

Title: Racial Disparities in Boarding in an Urban Academic Emergency Department

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Abstract

Importance: There are few studies that investigate differential effects of boarding on patient subpopulations. Boarding is associated with numerous patient-centered harms and represents an unstudied opportunity to introduce bias into the healthcare system.

Objective: To describe any observed differences in emergency department (ED) boarding exposure among various racial and ethnic demographic groups.

Design: In this single-center, retrospective cohort study, we used data available through our electronic health record to explore patient-reported demographic data and boarding times for all admitted patients from 2014 through 2019.

Setting: The University of Colorado Hospital is an urban, academic tertiary care center, serving a local community that is 45% non-Hispanic white, 28% Hispanic or Latino, and 16% Black and sees approximately 100,000 ED visits per year

Main Outcome(s) and Measure(s): Our primary outcome was ED boarding time, defined as the time from admission order until a patient moved to an inpatient bed.

Results: From 2014-2019, 132,611 unique individuals were admitted from the ED between 1 and 86 times. The ED population was predominantly white (74.8%), and the majority identified as Non-Hispanic (85.6%). Race was significantly associated with boarding time. All non-white races, on average, had 5.4% to 18.5% longer boarding time compared to whites, corresponding to mean boarding times from 133 minutes to 150 minutes, versus 126 minutes for white patients. Hispanic ethnicity was also associated with a 3.9% (95% CI: 2.9, 5.0) longer boarding time. When compared to white patients, those who identified as a race other than white were more likely to experience boarding time longer than 2 hours.

Conclusions and Relevance: We observed differential exposure to boarding among racial and ethnic minorities, which is gravely concerning as this confers excess mortality risk that is inequitably distributed to these groups and implies biases that are deeply interwoven into the basic functions of hospital operations. However, further investigation is needed to delineate the mechanism through which these inequities are propagated in the hospital and what may be done to mitigate these factors. This study contributes to a

growing literature on health inequities between different demographic groups and invites a more thorough examination of the social determinants of health that may contribute to ED boarding.