

Memphis Transitional Grant Area Ryan White Part A Priority Setting and Resource Allocations GY2022

Part I

HIV/AIDS Epidemiological Profile

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August 29th, 2023



HIV/AIDS General Information

HIV: stands for human immunodeficiency virus, which is the virus that causes HIV infection.

AIDS: stands for acquired immunodeficiency syndrome. AIDS is the most advanced stage of HIV infection.

- *When an individual has HIV, the virus attacks and destroys infection-fighting CD4 cells of the immune system. The loss of CD4 cells makes it difficult for the body to fight off infections and certain cancers.*
- *Without proper treatment, HIV can gradually destroy the immune system and advance to AIDS.*

Data Source: [HIV and AIDS: The Basics | NIH](#)

HIV Disease and AIDS Surveillance Data

HIV Disease: represents all diagnoses with HIV infection regardless of the stage of disease.

Stages of Disease:

1. Acute HIV infection (2-4 weeks)
2. Chronic HIV infection
3. AIDS is the final stage of HIV infection

AIDS (Stage 3 HIV Infection): person with HIV disease who has one of the following:

- A CD4+ count less than 200 cells/mL *or*
- Development of certain opportunistic infections
 - *Candidiasis of trachea, bronchi or deeper lung tissue*
 - *Kaposi sarcoma*
 - *Tuberculosis (TB)*
 - *Pneumocystis carinii pneumonia (PCP)*

HIV+ persons are reported to surveillance systems twice: once at initial diagnosis and again at AIDS diagnosis.

Data Source: [The Stages of HIV Infection | NIH](#). [Opportunistic Infections | Living with HIV | HIV Basics | HIV/AIDS | CDC](#)

Data availability and limitations

Transitional Grant Area:

- All requested data received from Tennessee
- Limited data from Arkansas
- No recent data from Mississippi – latest is 2020

Incidence data:

- Tennessee 3 counties only – Shelby, Fayette, Tipton

Prevalence data:

- 2022: TN 3 Counties & Crittenden, AR
- 2020: Northern 4 MS Counties
 - DeSoto, Marshall, Tate, Tunica

General Epidemiology: Incidence

Incidence: the number of new cases of HIV in a specified time period.

- ex. **353** HIV disease cases were diagnosed in the Memphis TGA in 2022.*

Incidence rate: Number of new cases of HIV expressed per unit of population.

- ex. **34.2** HIV disease cases per 100,000 people were diagnosed in the Memphis TGA in 2022.*

HIV incidence helps us understand how HIV is spreading now and how to more effectively focus prevention efforts.

**Preliminary data. Subject to updates.*

General Epidemiology: Prevalence

Prevalence: the proportion of a population known to be living with HIV or AIDS.

- Typically expressed as a percentage of the population at a point in time.
- ex. **8,476** PLWHA in the Memphis TGA as of December 31st, 2022.*
- PLWHA = “persons living with HIV or AIDS”

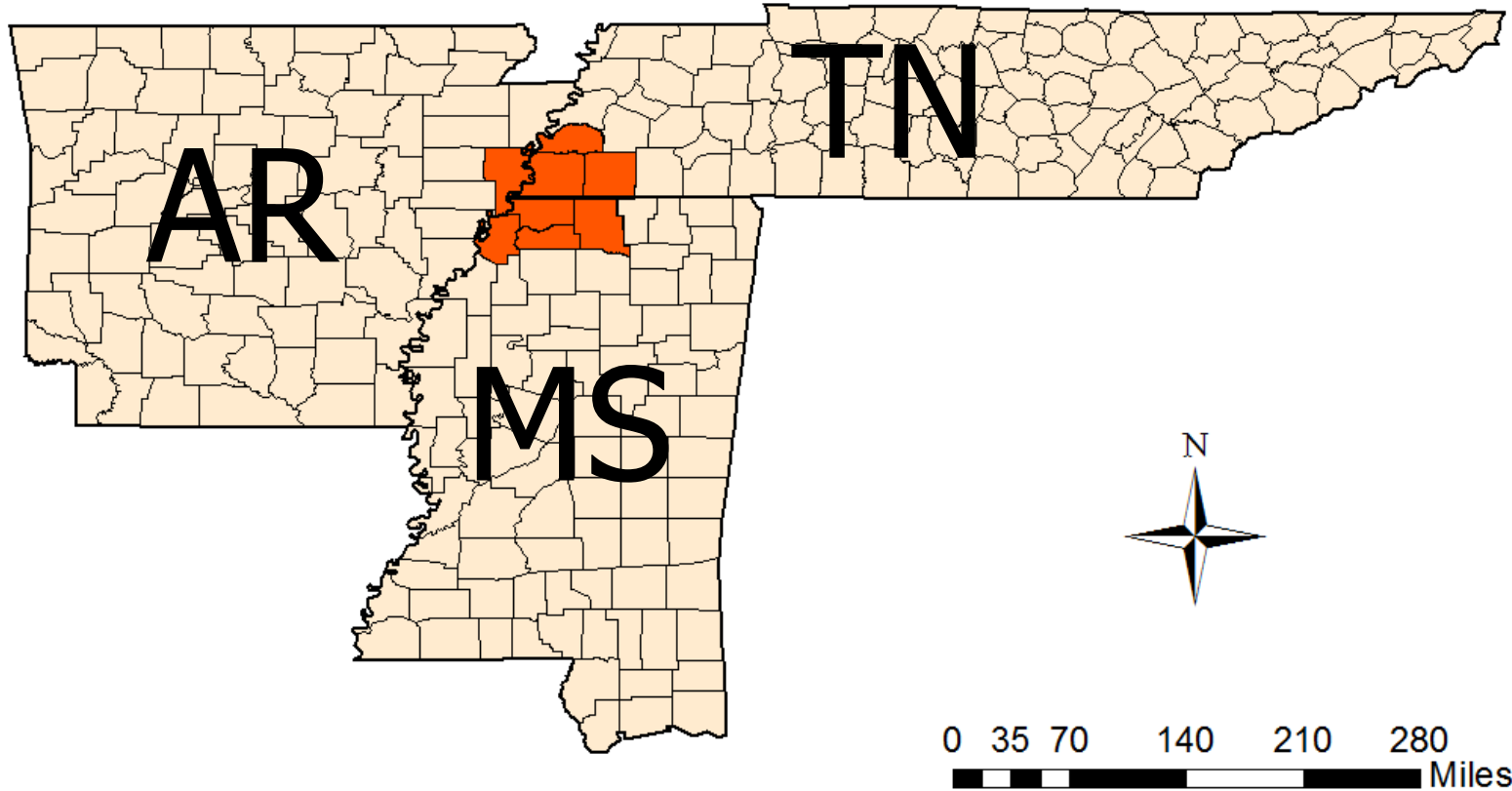
Prevalence provides a snapshot of the burden of infection in a given population and helps us more effectively focus care efforts.

