

Overdose Mortality and Poverty Surrounding Las Vegas’ Safety-Net Hospital

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Abstract

Drug overdose is a leading cause of preventable death in Las Vegas, Nevada, but its burden is concentrated within the neighborhoods served by safety-net hospitals. Using Southern Nevada Health District neighborhood-level overdose mortality data (2023–2025) and American Community Survey socioeconomic estimates, we examined geographic patterns of overdose mortality and their relationship to neighborhood poverty. Every ZIP Code Tabulation Area (ZCTA) within University Medical Center's (UMC) eight-neighborhood urban-core catchment exceeded the national age-adjusted overdose death rate of 31.3 per 100,000, with ZCTA 89101 reaching 112.7 per 100,000, the highest rate in Clark County [1,2]. Mortality was driven by both fentanyl and methamphetamine and increased with neighborhood poverty (Spearman $\rho = 0.62$). These findings suggest that overdose mortality in Las Vegas is geographically concentrated within socioeconomically disadvantaged neighborhoods, positioning the emergency department as a critical setting for targeted intervention.

Background

Drug overdose remains a major public health challenge, and Nevada's overdose mortality rate exceeds the national average [1,3]. Clark County recorded 692 resident overdose deaths in 2023, with opioids involved in approximately two-thirds of cases and fentanyl-related deaths increasing substantially since 2020 [2]. At the same time, stimulant involvement has increased, reflecting a transition toward a polysubstance overdose epidemic. Previous research has shown that overdose risk is strongly associated with social vulnerability, including poverty, housing instability, and limited access to health care [2,4]. Safety-net hospitals serve many of these high-risk communities, yet the geographic distribution of overdose mortality across their catchment areas has remained poorly characterized. We sought to evaluate overdose mortality within our hospital's service area and examine its relationship with neighborhood poverty.

