

**Title:** Racial differences in prior-year emergency department utilization among firearm injury patients: North Carolina, 2018-2021

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**Background/Purpose:** The emergency department (ED) is an excellent resource for the prevention of violent injury, with patterns of prior ED utilization informing opportunities for targeted interventions. This study aimed (1) to characterize individuals presenting to EDs for firearm-related injuries by racial classification (2) to investigate prior-year ED utilization among individuals presenting to the ED for a firearm-related injury; and (3) to characterize racial differences in prior-year ED visit characteristics.

**Methods/Approach:** North Carolina's syndromic surveillance system (NC DETECT) was used to obtain ED visits from 1/1/2018-12/31/2021. Patients with a firearm-related injury were identified with V2 of the CDC's all-intents case definition. Visits occurring up to 365 days before the patient's most recent firearm-related visit (prior-year visits) to the same medical facility were identified using an internal tracking ID. Patient characteristics (age, sex, insurance status, rurality, injury disposition) were compared, stratified by racial classification (White, Black, American Indian, Asian/Pacific Islander, and Other). Frequency of prior-year ED visits was investigated and common ICD-10-CM codes were identified.

**Results/Outcome:** From 2019-2021, we identified the most recent firearm-related ED visit for 13,629 North Carolinians, the majority of which were Black (61%). Non-White patients skewed younger than those classified as White. American Indian patients were primarily (89%) from nonmetro areas and had the highest percentage of firearm injuries resulting in death in the ED at 7% (n=24). Prior-year ED visits were most frequent among American Indian (29%, n=103) and Black (23%, n=1956) patients. Prior-year firearm-related visits were relatively uncommon for all groups (2-4% of patients). Nicotine dependence, long-term drug therapy, and hypertension were the most common ICD-10-CM codes across all racial classifications. Variation in the remaining common ICD-10-CM codes was observed by racial classification.

**Conclusions/Implications:** Almost 14,000 North Carolinians presented to an ED for a firearm-related injury from 2019-2021. Approximately 11-29% of those with a firearm-related ED visit had a visit to that same facility in the year prior to their injury. Prior-year ED visits provide the potential for prevention, particularly among those who previously sustained firearm-related injuries. Further investigation of these prior-year ED visits may provide insight into factors related to repeat-firearm injury and firearm-related injury disparities.

**NC DETECT data attribution & disclaimer:** The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) is an advanced, statewide public health surveillance system. NC DETECT is funded with federal funds by North Carolina Division of Public Health (NC DPH), Public Health Emergency Preparedness Grant (PHEP), and managed through a collaboration between NC DPH and the University of North Carolina at Chapel Hill Department of Emergency Medicine's Carolina Center for Health Informatics (UNC CCHI). The NC DETECT Data Oversight Committee does not take responsibility for the scientific validity or accuracy of methodology, results, statistical analyses, or conclusions presented. The NC DETECT Data Oversight Committee (DOC) includes representatives from the NC DPH, UNC NC DETECT Team and the NC