

The Effect of a Regional Anesthesia Consult Service on Block Volume at a Major Academic Hospital System

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INTRODUCTION

- Regional anesthesia (RA) is a cornerstone of perioperative multimodal analgesia
- Regional techniques improve:
 - Postoperative pain scores
 - Reduce opioid consumption
 - Shorten post-anesthesia care unit (PACU) length of stay¹
- Despite these benefits, RA utilization remains inconsistent in academic settings²

METHODS

- Retrospective cohort study of surgical patients at Duke University Hospital (1/1/2016–9/1/2024)
- Primary exposure: Implementation of a RA consult service (10/29/2018)
- Primary outcome: Change in peripheral nerve and truncal block utilization before vs. after implementation
- Excluded select specialties, children <1 year, and CPT codes not amenable to RA
- Subgroup analysis: General surgery and urology (high RA-amenable volume; non-RA fellowship-trained staffing); excluded patients <18 years, weekend/emergent cases, and non-home admissions
- Statistical analysis: Chi-square tests for block proportions; segmented regression for longitudinal trends

Table 1	Pre-Consult Service (n = 29670)	Post Consult Service (n = 67730)
Age (mean ± SD)	53.7 ± 20.7	53.3 ± 20.4
Sex (male)	14532 (49.0%)	33398 (49.3%)
Race/Ethnicity		
Asian	508 (1.7%)	1305 (1.9%)
Black	7816 (26.3%)	19081 (28.2%)
White	19587 (66.0%)	42476 (62.7%)
Other	1266 (4.3%)	2988 (4.4%)
Weight (kg)	81.9 ± 26.6	82.7 ± 26.4
Surgical service		
General surgery	10023 (33.8%)	23211 (34.3%)
Gynecology	2724 (9.2%)	6110 (9.0%)
Orthopedics	12644 (42.6%)	29367 (43.4%)
Pediatric surgery	629 (2.1%)	1489 (2.2%)
Plastic surgery	1632 (5.5%)	3337 (4.9%)
Podiatry	4 (<0.1%)	201 (0.3%)
Urology	2014 (6.8%)	4015 (5.9%)
Nerve Block	9597 (32.3%)	24246 (35.8%)
Truncal	778 (2.6%)	3001 (4.4%)
Peripheral	8888 (30.0%)	21390 (31.6%)

