

Epidemiological Patterns of HIV Diagnoses Among Women in Rhode Island: An Overview

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BACKGROUND

Women have been affected by HIV since the beginning of the epidemic and face unique challenges in accessing optimal prevention, care, and treatment resources.¹ In 2019, 258,000 women were living with HIV in the United States (US), which accounted for 23% of all people living with HIV (PLWH). Women of color, particularly Black/African American women, are disproportionately affected, bearing the majority of new HIV infections, the greatest prevalence, and the highest rates of HIV-related deaths among women living with HIV.¹

Most women (84%) who were diagnosed in 2019 acquired HIV through heterosexual contact, while 16% were infected through injection drug use (IDU).² Women are most commonly infected through condomless penile-vaginal sex with a male partner who has HIV. Receptive vaginal or anal sex in women presents a greater risk for HIV infection than penile insertive sex.³ In addition, pre-exposure prophylaxis (PrEP) uptake for HIV prevention is suboptimal for women who would benefit from PrEP, as only 10% of women have received a prescription.^{1,2} Women are more likely to know their HIV status but less likely to achieve viral suppression compared to all people living with HIV.² Women living with HIV are disproportionately affected by socioeconomic and structural barriers such as poverty, cultural inequities, and intimate partner violence, which limit access to the services and care they need.¹

In Rhode Island, women constitute a smaller but important subset of HIV diagnoses. In this paper, we review the demographics of women living with HIV in Rhode Island to understand better how to prevent transmission and address barriers to care.

METHODS

Data were reviewed from the HIV Surveillance database eHARS (Enhanced HIV/AIDS Reporting System) of women diagnosed with HIV in Rhode Island from 2003 to 2022. Individuals for whom sex at birth was “female” were included in this analysis and may include individuals whose current gender may be different from their sex at birth (i.e., transgender men). Descriptive characteristics including age, race and ethnicity, mode of transmission, and country of birth were examined. The 2021 American Community Survey (ACS) 5-year Estimates⁴ were used to compare the rate of HIV diagnoses among women by race and ethnicity and age

group. All analyses were performed using SAS (version 9.4).

HIV diagnoses were combined into two 10-year periods (2003–2012 and 2013–2022) and a t-test ($\alpha=0.05$) was performed to determine whether case counts were statistically significant over time.

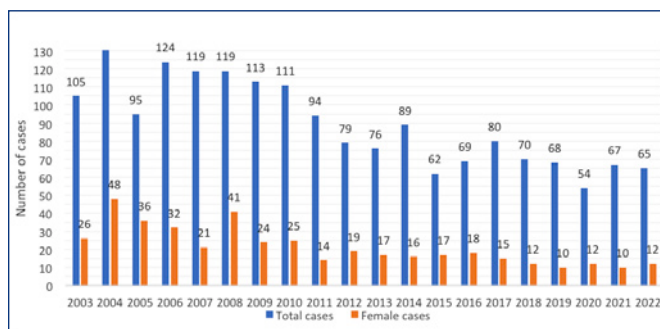
RESULTS

A total of 1,796 cases of HIV were diagnosed between 2003–2022 in RI, of which 425 cases (23%) were among women (Figure 1). From 2003 to 2022, there was a 38% reduction in the number of newly diagnosed cases of HIV in Rhode Island from 105 to 65 cases per year. In 2003–2012, the average number of cases diagnosed per year was 110, which reduced significantly to an average of 70 cases diagnosed per year in 2013–2022 ($p<0.05$). Likewise, the average number of newly diagnosed cases among women also decreased significantly in the two time periods, 29 in 2003–2012 vs. 14 in 2013–2022 ($p<0.05$). However, the proportion of cases diagnosed among women has remained fairly consistent over the last two decades with an average of 23% of all newly diagnosed cases being among women ($p=0.07$).

Of the 425 women diagnosed in the last 20 years, over 50% were in the age groups 30–39 and 40–49 when they were first diagnosed with HIV. The average age at diagnosis was 38 years. In the last five years, the rates of newly diagnosed cases of HIV among women has remained consistently high for women in their 40s (Figure 2).

While HIV diagnoses in general and among women have decreased in the last 20 years, disparities in HIV rates among racial and ethnic groups in Rhode Island persist. Even though

Figure 1. Number of cases among women by HIV diagnosis year in Rhode Island



the rates among Black/African American women seemed to have decreased in the last two years, they continue to have the highest diagnosis rates in the state. In 2022, the rates were four times higher for Black/African American women and Hispanic/Latino women than non-Hispanic White women (Figure 3).

