How adherent are pediatric surgeons to an SSI prevention bundle for pediatric patients undergoing GI surgery?

Methods

- Prospective randomized trial of children (10-18y) undergoing elective GI surgery from July 2020– March 2024 at 18 children's hospitals nationwide
- Excluded those with anastomotic leak

SSI Prevention Bundle:

- 1) combined (oral & mechanical) or no preoperative bowel regimen;
- 2) pre-incisional antibiotic prophylaxis;
- 3) use of a wound protector;
- 4) maintenance of normothermia;
- 5) exchange of sterile gloves/instruments

- Kruskal-Wallis & chi-square tests were performed to identify the effects of age & surgery type on bundle adherence

Results

- Cohort: 529 patients
- Median # of interventions from bundle / patient: 3 (IQR 3-4)
- # of patients receiving all 5 interventions: 70 (13%)
- Patients with an SSI: 32 (6%)
- Age group and surgery type were associated with # of interventions received ($p < 0.05$)

Table. Adherence by Intervention

Intervention	Adherence
1) combined (oral & mechanical) or no preoperative bowel regimen	139 (26%)
2) pre-incisional antibiotic prophylaxis	482 (91%)
3) use of a wound protector	164 (31%)
4) maintenance of normothermia	486 (92%)
5) exchange of sterile gloves/instruments	297 (56%)