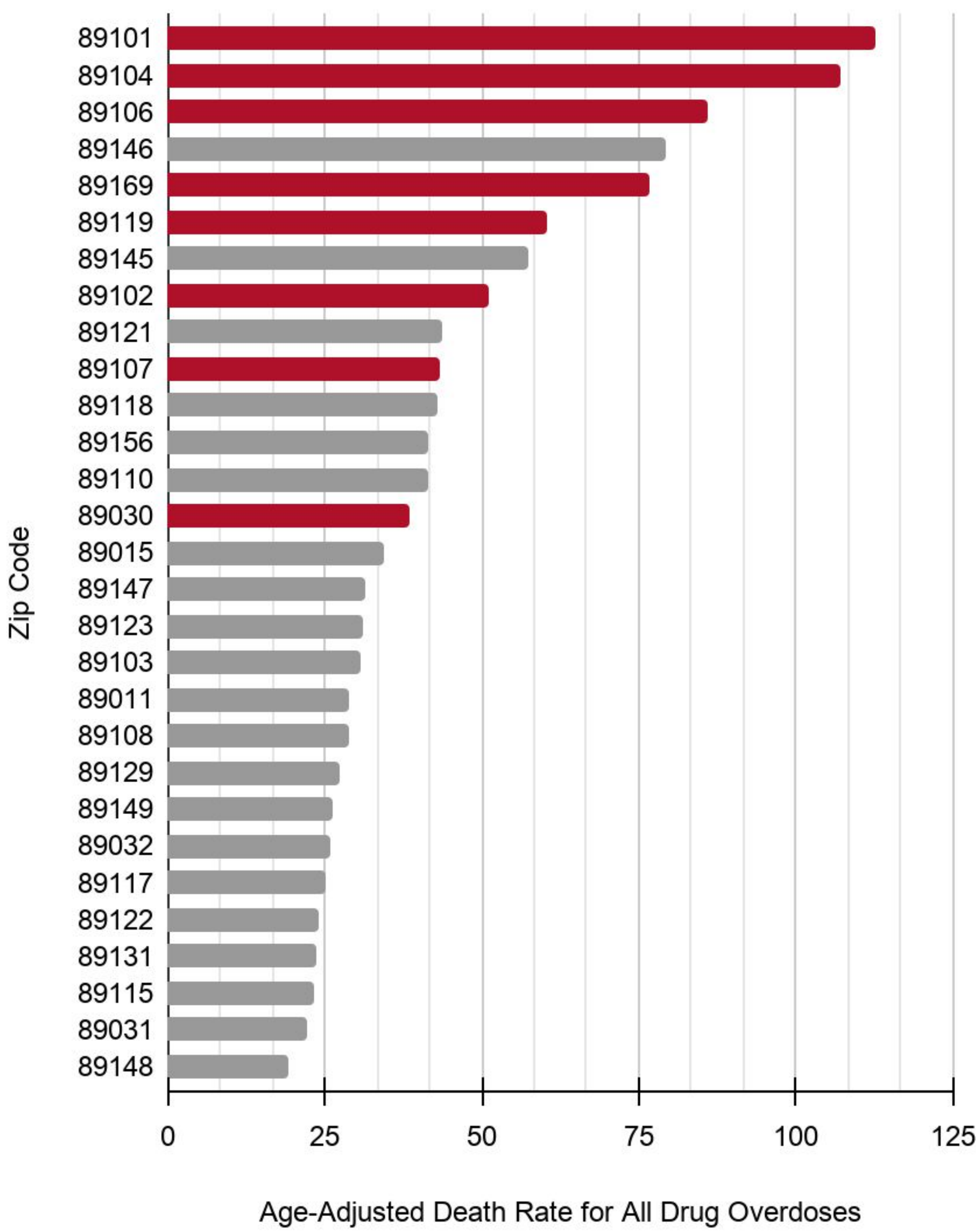
Methods

We performed a retrospective, cross-sectional analysis of overdose mortality across Las Vegas ZIP Code Tabulation Areas using publicly available Southern Nevada Health District surveillance data [2]. Age-adjusted all-drug overdose mortality rates and crude fentanyl-, methamphetamine-, and opioid-involved death rates were combined with neighborhood poverty estimates from the American Community Survey [5]. An eight-ZCTA urban-core catchment corresponding to our hospital's primary service area was compared with county and national benchmarks [1]. The association between overdose mortality and neighborhood poverty was evaluated using Spearman rank correlation. Analyses were descriptive and exploratory, evaluating population-level associations rather than individual causality.

