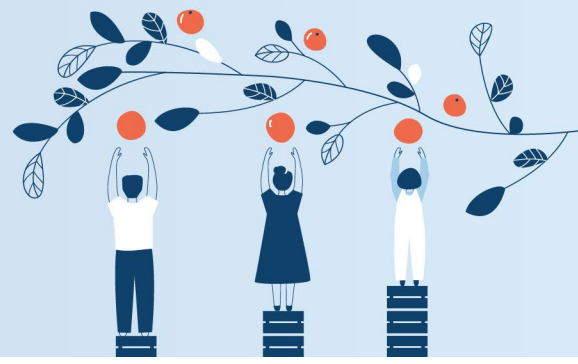


Escalating Disparity: Drug Overdoses Disproportionately Impact Black Men in Michigan



This is a special report; released once.

Key findings

- Among all race, sex and age groups presented in this report:
 - The 4-year average rate (2020-2023), of drug overdose-related Emergency Department (ED) visits is highest among **Black males age 60-69**. This rate has increased the most since 2020 for **Black males age 70-79**.
 - The 5-year fatal overdose average rate (2019-2023), is highest among **Black males age 60-69** and has increased the most since 2019 for **Black males age 60-69**.
- Of those over **60 years**, **Black patients** are almost three times more likely to refuse EMS transport than white patients.

Background

Communities of color have been disproportionately impacted by accidental injury and death for decades in the United States. These inequities begin during infancy, as Black babies die at **twice** the rate of white babies.¹ Continuing into adulthood Black individuals are **more likely** to be involved in injuries and deaths related to pedestrian accidents, house fires and the opioid epidemic.¹ Despite similar rates of substance use compared to white communities, Black communities experience higher rates of overdose (fatal and non-fatal) and incarceration for drug-related offenses.^{2,3} Following carceral release, individuals are more likely to be unhoused, unemployed and put back into the substance use environment, increasing the risk for overdose by nearly 13 times.^{4,5} Research suggests that substance use for Black communities is markedly more dangerous than substance use for white communities.^{4,5}

Across all race and age groups, having a single overdose increases risk for future overdoses over the course of the following year. A study found that **1 in 20 people will fatally overdose within 1 year of a non-fatal overdose.**^{6,7} The ED remains a crucial touchpoint for substance use disorder (SUD) services, by providing patients with take-home naloxone, behavioral counseling, referral to treatment and medication for opioid use disorder (MOUD).^{8,9,10} **Black non-Hispanic (NH) patients are less likely to have received behavioral counseling** following discharge from an opioid overdose compared to other race-ethnicity groups.^{8,11} This is particularly concerning as data from Michigan shows this population has **higher rates of mental illness** (see data brief no. 2). Black patients are also **35 times less likely to be prescribed buprenorphine** compared to white patients.^{8,11} (Efficacy between methadone and buprenorphine is similar but methadone must be given at a clinic daily while buprenorphine can be taken at home.¹²) Potential reasons for the above findings include provider bias, patient mistrust of health care systems and lack of training in addiction medicine and motivational interviewing among those working in EDs.⁸

Emergency Department Visits

Figure 1. Four-Year Average Rate of All-Drug Overdose ED Visits per 100,000 Michigan Residents, by Age Groups and Race, 2020 to 2023.

