Michigan HIV Mortality 2023

Data as of July 2025

MDHHS
Michigan Department of Health & Human Services

The HIV Mortality Report includes death data among persons with HIV in Michigan (PWH). This slide set highlights key observations related to HIV mortality and causes of death and is meant to guide care and prevention strategies. To view the tables used to create this slide set, please see the HIV Mortality Report Tables.

For care-related assessments (estimated undiagnosed, in care, viral suppression, and maintained undetectable), see the Continuum of Care Report. For Linkage-related assessments see the Trends Report.

All reports may be found on the website: https://www.Michigan.gov/HIVSTI.

For a .pptx copy of the slide set email
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Key Definitions & History

Key Definitions: Mortality Rates

A rate is a count compared to an underlying population (in this case per 1,000). By presenting data as a rate (rather than a count), comparisons may be made across various geographic and demographic groups.

Mortality Rate: For every 1,000 persons with HIV (PWH), the number who died.

Mortality rates can be presented as crude rates or age-adjusted rates.

The importance of age-adjusting mortality rates is explored in the next slide. For now, here is the calculation for Michigan's crude HIV mortality rate among Black males:

- On January 1, 2023, there were **7,306** Black males living with HIV.
- During 2023, there were **270** Black males newly diagnosed with HIV.
- That means that in 2021, there were a total of **7,306 + 270** or **7,576** Black males with HIV in Michigan, including Black males who died during 2023.
- Of all Black males with HIV in Michigan in 2023, **175** of them died.
- $\frac{175}{7{,}576} = 0.0231$
- That means for every one Black male with HIV in Michigan, 0.0231 of them died in 2023. This obviously does not make practical sense, so we calculate mortality rates per 1,000 PWH: $0.0231\ x\ 1{,}000 = 23.1$ which means for every 1,000 Black males with HIV in Michigan, 23 died in 2023.

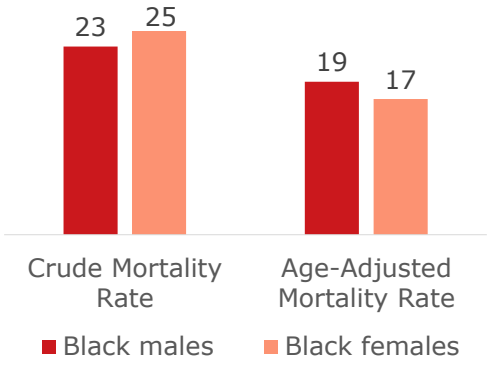
For more detail on rates, please see our five-minute Epidemiology 101 video.

Crude rates vs age-adjusted rates

Age is a significant confounder (or contributor) for death, as the likelihood of death increases with age. Therefore, the age distribution of a population strongly influences its mortality rate.

In 2023, the crude mortality rate among Black males with HIV compared to that of Black females with HIV suggests that Black females with HIV have higher mortality rates than Black males.

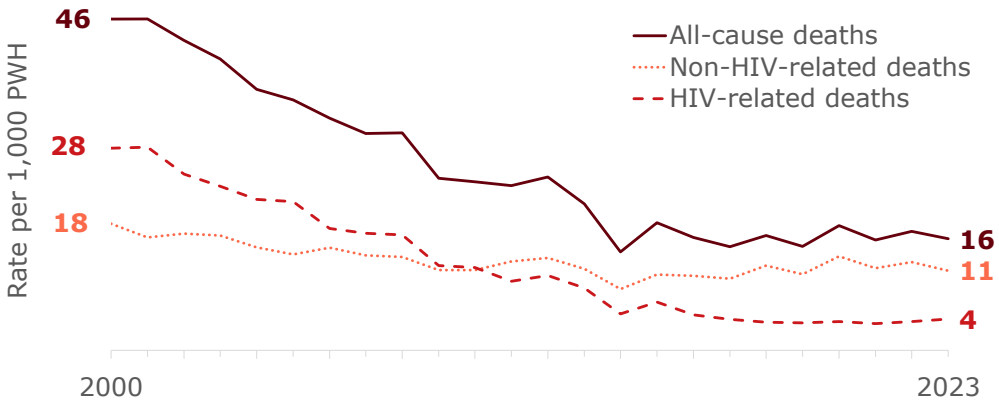
Accounting for their age distributions by calculating age-adjusted rates reveals that Black males with HIV experience death at higher rates than Black females with HIV.



