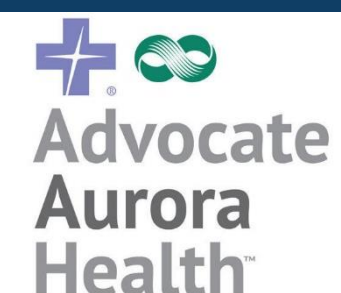


# Contemporary Utilization of a Chest Pain Unit in a Large Tertiary Care Referral Center Compared to Standard Care Approach: Lessons Learned From a Real World Community Practice

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## BACKGROUND

Chest pain units (CPU) are short stay units developed with specific protocols to lower costs and improve efficiency for patients presenting with chest pain (CP) to the emergency department (ED). This study demonstrates that implementing a CPU optimizes management in an efficient manner of patients who present to the ED with CP.

## METHODS

A retrospective study of CPU vs standard care in CP patients presenting to the ED of 3 hospitals in the same healthcare system between 2013-2018. The CPU group (CPUG) included patients admitted to a CPU and the standard care group (SCG) included patients who received standard care strategies. The CPU is run by a cardiologist, 2 nurse practitioners, and fellows. Admission to the CPU was at the discretion of ED physicians. The ED utilized the HEART score as a risk stratification tool in CP patients.

## RESULTS

DEMOGRAPHICS			
Characteristic	SCG n=4076	CPU n=4294	p-value
<b>Gender</b>			
Female	2308 (56.6%)	2115 (49.25%)	<0.0001
Male	1768 (43.4%)	2179 (50.75%)	
<b>Age at admission, mean (SD)</b>	55.5 (13.7)	59.3 (13.0)	<0.0001
<b>Age &gt;75</b>	397 (9.9%)	589 (13.8%)	<0.001
<b>BMI, median (IQR)</b>	31 (26.01, 37.2)	30.57 (26.61, 35.54)	0.15
<b>Race</b>			
American Indian	25 (0.61%)	27 (0.63%)	0.928
Black/African American	2370 (58.2%)	686 (15.98%)	<0.0001
Other Pacific Islander	4 (0.1%)	11 (0.26%)	0.087
White	1616 (39.65%)	3470 (80.81%)	<0.0001
Hispanic	203 (4.98%)	725 (16.88%)	<0.0001
Others	61 (1.5%)	100 (2.33%)	0.007
<b>Dyslipidemia</b>	1958 (48.04%)	2703 (62.95%)	<0.0001
<b>Diabetes</b>	1134 (27.82%)	1078 (25.1%)	0.0048
<b>Hypertension</b>	2927 (71.81%)	2935 (68.35%)	0.0006
<b>Current smoker</b>	1479 (36.66%)	818 (19.27%)	<0.0001
<b>Former smoker</b>	1129 (27.7%)	1518 (35.35%)	<0.0001
<b>CAD</b>	1009 (25.1%)	1594 (37.5%)	<0.001
<b>Family history of CAD</b>	1090 (26.74%)	1637 (38.12%)	<0.0001

Table 1: Demographics of the SCG and CPUG.

OUTCOMES			
Variable	SCG n=4014	CPU n=4253	p-value
<b>30 day readmit</b>	192 (4.71%)	183 (4.26%)	0.32
<b>365 day readmit</b>	998 (24.48%)	906 (21.1%)	<0.001
<b>MI at 30 days</b>	36 (0.9%)	9 (0.2%)	<0.001
<b>MI at 1 year</b>	70 (1.7%)	49 (1.2%)	0.02
<b>Stroke at 30 days</b>	5 (0.1%)	2 (<1%)	0.23
<b>Stroke at 1 year</b>	41 (1.0%)	22 (0.5%)	<0.01
<b>Length of stay</b>			
<1 day	370 (9.1%)	1300 (30.3%)	<0.0001
1-3 days	3635 (89.2%)	2789 (64.9%)	

Table 2: Outcomes of patients in the SCG and CPUG.

