

Impact of Effective Use of Clinical Support Staff on Resident Education and Wellness in U.S. Surgical Residency Programs

Tarik K. Yuce, MD MS; Joseph Sanchez, MD; Rhami Khorfan, MD MS; Cary Jo R. Schlick, MD; Ryan J. Ellis, MD MS; Elaine Cheung, PhD; Jacob A. Greenberg, MD EdM; Anne C. Mosenthal, MD; Karl Y. Bilimoria, MD MS; Yue-Yung Hu, MD MPH

Background

- The use of clinical support staff (eg, advance practice providers) has become increasingly common
- Little evidence exists regarding the impact these staff have on surgical trainee education and wellness

Objectives

Objectives of this study were to:

- (1) Describe resident reported views regarding the effective use of clinical support staff
- (2) Evaluate the association between reports of effective use of clinical support staff and resident education and wellness
- (3) Examine programmatic variation in reports of effective use of clinical support staff

Methods

- Residents in ACGME-accredited general surgery programs were surveyed following the 2019 ABSITE
- Residents were asked about the use of support staff, perceptions of the learning experience, burnout, thoughts of attrition, and career satisfaction
- Multivariable logistic regression models adjusting for program and resident characteristics were developed to evaluate the association between effective support staff use and resident education and wellness
- Program-level rates of reporting the effective use of clinical support staff were calculated and plotted to assess for variation across programs

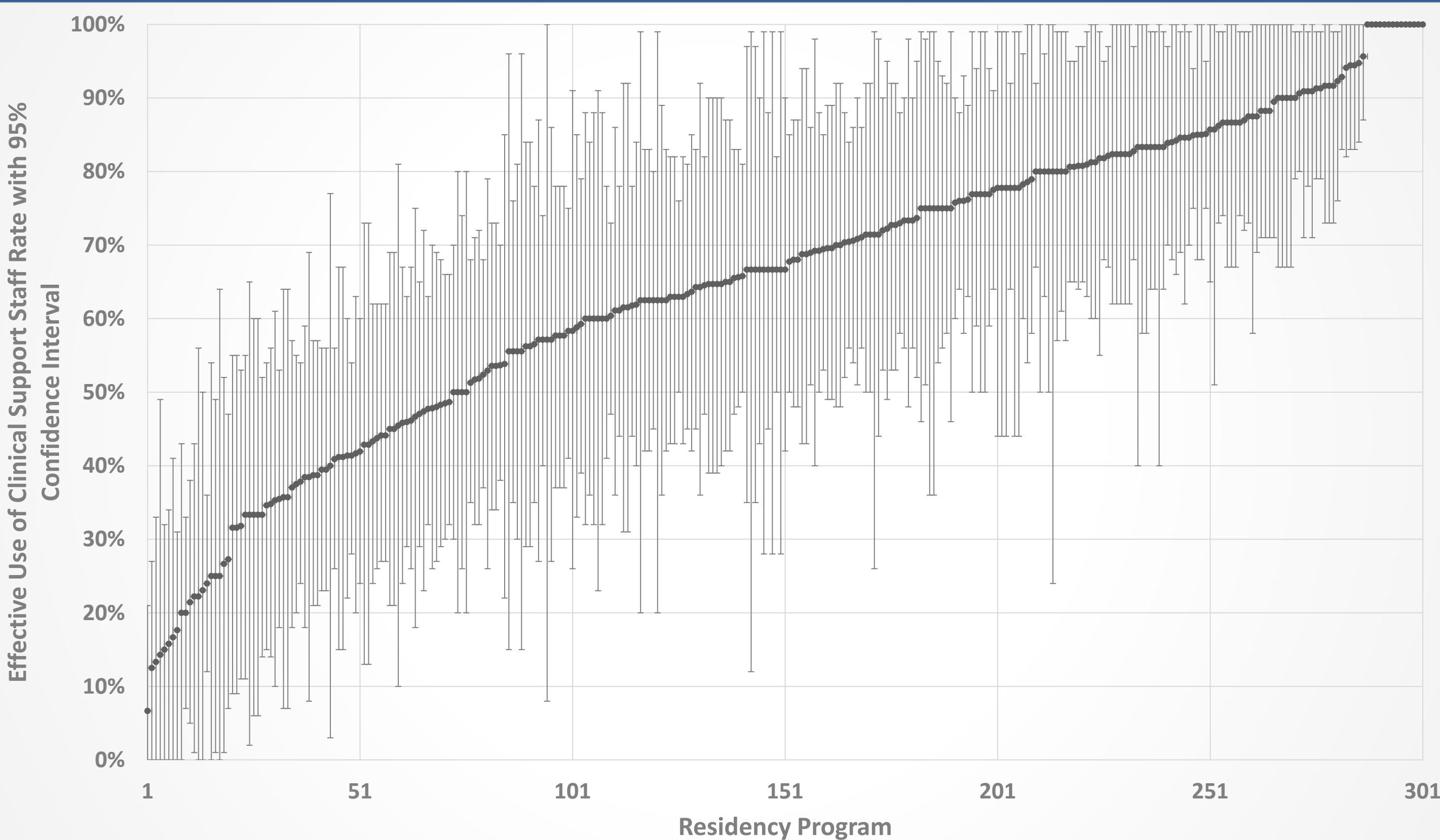


Figure 1. Variation in Program-Level Rates of Reporting the Effective Use of Clinical Support Staff

Table 1. Associations between effective use of clinical support staff and various metrics of resident education and wellness

	Effective use of clinical support staff				
	Yes		No		
	Rate (%)	OR (95% CI)	Rate (%)	OR (95% CI)	p value
Education					
Duty hour violations	33.3	0.37 (0.33-0.42)	58.7	REF	<0.001
Appropriate clinical autonomy	92.2	6.16 (5.13-7.39)	65.9	REF	<0.001
Education time is protected	86.0	8.12 (6.96-9.48)	44.2	REF	<0.001
Time for direct patient care	87.9	8.68 (7.46-10.11)	45.5	REF	<0.001
Satisfaction with OR time	90.1	6.69 (5.72-7.83)	57.1	REF	<0.001
Wellness					
Burnout	36.2	0.46 (0.41-0.53)	55.4	REF	<0.001
Thoughts of attrition	6.9	0.32 (0.27-0.38)	20.1	REF	<0.001
Satisfaction with career choice	88.1	3.30 (2.84-3.83)	68.5	REF	<0.001

Results

- Of 6,956 residents (85.6% response rate) from 301 programs, 6,415 responded to relevant questions
- Effective use of clinical support staff was reported by 4,053 (63.2%) of residents
- Female residents less frequently reported effective use of clinical support staff (59% vs 66%, $p<0.001$)
- Residents who reported effective use of clinical support staff were significantly more likely to report having appropriate clinical autonomy, time for direct patient care, appropriate time in the OR, protected education time, and satisfaction with career choice (Table 1)
- Residents who reported effective use of clinical support staff also reported lower rates of duty hour violations, burnout, and thoughts of attrition
- Program rates of residents reporting effective use of clinical support staff varied considerably (range 6.7%-100%, Figure 1)

Conclusions

- Effective use of clinical support staff in surgical residency programs is associated with improved resident education and wellness
- However, this resource may be differentially distributed
- Efforts to further increase effectiveness of clinical support staff in surgical training may prove beneficial

Limitations

- Results may not be generalizable to non-surgical specialties
- Risk of recall and reporting bias due to study design