Figure 1. Number of Interventions by Patient Age

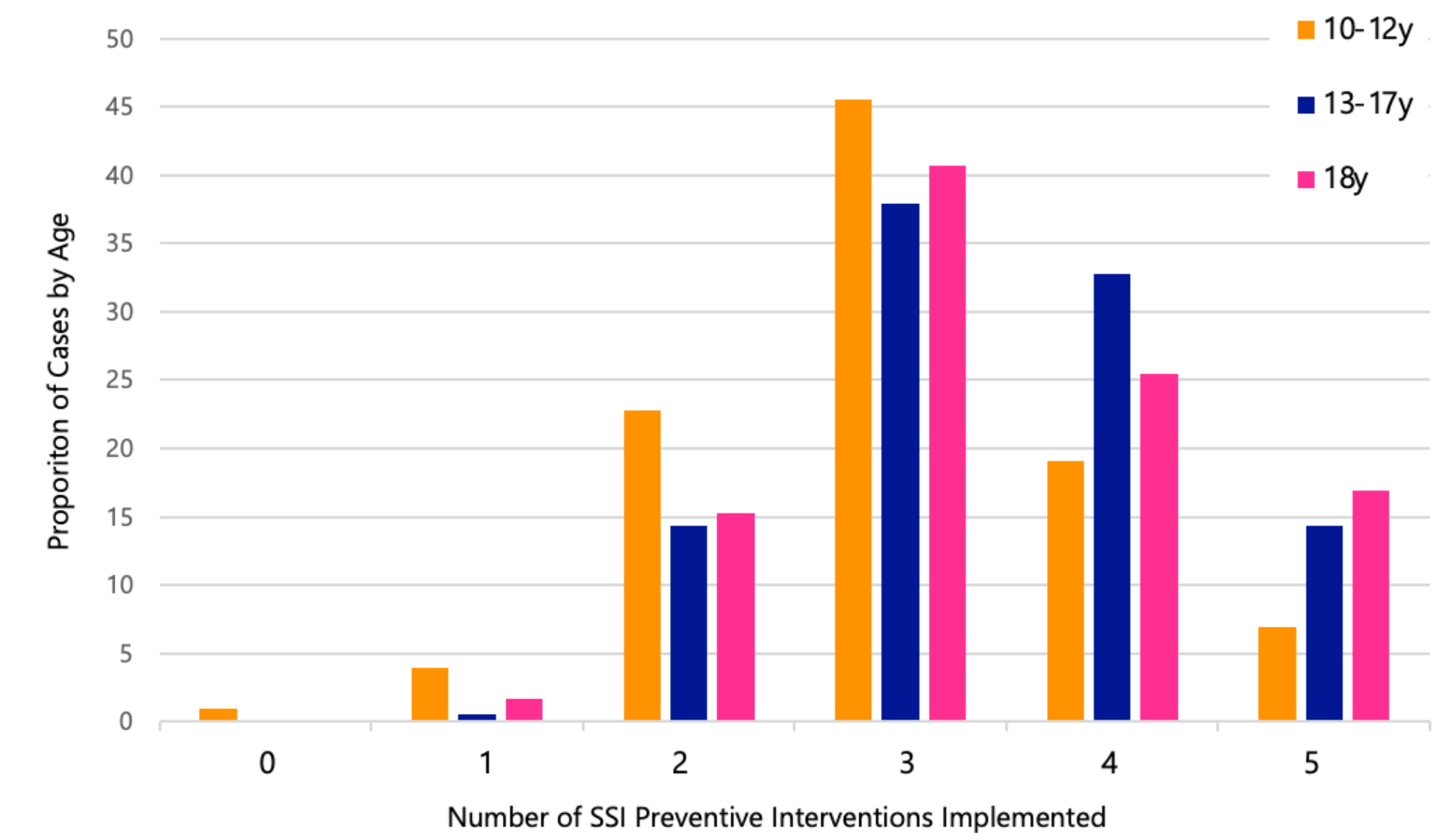
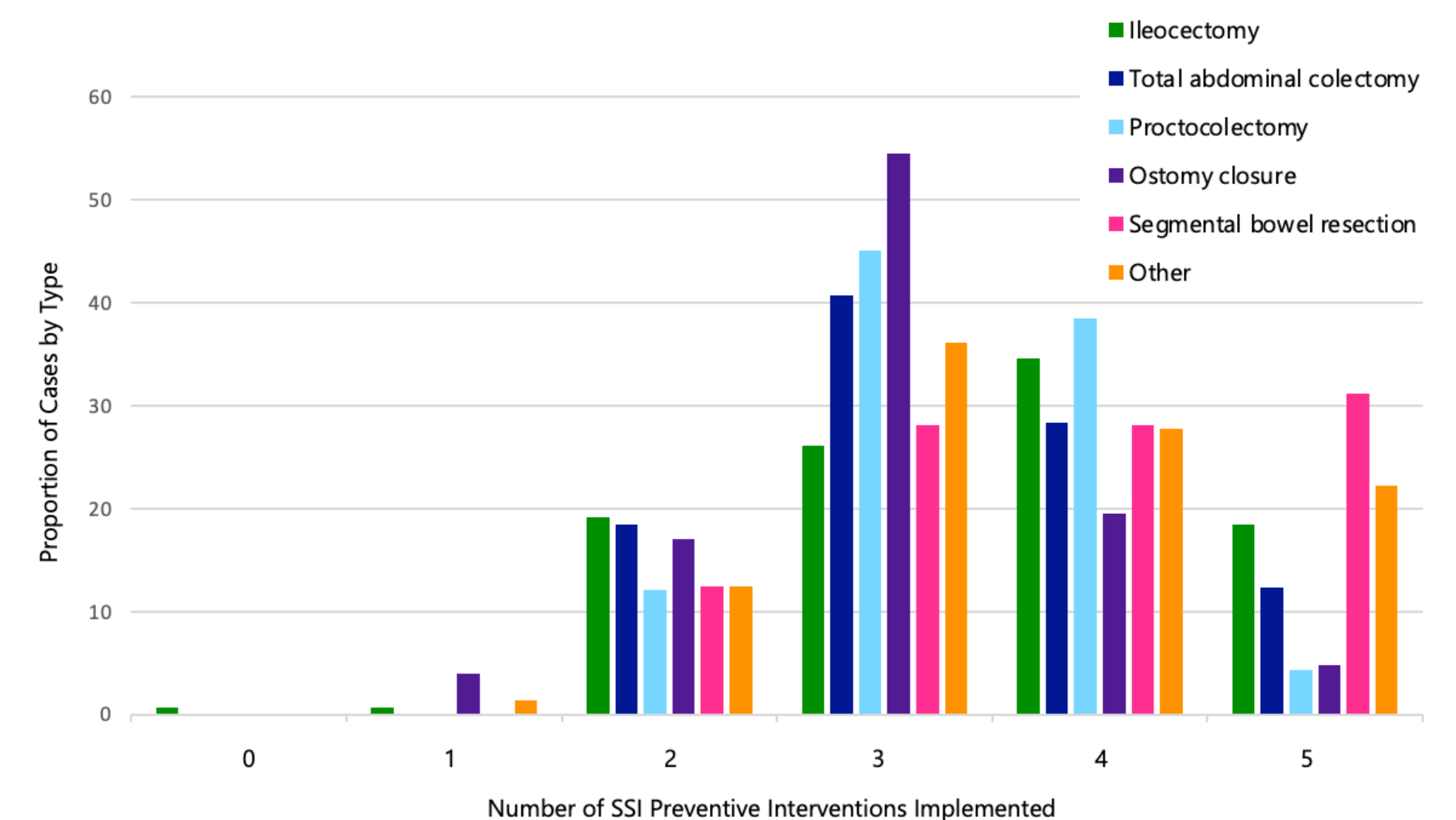


Figure 2. Number of Interventions by Surgery Type



Conclusions

- Adherence to SSI prevention bundles in pediatric GI surgery is suboptimal
- Future research should:
 - Explore barriers to implementation of bundles
 - Assess the fidelity of implementation of interventions
 - Investigate variation related to age and surgery type