**Preliminary data. Subject to updates.*

Socio-Demographics of the Memphis TGA Population

- Geographical Location
- County Populations
- Health Insurance Coverage

Geographical Location of the Memphis TGA



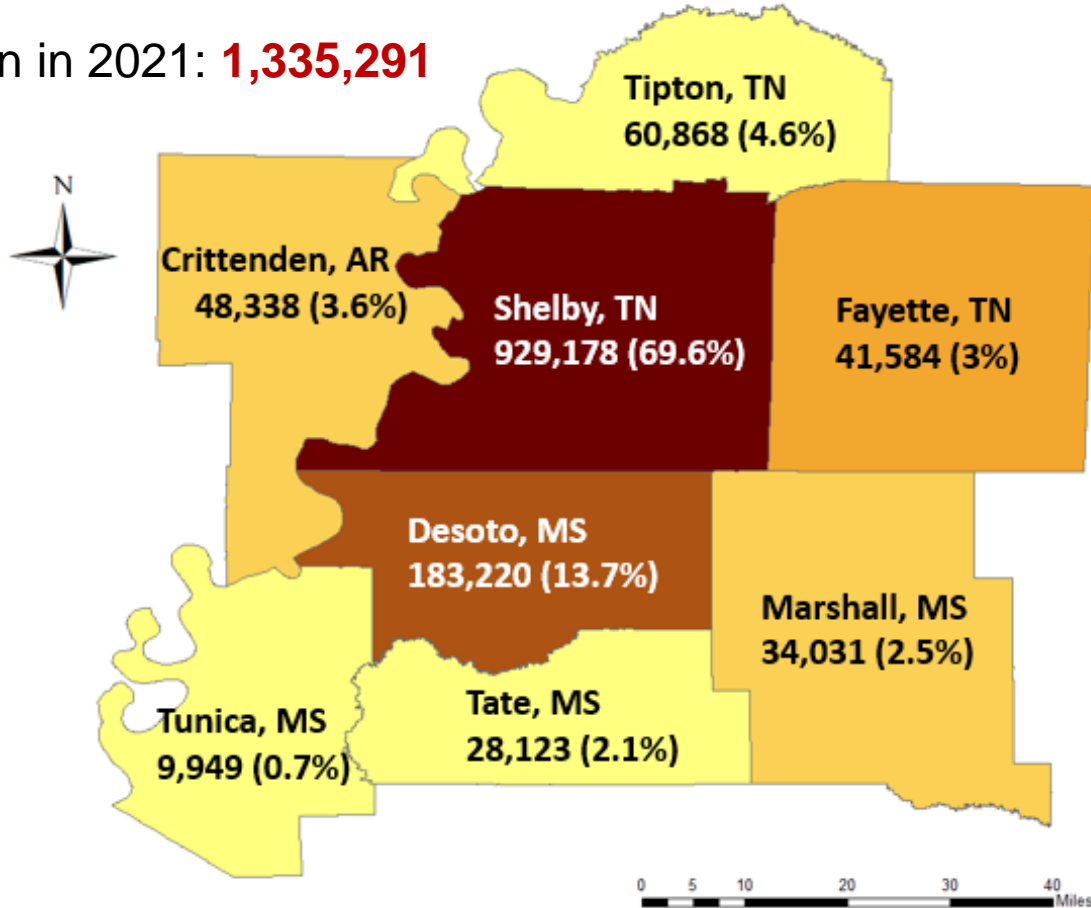
*The Memphis Transitional Grant Area (TGA) encompasses eight counties from three states (Tri-State Area). At the end of 2021, the Memphis TGA had an estimated population total = **1,335,291**.*

Data Source: U.S. Census Bureau, 2021 American Community Survey 5-Year Estimates.

