

INTRODUCTION

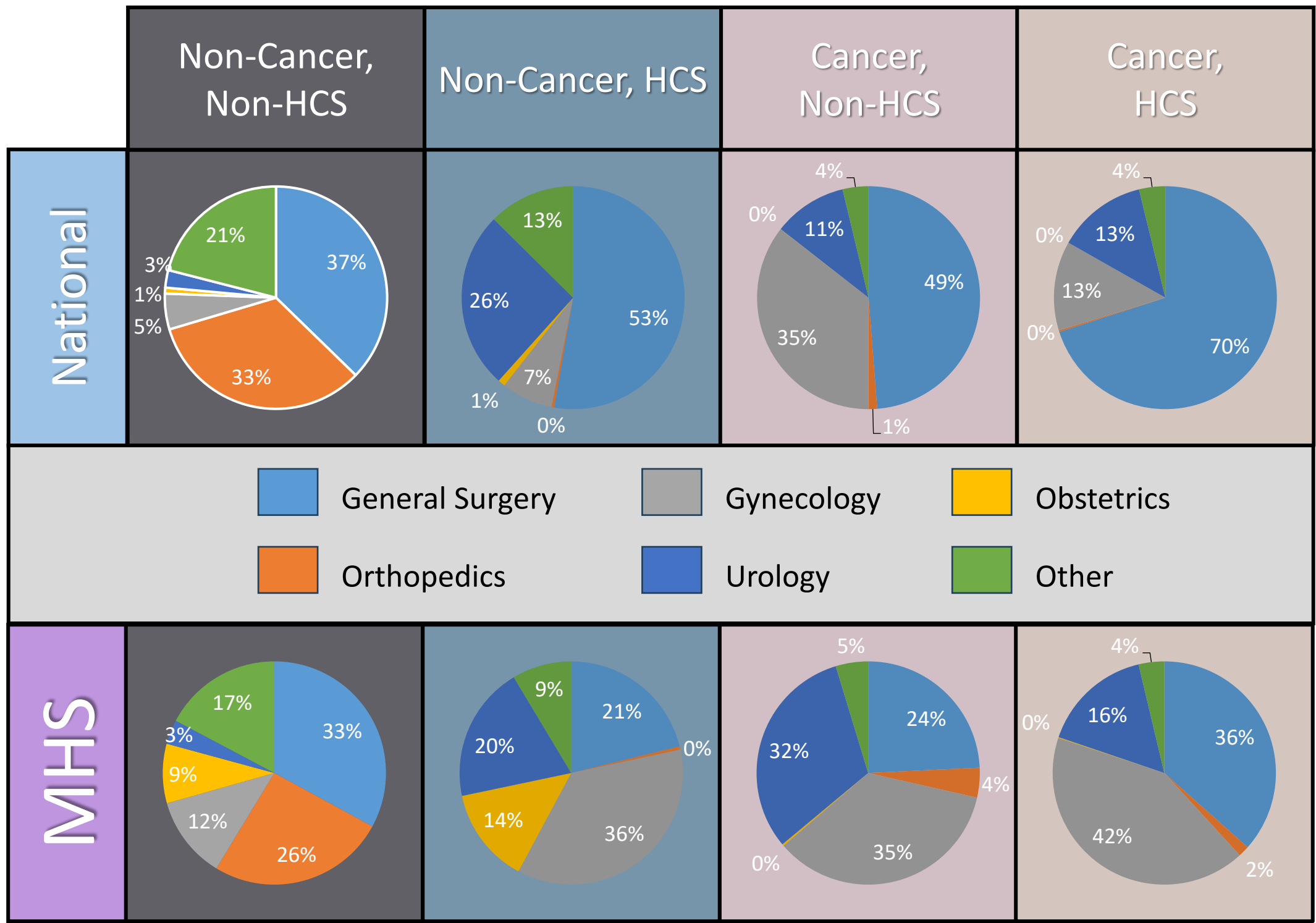
Complex cancer surgeries offer opportunities for resource-intensive perioperative care, enhancing the Military Healthcare System’s (MHS) wartime medical readiness. Contemporary assessments comparing outcomes of high- versus low-complexity cancer operations in military medicine are lacking.

