

UC Irvine

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

EMS Administration of Aspirin to Chest Pain and AMI/STEMI Patients: Disparities in Care?

Permalink

<https://escholarship.org/uc/item/9cp9d9g7>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 27(5)

ISSN

1936-900X

Authors

MencI, Francis

Johnson, Daniel

Fratta, Kyle

et al.

Publication Date

2026-09-25

DOI

10.5811/westjem.66618

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

2,056. While all EDs experienced increased PHC in 2023 compared to 2018, the tertiary ED had the most significant drop in total annual census (16.2%), compared to both free standing (1.1%) and community EDs (6.5%) [Figure 1]

Conclusion: This study demonstrates a paradigm shift in ED utilization in the post COVID-19 era, with decreased patient volumes but increased PHC across health system EDs (tertiary referral, community, and free standing). Freestanding and community EDs saw slight annual volume decreases but significant percentage increases in PHC (23.2% versus 29.4% respectively) [Figure 2]. This PHC increase was slightly less pronounced in the tertiary care setting which also experienced significant reduction in annual volume. These trends highlight evolving patient care needs in Emergency Medicine and stress the importance of resource allocation and workforce adjustments to manage the increase of PHC.

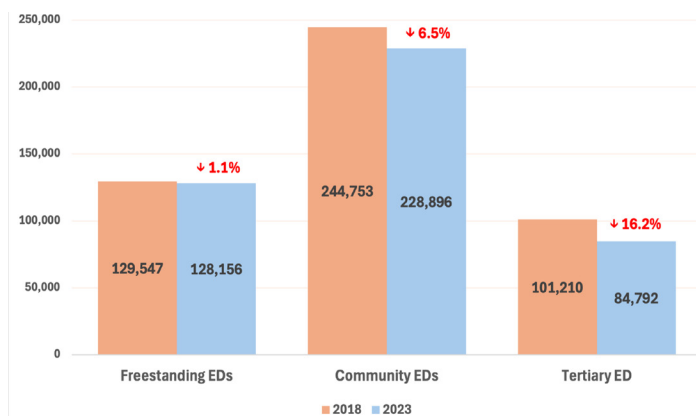


Figure 1. Comparison of ED daily PHC between site and year.

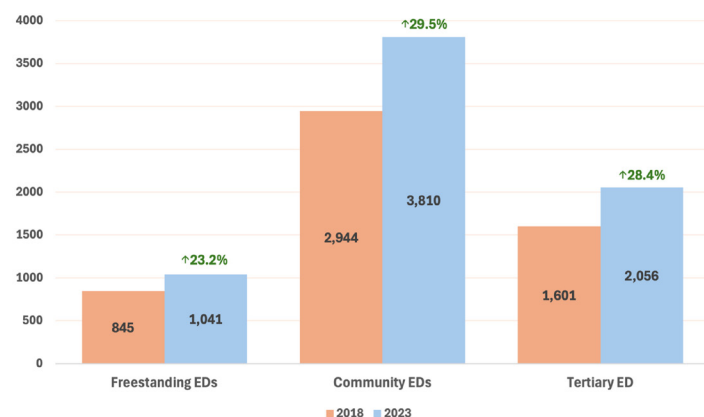


Figure 2. Comparison of ED total annual patient volume between site and year.

8 EMS Administration of Aspirin to Chest Pain and AMI/STEMI Patients: Disparities in Care?

Francis Mencl, Daniel Johnson, Kyle Fratta

Objectives: To determine and compare disparities in aspirin (ASA) administration to chest pain and presumed acute myocardial infarction (AMI) patients treated by EMS.

Background: AMI is a significant cause of morbidity and mortality worldwide. There are concerns about potential disparities in the treatment of patients based on gender and race. ASA is an essential prehospital treatment for cardiac patients. We examined its use by EMS for chest pain and AMI/STEMI patients using 2021 NEMSIS data.

Methods: This IRB-exempt retrospective study used the 2021 NEMSIS database, which contains over 48 million de-identified EMS calls across the USA. Impressions of chest pain (other and unspecified), myocardial infarction, or ST-elevation myocardial infarction (STEMI) were included. Those under 18 years old, or not transported, were excluded. The rate of ASA use was compared by age, sex, race, and ethnicity. Chi-square and odds ratios with confidence intervals were calculated.

Results: A total of 838,898 patients met the inclusion criteria. The mean and median age were 59 and 60, with 49% female. The majority were White (55%), followed by Black (18%), Hispanic (6%), and Asian (1%). Most (95%) were “chest pain”, with 42,085 (5.0%) in the “AMI” group. Overall, in instances of chest pain and AMI, males receive ASA more often than females. (41% vs 36.7%) in chest pain and (57.1% vs 55.8%) in AMI ($p < 0.0001$). However, the absolute difference in administration between genders is less in AMI. White male patients with chest pain are significantly more likely to receive ASA (42.7%) than any other chest pain group (28.3%-38.7%), $p < 0.0001$. In AMI, however, Black and Hispanic male patients get ASA (60.6% and 56.9%) more often than White males (56.7%). White females with AMI receive ASA (56.6%) as often as White males (56.7%). Hispanic females receive ASA at nearly the same rate as White women (56.1% vs. 56.6%), and Hawaiian/Pacific Islander women are somewhat more likely to receive ASA (58.7%) than White females (56.6%) or White males (56.6%). Hawaiian/Pacific Islander women and American Indian/Eskimo women are more likely to receive ASA than their male counterparts: 58.7% vs. 57.3% and 52.3% vs. 50.4%, respectively.

Conclusion: EMS is more likely to administer ASA when they suspect AMI. Differences in the prehospital administration of ASA seen in chest pain patients are minimized when EMS diagnoses an AMI, with some minorities and women actually getting ASA more often than White males.