County Populations of the Memphis TGA

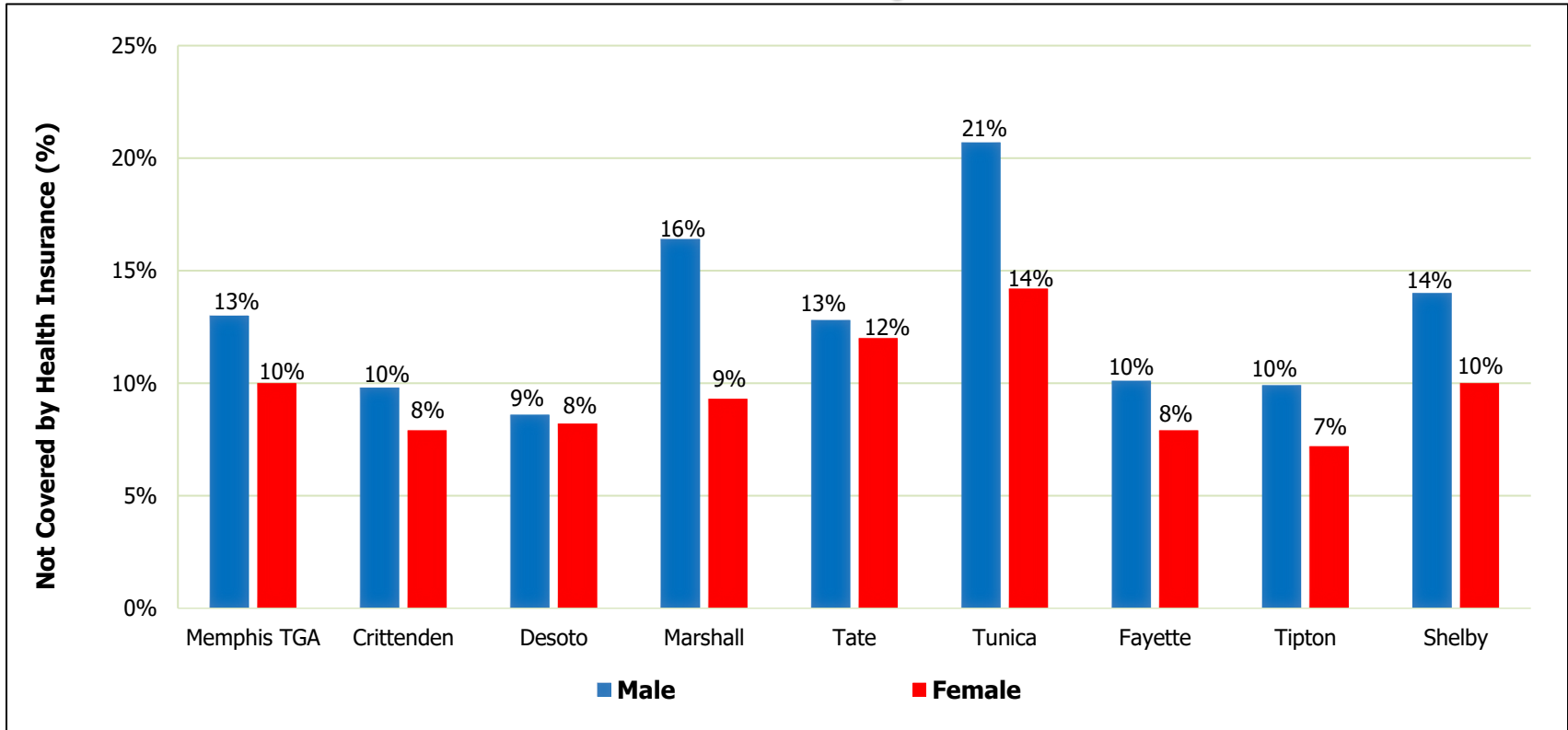
US Census Bureau, 2021

Total Population in 2021: **1,335,291**



Data Source: U.S. Census Bureau, 2021 American Community Survey 5-Year Estimates.