METHODS

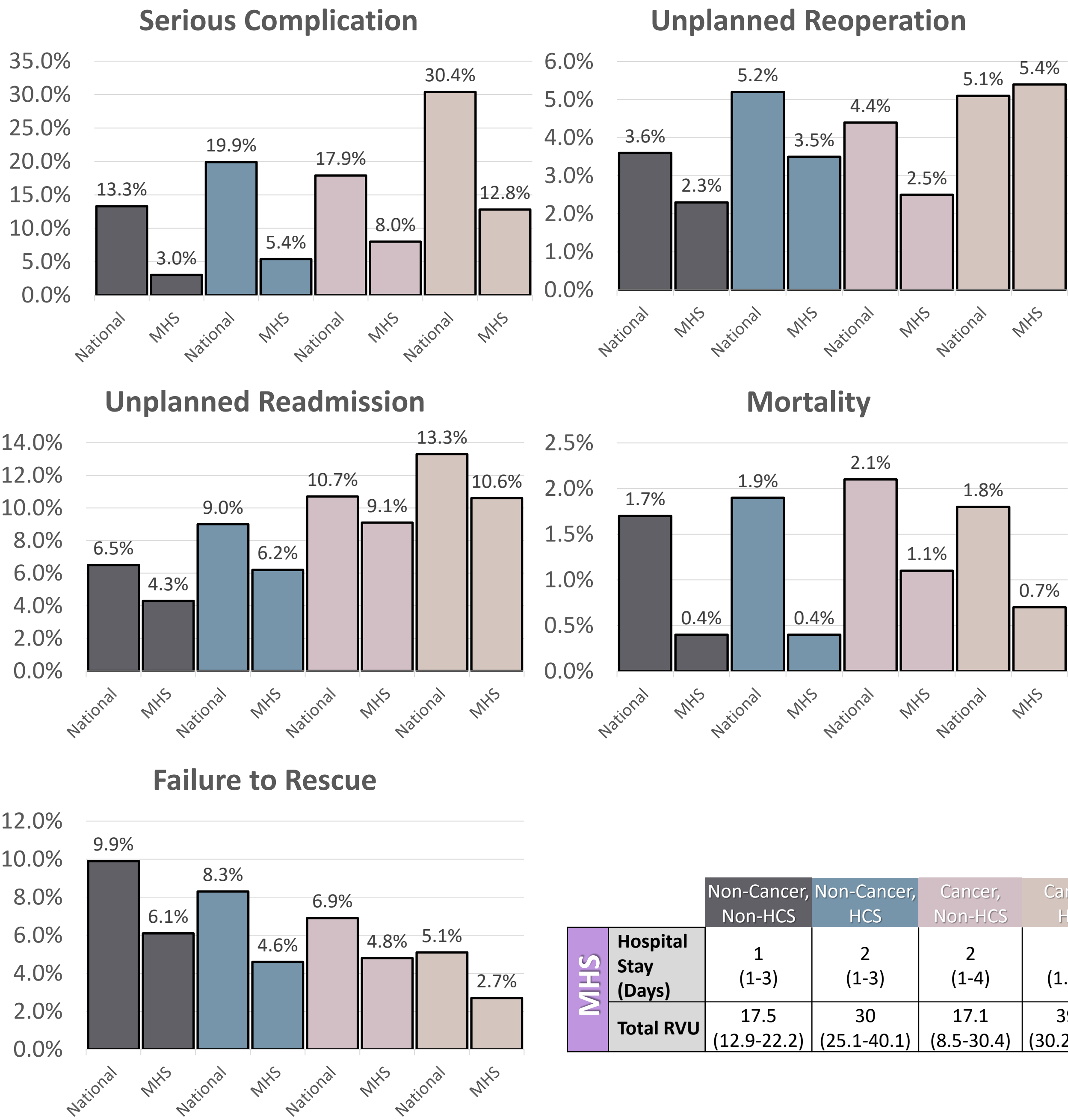
NSQIP data from the DoD Collaborative (2016–2023) were used to assess postoperative outcomes for patients undergoing cancer operations. Patients were stratified by the complexity of their diagnosis and operation. We compared postoperative hospital stays and adjusted rates of 30-day complications (reoperation, readmission, and mortality) according to case complexity. MHS outcomes were compared to national hospital data using multivariate regression models.