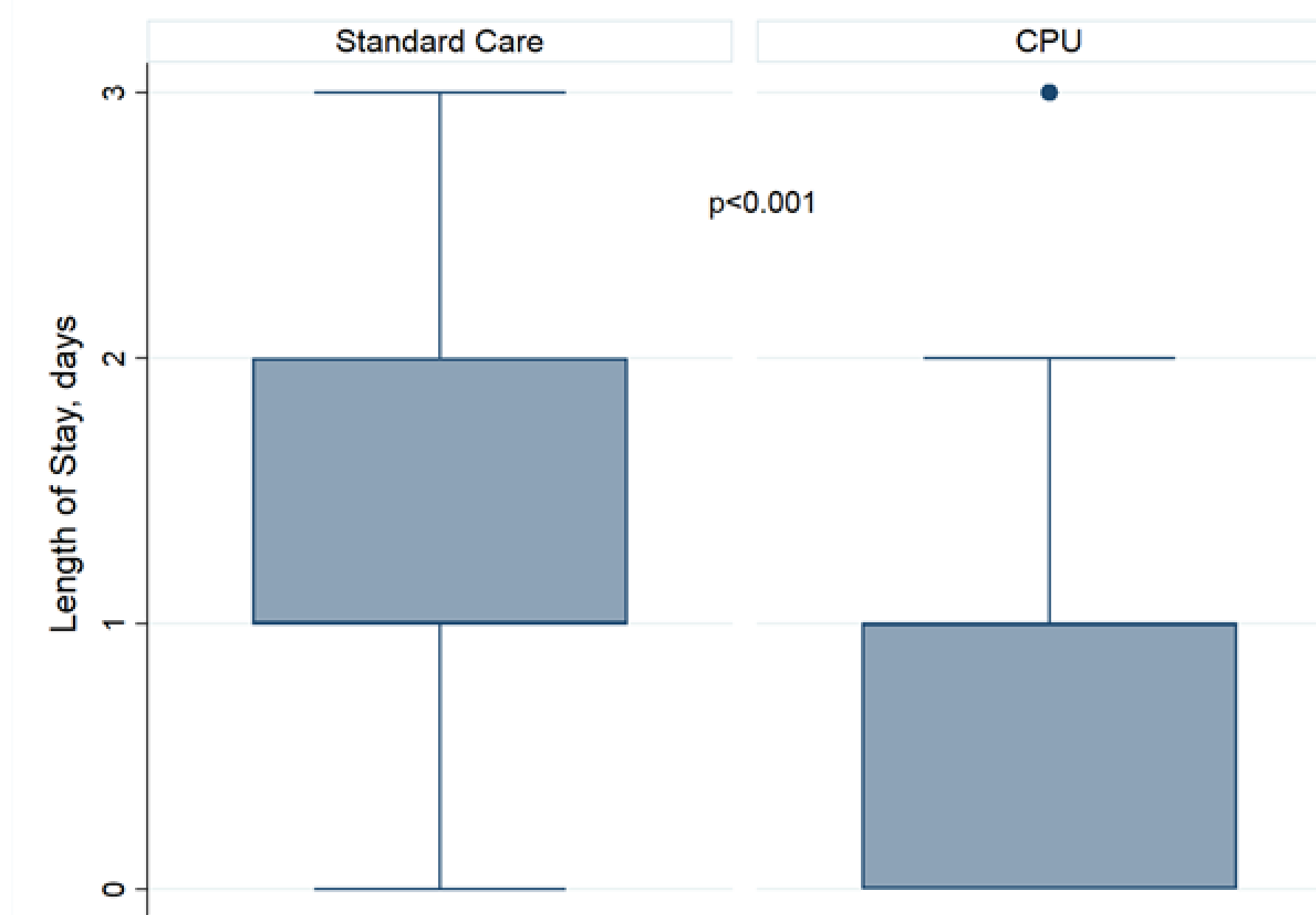


Figure 1: Box plot demonstrating length of stay in the SCG vs CPUG. SCG has average length of stay 1-2 days vs CPUG is less than 1 day with a p-value <0.001

## CONCLUSIONS

A CPU remains an efficacious design for risk stratification in CP patients who present to the ED. It reduces length of stay by nearly half and is associated with fewer MACCE at 30 days and 1 year. Unfortunately, there is racial disparity within the utilization of the CPU.

## DISCLOSURE INFORMATION

The authors have nothing to disclose.

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