Trends in fatal opioid overdoses and opioid-related emergency department visits among the black population in California, 2011–2022

INTRODUCTION

The U.S. opioid epidemic continues to be framed by the popular media as overwhelmingly occurring among White Americans.[1,2] However, research[3-11] has shown that opioid-related overdose deaths among Black Americans exceeds opioid-related overdose death rates among the general population in many states, highlighting hidden trends at the state-level, and the increase in fentanyl overdoses. Little is known about opioid overdoses among the Black population in California and how they have changed over time. California has the fifth largest Black population in the U.S., with over two million Black residents.[12] This represents an urgent area of study given the historical and modern forms of structural, systemic, and institutional racism, including concentrated poverty, medical maltreatment, mass incarceration, and homelessness, which disproportionately affect Black Americans and impact the opioid epidemic.[3-5] To address this, we examined racial and ethnic disparities in opioid-related deaths (i.e., fatal overdoses) and opioid-related emergency department (ED) visits (i.e., nonfatal overdoses), and how they have changed overtime (2011–2022) among the Black population in California, including fentanyl-related trends.

METHODS

Deidentified data were publicly available from the California Opioid Overdose Surveillance Dashboard.[13] This research is not considered human subjects and was exempt from Institutional Review Board review. The California Opioid Overdose Surveillance Dashboard used using an open-source server (RStudio) for data visualization.[13] Dashboard data included ED visits, hospitalizations, fatalities, and prescriptions related to opioid overdoses among California residents. Dashboard data were available from 2006 to 2022, presented in raw counts, crude rates, and age-adjusted rates at the state, county, and zip code levels, as well as by sex, age and race/ethnicity. Age adjustments were made using direct standardization to the U.S. standard population.

The outcomes for this research are opioid-related deaths (i.e., fatal overdoses), opioid-related ED visits (i.e., nonfatal overdoses), fentanyl-related deaths, and fentanyl-related ED visits among non-Hispanic Black individuals. Overdose deaths were identified using the International Classification of Diseases (ICD) 10th Revision codes, based on the ICD-10 underlying cause-of-death codes X40-44 (unintentional), X60-64 (suicide), X85 (homicide), or Y10-14 (undetermined intent), and T40.0-T40.4 or T40.6, multiple causes of death codes for opium, heroin, natural and semisynthetic opioids, methadone, synthetic opioids and unspecified narcotics.[13] Among the deaths with drug overdose as the underlying cause, opioids are indicated by a ICD-10 multiple cause-of-death code of T40.1. Opioid-related ED visits (i.e., nonfatal overdoses) reflect non-fatal acute poisonings due to the effects of opioids regardless of intent outcome overtime.