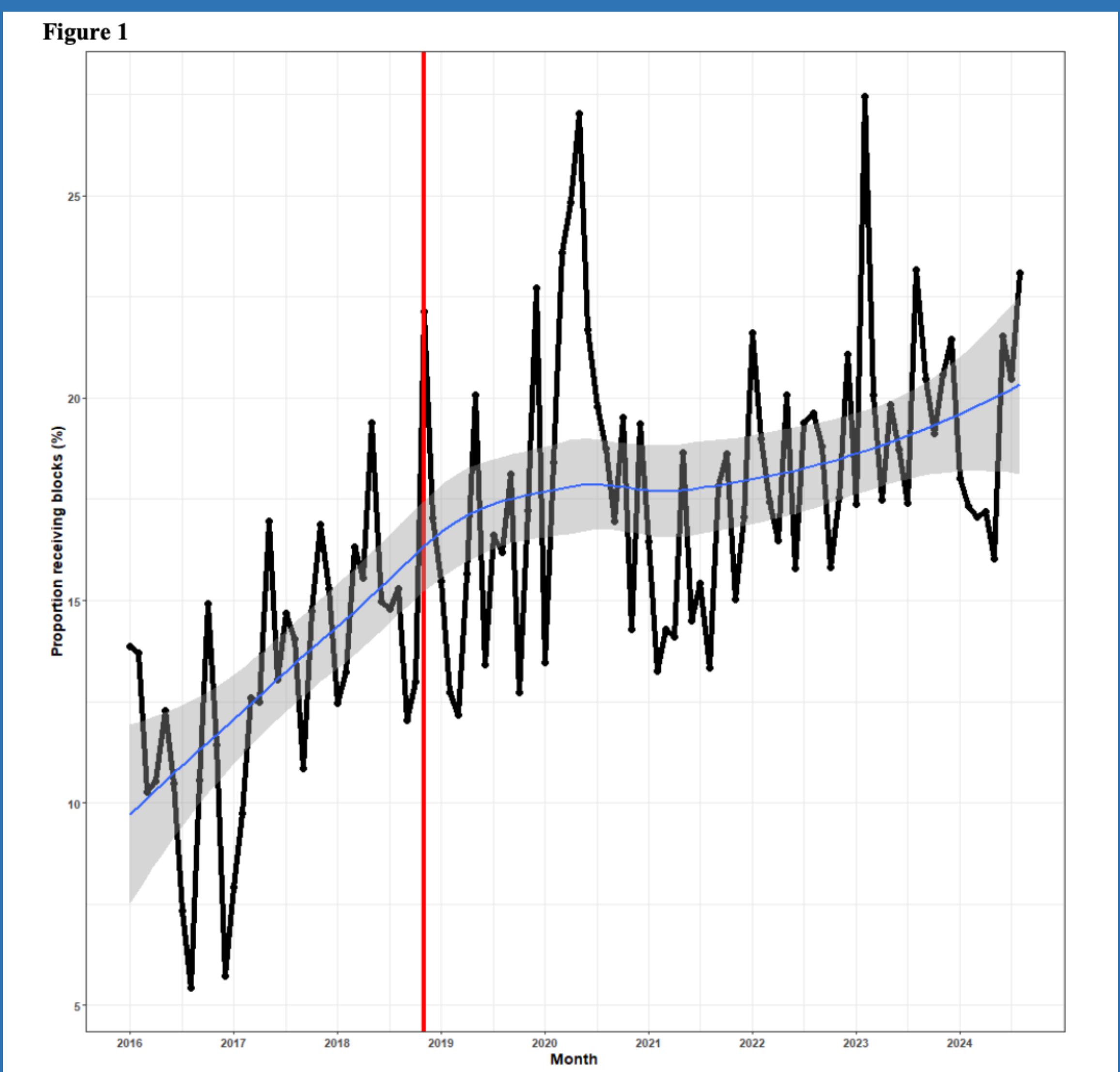
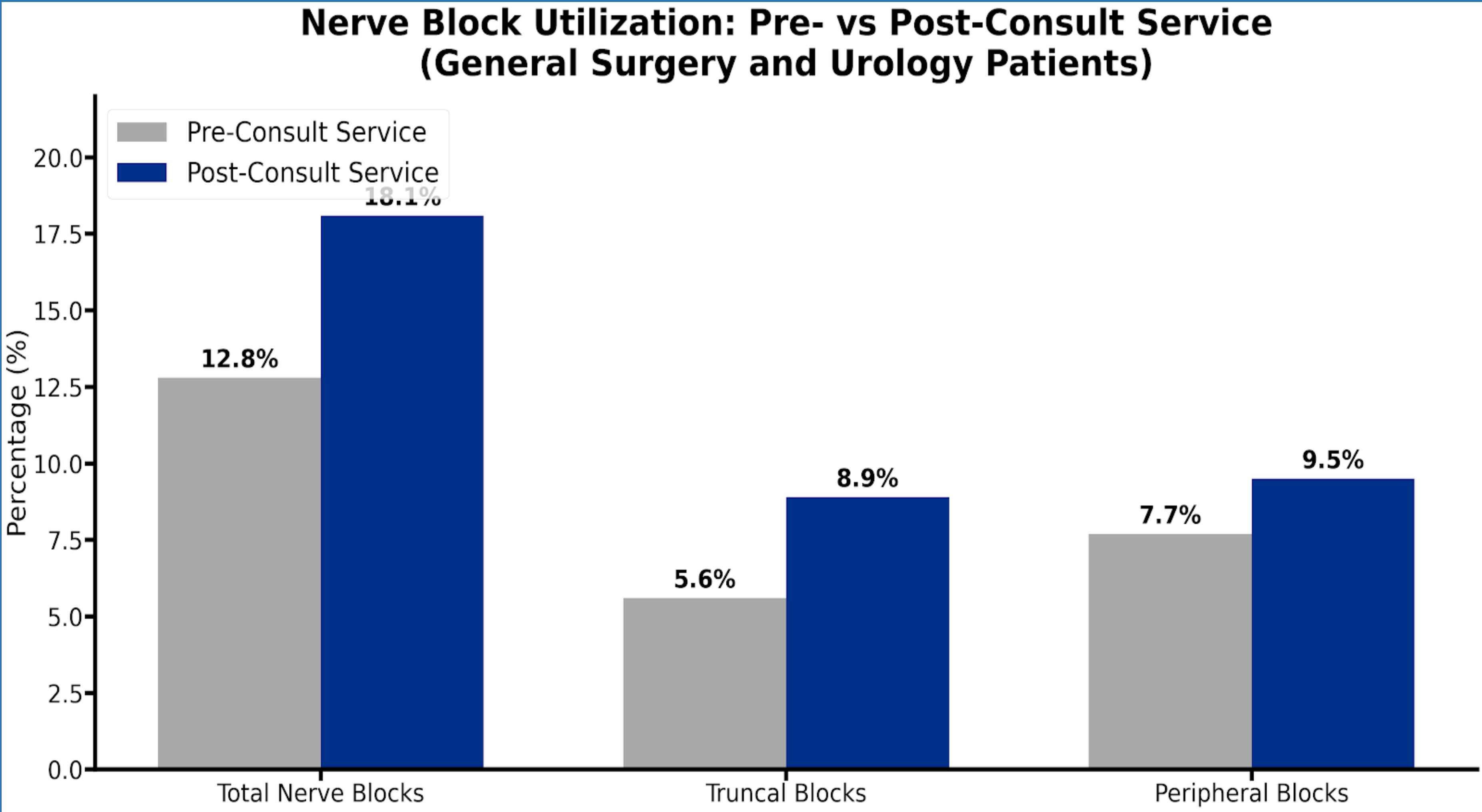


Figure 1. An interrupted time series analysis demonstrated a significant increase in block use after implementation of the consult service (OR per year 1.04 [95% CI 1.01-1.06, p=0.002])



RESULTS

- Initial cohort: 97,434 cases, with 29,675 cases (30.5%) pre-intervention and 67,759 cases (69.5%) post-intervention. Similar cohort characteristics between groups (Table 1).
- Subgroup analysis: general surgery and urology: pre-intervention (n = 8,533, 32.2%) and post-intervention (n = 17,973, 67.8%) cohorts.
- The proportion of cases receiving regional blocks increased from 12.8% pre-consult to 18.1% post-consult implementation (5.3% absolute increase, p < 0.001)
- Truncal block utilization increased from 5.6% to 8.9% of cases (3.3% absolute increase, p < 0.001)
- Peripheral block utilization increased from 7.7% to 9.5% (1.8% absolute increase, p < 0.001) in the subgroup

DISCUSSION

- Implementation of a dedicated RACS was associated with a significant increase in RA utilization among general surgery and urology patients
- The largest relative increase in this study was in truncal blocks
- Consult-based access to RA expertise can meaningfully expand RA use in surgical populations commonly managed by non-fellowship trained anesthesiologists**

References

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