Memphis TGA Residents Not Covered by Health Insurance by Sex, 2021



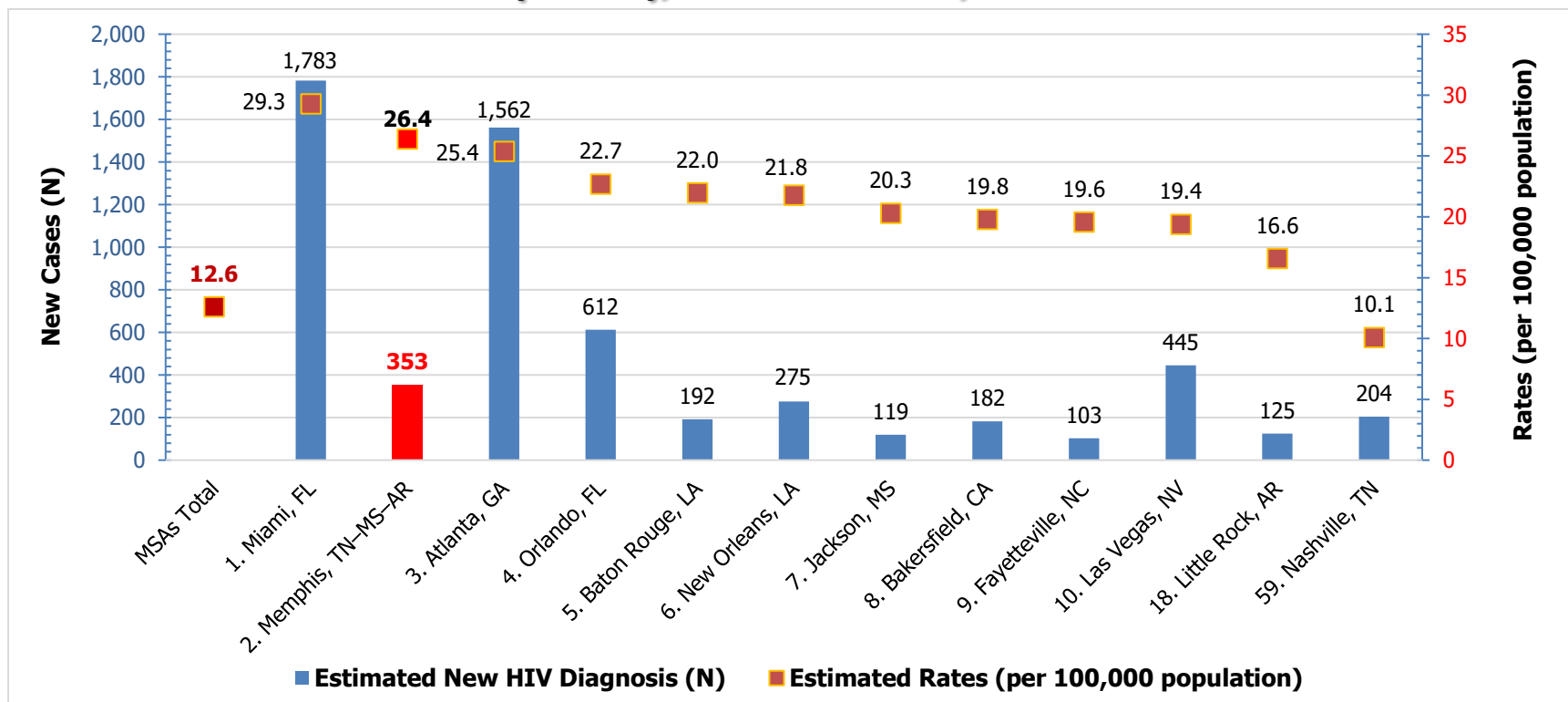
At the end of 2021, 13% of males and 10% of females did not have health insurance coverage in the Memphis TGA.

Data Source: U.S. Census Bureau, 2021 American Community Survey 5-Year Estimates.

Scope of HIV Epidemic in the Memphis TGA

- HIV Rankings
- Disease Trends
- Incidence
- Prevalence
- HIV Co-Infections

Rates and Ranks of New HIV Infection by Metropolitan Statistical Areas (MSAs), United States, 2021