Age-adjusted mortality rates should only be compared to other age-adjusted mortality rates calculated using the same standard population.

Unless otherwise stated, all mortality rates presented throughout this slide set are age-adjusted.

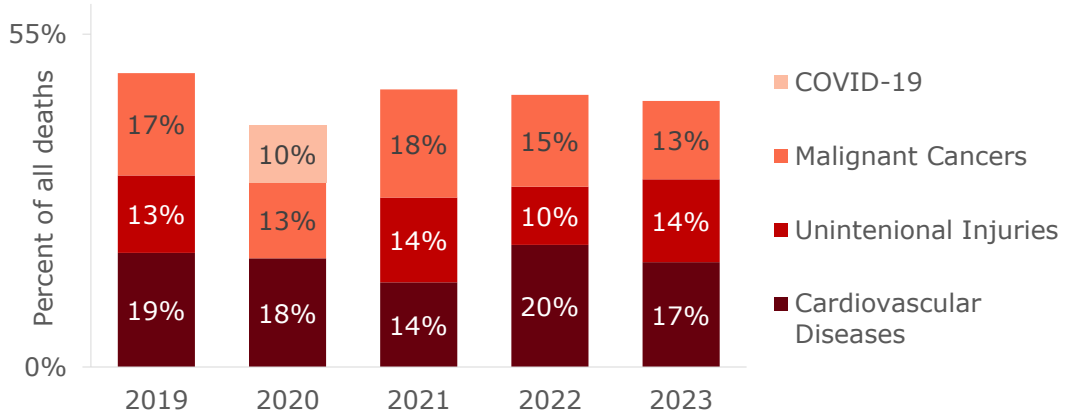
HIV-related deaths are starting to level off in Michigan



Before 2014, prevalence counts were calculated by adding new diagnoses to the previous year's prevalence and subtracting total deaths. This method ignores movement. Historically (pre-1998), movement was minimal as most PWH did not survive long after diagnosis. Therefore, residence at diagnosis was the focus. Beginning in 2014, efforts to update current address began, and prevalence counts switched from calculations based on residence at diagnosis to current address. Prior to 2014, crude rates are presented due to the unreliability of calculated prevalence estimates broken down by age prior to 2014, which is why there's a dip in rates starting in 2014.

The number of **HIV-related deaths** decreased by 56% between 2000 and 2023, leading to a sharp decrease in the rate of **All-cause deaths** among PWH in Michigan, but these rates are starting to level off. Some demographic populations of PWH in Michigan are experiencing higher rates of HIV-related deaths than others, so improving health outcomes among these groups may lead to further decreases.

Cardiovascular diseases are the leading Non-HIV-related cause of death among PWH in Michigan