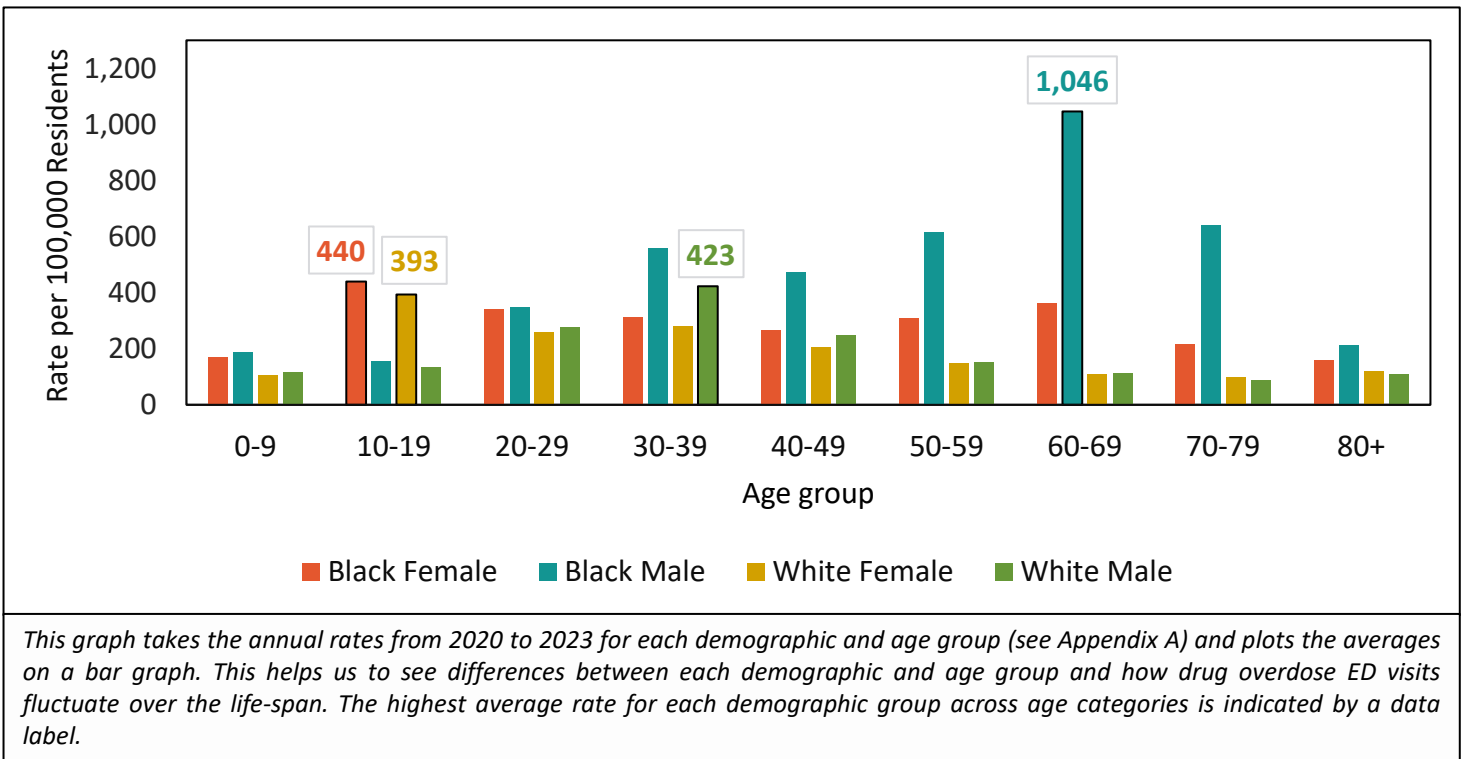


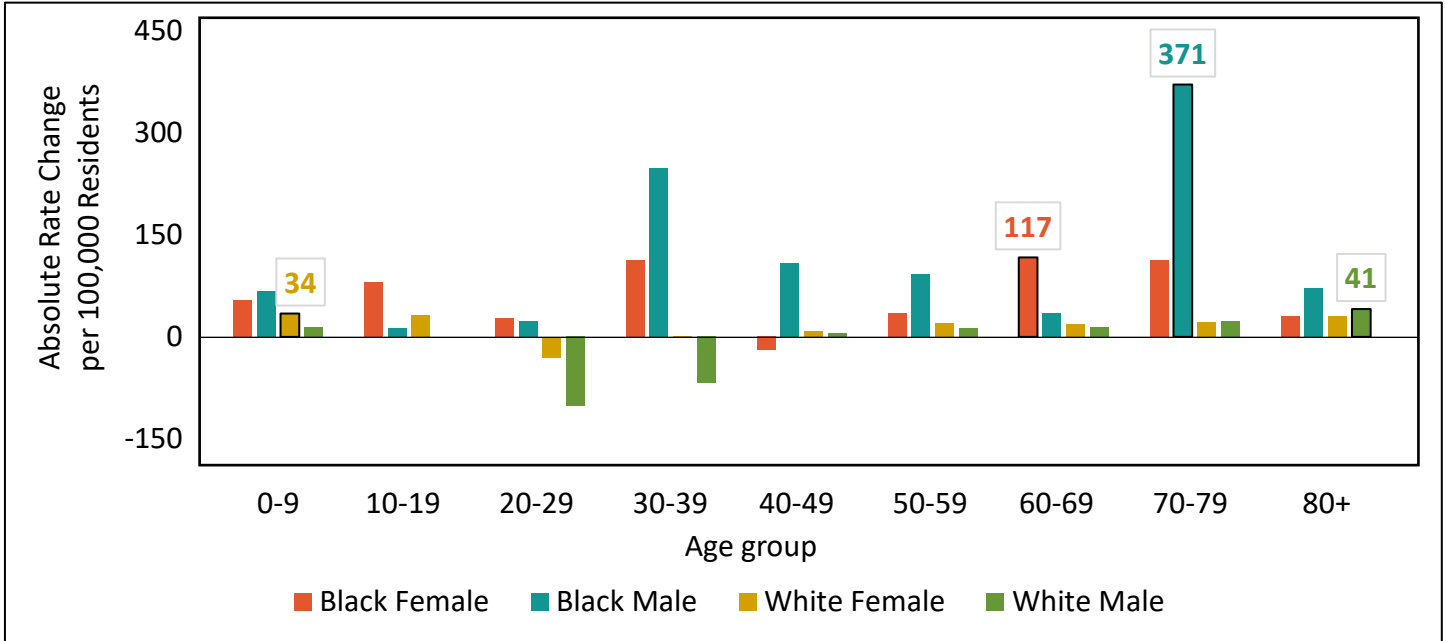
Table 1. Trends from Figure 1.

Race & Sex	Age Group with Highest Rate	Summary for Figure 1	Line graph
Black Female	10-19	Rates peak at age 10-19, decrease during 40-49, increase at 60-69, and then decrease to 80+.	
Black Male	60-69	Rates are higher for Black males compared to all other race and sex groups starting at age group 20-29. The rate is highest for those age 60-69, over double any other race and sex groups.	
White Female	10-19	Rates decrease incrementally after a peak at age 10-19.	
White Male	30-39	Rates increase incrementally until age 30-39, then decreasing incrementally.	

Rates for **Black males** diverge from other demographic groups during their 30s, an inequity that widens further and reaches its peak for those age 60-69.

Emergency Department Visits

Figure 2. Rate Change in All-Drug Overdose ED Visits per 100,000 Michigan Residents, by Age Groups and Race, from 2020 to 2023.



This graph subtracts the annual rates in 2020 from 2023 to find the average rate change for each demographic and age group (see Appendix A). This helps us quantify the rate change increase or decrease for demographic and age groups. A bar above the x-axis indicates the rate in 2023 will be higher than it was in 2020 and a bar below the x-axis indicates the rate in 2023 will be lower than it was in 2020. The highest average rate for each demographic group across age categories is indicated by a data label.

Table 2. Trends from Figure 2.

Race & Sex	Age Group with Highest Rate	Summary for Figure 2	Line graph
Black Female	60-69	Increases are seen across ages besides those 40-49 years old. The largest increases are seen in those aged 60-69, followed by 30-39 and 70-79.	
Black Male	70-79	The largest rate increase is seen in those age 70-79 followed by age 30-38. No age groups experienced a rate decrease.	
White Female	10-19	Most age groups had a slight increase. A decrease was observed in the 20-29 and 30-39 age groups.	
White Male	80+	White males saw the greatest decreases and smallest increases across race, sex, and age groups. Rate decreases were observed in the age groups 20-29 & 30-39.	

The **highest drug overdose ED visit rate increases** year to year were among the **Black male 70-79** age group, showing a rate increase **3 to 20 times** that of any other race, sex, and age group.

Overdose Deaths

Figure 3. Five-Year Average Overdose Death Rate per 100,000 Michigan Residents, by Age Groups and Race, 2019 to 2023.

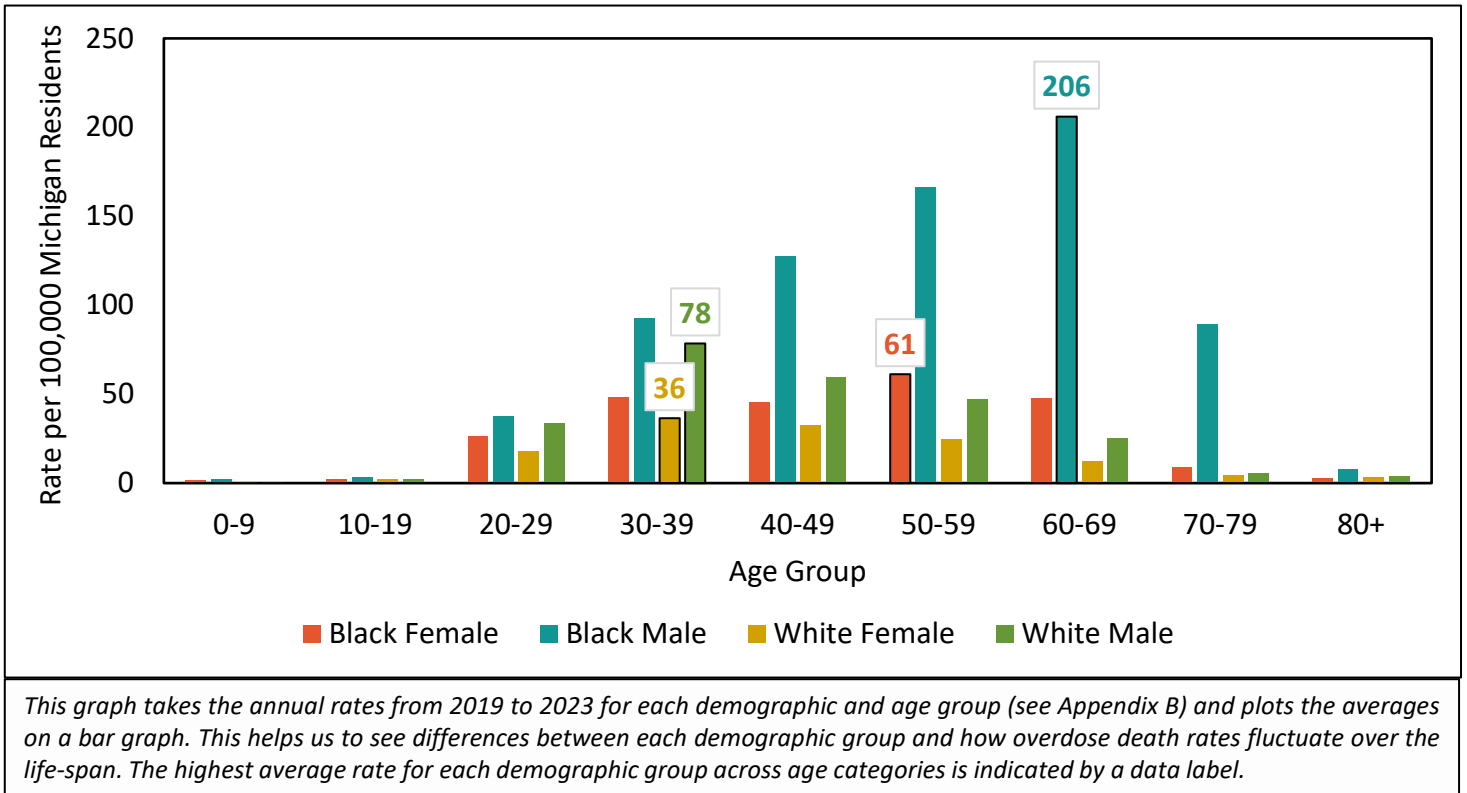


Table 3. Trends from Figure 3.