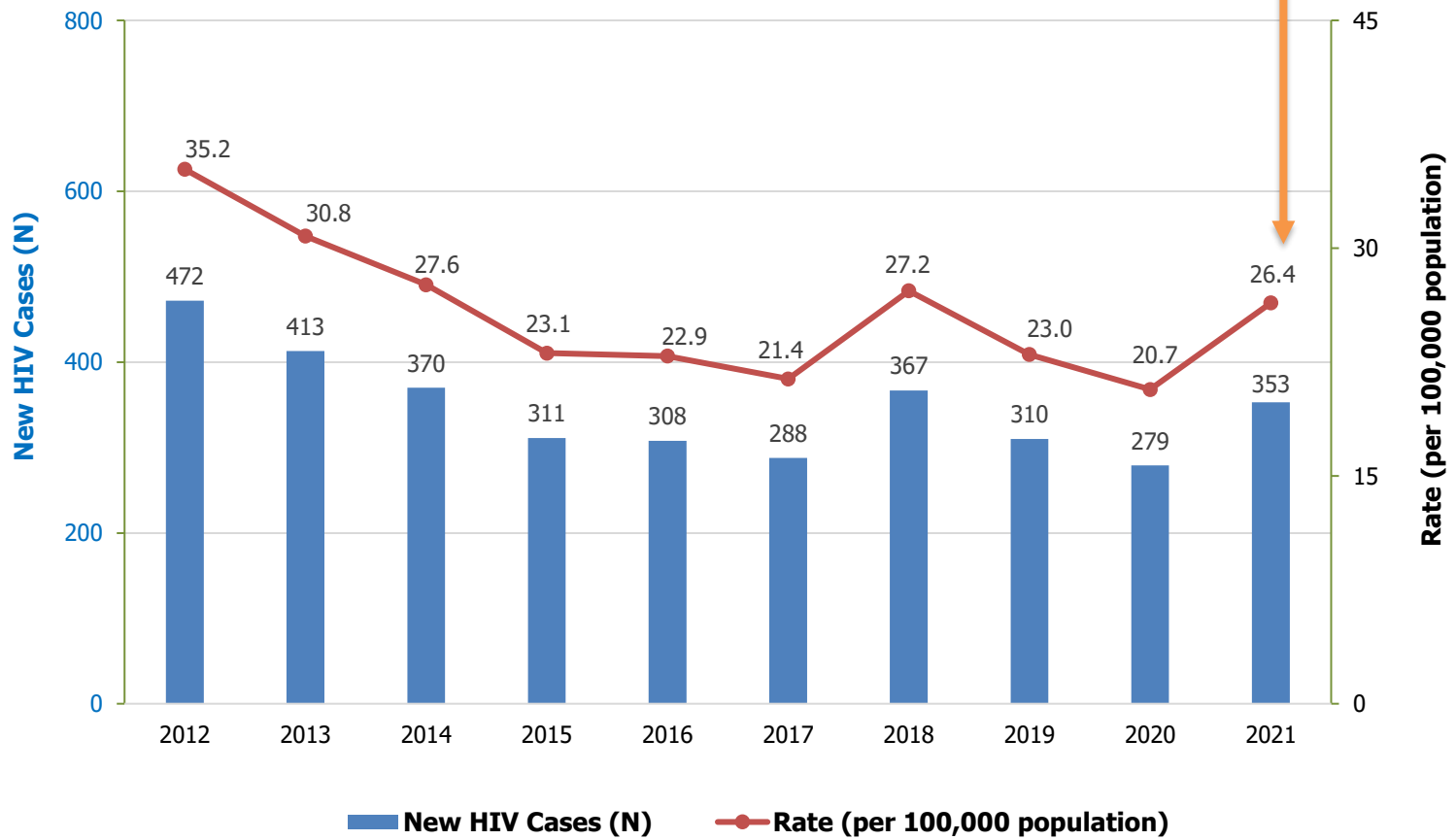


Memphis MSA has a relatively low number of estimated new infections, but an HIV incidence rate *two times* higher than the total MSAs' rate. (*Ranked 2nd* among the Metropolitan Statistical Area of Residence—United States).

Data Source: Centers for Disease Control and Prevention. HIV Surveillance Report, 2021; vol. 34. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance/vol-34/content/tables.html>. Published May 2023. Accessed June 2023.

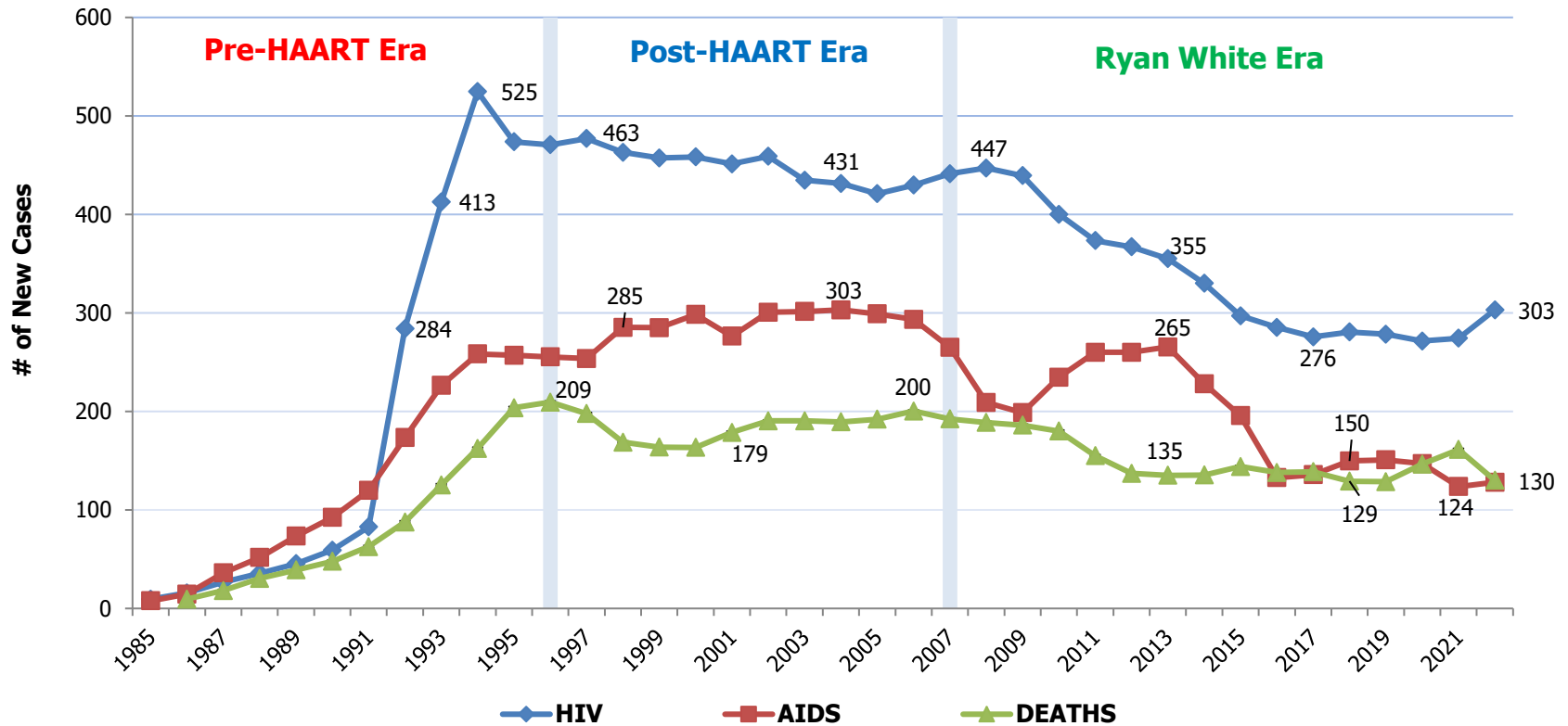
New HIV Diagnoses, Memphis TGA, 2012 – 2021