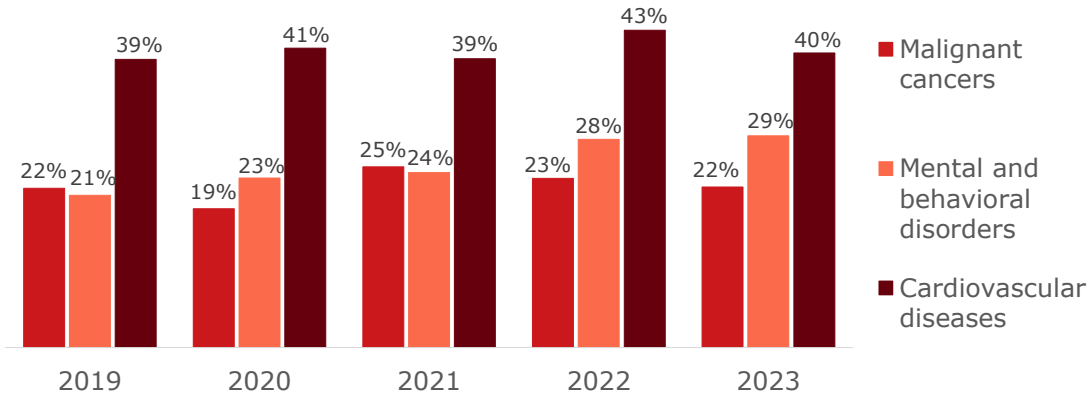


The data represented on this slide are not referenced in the accompanying tables but highlight potential comorbidities that may have gone unaddressed in the care of PWH by looking at the top 3 leading non-HIV-related (underlying) causes of death annually over the past five years. Cardiovascular diseases, malignant cancers, and accidents (unintentional injuries) were consistently the most common, with COVID-19 being among the top 3 in 2020. The number of PWH with an underlying or related cause of death due to COVID-19 has consistently declined since 2020, which was the only year the COVID-19 appeared as one of the top 3 non-HIV-related causes of death among PWH.

Between 2019 and 2023, deaths with cardiovascular diseases and malignant cancers as an underlying cause represented anywhere between 30% and 36% of all deaths in Michigan, highlighting a need for whole-person care coordination, which may help to reduce the total number of deaths among PWH.

The next slide will look at the leading causes of deaths referenced on the final page of the accompanying tables. These highlight the most common comorbidities noted as an underlying *or* additional cause of death among PWH.

Mental and behavioral health disorders are also a comorbidity of concern among PWH who died in 2023

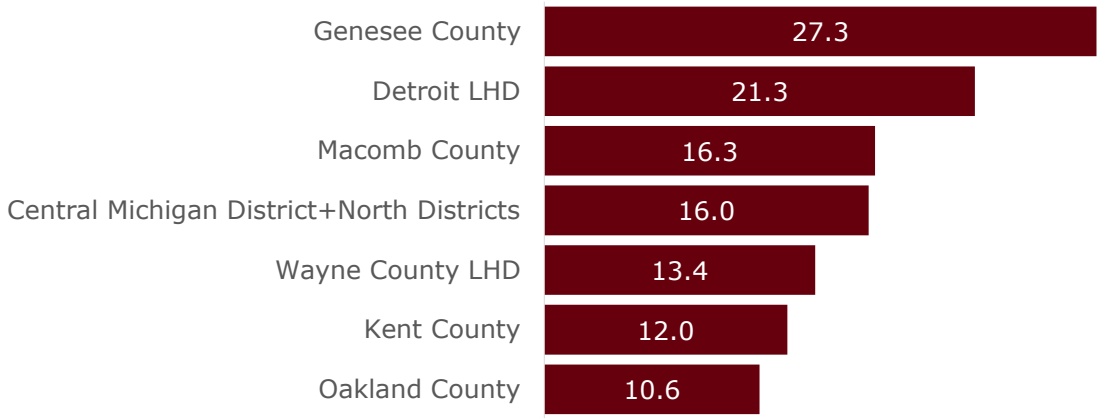


Cardiovascular diseases, mental and behavioral disorders, and malignant cancers were the most common comorbid conditions among PWH who died in 2023. As the proportion of PWH who had an underlying *or* contributing cause of death due to malignant cancers and cardiovascular diseases fluctuated, the proportion who had an underlying or contributing cause of death due to mental and behavioral disorders steadily increased between 2019 and 2023.

Chronic comorbidities are common among PWH, and in many cases are more prevalent in PWH compared to the general population and should be managed alongside their HIV disease.

Geographic Distribution

In 2023, PWH in the Genesee and Detroit LHD jurisdictions died at higher rates when compared to others



