

Emergency Department Admission Workflow Optimization: A Quality Improvement Initiative

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INTRODUCTION

The current Emergency Department admission workflow at Stony Brook University Hospital creates significant inefficiencies due to:

- Heavy reliance on synchronous, face-to-face communication
- Multiple in-person handoffs with hospitalists and inpatient teams
- Bottlenecks in patient flow
- Valuable clinical time spent waiting for face-to-face discussions
- Basic flagging system that lacks standardization

These challenges lead to:

- Extended ED lengths of stay
- Delayed inpatient care initiation
- Reduced time for direct patient care

The objective of this survey was to collect baseline data to:

- Quantify current workflow inefficiencies and document perspectives
- Identify key factors affecting provider satisfaction with the admission process

METHODS

Survey Design:

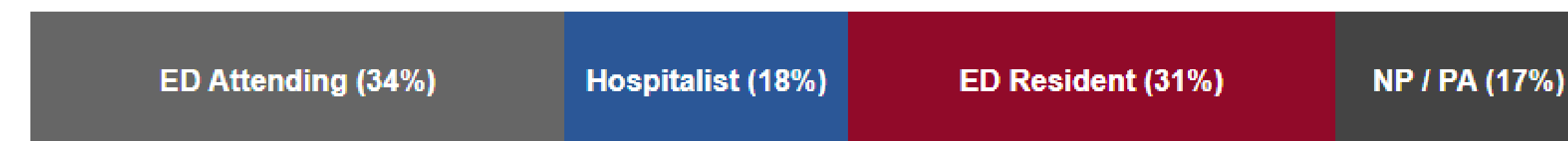
- Cross-sectional survey using secure Qualtrics platform
- Distribution: March 18 - March 31, 2025
- Target participants: ED attending physicians, residents, physician assistants, nurse practitioners, and hospitalists
- Role-specific branching logic to capture targeted experiences
- Standardized 5-point Likert scales for measuring attitudes and perceptions
- System Usability Scale for interface evaluation
- NASA-TLX for workload assessment

Statistical Methods:

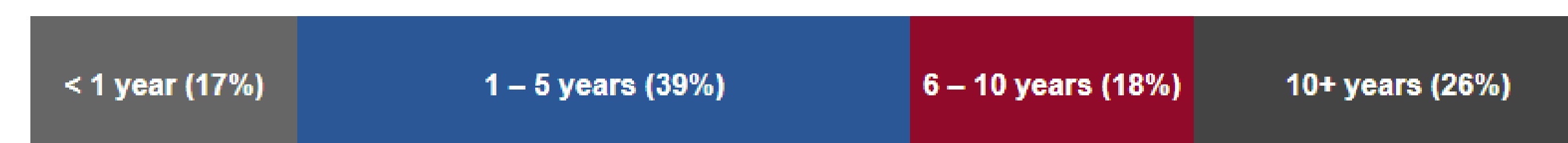
- Exploratory data analysis to examine patterns and trends
- Descriptive statistics including means, medians, and quartiles
- Ordered logistic regression to identify factors influencing satisfaction
- Model with stepwise backward elimination (retention $p < 0.20$)
- Robust standard errors to account for heteroskedasticity
- Multicollinearity assessment using variance inflation factors

RESULTS

Figure 1. Survey Respondent Demographics and Training Experience
Demographics (Total n=84):



Post-graduate year (Total n=84):