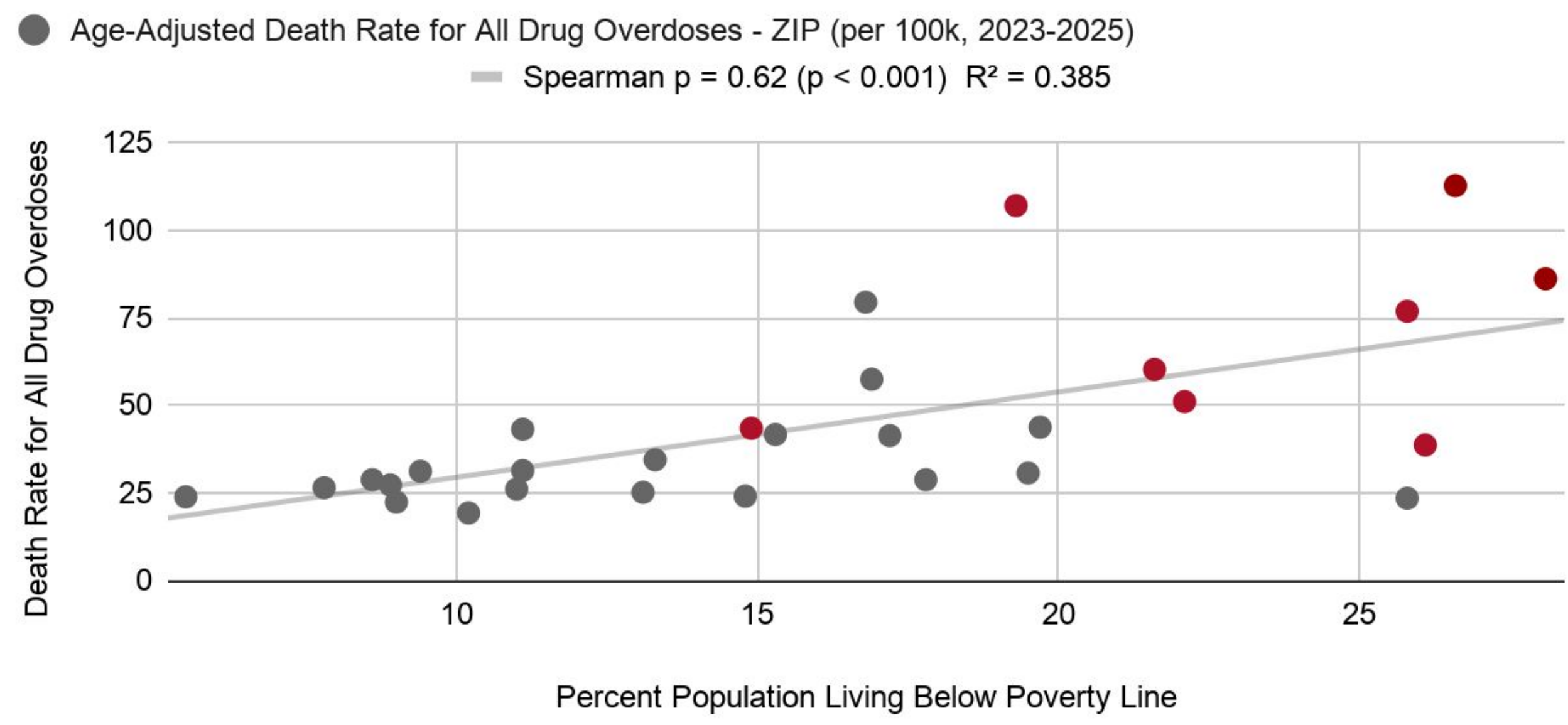
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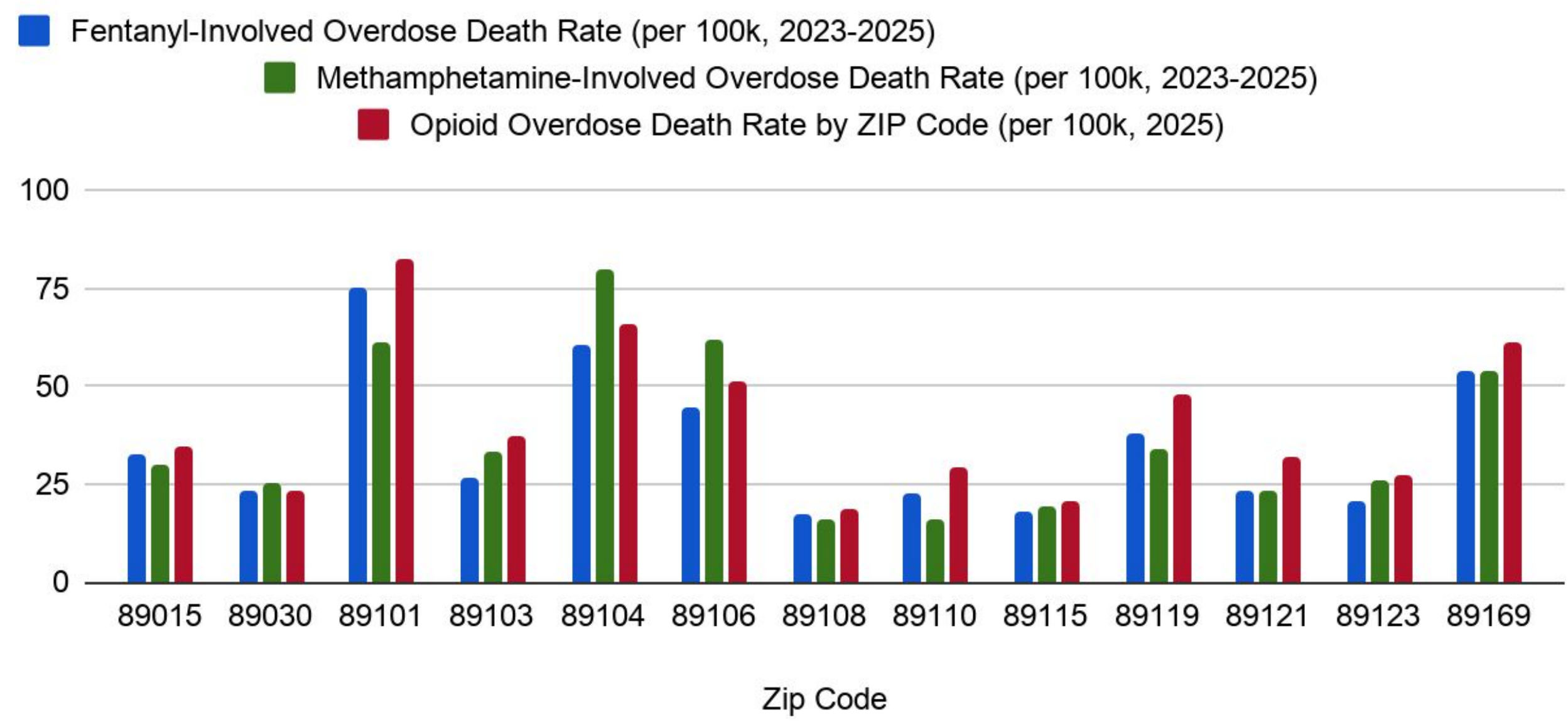
Overdose Mortality by Zip Code