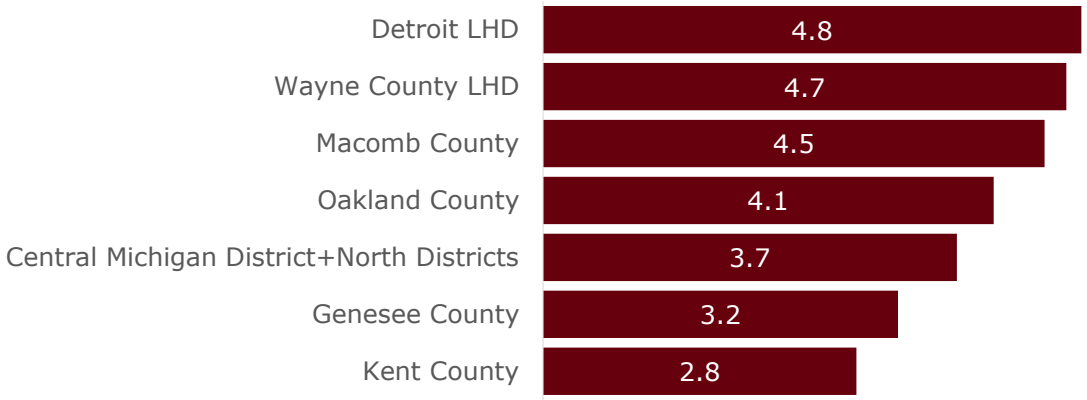
Deaths among PWH in Genesee County accounted for just 5% of all deaths among PWH in Michigan but occurred at higher rates compared to other LHD jurisdictions in 2023. This is the third year in a row that we have seen the highest mortality rates among PWH in Genesee County when compared to other LHD jurisdictions in the state. Flint is driving this trend with a mortality rate of 31 per 1,000 PWH, which has consistently represented the highest mortality rate among cities where 10 or more deaths occur each year.

PWH within the Detroit LHD jurisdiction accounted for the highest proportion of deaths (40%) in Michigan and have the second highest mortality rate when compared to PWH in other jurisdictions.

These deaths may be due to any cause. The next slide looks at HIV-related deaths by LHD jurisdiction.

NOTE: Mortality rates are only presented for LHD jurisdictions with 10 or more deaths. The **Detroit Local Health Department** (LHD) jurisdiction includes persons living in the cities of Detroit, Highland Park, Hamtramck, Harper Woods, or the Grosse Pointes. The **Wayne County LHD** includes persons living in Wayne County outside the Detroit LHD. **Central Michigan District+North Districts** includes Bay, Benzie-Leelanau, Central Michigan District, District 10, District 2, District 4, Grand Traverse, Mid Michigan District, Midland, Northwest MI Com Health Agency.

In 2023, Detroit and Wayne County LHDs had the highest rates of HIV-related deaths

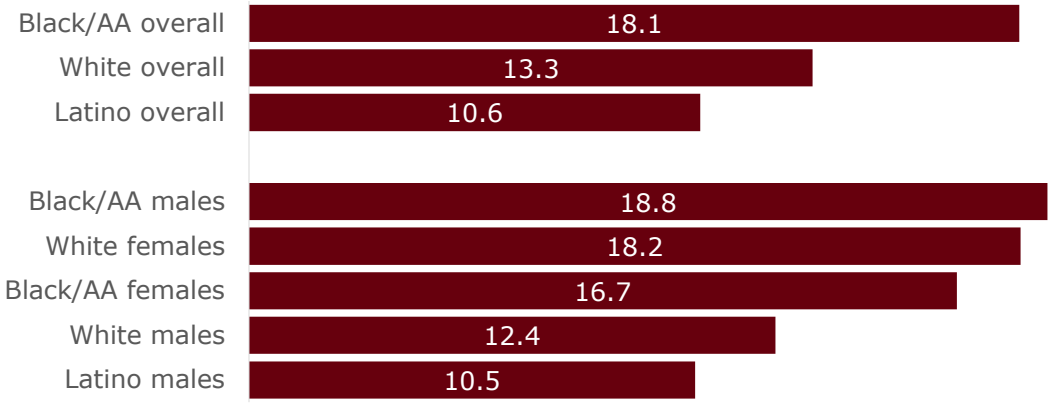


The Detroit and Wayne County LHD jurisdictions consistently have the highest HIV-related mortality rates when compared to other LHD jurisdictions. Improving care outcomes for residents with HIV in this area will likely reduce the numbers and rates of death among PWH in these areas.

NOTE: Mortality rates are only presented for LHD jurisdictions with 10 or more deaths.