Race & Sex	Age Group with Highest Rate	Summary for Figure 3	Line Graph
Black Female	50-59	Rates for Black females mostly increase incrementally until ages 50-59 and then decrease.	
Black Male	60-69	Rates for Black males increase incrementally until age 60-69 and then decrease. The highest rate, which was seen in the 60-69 age group, is 2 to 100 times that of other demographic and age groups.	
White Female	30-39	Rates for white females increase until ages 30-39 and then decrease incrementally.	
White Male	30-39	Rates for white males increase until ages 30-39 and then decrease incrementally.	

Overdose death rates are **2 to 100 times higher** for **Black males** compared to other race, sex, and age groups. In addition to having the highest rates, **Black males** overdose death rate peaks later in life compared to white residents.

Overdose Deaths

Figure 4. Rate Change in Fatal Overdoses per 100,000 Michigan Residents, by Age Groups and Race, from 2019 to 2023.

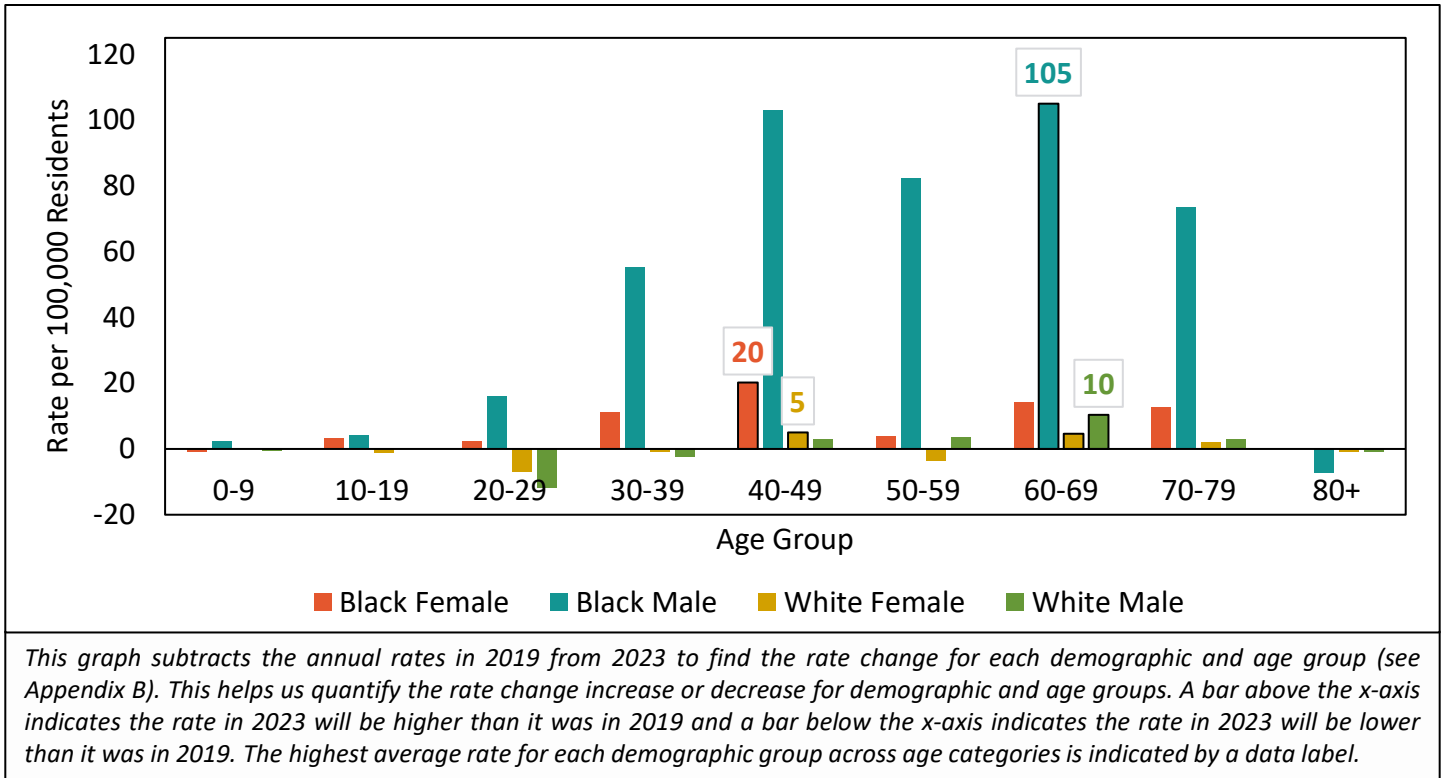


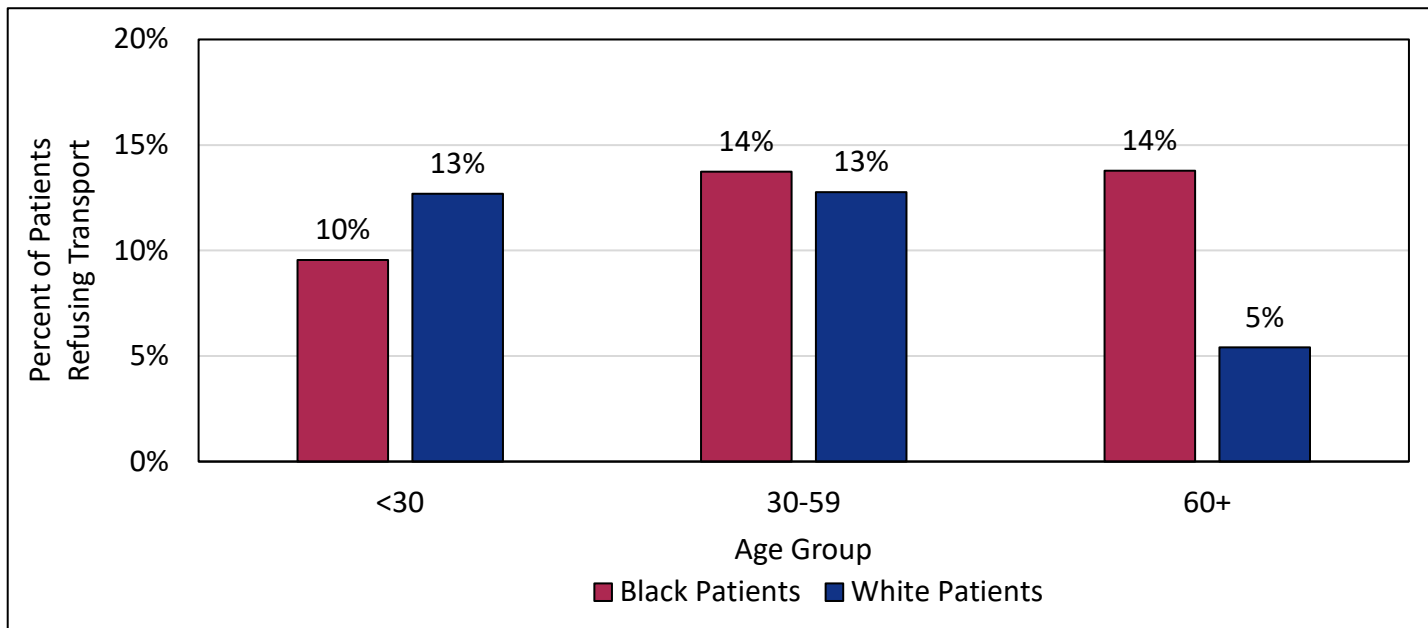
Table 4. Trends from Figure 4.

Race & Sex	Age Group with Highest Rate	Summary for Figure 4	Trend Graph
Black Female	40-49	Black females saw increases across all age groups except for the age group 0-9.	
Black Male	60-69	Black males saw increases across age groups except for the age group 80+. The largest rate was observed in the age group 60-69 compared to all other race, sex, and age groups.	
White Female	40-49	White females saw relatively small rate changes across age groups.	
White Male	60-69	White males saw relatively small rate changes across age groups.	

Compared to other demographic groups, **Black males** show the greatest overdose death rate increases except for the 80+ age group where **Black males** show a decrease.

