

Using Big Data to Monitor Substance-Related Morbidity in Hispanic/Latine Americans: A National Analysis, 2019-2023

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Submitter Brian Tirado

Affiliation Washington University School of Medicine, Department of Psychiatry

Participant(s) Brian Tirado (Presenter), Tiffany Xie (Co-Author), Kevin Xu (Co-Author)

SUBMISSION DETAILS

If your paper is not accepted, please elect if you would like your submission to be reviewed as a poster. Yes, I would like to be reviewed as a poster.

Summary Hispanic/Latine Americans are among the most consistently underrepresented populations in substance use research, despite comprising the fastest-growing racial and ethnic group in the US. Translating routinely collected insurance claims into actionable public health data, this study characterizes substance-related emergency department visits and hospitalizations among Hispanic/Latine Medicaid enrollees from 2019 to 2023, revealing age- and sex-specific trajectories in opioid-, stimulant-, alcohol-, and cannabis-related morbidity.

The questions following the above will ask you to breakdown your summary.

Background A data-to-action framework for substance-related morbidity requires data systems capable of identifying which populations are experiencing rising harm, what substances are driving that harm, and when clinical intervention is most needed. National overdose surveillance has prioritized mortality and has focused predominantly on non-Hispanic White and non-Hispanic Black populations, leaving Hispanic/Latine communities without the evidence base needed to guide targeted interventions. Emergency department visits and inpatient hospitalizations represent key clinical touchpoints where patients can be identified and connected to evidence-based treatment.

Educational Learning Objectives

Learning Objective 1 Describe age- and sex-stratified trends in opioid-, stimulant-, alcohol-, and cannabis-related acute care encounters among Hispanic/Latine Medicaid enrollees from 2019 to 2023.

Learning Objective 2 Explain how administrative claims data from emergency departments and inpatient settings can serve as a data-to-action tool for identifying emerging substance-related

crises in populations underrepresented in addiction health services research.

Learning Objective 3 Discuss clinical and structural strategies for connecting Hispanic/Latine patients presenting for substance-related acute care to evidence-based treatment

Methods We conducted a retrospective cohort study of 28,892 Hispanic/Latine Medicaid enrollees aged 19-64 years with at least one substance-related acute care encounter between January 2019 and December 2023 using the Merative MarketScan Multi-State Medicaid Database, a multistate source of adjudicated encounter-level claims. Substance-related encounters were identified using ICD-10-CM codes F10.XX-F19.XX, excluding nicotine. The primary outcome was the monthly proportion of encounters involving opioid-, stimulant-, alcohol-, or cannabis-related diagnoses, stratified by age and sex. Age groups included 19-24, 25-34, 35-44, 45-54, and 55-64 years. Trends were estimated using weighted least squares regression with offset terms to account for changes in acute care volume, generating cumulative percentage-point changes from January 2019 to December 2023 with 95% confidence intervals.

Results Opioid-related acute care encounters declined among adults aged 25-34 (−4.4 percentage points; 95% CI, −6.4 to −2.5) and 35-44 (−5.1; 95% CI, −7.0 to −3.2), with modest declines among adults aged 55-64. Sex-stratified analyses showed modest opioid declines among men (−1.6; 95% CI, −3.0 to −0.3) and women (−3.5; 95% CI, −5.7 to −1.3). Stimulant-related encounters increased markedly among adults aged 45-54 (+7.8; 95% CI, 6.1 to 9.6) and 55-64 (+7.6; 95% CI, 5.8 to 9.5), while declining among those aged 19-24 (−4.8; 95% CI, −7.6 to −2.0). Alcohol-related encounters increased among younger adults aged 19-24 (+12.1; 95% CI, 9.0 to 15.3) and 25-34 (+13.7; 95% CI, 11.4 to 15.9). Cannabis-related encounters declined across all age and sex strata.

Conclusion This study demonstrates that routinely collected administrative claims data can generate population-specific, actionable intelligence about substance-related morbidity in Hispanic/Latine communities that national aggregate analyses may miss. The divergent trajectories identified here, particularly the sharp rise in stimulant-related acute care among older Hispanic/Latine adults and alcohol-related encounters among younger adults, reflect a shifting landscape of substance-related harm that existing monitoring systems are not designed to detect or respond to. Closing this gap requires both investment in disaggregated public health data infrastructure and health systems that treat acute care encounters as structured opportunities to connect Hispanic/Latine patients to comprehensive, culturally responsive treatment.

Scientific Significance Among Hispanic/Latine Medicaid enrollees from 2019 to 2023, opioid-related acute care utilization declined modestly while stimulant-related encounters increased substantially among adults aged 35 and older, with the steepest increases concentrated among those aged 45 to 64. These substance-specific, age-stratified findings illustrate both the value of disaggregated administrative data for public health monitoring and the need for clinical responses tailored to the evolving and heterogeneous substance-related needs of Hispanic/Latine communities.

Will your paper cite external research? Yes

Please cite all references here in AMA format. 1. Garnett MF, Minino AM. Drug Overdose

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