Demographic Distribution

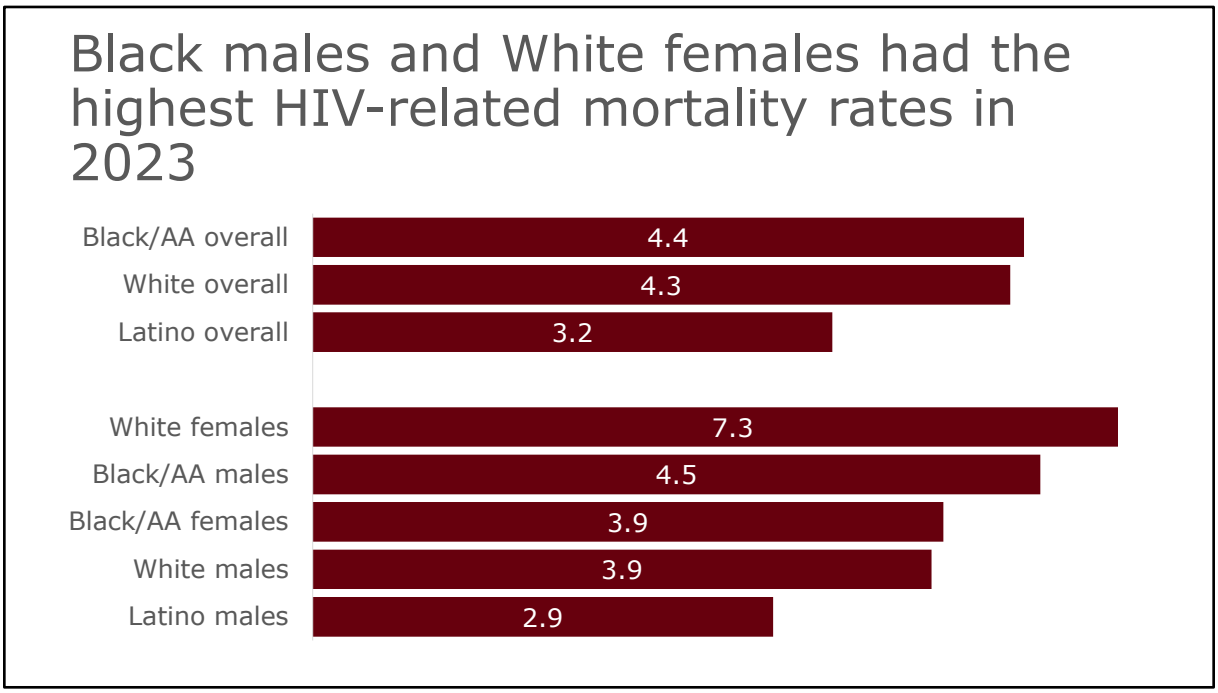
Black males and White females had the highest mortality rates in Michigan in 2023



Deaths among Black males and Black females consistently account for the highest proportion of all deaths among PWH in Michigan and together, they also consistently have the highest mortality rates along with white females, who saw an increase in the number and rate of deaths in 2023 after a dramatic decrease in 2022. Though there are a relatively small number of White females with HIV in Michigan and they make up a small proportion of deaths each year compared to other groups, their mortality rates in Michigan are consistently high and should be monitored.

These deaths may be due to any cause. The next slide looks at HIV-related deaths by race/birth sex.

NOTE: Mortality rates are not presented for Latino females due to low numbers of deaths reported among those groups. As such, any rates among these groups should be interpreted with caution.