HIV Incidence Rate decreased 25% since 2012



Data Source: [HIV Surveillance | Reports | Resource Library | HIV/AIDS | CDC](#)

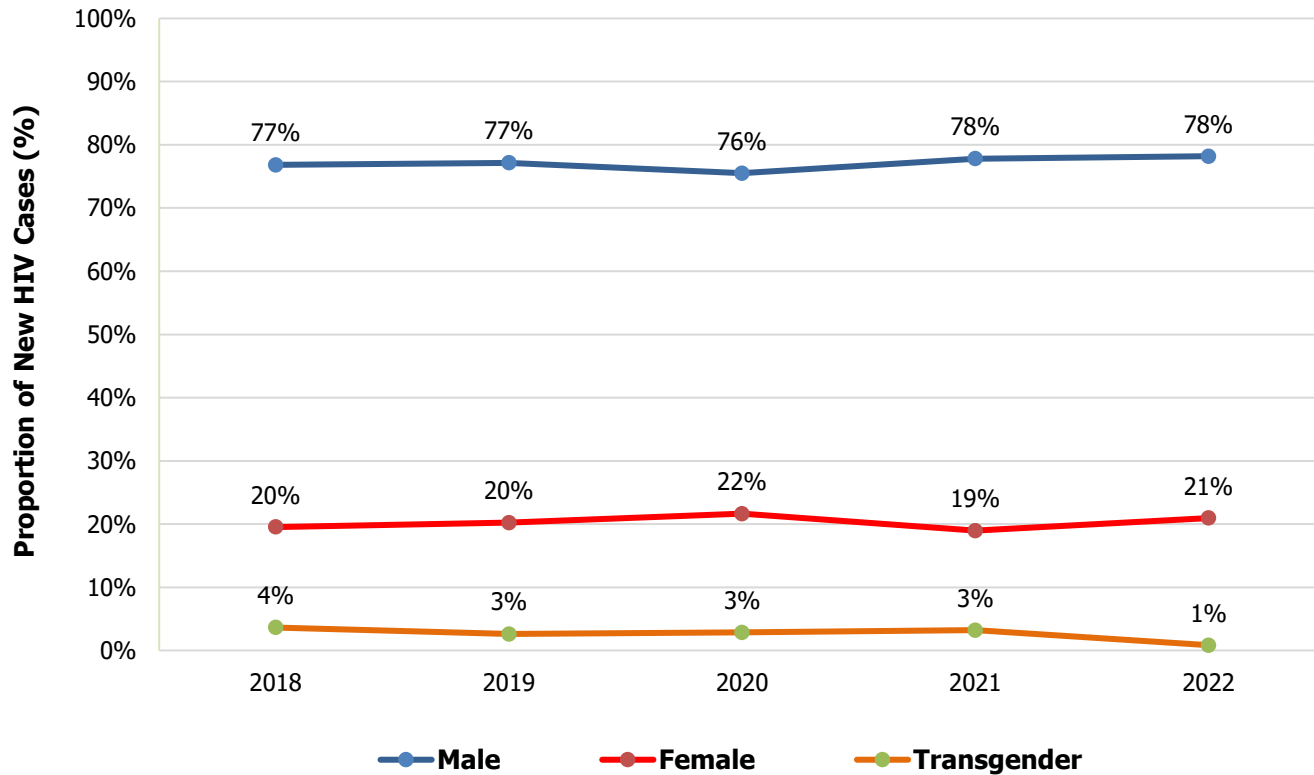
New HIV, AIDS and Death Cases, Three Years Rolling Average, West TN 3 Counties, 1985-2022*



New HIV infections sharply increased during the **Pre-HAART Era** (1985-1996) and remained relatively stable in the **Post-HAART Era** (1996 -2007). New HIV and Death cases notably decreased in the **Ryan White Era** after the approval of RW Part A/MAI funding for Shelby County in 2007 and RW HIV/AIDS ACT of 2009.

Data Source: eHARS, TN. *Preliminary data. Subject to updates. [Timeline of The HIV and AIDS Epidemic | HIV.gov](#). [The Ryan White HIV/AIDS Program - A Living History Timeline | HRSA](#)