Emergency Medical Services (EMS)

Figure 5. EMS Responses to Probable Opioid Overdose in Michigan, Average Percent of Patients Refusing Transport to Hospital by Age Group and Race, 2019 to 2024^a.



Across all age groups from 2019-2024, the average EMS transport refusal rate to the hospital, for a probable opioid overdose, was 10% for **white patients** and 13% for **Black patients** (Figure 5). In those ages 60+, EMS transport is refused almost three times more often by **Black patients (14%)** compared to **white patients (5%)**. Preliminary 2024^a data (not shown) contain no noteworthy changes from years 2019-2023. Refusing transport to the hospital after an overdose can be dangerous. Patients may experience a return of overdose symptoms and be without resources at the hospital such as medication or support groups.

^a2024 EMS response data are predicted by multiplying the January-November 2024 monthly average count by 12.

Discussion and Public Health Implications

Among Michigan residents, Black residents, namely older **Black males**, have higher average annual rate of fatal and non-fatal overdose compared to white residents. **Black males** have the largest rate change increase from 2019 to 2023 compared to **Black females**, and **white males** and **females**. EMS transport refusal in Michigan is also highest in **Black patients** aged 60+ years compared to **white patients**.

The findings in this report are similar to those seen in other published analyses.¹³⁻¹⁷ Refusing transport not only increases risk for the return of overdose symptoms but could result in an increased risk for future overdose due to the lack of connections to SUD care (e.g. medication for opioid use disorder (MOUD) referral, take-home naloxone, etc.).¹⁸ But refusing transport to the hospital for an overdose is not the sole reason rates for non-fatal and fatal overdose are higher in Black Michiganders. **Structural racism, access to SUD treatment, bias in pain treatment, the built environment, and racially biased drug policies all contribute to this inequity.**¹³ There are multiple approaches towards addressing the increase in overdose among Black Michiganders that are supported by evidence in the published literature (see table 5).

Table 5. Recommended steps to bridge inequity gaps.

Disparity	Research/Data	Next steps
Medical mistrust	<p>Research shows that health care for minoritized groups looks different compared to their white counterparts.²⁴ This includes time spent with a health care provider, assumptions made about the patient and disrespect by provider via insults and dismissing patients' questions.²⁴ These experiences have been observed to lead historically minoritized patients to seek healthcare less frequently which results in poorer health.²³ Similar experiences are had by those who use substances.²⁵ Coupling racial and substance use biases can result in poor health outcomes for minorities who use substances.</p>	<p>Medical mistrust is less pronounced when patients share the same racial background as their healthcare providers.²² Increasing diversity, including those with lived experience, within healthcare staff ensures representation across various backgrounds and can significantly benefit individuals who feel ostracized by the medical community. Such initiatives can foster a more understanding and supportive environment for patients of all backgrounds seeking SUD treatment. One theory to consider is the Credible Messenger adapted from the Cure Violence Prevention Program Model.²³</p>
Stigma	<p>Stigma surrounding substance use is deeper-rooted in older adults and may contribute to reasons substance use does not get disclosed to a health care provider.²² Additionally, several studies have shown that some medical professionals believe older adults do not develop SUD.²²⁻²⁴ One theory is that memory loss (thought to be dementia), anxiety and depression are presumed to be part of the aging process but in some cases are actually SUD symptoms.²⁵ When both the patient and provider do not mention substance use, it may not be addressed until an overdose occurs.</p>	<p>Screening all adults for alcohol and substance use on a regular basis, particularly older adults, can be one point of intervention for those in need of treatment.²²</p>
Inmate screening	<p>A study on four Michigan jails found that Black inmates were screened less often for opioid use disorder (OUD) and were less likely to be offered MOUD compared to white inmates.²⁴</p>	<p>Screen all inmates for SUD/OUD.</p>
Accessing Syringe Service Programs (SSPs)	<p>Syringe Service Programs (SSPs) provide clean syringes, Naloxone and Naloxone training, fentanyl testing strips, connection to peer-recovery coaches and linkage to SUD treatment and medical care but are largely accessed by white individuals.^{2,28} Michigan data from 2022 show that 8% of Black individuals entering publicly funded SUD treatment report injection is their primary route of administration.² This could be one reason for the lower SSP access rates compared to white individuals.</p>	<p>Continued marketing that SSPs can provide more than clean syringes and are not only for those injecting substances is vital.</p>

References

1. Centers for Disease Control and Prevention (CDC). (2019). Web-based Injury Statistics Query and Reporting System (WISQARS) Injury Data. <https://www.cdc.gov/injury/wisqars/index.html>
2. Michigan Overdose Data to Action (MODA) Dashboard. Accessed December 8, 2023. <https://www.michigan.gov/opioids/category-data>
3. Mukku, V. K., Benson, T. G., Alam, F., Richie, W. D., & Bailey, R. K. (2012). Overview of substance use disorders and incarceration of African American males. *Frontiers in psychiatry*, 3, 98.
4. Waddell, E. N., Baker, R., Hartung, D. M., et al. (2020). Reducing overdose after release from incarceration (ROAR): study protocol for an intervention to reduce risk of fatal and non-fatal opioid overdose among women after release from prison. *Health & justice*, 8, 1-19.
5. Binswanger, I. A., Nowels, C., Corsi, K. F., Glanz, J., Long, J., Booth, R. E., & Steiner, J. F. (2012). Return to drug use and overdose after release from prison: a qualitative study of risk and protective factors. *Addiction science & clinical practice*, 7(1), 1-9.
6. Krawczyk, N., Eisenberg, M., Schneider, K. E., Richards, T. M., Lyons, B. C., Jackson, K., ... & Saloner, B. (2020). Predictors of overdose death among high-risk emergency department patients with substance-related encounters: a data linkage cohort study. *Annals of emergency medicine*, 75(1), 1-12.
7. Weiner, S. G., Baker, O., Bernson, D., & Schuur, J. D. (2020). One-year mortality of patients after emergency department treatment for nonfatal opioid overdose. *Annals of emergency medicine*, 75(1), 13-17
8. Reddy, N. G., Jacka, B., Ziobrowski, H. N., Wilson, T., Lawrence, A., Beaudoin, F. L., & Samuels, E. A. (2021). Race, ethnicity, and emergency department post-overdose care. *Journal of substance abuse treatment*, 131, 108588.
9. D'Onofrio, G., McCormack, R. P., & Hawk, K. (2018). Emergency departments—a 24/7/365 option for combating the opioid crisis. *N Engl J Med*, 379(26), 2487-2490.
10. Vivolo-Kantor, A. M., Seth, P., Gladden, R. M., Mattson, C. L., Baldwin, G. T., Kite-Powell, A., & Coletta, M. A. (2018). Vital signs: trends in emergency department visits for suspected opioid overdoses—United States, July 2016–September 2017. *Morbidity and Mortality Weekly Report*, 67(9), 279.
11. Goedel, W. C., Shapiro, A., Cerdá, M., Tsai, J. W., Hadland, S. E., & Marshall, B. D. (2020). Association of racial/ethnic segregation with treatment capacity for opioid use disorder in counties in the United States. *JAMA network open*, 3(4), e203711-e203711.
12. Lagisetty, P. A., Ross, R., Bohnert, A., Clay, M., & Maust, D. T. (2019). Buprenorphine treatment divide by race/ethnicity and payment. *JAMA psychiatry*, 76(9), 979-981.
13. Mason, M., Soliman, R., Kim, H. S., & Post, L. A. (2022). Disparities by sex and race and ethnicity in death rates due to opioid overdose among adults 55 years or older, 1999 to 2019. *JAMA network open*, 5(1), e2142982-e2142982.
14. Hoopsick, R. A., Homish, G. G., & Leonard, K. E. (2021). Differences in opioid overdose mortality rates among middle-aged adults by race/ethnicity and sex, 1999-2018. *Public Health Reports*, 136(2), 192-200.
15. Friedman, J., Beletsky, L., & Jordan, A. (2022). Surging racial disparities in the US overdose crisis. *American Journal of Psychiatry*, 179(2), 166-169.