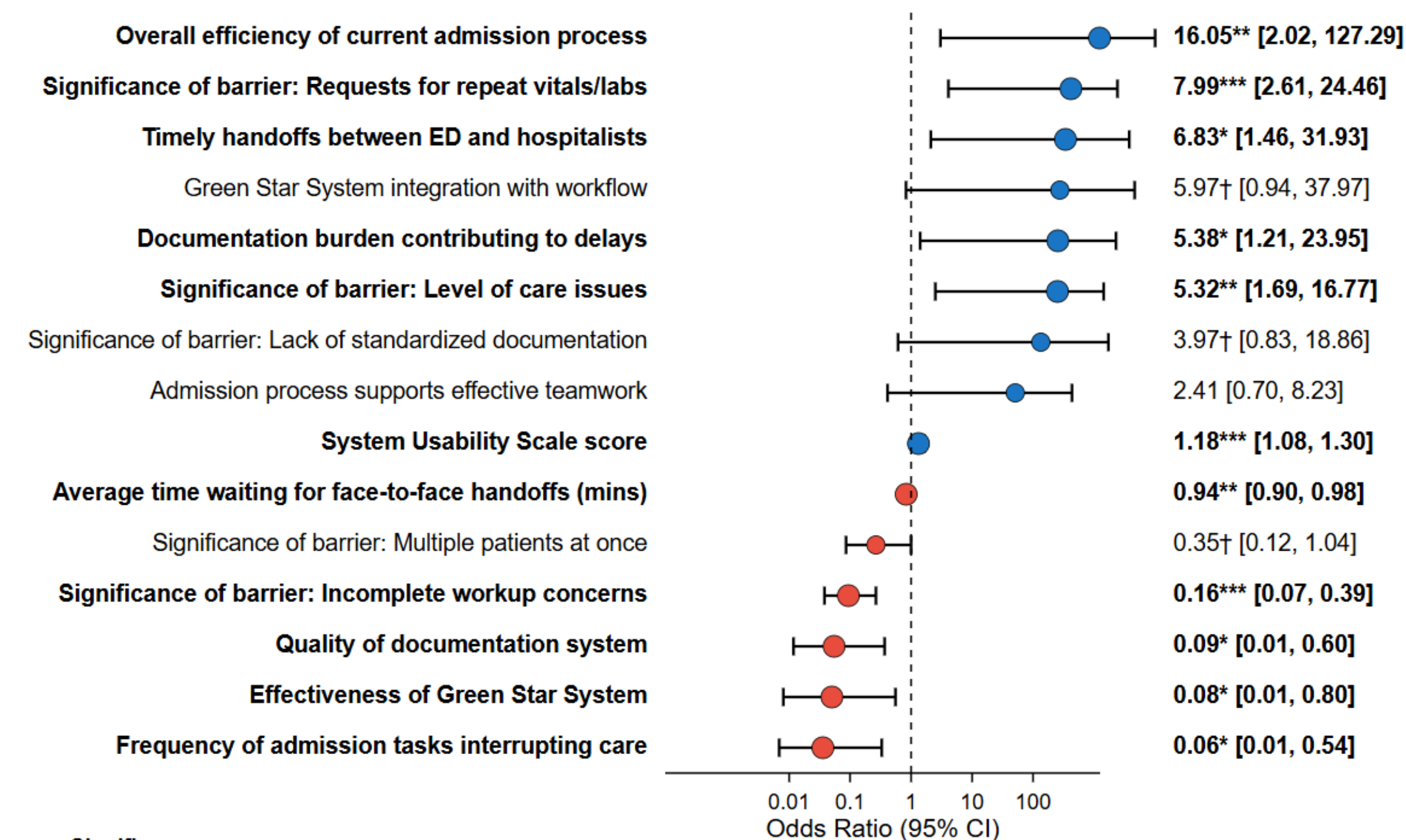


The Emergency Department

- Averages 17.7 (SD 4.1) patients and 4.6 (SD 2.3) admissions per shift
- Spends **35.7 minutes per patient** (SD 28.5) on admission related-handoffs
- Dedicates 22% of shifts (SD 13.7) to admission-related tasks

Figure 2. Multivariable Analysis of Factors Associated with ED Admission Process Satisfaction
Factors Associated with ED Admission Process Satisfaction

