



Association between race/ethnicity and wait time in patients presenting to an emergency department in emergent vs urgent presentations

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Background

Evidence suggests that increasing wait times in the ED leads to detrimental health outcomes. Specific race/ethnic groups were shown to have varying wait times which could lead to health disparities.

Aim: to determine whether there is an association between race/ethnicity and wait time on the bases of emergent and urgent presentation in ED

Methods

Study Design: Secondary data analysis of a cross sectional using information from participants of the "National Hospital Ambulatory Medical Care Survey (NHAMCS)" for the year 2012-2014.

Population: Adults (18 and older) presenting alive to an ED. Including records from subjects with any or all the following chief complaints: Emergent (chest pain and shortness of breath), Urgent (abdominal pain and back pain)

Data Analysis: We performed analysis of adult participants of the 2012-2014 National Hospital Ambulatory Medical Care Survey (NHAMCS) who arrived at the ED presenting with emergent (shortness of breath/chest pain) or urgent (abdominal pain/ back pain) symptoms. Associations were assessed using logistic regression models. Stratification by emergent and urgent symptoms of presentation was performed to examine potential effect modification.

Results

Table 1: Characteristics of adults presenting to ED by race/ethnicity

Characteristics		Whites (%)	Blacks (%)	Hispanics (%)	Other (%)	P value
Age	18-40	40.8	51.0	55.4	45.7	<0.001
	41-64	38.9	41.6	34.5	33.7	
	65+	20.2	7.4	10.1	20.6	
Sex	Female	58.6	63	63.3	57.9	0.024
	Male	41.4	37	36.7	42.1	
Insurance	Insured	81.8	77	77.3	81.9	0.012
	Other	3.9	5.4	6.9	4.3	
	Self Pay	14.3	17.6	15.8	13.9	
Shift	Morning	66.6	67.6	63	62.9	0.340
Reason for ED visit	Emergent	44.1	44	37.7	42.3	0.043
	Urgent	55.9	56	62.3	57.7	
Day of Arrival	Weekday	75.7	76.1	75.7	75.1	0.990
	Weekend	24.2	23.9	24.3	24.9	
Hospital Location	Non-MSA	24.7	11.2	4.3	7.6	<0.001
Region	Northeast	13.8	11.5	17.7	6.4	<0.001
	Midwest	30.5	25.2	9.6	2.7	
	South	35.4	56.1	31.3	12.1	
	West	20.3	7.3	41.5	54.5	

Table 2: Association between patient & hospital characteristic by waiting time

Characteristics		Less than 30 mins (%)	More than 30 mins (%)	P value
Race	Whites	61.5	38.5	0.005
	Blacks	53.0	47.0	
	Hispanic	57.4	42.6	
	Other	65.6	34.4	
Sex	Female	56.3	43.7	<0.001
	Male	63.5	36.5	
Reason for ED visit	Emergent	63.5	36.5	<0.001
	Urgent	55.9	44.1	
Day of Arrival	Weekday	58.5	41.5	0.095
	Weekend	61.3	38.7	
Hospital Location	MSA	58	42.0	0.007
	Non-MSA	68.8	31.2	

Table 3: Unadjusted and adjusted associations in ED wait time based on patient race/ethnicity.

Race//Ethnicity	Unadjusted OR (95% CI)	P value	Adjusted OR (95% CI)	P value
Whites	Referent		Referent	
Blacks	1.4 (1.2-1.7)	0.001	1.3 (1.02-1.76)	0.031
Hispanic	1.2 (0.96-1.5)	0.116	1.0 (0.8-1.3)	0.815
Others	0.8(0.5-1.4)	0.484	0.66 (0.35-1.26)	0.213

Table 4: Adjusted association between wait time in emergent vs urgent presentations for race/ethnicity.

Race/ethnicity	Emergent OR (95% CI)	P value	Urgent OR (95% CI)	P value
Whites	Referent		Referent	
Blacks	1.58 (1.10-2.27)	0.012	1.21 (0.91-1.59)	0.185
Hispanics	1.19 (0.75-1.91)	0.452	0.95(0.71-1.27)	0.744
Others	0.76 (0.37-1.56)	0.459	0.63 (0.29-1.39)	0.255

We studied 9396 patients, of which 60% were Non-Hispanic whites, 22% were non-Hispanic blacks, 15% were Hispanics and 3% were other races.

Conclusions

Our findings suggest that, as compared to non-Hispanic whites, non-Hispanic blacks are more likely to have longer waiting times when presenting with emergent symptoms at ED across the US.

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