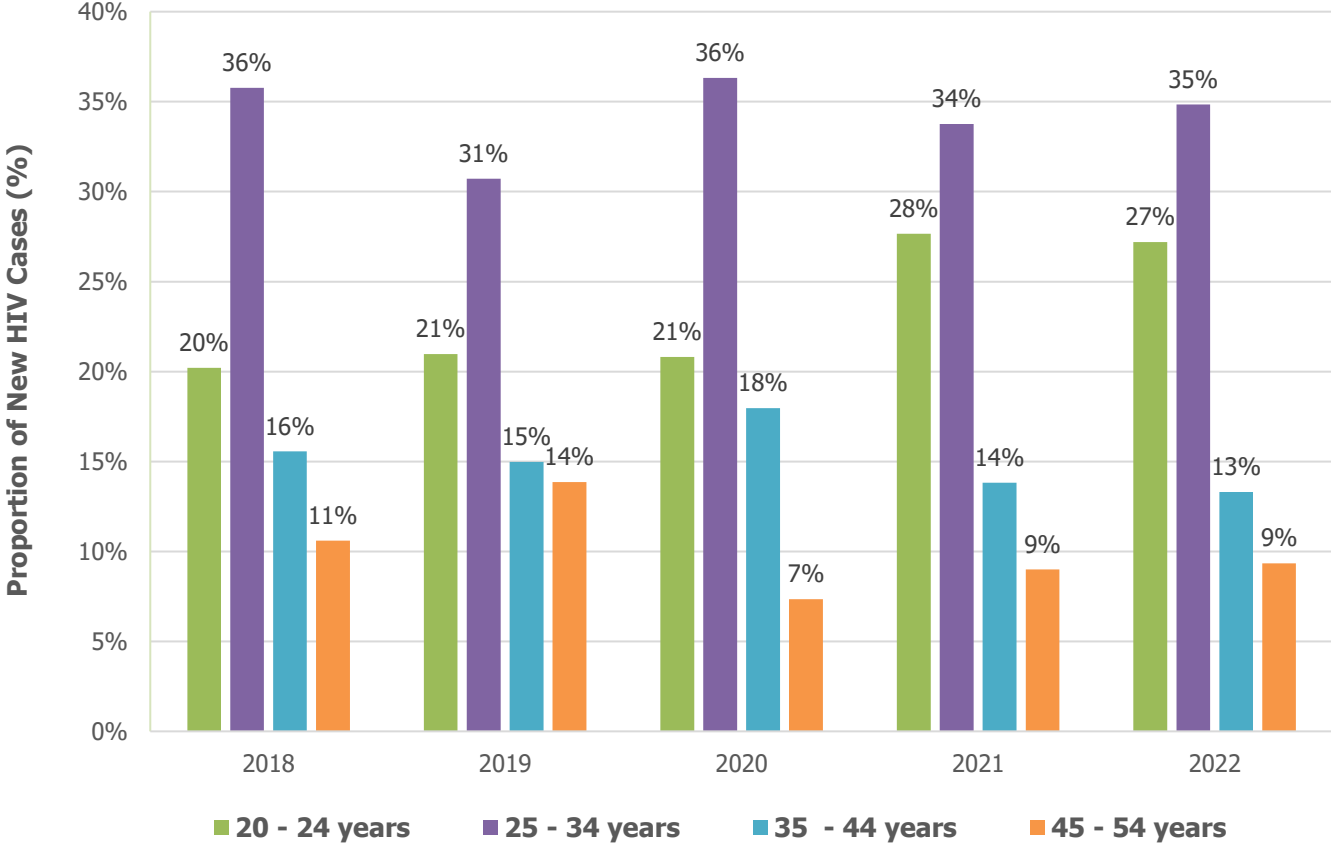
New HIV Disease Proportion by Sex, Memphis TGA, 2018-2022*



The highest proportion of new HIV cases are among Males, and this has been the case for the past 5 years. All three groups remain steady in their proportion of new HIV cases for the 5-year trend.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

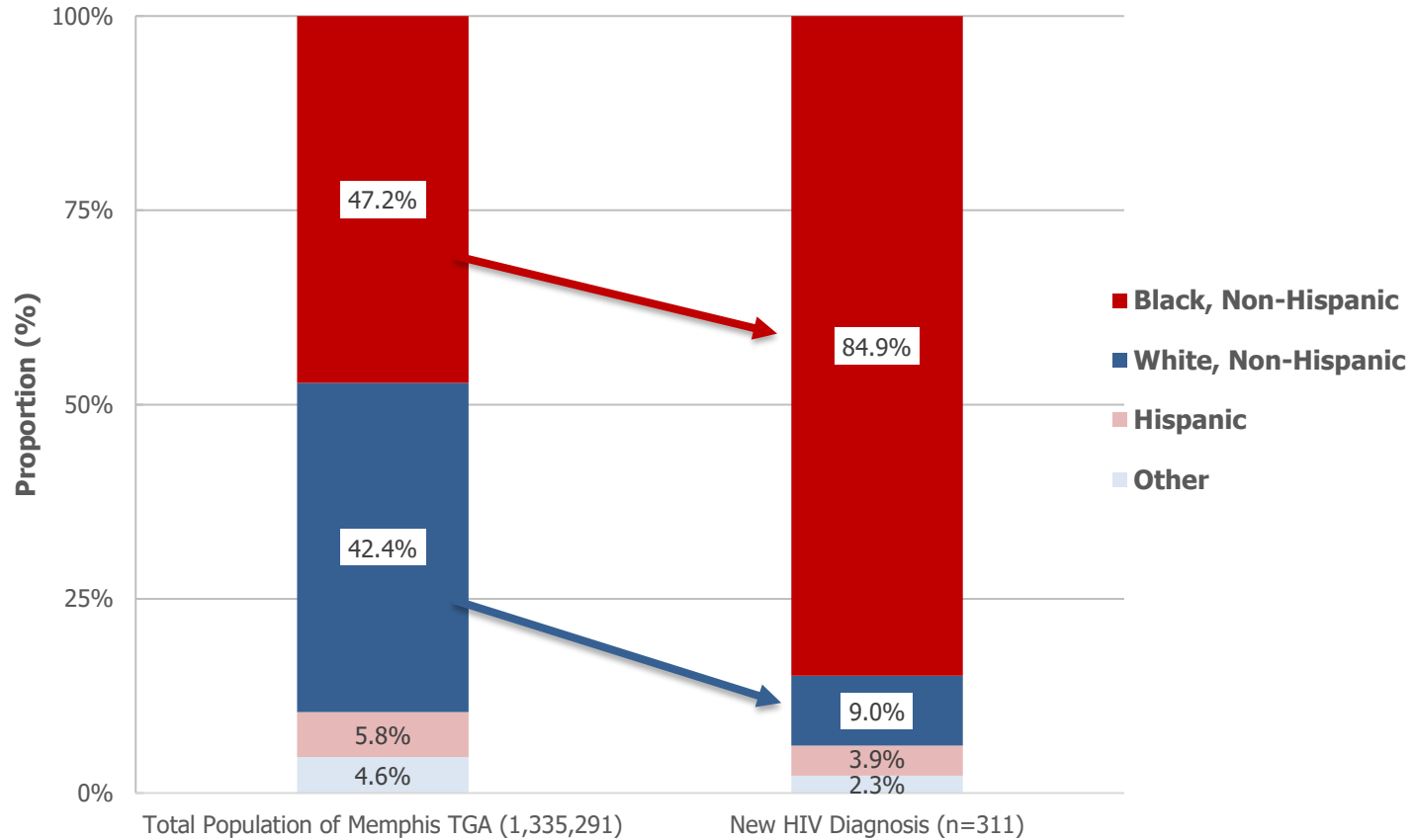
New HIV Disease Proportion by Age Group, Memphis TGA, 2018-2022*