Pseudo-R² = 0.6147, $p < 0.0001$



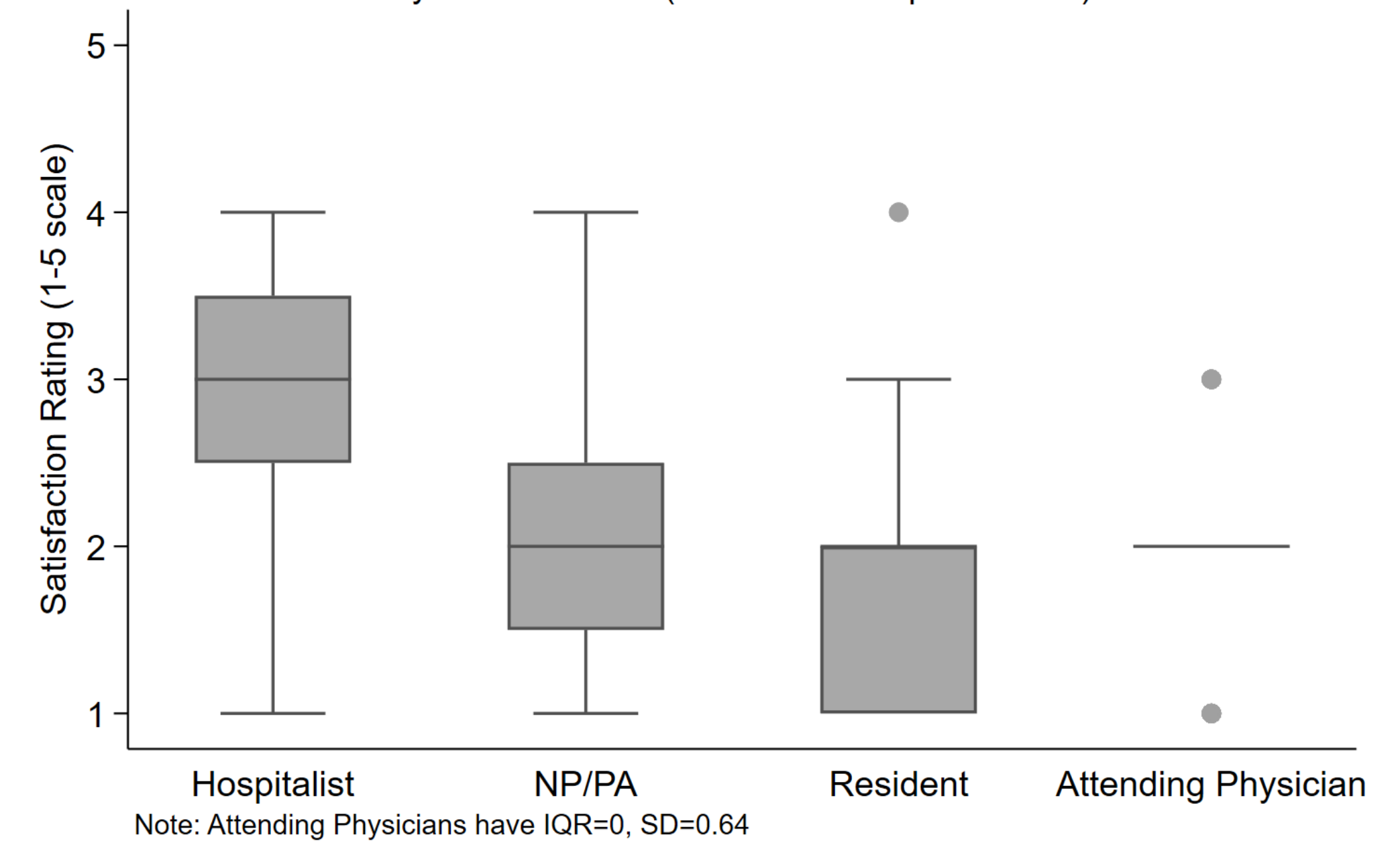
Significance:

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.1$

Blue circles: Factors positively associated with satisfaction (OR>1)

Red circles: Factors negatively associated with satisfaction (OR<1)

Figure 3. Provider Satisfaction with ED Admission Workflow by Role
Satisfaction with Current ED Admission Workflow
by Provider Role (Kruskal-Wallis $p = 0.018$ *)



DISCUSSION & CONCLUSIONS

The analysis demonstrated strong explanatory power and revealed that workflow efficiency, handoff facilitation, and interruption frequency were the primary drivers of provider satisfaction with the ED admission process

Findings support a multifaceted approach to process improvement:

- Streamlining workflows to enhance overall efficiency
- Redesigning admission handoffs to reduce face-to-face requirements
- Creating standardized documentation templates that balance thoroughness with usability
- Developing improved communication tools to replace current Green Star System
- Establishing clear protocols for lab testing and workup requirements

Implementation science principles suggest targeting these workflow factors first given their demonstrated impact on provider satisfaction

REFERENCES →

