Racial Disparities in Emergency Department Wait Times for Patients Presenting with Chest Pain and Shortness of Breath: An Analysis of the National Hospital Ambulatory Medical Care Survey (NHAMCS) 2019-2021

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INTRODUCTION

- Extended Emergency Department (ED) wait times are associated with adverse health outcomes, including increased rates of insufficient treatments, admissions, and mortality.[1,2]
- Chest pain and shortness of breath (dyspnea) are common presenting symptoms of several life-threatening conditions including acute myocardial infarction (MI), pulmonary embolism, aortic dissection, and tension pneumothorax.[3-5]
- Given the potentially fatal outcomes associated with chest pain and dyspnea, a timely medical workup is essential to minimize morbidity and mortality.[6]
- Given people of racial/ethnic minority groups disproportionately experience health disparities, identifying barriers to care in the ED may impact already vulnerable populations, thus improving ED wait times.[2]

OBJECTIVES

- Our primary objective was to assess the differences in ED wait times by race for patients presenting with chest pain and dyspnea using the National Hospital Ambulatory Medical Care Survey (NHAMCS)

METHODS

- Using survey weights provided by NHAMCS, we determined national estimates for ED wait times for 2019-2021 by ED triage level for patients presenting with chest pain and dyspnea.
- We constructed a linear regression to assess the difference in wait times by race/ethnicity.
- We applied bootstrapping (2000 replications) to account for unbalanced samples between racial/ethnic groupings.
- We controlled for race, sex, age, triage level, and urbanicity.

RESULTS

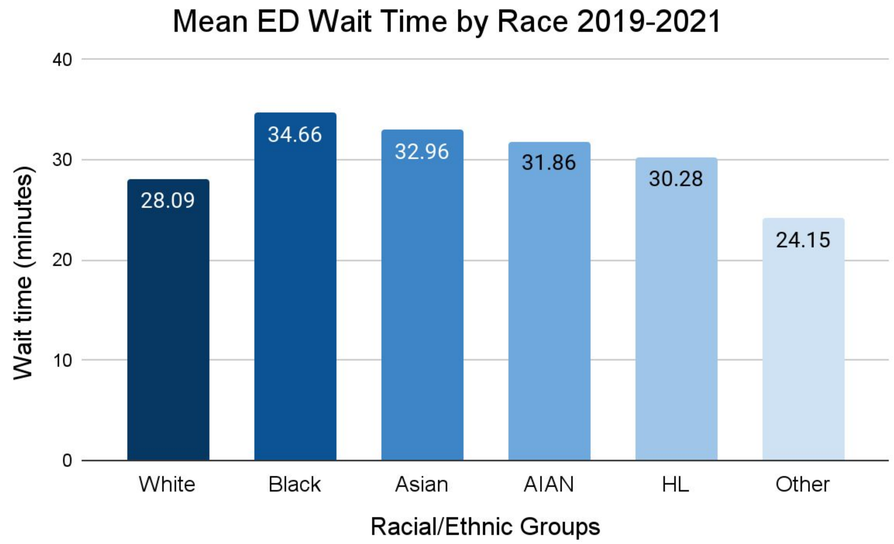

Table 1. Demographics of sample and associations with wait times of ED visit for chest pain, shortness of breath, ischemic heart symptoms using data from 2019-2021 NHAMCS (n = 3900, N = 11405629).

	Sample		Binary Model		Adjusted Model	
Variable	No. (%)	Population est.	Coeff (SE)	t, *P*	Coeff (SE)	t, *P*
Race						
White	2439 (64.3)	7,334,381.00	1 (Ref)	-	1 (Ref)	-
Black	973 (22.35)	2,548,734.00	6.57 (2.95)	**2.22, .026**	5.2 (2.85)	1.83, .068
Asian	106 (2.44)	278,256.00	4.87 (5.9)	0.83, .409	0.76 (5.71)	0.13, .894
AIAN	32 (0.66)	75,459.00	3.77 (13.47)	0.28, .779	7.04 (12)	0.59, .558
HL	315 (9.6)	1,094,598.00	2.19 (4.96)	0.44, .659	-0.12 (5.48)	-0.02, .982
Other/MR	35 (0.65)	74,200.00	-3.94 (9.34)	-0.42, .674	-7.03 (9.98)	-0.7, .481
Sex						
Female	2098 (55.5)	6,329,941.00	1 (Ref)	-	1 (Ref)	-
Male	1802 (44.5)	5,075,687.00	2.32 (2.36)	0.98, .326	1.92 (2.38)	0.81, .42
Triage level						
Emergent	1286 (36.01)	4,106,939.00	1 (Ref)	-	1 (Ref)	-
Urgent	2230 (54.01)	6,159,945.00	4.65 (2.5)	1.86, .063	2.95 (2.72)	1.08, .279
Semi-urgent	384 (9.98)	1,138,745.00	3.8 (3.78)	1.00, .315	1.83 (3.72)	0.49, .624
Urbanicity						
Metro	3365 (85.15)	9,711,858.00	1 (Ref)	-	1 (Ref)	-
Non-Metro	535 (14.85)	1,693,771.00	-12.15 (2.14)	**-5.67, <.001**	-10.86 (2.35)	**-4.62, <.001**

AIAN: American Indian/Alaska Native; HL: Hispanic/Latino; MR: Multiracial

RESULTS

- In the sample (n=3900), representing 11,405,629 patients, the average wait times for emergent triage scoring was 26.99 minutes (SD=49.96).
- All racial/ethnic minority groups experienced longer wait times than White patients except for other/multiracial patients.
- Other/multiracial patients demonstrated lower ED wait times compared to White patients.
- Black patients experienced a statistically significant increase in ED wait times compared to White patients, according to the binary model
- ED wait times in non-metro areas displayed a statistically significant increased wait times compared to metropolitan areas.

CONCLUSIONS

- Our study demonstrates that racial disparities in the ED persist, given the increased wait times for minority patients.
- Potential barriers include language barriers, systemic racism, lack of interpretation services, and inadequate health literacy.
- Racial disparities in the ED are complex; therefore, expanding research to identify strategies to further mitigate contributing factors are crucial to reaching health equity.
- Improving ED wait times for minority patients is crucial given that these patients historically experience a variety of other health disparities as well which can further impact their condition.

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