HIV infection associated with sexual transmission was the most common mode of exposure among women newly diagnosed with HIV from 2003–2022, followed by Intravenous

Figure 2. Rates of newly diagnosed cases of HIV among women in Rhode Island, by age, 2018–2022

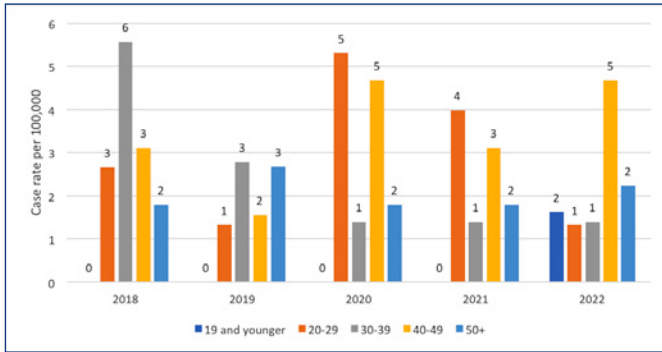


Figure 3. Rates of newly diagnosed cases of HIV among women by racial and ethnic groups in Rhode Island, 2018–2022

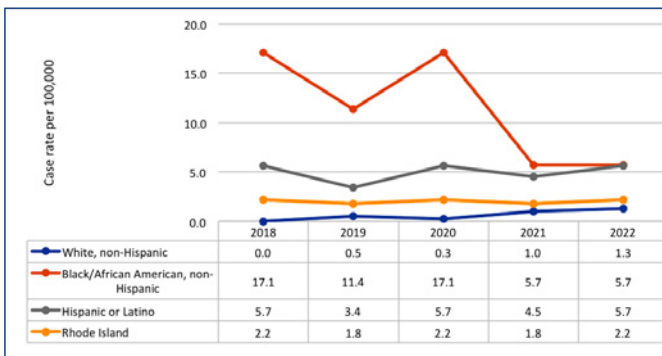
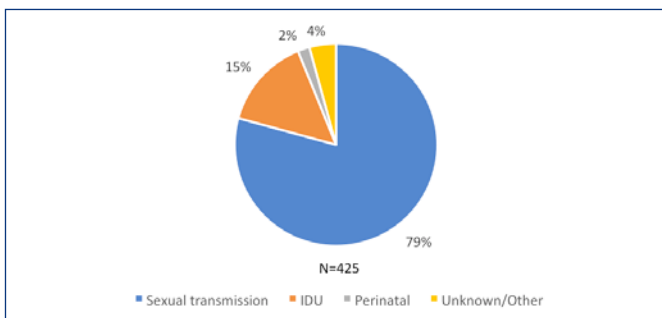


Figure 4. Mode of exposure among women newly diagnosed with HIV in Rhode Island, 2003–2022



*Note: Sexual transmission includes both high-risk and presumed heterosexual transmissions. “High Risk Heterosexual” refers to a female whose primary risk is that she has had sex with a male who is known to have HIV or engage in intravenous drug use. “Presumed heterosexual” refers to a female whose only known risk is sex with a male with unknown HIV status.

Drug Use (IDU) as the second most common mode of HIV transmission. Between 2003–2012, the mode of exposure for 17% of newly diagnosed women was IDU, which decreased substantially to 9% during 2013–2022 (Figure 4).

More than 50% of women newly diagnosed with HIV in RI in the last 20 years were born outside of the US (Figure 5). Among those born outside of the US, most of the women were born in Liberia (11%), Dominican Republic (7%), and Puerto Rico (7%). A total of 32% of all women diagnosed with HIV between 2003 and 2022 had concurrent AIDS at the time of diagnosis. An AIDS diagnosis suggests someone who was living with HIV for a long time before being diagnosed or suboptimal engagement in care. In the last five years, 46 babies were born to women living with HIV in Rhode Island, of which less than five were perinatal transmissions.

The HIV Care Continuum is a visual representation of the care status of individuals diagnosed with HIV who reside in Rhode Island. As the HIV Care Continuum indicates in 2021, 94% of women in Rhode Island knew their status, 75% were engaged in care, and 68% were virally suppressed (Figure 6). When we look at viral suppression among those engaged in care, 92% of women were virally suppressed.