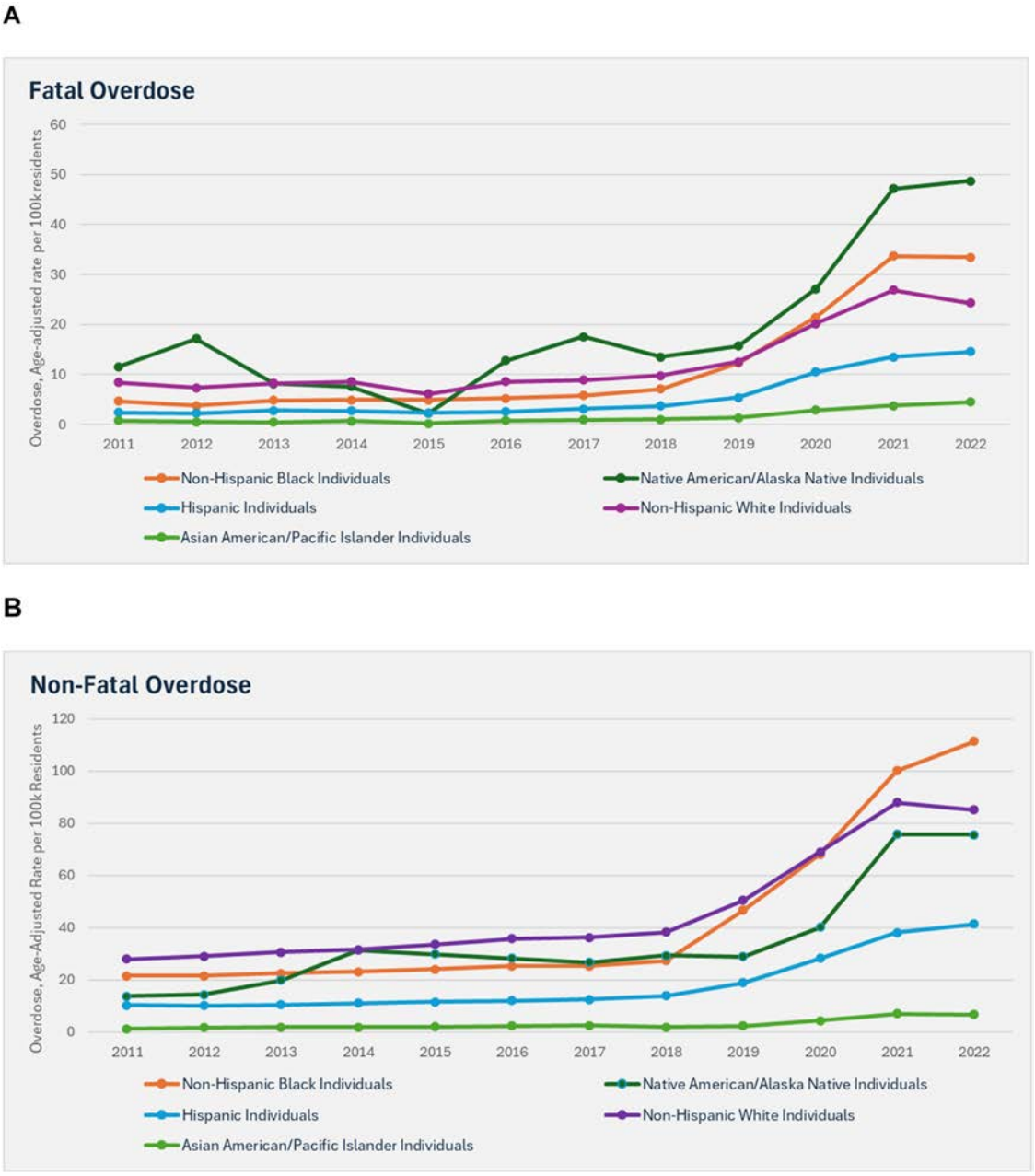
Descriptive analyses were completed using the data tables exported from the California Opioid Overdose Surveillance Dashboard. All outcomes are presented as age-adjusted rates per 100,000 at the county-level. Age adjustments were made using direct standardization to the U.S. standard population.

RESULTS

Across racial and ethnic groups, opioid mortality rates from 2011 to 2022 increased the highest among American Indian/Alaska Native residents in California (Fig. 1a). Opioid-related death rates among non-Hispanic Black residents remained relatively stable from 2011 to 2016, with an average age-adjusted opioid mortality rate of 4.7 deaths per 100,000 non-Hispanic Black residents annually. In 2017, opioid-related death rates started to increase, reaching an age-adjusted opioid mortality rate of 33.5 deaths (per 100,000) non-Hispanic Black residents