References, cont.

16. Larochelle, M. R., Slavova, S., Root, E. D., Feaster, D. J., Ward, P. J., Selk, S. C., ... & Samet, J. H. (2021). Disparities in opioid overdose death trends by race/ethnicity, 2018–2019, from the HEALing communities study. *American journal of public health, 111*(10), 1851-1854.
17. Friedman, J. R., & Hansen, H. (2022). Evaluation of increases in drug overdose mortality rates in the US by race and ethnicity before and during the COVID-19 pandemic. *JAMA psychiatry, 79*(4), 379-381.
18. Bergstein, R. S., King, K., Melendez-Torres, G. J., & Latimore, A. D. (2021). Refusal to accept emergency medical transport following opioid overdose, and conditions that may promote connections to care. *International Journal of Drug Policy, 97*, 103296.
19. Salow, K., Jack, H. E., Tinsley, J., Banta-Green, C. J., Kingston, S., Iles-Shih, M., ... & Glick, S. (2023). Racial disparities in use of syringe service programs in King County, WA: a comparison of two cross-sectional surveys. *Harm Reduction Journal, 20*(1), 133.
20. Artiga, S., Hamel, L., Gonzalez-Barrera, A., et al. Survey on Racism, Discrimination and Health: Experiences and Impacts Across Racial and Ethnic Groups. Keiser Family Foundation. Retrieved December 6, 2023, from <https://www.kff.org/report-section/survey-on-racism-discrimination-and-health-findings/>
21. Hoover, K., Lockhart, S., Callister, C., Holtrop, J. S., & Calcaterra, S. L. (2022). Experiences of stigma in hospitals with addiction consultation services: A qualitative analysis of patients' and hospital-based providers' perspectives. *Journal of substance abuse treatment, 138*, 108708.
22. Substance Abuse and Mental Health Services Administration. *Treating Substance Use Disorder in Older Adults*. Substance Abuse and Mental Health Services Administration; 2020.
23. Han, B. H., Sherman, S. E., & Palamar, J. J. (2019). Prescription opioid misuse among middle-aged and older adults in the United States, 2015–2016. *Preventive medicine, 121*, 94-98.
24. Han, B. H., & Moore, A. A. (2018). Prevention and screening of unhealthy substance use by older adults. *Clinics in geriatric medicine, 34*(1), 117-129.
25. Arndt, S., Clayton, R., & Schultz, S. K. (2011). Trends in substance abuse treatment 1998–2008: increasing older adult first-time admissions for illicit drugs. *The American Journal of Geriatric Psychiatry, 19*(8), 704-711.
26. John Jay College of Criminal Justice Research and Evaluation Center. Cure Violence glossary. April 17, 2015. <https://johnjayrec.nyc/2015/04/17/cvglossary/>
27. Wayne State University School of Social Work Center for Behavioral Health and Justice. (2021). Opioid use disorder in Michigan jails. Accessed January 25th, 2024, from https://behaviorhealthjustice.wayne.edu/oud-mi-jails/oud_in_michigan_jails_cbhj-11_17_21.pdf
28. Centers for Disease Control and Prevention (CDC). (2023). Summary of Information on The Safety and Effectiveness of Syringe Services Programs (SSPs). Accessed January 25th, 2024, from <https://www.cdc.gov/ssp/syringe-services-programs-summary.html#linkage>

Data Notes

Emergency Department Data

Data source: Data come from Michigan Syndromic Surveillance System (MSSS) (2020-2023), representing emergency department (ED) visits that occurred in Michigan, restricted to Michigan residents, where no date of death was present in the record.

Case definitions: The following ICD-10-CM codes were used to identify all drug overdoses by diagnosis code: T36-T50, restricted to initial visits, regardless of poisoning intent. There is high ED coverage in Michigan for this dataset (99% of ED visits, 144 facilities reporting with “enhanced feeds”).

Race definition: Patient race is selected by care provider and variable options are: American Indian or Alaska Native, Asian, Black/African American, White/Caucasian, Hawaiian or Pacific Islander, Other, and Unknown.

Limitations: A person could appear in the dataset multiple times if they experienced multiple overdoses because MSSS is a deidentified data source. Analysis relies on diagnostic code data, which can improve standardization compared to relying on the chief complaint field. However, not all Michigan EDs report diagnostic codes to syndromic surveillance, and there is variation in how diagnoses are assigned by physicians. In 2020, about 92% of ED visits came from facilities with 'enhanced' feeds, which include ICD-10-CM diagnostic code data; in 2021, about 97% of ED visits came from facilities with 'enhanced' feeds; from 2022-23, about 99% of ED visits came from facilities with 'enhanced' feeds. Syndromic data has become more complete over the years. However, in May 2024, the Ascension healthcare system, a national healthcare organization, experienced a cybersecurity event that led to disruptions of their Electronic Health Record (EHR) systems. This EHR disruption led to a cessation of Admission, Discharge, and Transfer (ADT) data sent to the Michigan Syndromic Surveillance System (MSSS) among Ascension facilities. In the year prior to the data disruption, Ascension facilities in Michigan captured 10% of all overdose ED visits statewide in MSSS data. This missing data has not been backfilled. While estimates have been created to project statewide trends in drug overdose ED visits in 2024, despite this data disruption, for sub-state and/or at multi-level demographic analyses, the imputed dataset is not considered accurate, and the original dataset is considered an undercount. Thus, this report includes ED data through 2023.

Death Data

Data source: *2019-2023 Mortality:* Finalized Michigan Resident Death files, Office of Vital Records and Health Statistics, MDHHS. *2019-2020:* CDC WONDER Bridged-Race Population Estimates. United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin. Compiled from bridged-race Vintage 2020 (2010-2020) postcensal population estimates (released by NCHS on 9/22/2021). Available on CDC WONDER Online Database. Accessed at <http://wonder.cdc.gov/bridged-race-v2020.html> on Dec 18, 2024.

Specific Drug Definitions: *All Drug overdose deaths:* Underlying cause of death contains any of the following ICD-10 codes: X40-44, X60-64, X85, Y10-Y14.

Race definition: Race is collected and reported by a medical examiner certifying the death. Death certificates are then finalized by the National Center for Health Statistics (NCHS) and sent back to MDHHS’s Vital Records Department.

Limitations: Limited to Michigan residents.

Data Notes

Emergency Medical Services Data

Data source: Michigan Emergency Medical Services Information System (MiEMSIS) (2019-2023); accessed via Biospatial platform, December 30, 2024.