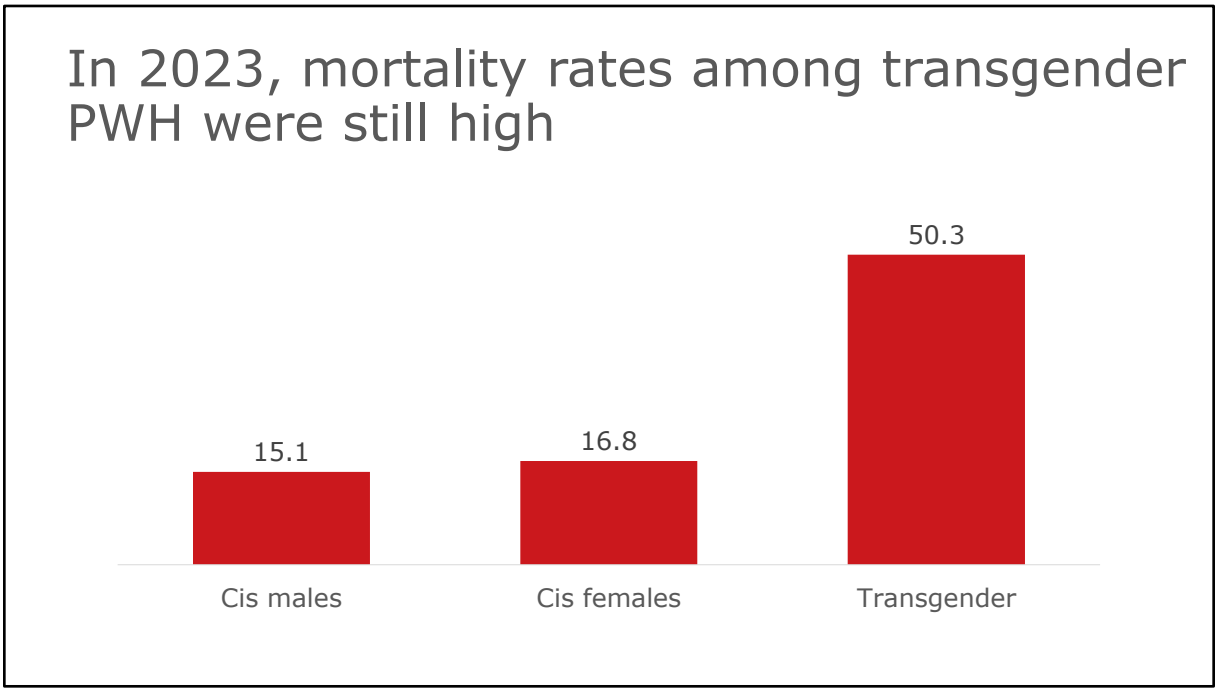


In 2022, black males had the highest HIV-related mortality rates but white females had the highest HIV-related mortality rates in 2023, as we've seen in previous years.

Improving care outcomes for Black males should remain a priority, as they make up the highest proportion of all deaths among PWH in Michigan and consistently have one of the highest HIV-related mortality rates.

NOTE: HIV-related mortality rates are not presented for Latino females due to low numbers of deaths reported among those groups. As such, any rates among these groups should be interpreted with caution.

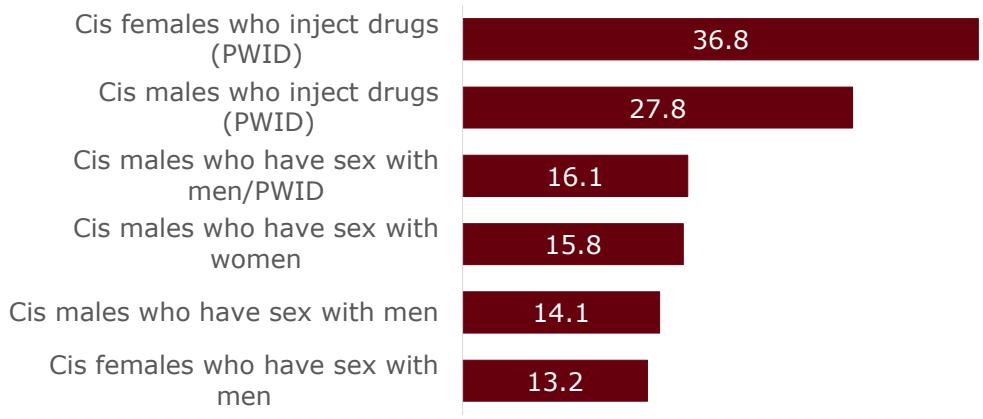
In 2023, mortality rates among transgender PWH were still high