Figure 5. Country of birth of women newly diagnosed with HIV in Rhode Island, 2003–2022

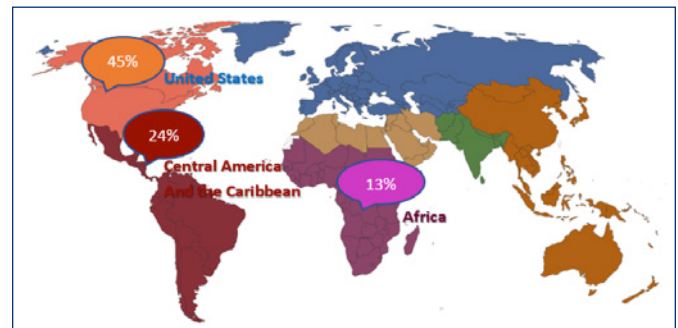
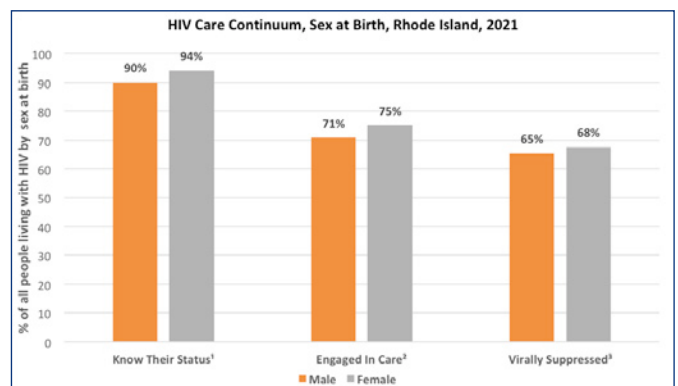


Figure 6. Linkage to care and viral suppression among women living with HIV in Rhode Island, 2021



¹ The number of people diagnosed («know their status») with HIV reflects persons diagnosed through 2020 and alive through the end of 2021 with most recent residence in Rhode Island.

² Receipt of care is defined as at least one care visit during the calendar year (2021).

³ A VL test result of < 200 copies/mL indicates HIV viral suppression. VL test results are from the most recent test during the specified year (2021).

DISCUSSION

Despite the trend in reduced number of new HIV diagnoses in Rhode Island, it is noteworthy that women continue to represent a significant proportion of new HIV diagnoses in the state. Specific population groups continue to be affected, including Black/African American and Hispanic women, who have four times higher incidence rates compared to non-Hispanic White women. The likelihood of a woman being diagnosed with HIV in her lifetime is significantly higher for Black/African American women (1 in 54) and Hispanic/Latino women (1 in 256) than for White non-Hispanic women (1 in 941).⁵

Studies at the national level have indicated higher rates of HIV diagnoses among non-US-born people than among US-born people, both overall and by sex at birth.⁶ This is very much in alignment with findings from Rhode Island, where more than 50% of women newly diagnosed with HIV in the last 20 years were born outside of the US. However, as observed nationally, it is unclear to what degree non-US-born people are arriving in the country with HIV infection or acquiring HIV after arrival. Nevertheless, country of birth seems to have important implications for HIV testing. Foreign-born women should be screened at least once for HIV and more frequently if they have ongoing risk factors, which is consistent with the Centers for Disease Control and Prevention (CDC) and US Preventative Services Task Force (USPSTF) Guidelines.

Many social determinants of health present significant barriers to engaging in HIV care and treatment among women, which could include the cost of services, language barriers, stigma, and other barriers. In Rhode Island, however, a consistent effort has been made to employ approaches to improve access to HIV care. These include the Ryan White program, which covers the cost of medical care, including antiretrovirals (ARVs) for people with HIV who can't pay. Clinics who care for PLWH have language and interpreter services available. In addition, staff at RIDOH partner services interview every new patient with an HIV diagnosis to identify sexual and needle-sharing partners and refer patients to needed services. RIDOH also implements a return-to-care program to engage people who may have difficulty engaging in care.

The findings of this study also have important considerations for HIV prevention among women. As mentioned above, routine HIV testing in clinical settings, including pregnant women, is critical. One significant public health intervention in Rhode Island that has proven effective in reducing mother-to-child transmission of HIV is the enactment of HIV testing as part of prenatal care into Rhode Island General Laws in 2009.⁷ There have been only two cases of mother-to-child transmission of HIV in the last 10 years in Rhode Island. Primary prevention efforts to reach high priority female populations (i.e., people who use drugs, commercial sex workers, homeless individuals) are traditionally

done through harm reduction programs funded by RIDOH. These community-based programs distribute condoms, clean syringes, and early pregnancy test kits, as well as provide counseling/referral on PrEP, social services, and SUD care. Other important HIV-prevention approaches in Rhode Island include condoms and HIV test kits by mail and Testing 1-2-3 for HIV/HCV/STIs testing. For more information about these services, please refer to RIDOH's HIV, Hepatitis C, STD, and Tuberculosis Prevention Resource Guide for Community and Clinical Providers.

This analysis found that even though the number of new HIV infections among women in Rhode Island is falling, addressing the epidemic's impact on women remains of critical importance in ensuring these encouraging trends continue.

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