The Impact of COVID-19 on HIV Mortality Trends in United States Black, Hispanic, and White Adults

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HIV Mortality Trends, United States 2010-2022

Expected HIV Deaths (based on 2010-2019 trend) vs. Observed HIV Deaths for 2020-2022

Figure 1.
Men 25-44 Years Old

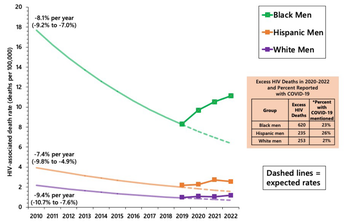


Figure 2.
Men 45-54 Years Old

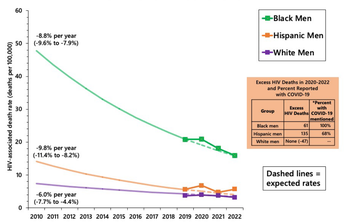


Figure 3.
Men 55-64 Years Old

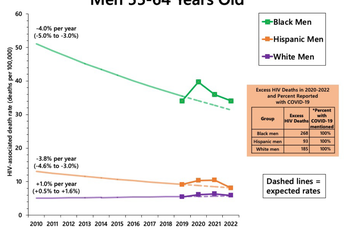


Figure 4.
Men 65-74 Years Old

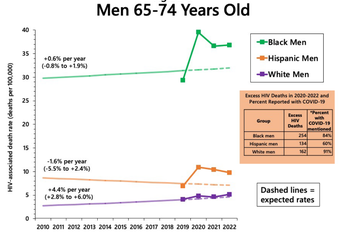


Figure 5.
Men 75+ Years Old

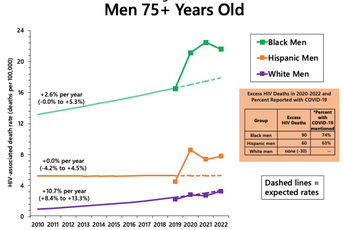


Figure 6.
Women 25-44 Years Old

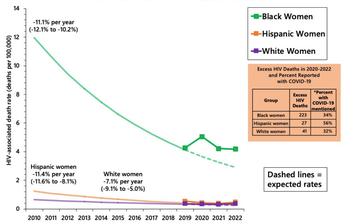


Figure 7.
Women 45-54 Years Old

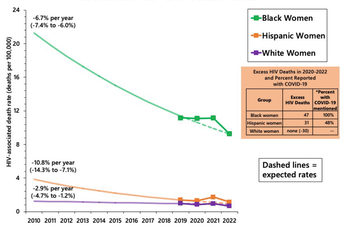


Figure 8.
Women 55-64 Years Old

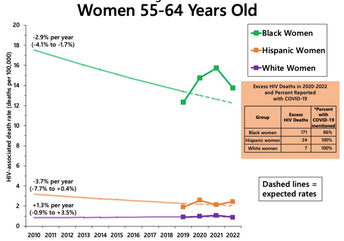


Figure 9.
Women 65-74 Years Old

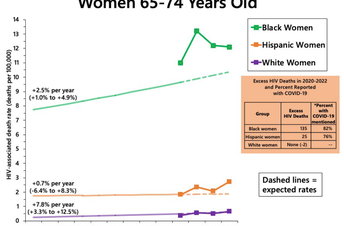
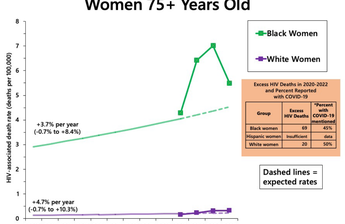


Figure 10
Women 75+ Years Old



* Calculated by dividing the number of deaths with both COVID-19 and HIV listed as causes of death by the number of excess HIV deaths. When the numerator exceeded the denominator, the result is listed as 100%.

BACKGROUND

U.S. racial and ethnic minorities disproportionately impacted by HIV have also been severely impacted by COVID-19. This study investigates whether COVID-19 led to excess HIV mortality, using rigorous methods which account for age, gender, and race/ethnicity disparities in pre-pandemic HIV mortality trends.

METHODS

- Death data from CDC WONDER were analyzed for all decedents with HIV listed as either underlying or contributing cause of death.
- Pre-pandemic trends in HIV mortality were quantified by fitting log-linear models to HIV death rates for the period 2010-2019.
- Separate models were fit for groups defined by age (25-44, 45-54, 55-64, 65-74, 75+), reported gender (male, female), and race/ethnicity (Black, Hispanic, white).
- Regression coefficients were used to derive the average annual percent change in HIV mortality from 2010-2019, and to calculate expected death counts and rates for 2020-2022.
- Regression-estimated expected death rates were then compared with observed rates, and the number of excess deaths calculated.
- Finally, the number of excess HIV deaths for 2020-2022 was compared to the number of HIV deaths for which COVID-19 was listed as a contributing or underlying cause of death.

RESULTS

Based on death rate trends from 2010-2019, there were 20,229 HIV-associated deaths expected during 2020-2022 among Black, Hispanic, and white adults aged 25+ years old. The observed number of deaths was 23,501, resulting in 3,272 excess deaths. The majority of these excess deaths occurred among Black adults (59.2%), followed by Hispanic adults (23.7%) and white adults (17.1%). For all ages combined, the percent of the excess HIV deaths which had COVID-19 listed on the death certificate was 65.3% for Black adults, 62.6% for Hispanic adults, and 100% for white adults. The age- and gender-stratified results are shown in Figures 1-10. Nearly half (42%) of the excess HIV deaths occurred among young adults 25-44 years old.

CONCLUSIONS

COVID-19 explained all of the excess HIV-associated mortality among white adults during 2020-2022. However, among both Black and Hispanic adults, COVID-19 was not mentioned on the death certificates for one-third of HIV decedents. Undiagnosed COVID-19 and indirect pandemic effects on mortality are both tenable explanations for observed excess HIV mortality that warrant further investigation.

During 2020-2022, there were 3,272 excess HIV deaths among all groups, and COVID-19 was mentioned on 73.0% of those death certificates.

Black adults experienced the highest excess HIV-associated mortality.

Both Black and Hispanic decedents were less likely than white decedents to have COVID-19 identified as a contributing cause on the death certificate.

Black adults continued to suffer significantly higher HIV mortality than non-Hispanic white adults during the COVID-19 pandemic.

Disclaimer:

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