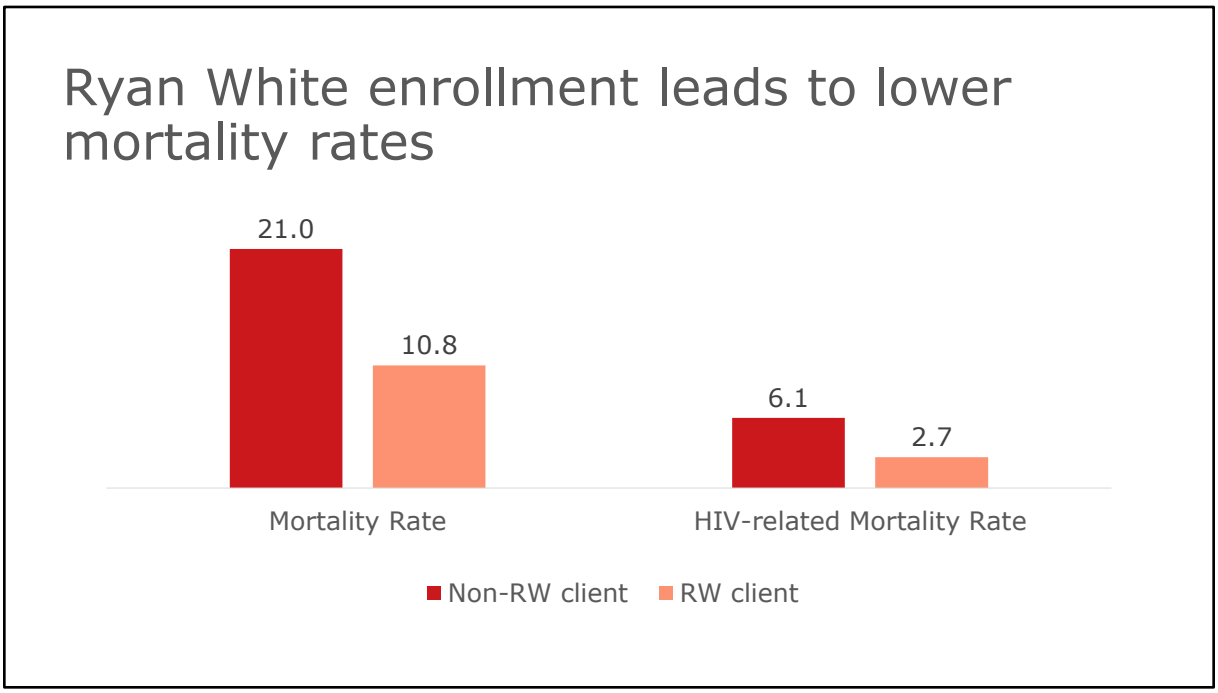
Transgender PWH make up a small proportion of all PWH in Michigan (2%) and a similar proportion of deaths among PWH (1%). However, their mortality rate in 2023 was 50 deaths per 1,000 transgender PWH. Due to small numbers, this rate tends to fluctuate but consistently remains significantly higher than the mortality rates among cis males and cis females with HIV in Michigan. Their HIV-related mortality rates are comparable to cis males and cis females, suggesting that there are non-HIV related causes contributing to the high mortality rates among this population. Please note that with such a small number of deaths among transgender PWH (9), their mortality rates should be interpreted with some caution.

The median age at death among transgender PWH is also considerably lower at 44 years compared to that of cis males and cis females at 59 years and 55 years, respectively.

As of 2023, PWH who inject drugs continue to have notably high mortality rates



Even though the population of PWH who inject drugs tends to be older, the mortality rate is still extremely high among persons who inject drugs (PWID) after adjusting for age. This population tends to also have a high rate of HIV-related deaths which suggests they may not be receiving the HIV care or treatment they need.



Ryan White (RW) clients experience lower all-cause mortality rates when compared to non-RW clients. PWH who are enrolled in RW also tend to have better HIV care and viral suppression outcomes which can help reduce the likelihood of an HIV-related death.

Mortality Summary

- The overall mortality rate and HIV-related mortality rate have decreased dramatically over the course of the HIV epidemic in Michigan but are starting to level off.
- The most common comorbidities that contribute to deaths among PWH are cardiovascular diseases, mental and behavioral disorders, and malignant cancers, highlighting a continued need for whole person care coordination.
- Genesee and the Detroit LHD represent the areas with the highest mortality rates among PWH.
- Transgender PWH have significantly higher mortality rates and shorter lifespans compared to cis males and cis females and this is likely due to external factors that are not directly related to their diagnoses.
- It is critical to continue intervention efforts among Black males and PWID to decrease the mortality rates among these populations.
- The number and rate of deaths among white females increased again after a dramatic decrease in 2022 and should continue to be monitored.
- Lower mortality rates among Ryan White clients further highlights the importance of engaging and retaining eligible PWH in the Ryan White program.