Overdose Mortality vs Zip Code Poverty



Fentanyl vs Methamphetamine vs Any Opioid Death Rate



Discussion

This study demonstrates that overdose mortality in Las Vegas is concentrated in urban-core neighborhoods within the hospital's primary catchment. All catchment neighborhoods exceeded the national overdose death rate, and ZCTA 89101 had more than three times the national average [1,2]. Mortality was driven by both fentanyl and methamphetamine, indicating the crisis extends beyond opioids alone [10]. Rates increased with neighborhood poverty, highlighting the role of socioeconomic disadvantage in overdose risk. These findings have important implications for emergency departments serving high-burden communities. Evidence supports ED initiation of medications for opioid use disorder, naloxone distribution, and linkage to treatment after overdose as effective mortality-reduction strategies [6–9]. These findings also highlight psychiatry's role in overdose prevention. Patients presenting with overdose frequently have co-occurring psychiatric and substance use disorders requiring longitudinal care. Evidence supports integrating addiction psychiatry in the ED, including rapid psychiatric evaluation, initiation of medications for opioid use disorder, and facilitated transition to outpatient dual-diagnosis care to reduce recurrent overdose and improve engagement [6–10]. Expanding psychiatric involvement at the point of emergency care may be especially important in high-risk neighborhoods where repeated overdose reflects unmet behavioral health needs. Future work should assess whether geographically targeted ED interventions reduce disparities in overdose outcomes.

Conclusion

Drug overdose mortality in Las Vegas is concentrated within the socioeconomically disadvantaged neighborhoods served by UMC hospital and is driven jointly by fentanyl and methamphetamine. These findings suggest that overdose is not a diffuse epidemic but one shaped by neighborhood-level inequities. Targeting evidence-based emergency department interventions toward the highest-burden communities may reduce overdose mortality and improve health outcomes. In addition, incorporating psychiatric and emergency department-based addiction services within high-burden neighborhoods may further enhance linkage to care and address the underlying behavioral health drivers of overdose mortality.