Table 1. Pre-Operative Demographics -- MHS

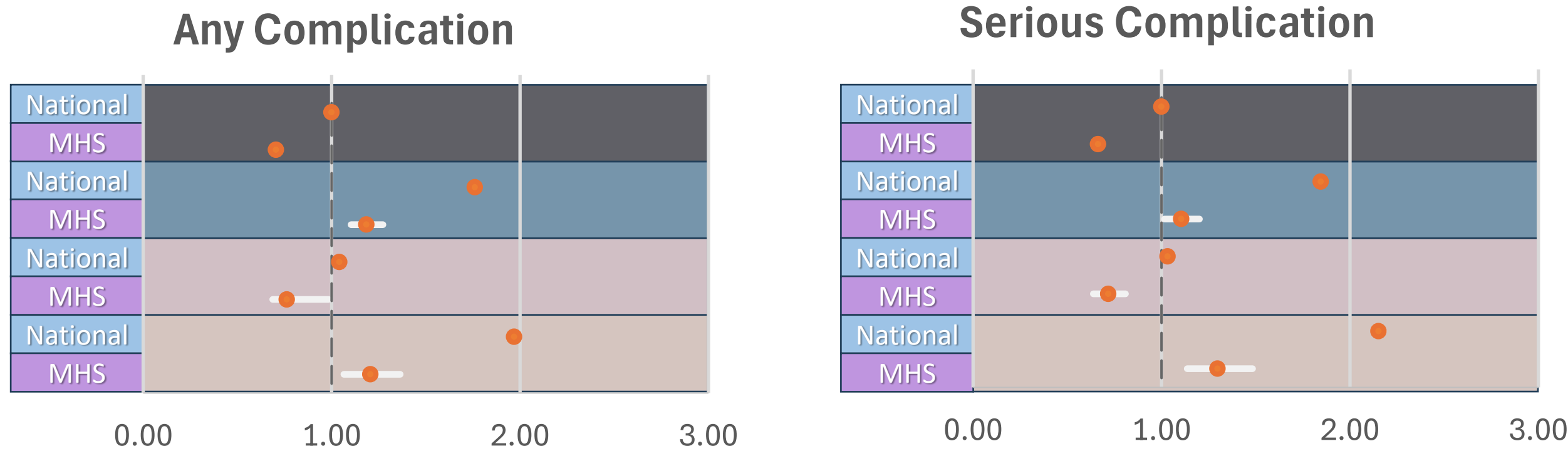
	Non-Cancer		Cancer		
	Non-HCS	HCS	Non-HCS	HCS	
Age, y (med, IQR)	45 (31-62)	44 (34-59)	61 (49-73)	60 (48-68)	p < 0.001
Female	55.2%	69.6%	49.5%	59.6%	p < 0.001
Non-Insulin-Requiring Diabetes	8.2%	8.6%	14.0%	15.4%	p < 0.001
Hypertension, on Medication	33.2%	31.9%	49.2%	48.5%	p < 0.001
Chronic Steroids	1.9%	1.7%	3.0%	3.1%	p = 0.002
Weight loss 10% or more	0.2%	0.5%	1.6%	2.0%	p < 0.001
ASA Class 3 or 4	28.5%	30.1%	57.0%	59.0%	p < 0.001



■ Non-Complex Cancer, Other Surgery
■ Non-Complex Cancer, Complex Surgery
■ Complex Cancer, Other Surgery
■ Complex Cancer, Complex Surgery



MHS	Hospital Stay (Days)	Non-Cancer, Non-HCS	Non-Cancer, HCS	Cancer, Non-HCS	Cancer, HCS
		1 (1-3)	2 (1-3)	2 (1-4)	4 (1.5-7)
	Total RVU	17.5 (12.9-22.2)	30 (25.1-40.1)	17.1 (8.5-30.4)	39.6 (30.2-52.8)



RESULTS

- High-complexity cancer cases had the longest median stays, rates of serious complications, reoperation, and readmissions. However, 30-day mortality in the MHS dataset did not differ significantly between groups.
- MHS patients had consistently lower risk-adjusted rates of serious complications (10.8% vs. 14.7%), and 30-day mortality (1.1% vs. 1.6%, p<0.001) compared to national comparators.
- MHS surgeries were associated with decreased adjusted odds of 30-day serious complications and mortality when stratified by cancer indication and surgical complexity.
- Operations in the MHS were associated with 23% reduced odds of 30-day mortality (aOR 0.77, 95% CI 0.41-1.46), while civilian high-complexity cancer operations were associated with 39% increased odds of death (aOR 1.40, 95% CI 1.35-1.45).

CONCLUSION

Complex cancer operations within the MHS have higher rates of complications and reoperations, yet equivalent mortality and low rates of failure to rescue. Patients undergoing complex cancer operations within the MHS had lower complication rates compared to similar national comparator data. Ultimately, these operations serve as vital opportunities to strengthen system-wide, multidisciplinary combat casualty care capabilities.