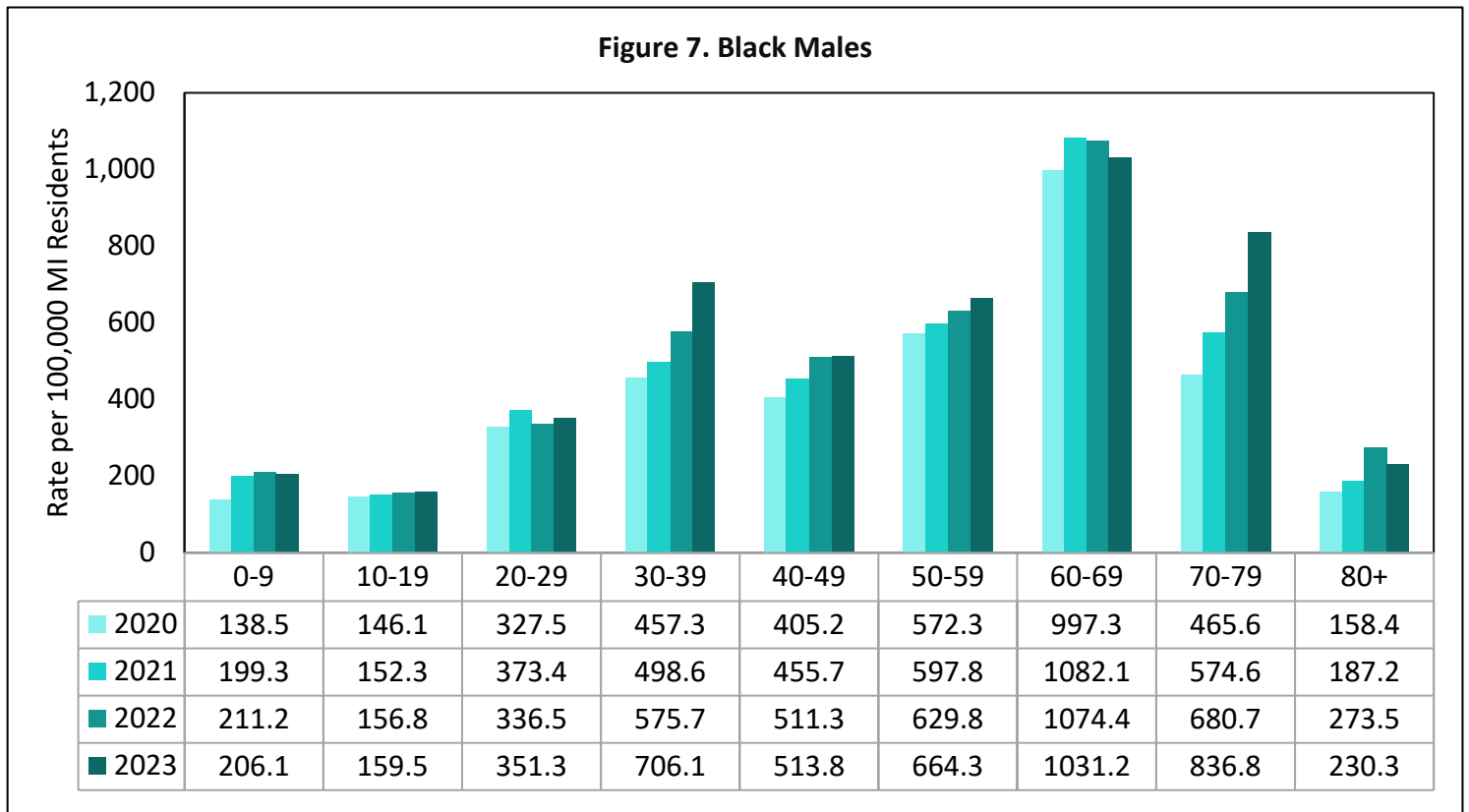
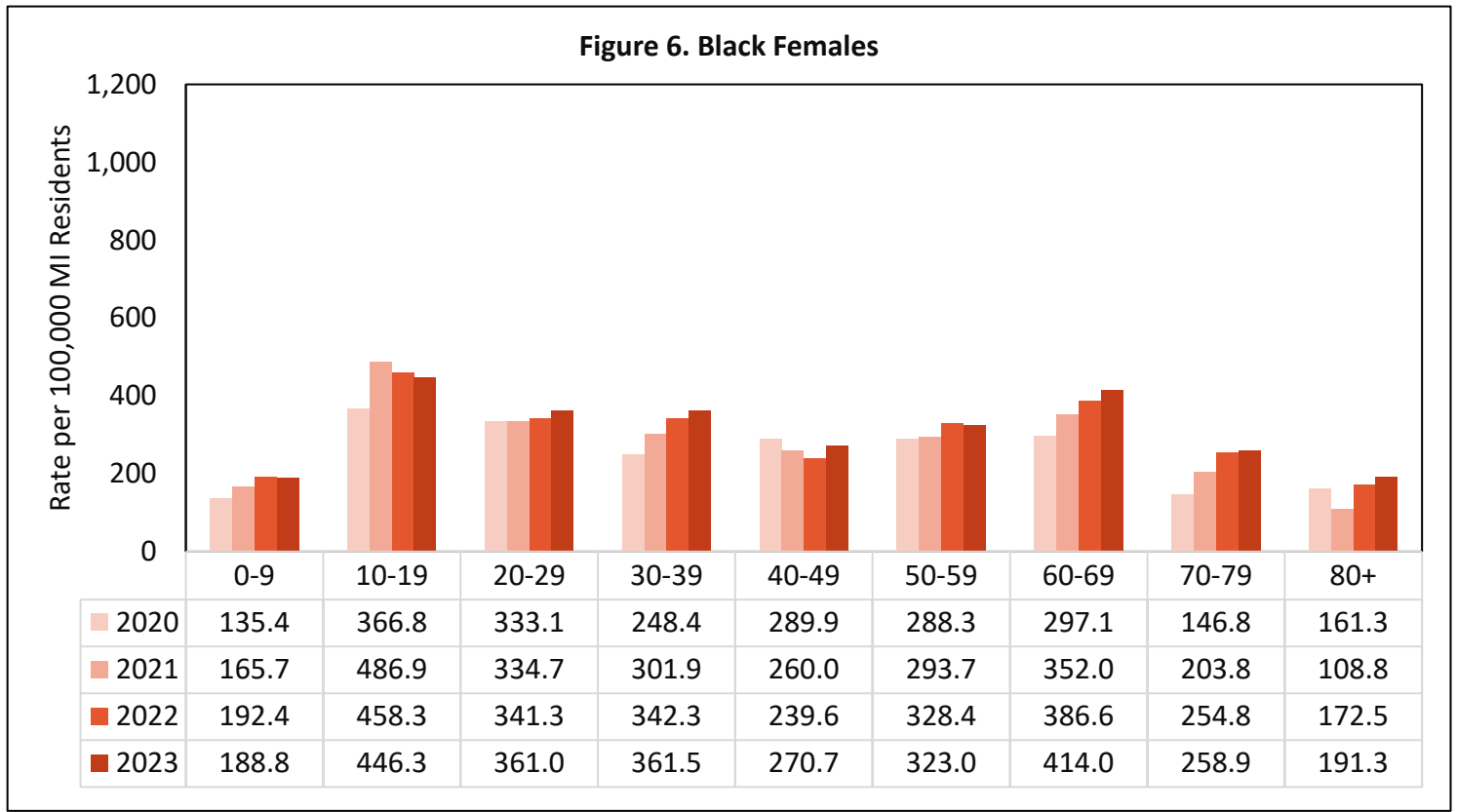
Race Definition: Patient race is entered by the EMS care provider; in NEMSIS data, the **Race variable** (V2: E06_12; V3: ePatient.14) is the patient's race as defined by the US Office of Management and Budget; options include Asian, Black, Native American, Other, Pacific Islander, White, and Unknown; depending on the EMS data vendor, more than one option for race may be selected; in the case of multiple races, Biospatial categorizes the race as Other; ethnicity (**Ethnicity** (V2: E06_13; V3: ePatient.14, the patient's ethnicity as defined by the US Office of Management and Budget) is less complete in EMS data compared to race and is not used for this analysis for that reason.

Inclusions: EMS responses to probably opioid overdose are identified in MiEMSIS data through a likelihood formula that considers EMS provider impression, chief complaint, narrative, respiratory rate, Glasgow Coma Scale, medications administered (includes naloxone administration), and procedures performed during the response and creates a composite score. EMS responses are classified as probably opioid overdoses if the score exceeds a minimum threshold score or if the patient improved after being administered naloxone. The rate of patient transport refusal was calculated by dividing the number of patients treated by EMS for a probable opioid overdose who refused EMS transport by the total number of EMS responses to probable opioid overdose. Patient transport included in this data brief are restricted to units with ground transport capability (ALS, BLS, Critical Care), where emergency response services were requested (911 scene, intercept, mutual aid).

Limitations: The EMS response to probable opioid overdose case definition may not capture all opioid overdoses. Manual adjudication of a statewide random sample indicated that 9% of cases designated by this case definition were not true opioid overdoses (i.e., some other health condition or a non-opioid overdose). False positives of this nature may be included in these estimates. An individual can appear in the dataset more than once if they had more than one overdose encounter with EMS in the given timeframe. From 2019-2023, 11% of EMS responses to probable opioid overdose were missing race/ethnicity information. Although records are restricted to events that took place in Michigan, they may include non-Michigan residents who were treated by EMS in Michigan. Compared to previous reporting methods, Biospatial counts for EMS responses to probable opioid overdoses in Michigan are ~2% higher; this slight increase is due to an additional deduplication step that is not available in the Biospatial platform.