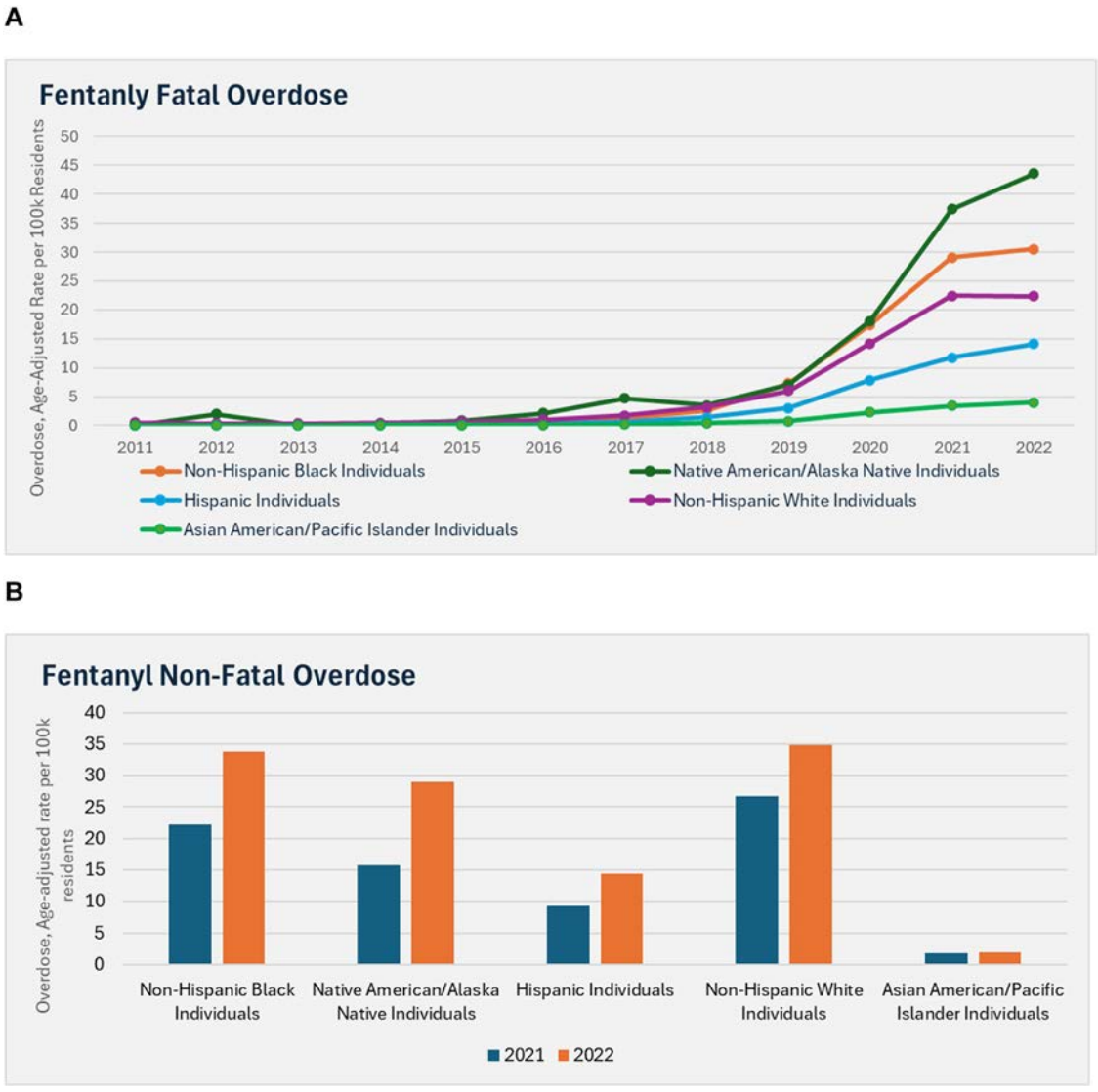
https://doi.org/10.1016/j.jnma.2024.10.002

Fig. 1. Trends in opioid-related fatal and nonfatal overdoses by race and ethnicity in California, 2011–2022. (A) Fatal overdoses, (B) Nonfatal overdoses.



in 2022. As shown in Fig. 1b, across racial and ethnic groups, non-Hispanic Black residents in California experienced the largest increase in opioid-related ED visits (i.e., non-fatal overdoses) from 2011 to 2022 (21.6 to 111.3 per 100,000 [415.3 %]). For example, age-adjusted rates of opioid-related ED visits among non-Hispanic Black residents nearly doubled from 68.1 (per 100,000) in 2020 to 111.3 (per 100,000) in 2022. Across racial and ethnic groups, fentanyl-related mortality rates from 2011 to 2022 increased the highest among American Indian/Alaska Native residents in California (Fig. 2a). Fentanyl-related death rates among non-Hispanic Black residents increased from 0.15 deaths (per 100,000) in 2011 to 30.55 (per 100,000) in 2022. Fentanyl-related death rates from 2017 to 2022 increased sharply across racial and ethnic groups, with the highest increase observed by Black residents (0.71 to 14.12 per 100,000 [21.71 %], followed by Hispanics (18.88 %), Asian Americans/Pacific Islanders (18.11 %), non-Hispanic Whites (12.07 %), and Native Americans/Alaska Natives (8.24 %). Fentanyl-related ED visits were only available for 2021 and 2022 (Fig. 2b). Among non-Hispanic Black residents, age-adjusted rates

Fig. 2. Trends in fentanyl-related fatal and nonfatal overdoses by race and ethnicity in California, 2011–2022. (A) Fatal overdoses, (B) Nonfatal overdoses[a]
[a]Data available starting from 2021.



of fentanyl-related ED visits from 2021 to 2022 increased 53 % (from 22.16 to 33.80 per 100,000).

