EVALUATION OF RESOURCE UTILIZATION DURING THE COVID-19 PANDEMIC USING THE MEDICALLY NECESSARY, TIME-SENSITIVE (MENTS) CRITERIA: A RETROSPECTIVE STUDY

Yuchen You, DO; Nate Carroll, MD; Javier Romero, MD; Graal Diaz , PhD, Ventura County Medical Center

INTRODUCTION

The COVID-19 pandemic led to a redeployment of healthcare resources to meet the needs of coronavirus patients. This made the allocation of resources exceedingly challenging. During the peak of the pandemic (March 2020), the federal government, each individual state, as well as multiple medical societies recommended the cessation of elective procedures. On June 1, 2020, our hospital resumed elective surgery with limited capacity. In an effort to prioritize elective procedures, we utilized the "Medically Necessary, Time-Sensitive" (MeNTS) procedure scoring system developed by Prachand et al.

OBJECTIVE

To report our institutional experience with using the MeNTS score and to evaluate the MeNTS score as well as its components based on its ability to prioritize elective procedures.

METHODOLOGY

We retrospectively reviewed records of patients scheduled to have elective procedures from June 1, 2020, to December 31, 2021. During this time, our institution was under limited capacity. The MENTS score was calculated and reported by the most experienced attending surgeon overseeing each patient. All adult (18> years) patients with MeNTS procedures, regardless of surgery type, were included in the analysis

Summary Statistics:

Variable	Level	Count	Percent
Race	White	2955	87.79%
	Other	191	5.67%
	AAPI	98	2.91%
	American Indian	72	2.14%
	Black or African American	50	1.49%
Ethnicity	Hispanic or Latino	1442	42.84%
	Not Hispanic or Latino	1282	38.09%
	Other	642	19.07%
Sex	Female	2046	60.78%
	Male	1320	39.22%
Surgery Completed	1	2768	82.23%
	0	598	17.77%
Intubation Probability	> or = 25%	2162	64.23%
	< or = 1%	970	28.82%
	11 - 25%	90	2.67%
	1 - 5%	84	2.50%
	6 - 10%	60	1.78%
Scheduled Type	Elective	2869	85.23%
	Urgent	497	14.77%

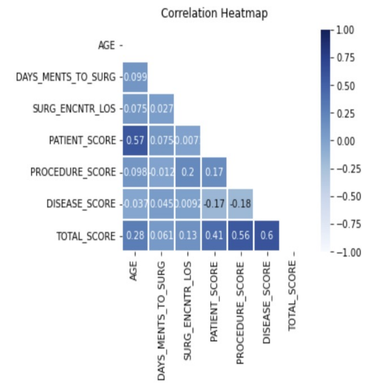
RESULTS

In our 229-bed acute care county hospital, 2,997 patients underwent elective surgery, with females accounting for 60.78% of them. The mean age was 44.59 (17.55) and the mean number of days to surgery was 76.72 (127). MeNTS scores and individual scores did not show significant differences when compared to race, sex, ethnicity, and intubation status in bivariate linear regression analysis. The multivariate survival model found that a total MeNTS score <30 was the most predictive of having surgery. Gender, ethnicity, race, and intubation probability had overlapping confidence intervals, indicating no significant difference.

Variable	Mean (SD)
Age	44.59 (17.55)
Days to Surgery	76.72 (127)
Patient Score	10.37 (2.95)
Procedure Score	13.18 (4.27)
Disease Score	18 (5.36)
MeNTS Total Score	41.53 (6.79)

						Confidence Interval	
Variable	Level	coef	std err	t	P>|t|	[0.025	0.975]
LOS After Surgery	LOS After Surgery	0.94	0.6	1.56	0.12	-0.24	2.12
MENTS	TOTAL_SCORE	1.14	0.33	3.5	0	0.5	1.78
Surgery Performed	Yes	-10.42	6.13	-1.7	0.09	-22.44	1.59
MENTS	PATIENT_SCORE	3.26	0.75	4.37	0	1.8	4.72
Intubation Probability	11 - 25%	-25.16	19.41	-1.3	0.2	-63.21	12.89
	6 - 10%	-33.38	21.62	-1.54	0.12	-75.78	9.01
	< or = 1%	-29.3	14.55	-2.01	0.04	-57.83	-0.78
	> or = 25%	-29.19	14.23	-2.05	0.04	-57.08	-1.3
Age	AGE	0.72	0.13	5.74	0	0.47	0.96
Scheduled Type	Urgent	-49.56	6.16	-8.05	0	-61.64	-37.49
MENTS	DISEASE_SCORE	1.08	0.41	2.61	0.01	0.27	1.88
Surgery Enc Admitted	Yes	19.32	5.38	3.59	0	8.77	29.86
Ethnicity	Not Hispanic or Latino	6.19	4.91	1.26	0.21	-3.44	15.82
	Other	9.1	6.07	1.5	0.13	-2.8	21
	American Indian	-2.81	19.86	-0.14	0.89	-41.74	36.13
	Black or African American	22.41	22.24	1.01	0.31	-21.19	66.01
	Other	-11.27	15.9	-0.71	0.48	-42.44	19.91
	White	0.72	13.14	0.06	0.96	-25.04	26.48
MENTS	PROCEDURE_SCORE	-0.35	0.52	-0.68	0.5	-1.37	0.66
Sex	Male	-7.27	4.52	-1.61	0.11	-16.12	1.59

RESULTS



CONCLUSIONS

Our study found that the MeNTS scoring system was concordant with our hospital's decision-making process in prioritizing nonurgent procedures. The MeNTS score, as well as its components, were significantly correlated with time to surgery. Therefore, MeNTS score can serve as a useful tool in prioritizing elective cases as hospitals across the nation relax their restrictions on the performance of elective surgeries.