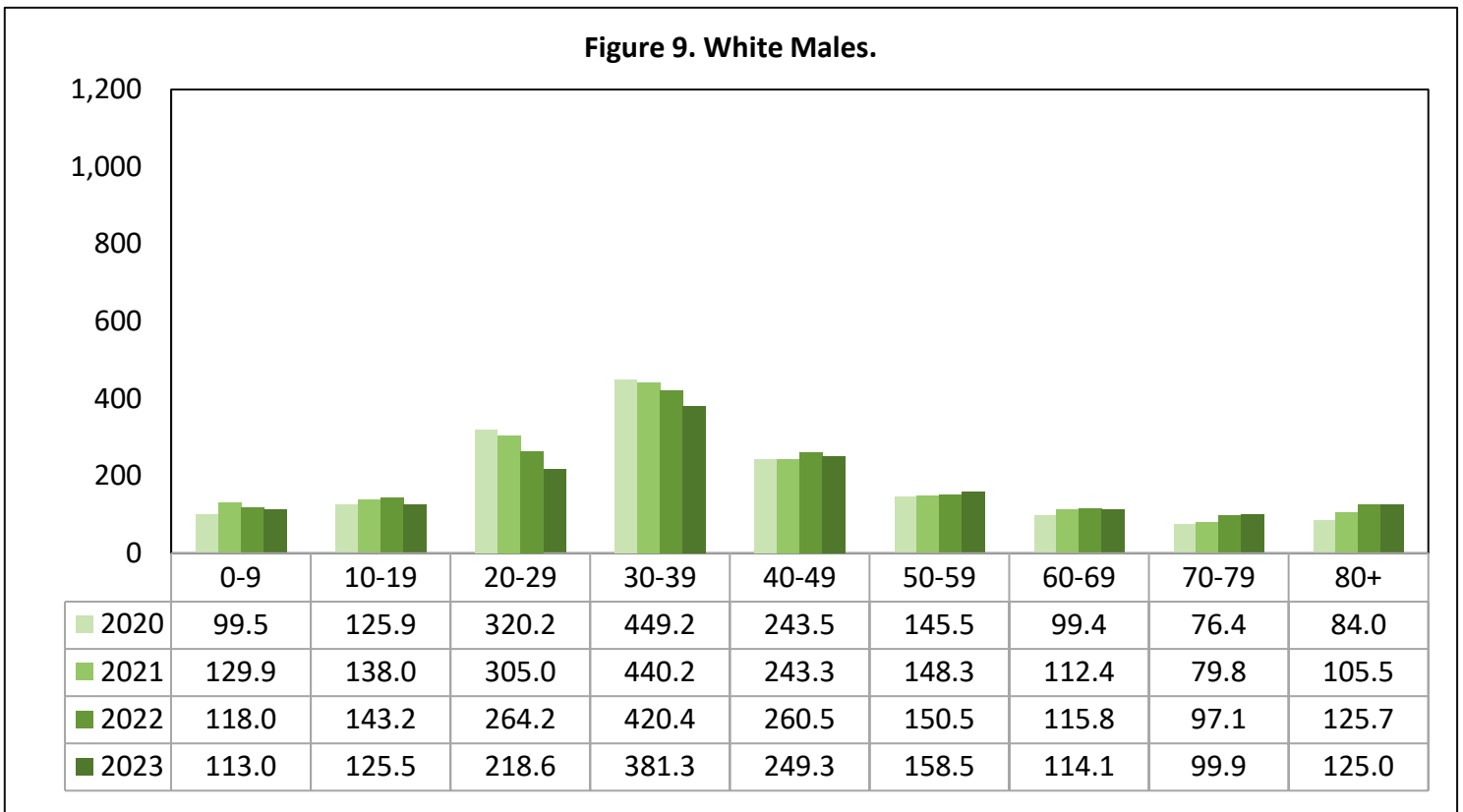
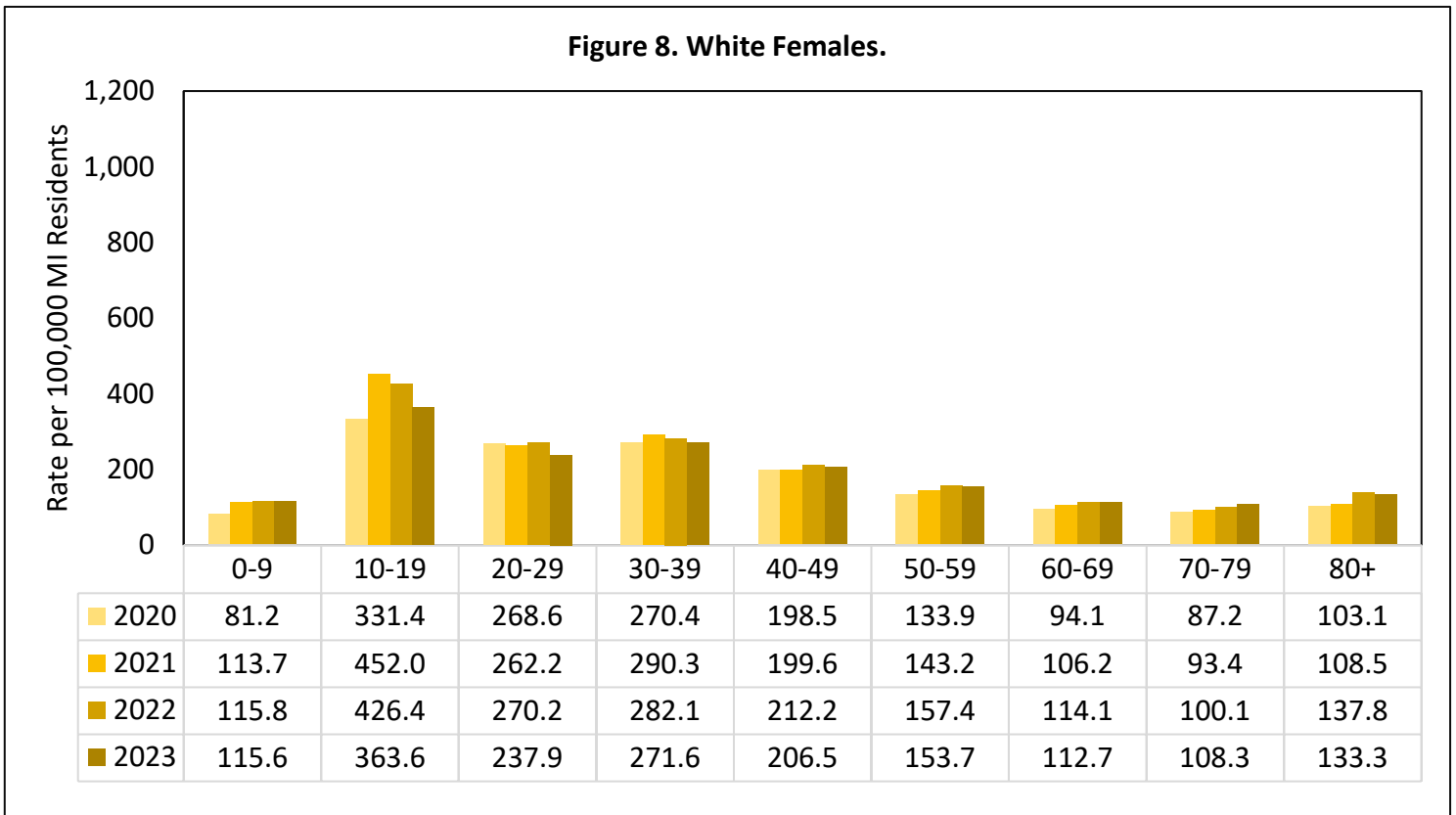
Appendix A

Figures 6-9. Rate of All-Drug Overdose ED Visits per 100,000 Michigan Residents, 2020-2023.