DISCUSSION

Publicly available data may be susceptible to misclassification and should be cautiously interpreted. Nonetheless, findings demonstrate that from 2011 to 2022 rates of opioid overdose deaths in California were highest among American Indian/Alaska Native residents, and now, the fatal *and* nonfatal opioid overdose crisis disproportionately impacts non-Hispanic Black residents. Fentanyl crisis, structural racism, inequitable opioid use disorder treatment access, and shifting drug policies are all possible contributing factors.[3] Study findings highlight the urgent need for equitable interventions and policies to reduce the differential harms associated with opioids.

FUNDING

This work was supported by the National Institutes of Health-National Institute on Drug Abuse (DP1DA058978; PI: Sabrina L. Smiley).

DECLARATION OF COMPETING INTEREST

The authors declare that they have no conflict of interest.

Sabrina L. Smiley*
Heesung Shin
Division of Health Promotion and Behavioral Science, School of Public Health, San Diego State University, Hardy Tower, Room 119 5500 Campanile Drive, San Diego, CA 92182-4162, USA
E-mail: ssmiley@sdsu.edu

Received 27 June 2024
Revised 14 August 2024
Accepted 11 October 2024

REFERENCES

1. Netherland J, Hansen HB. The war on drugs that wasn't: wasted whiteness, "dirty doctors," and race in media coverage of prescription opioid misuse. *Cult Med Psychiatry*. 2016;40(4):664–686.
2. Why is the Opioid Epidemic Overwhelmingly White? National Public Radio. 2017. Accessed March 11, 2024. https://www.npr.org/2017/11/04/562137082/why-is-the-opioid-epidemic-overwhelmingly-white.
3. James K, Jordan A. The opioid crisis in black communities. *J Law Med Ethics*. 2018;46(2):404–421.
4. Substance Abuse and Mental Health Services Administration: The Opioid Crisis and the Black/African American Population: An Urgent Issue. Publication no. PEP20-05-02-001. Office of Behavioral Health Equity. Substance Abuse and Mental Health Services Administration, 2020. Accessed March 11, 2024. https://store.samhsa.gov/sites/default/files/pep20-05-02-001.pdf.
5. Justen M, Scodes J, Pavlicova M, et al. Homelessness and treatment outcomes among black adults with opioid use disorder: a secondary analysis of X:BOT. *J Addict Med*. 2023;17(4):463–467.
6. Friedman LS, Abasilim C, Karch L, Jasmin W, Holloway-Beth A. Disparities in fatal and non-fatal opioid-involved overdoses among middle-aged non-Hispanic Black Men and Women. *J Racial Ethn Health Disparities*. 2023 Published online December 4. doi:10.1007/s40615-023-01877-y.
7. Britz JB, O'Loughlin KM, Henry TL, et al. Rising racial disparities in opioid mortality and undertreatment of opioid use disorder and mental health comorbidities in Virginia. *AJPM Focus*. 2023;2(3):100102.
8. Mason M, Soliman R, Kim HS, Post LA. Disparities by sex and race and ethnicity in death rates due to opioid overdose among adults 55 years or older, 1999 to 2019. *JAMA Netw Open*. 2022;5(1):e2142982.
9. Larochelle MR, Slavova S, Root ED, et al. Disparities in opioid overdose death trends by race/ethnicity, 2018–2019, from the HEALing communities study. *Am J Public Health*. 2021;111(10):1851–1854.
10. Reddy NG, Jacka B, Ziobrowski HN, et al. Race, ethnicity, and emergency department post-overdose care. *J Subst Abuse Treat*. 2021;131:108588.
11. Lippold K, Ali B. Racial/ethnic differences in opioid-involved overdose deaths across metropolitan and non-metropolitan areas in the United States, 1999–2017. *Drug Alcohol Depend*. 2020;212:108059.
12. U.S. Census Bureau. (n.d.). *California Complete Count – Census 2020 California Calls African Americans*. Accessed on 08/13/24. Snapshot_CACalls.pdf.
13. California Overdose Surveillance Dashboard. Prepared by California Department of Public Health (CDPH - Substance and Addiction Prevention Branch (SAPB). Accessed on 03/11/24. https://skylab.cdph.ca.gov/ODdash/.