

Race and Other Factors Affecting Unplanned ICU Admission at a Level 1 Trauma Center

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Trauma patients for whom ICU admission is unplanned (UP-ICU), suffer worse outcomes than those who are planned for admission after arrival to the trauma bay.^{1,2}

What factors predispose patients to this circumstance?

Methods: Retrospective cohort study of traumaOne database of all adult trauma patients from 11/1/2021 to 10/31/2023 at a Level 1 Trauma center. Univariate analysis to determine predictors of UP-ICU from a pool of >90 variables and those found to be significant included in a multivariable logistic regression model. Results displayed using odds ratio, all were significant with p-value <0.05.



3338 included

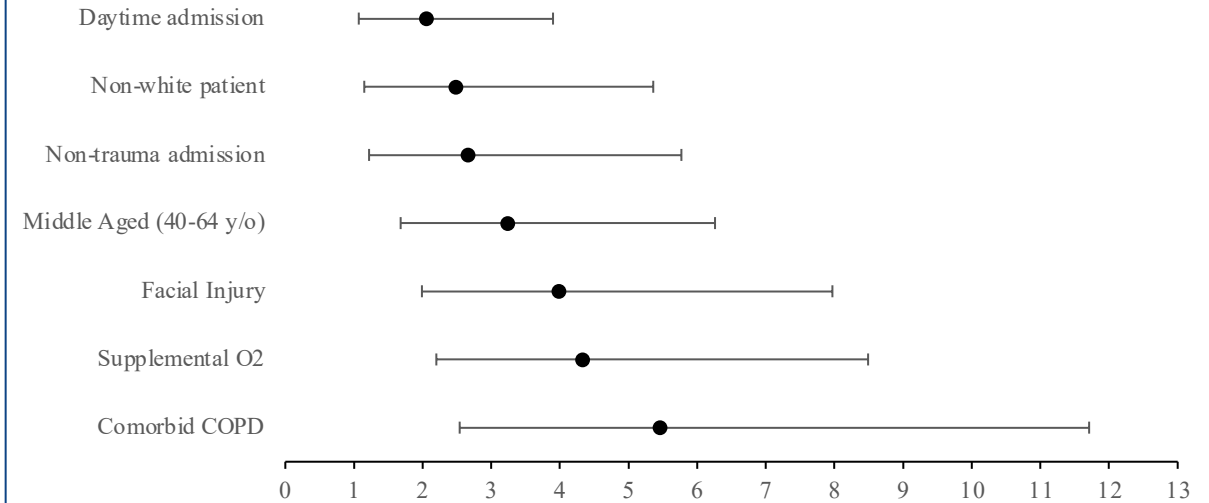


Characteristics:
Average ISS 11.3
2003 Male/1335 Female
2826 White/512 Non-white
1373 Daytime admission/1965 Night admission



102 UP-ICU

Significant Predictors of Unplanned ICU Admission



Conclusion: Previous studies demonstrate non-white race to be an independent predictor for worse health outcomes.^{3,4} Our study, which looked at UP-ICU in trauma patients (also associated with worse outcomes) found the factor of non-white race to be significant in predicting UP-ICU along with COPD, supplemental O2 use, facial injuries, middle age, admission to non-trauma services, and daytime admissions. It is notable that non-modifiable factors were predictors of decision making to admit initially to another unit vs ICU, indicating that bias regarding patient characteristics affects decisions admission decisions. Vigilance is necessary to counteract these effects and improve patient outcomes.

References: 1) Rubano JA, Vosswinkel JA, McCormack JE, Huang EC, Shapiro MJ, Jawa RS. Unplanned intensive care unit admission following trauma. *J Crit Care.* 2016 Jun;33:174-9. doi: 10.1016/j.jcrc.2016.02.012. Epub 2016 Feb 24. PMID: 26979911. 2) Ranney SE, Lee TH, Callas PW, Patashnik L, An GC, Malhotra AK. Defining Risk and Risk Factors for Unplanned ICU Admission of Trauma Patients. *J Surg Res.* 2022 Mar;271:7-13. doi: 10.1016/j.jss.2021.10.008. Epub 2021 Nov 20. PMID: 34814050. 3) Haider AH, Weygant PL, Bentley JM, Monn MF, Rehman KA, Zarzur BL, Crandall ML, Cornwell EE, Cooper LA. Disparities in trauma care and outcomes in the United States: a systematic review and meta-analysis. *J Trauma Acute Care Surg.* 2013 May;74(5):1195-205. doi: 10.1097/TA.0b013e31828c331d. PMID: 23609267; PMCID: PMC3641534. 4) Kishawi SK, Tseng ES, Adomshick VJ, Towe CW, Ho VP. Race and trauma mortality: The effect of hospital-level Black-White patient race distribution. *J Trauma Acute Care Surg.* 2022 Jun 1;92(6):958-966. doi: 10.1097/TA.0000000000003538. Epub 2022 Feb 4. PMID: 35125445; PMCID: PMC9133009.