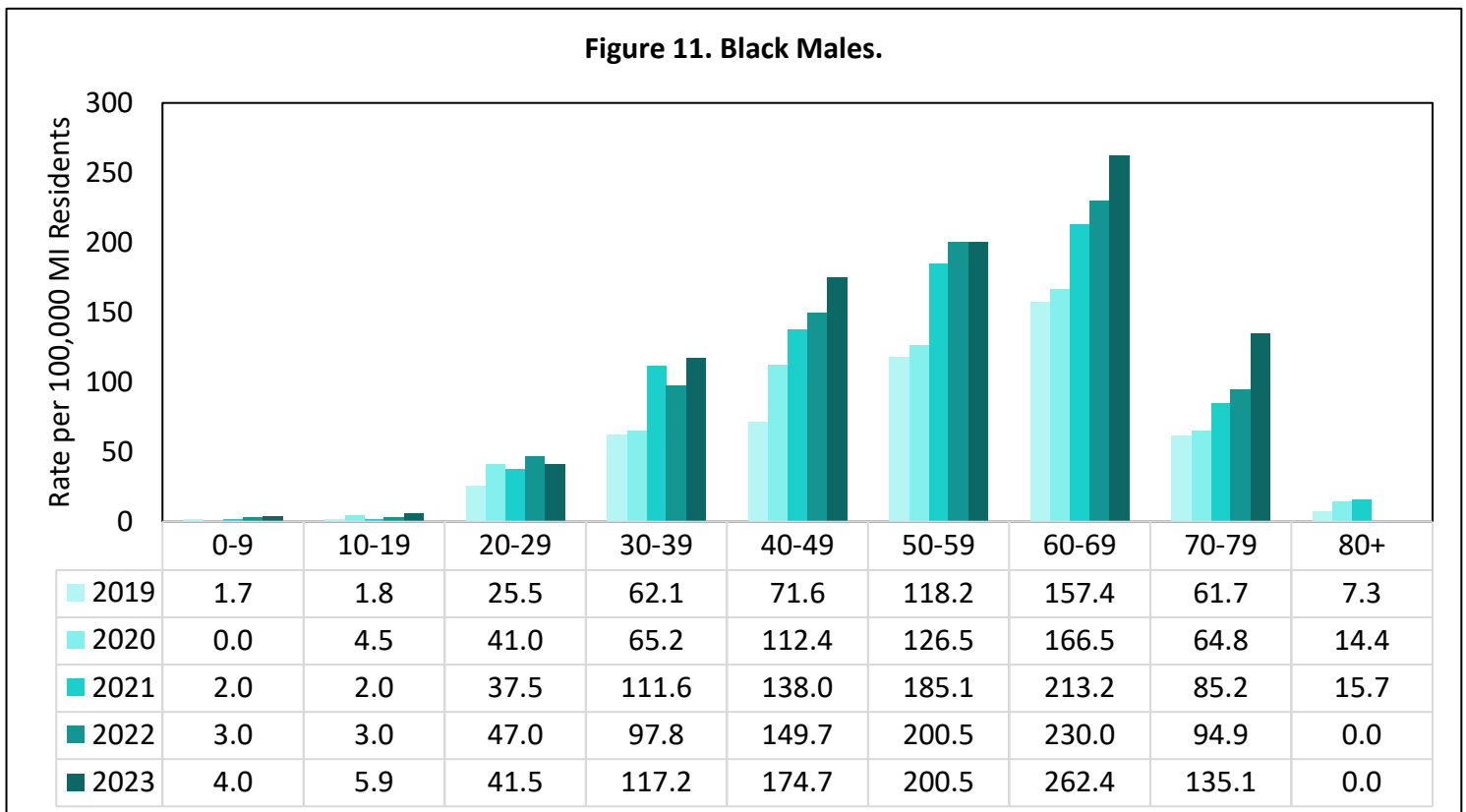
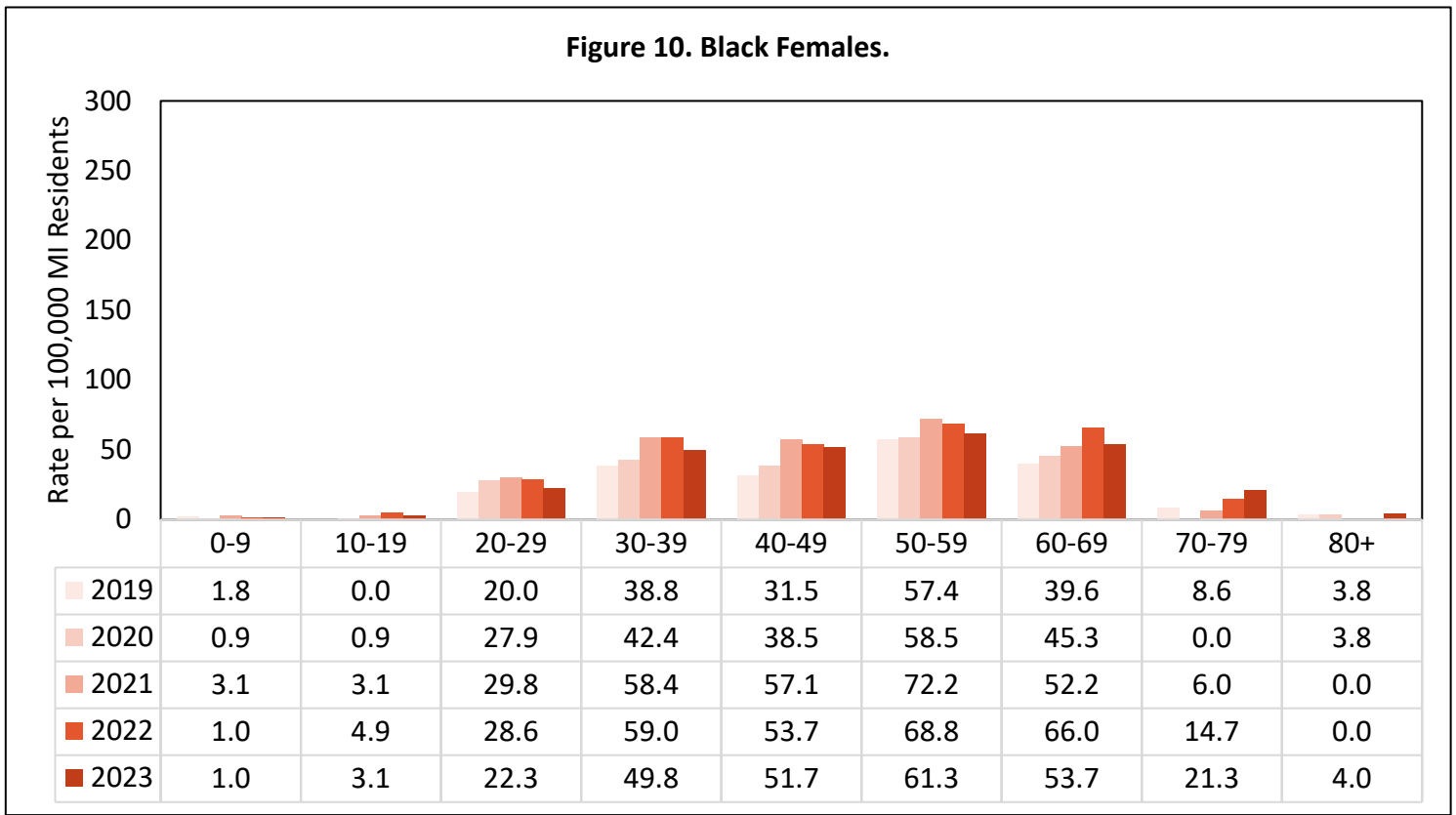
Appendix A, continued

Figures 6-9. Rate of All-Drug Overdose ED Visits per 100,000 Michigan Residents, 2020-2023.



Appendix B

Figures 10-13. Rate of All-Drug Overdose Deaths per 100,000 Michigan Residents, 2019-2023.



Appendix B, continued

Figures 10-13. Rate of All-Drug Overdose Deaths per 100,000 Michigan Residents, 2019-2023.