Consistently over the 5-year trend, those 25-34 years old have had the highest proportion of new HIV disease followed by those 20-24 years old.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

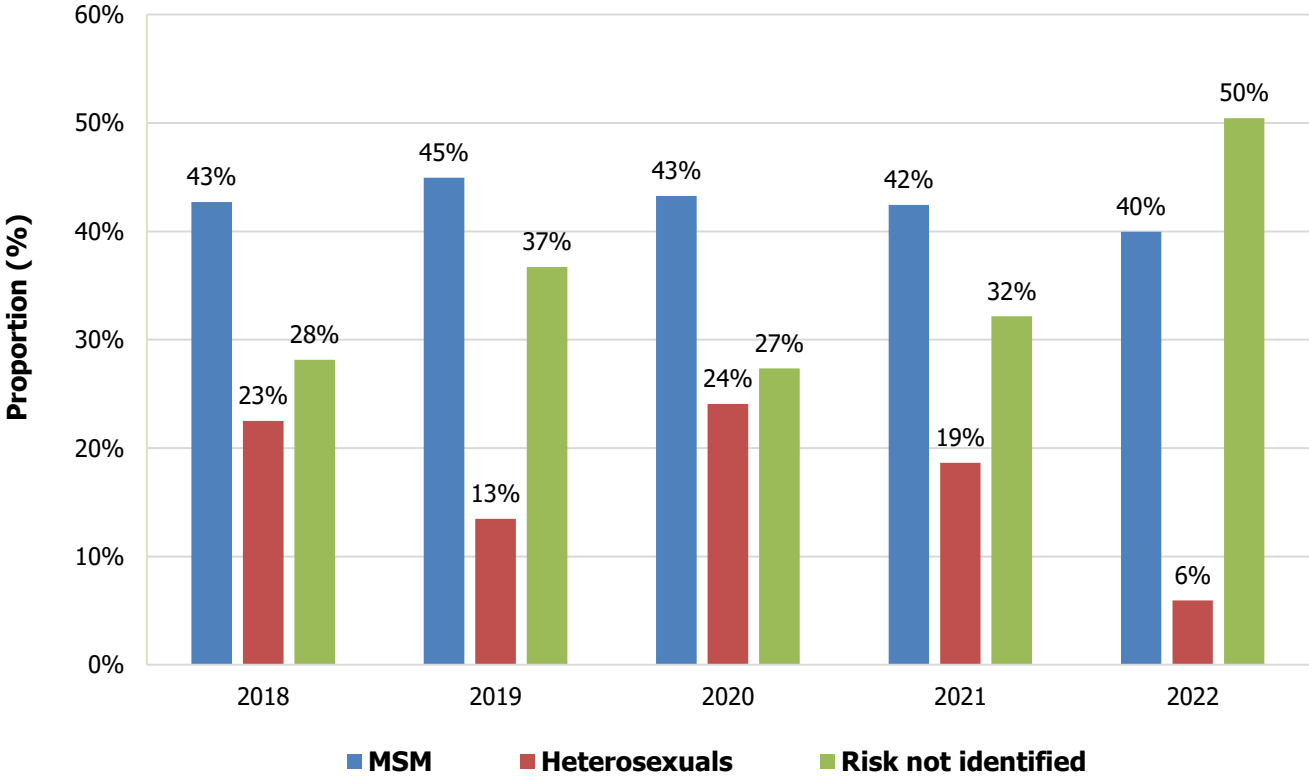
Memphis TGA Population & New HIV Diagnoses by Race/Ethnicity, 2021



Blacks are disproportionately impacted by HIV infections. Although almost half of the TGA population is Black (47.2%), they accounted for 84.9% of newly diagnosed HIV cases in 2021.

Data Source: eHARS, TN. U.S. Census Bureau, 2021 American Community Survey 5-Year Estimates.

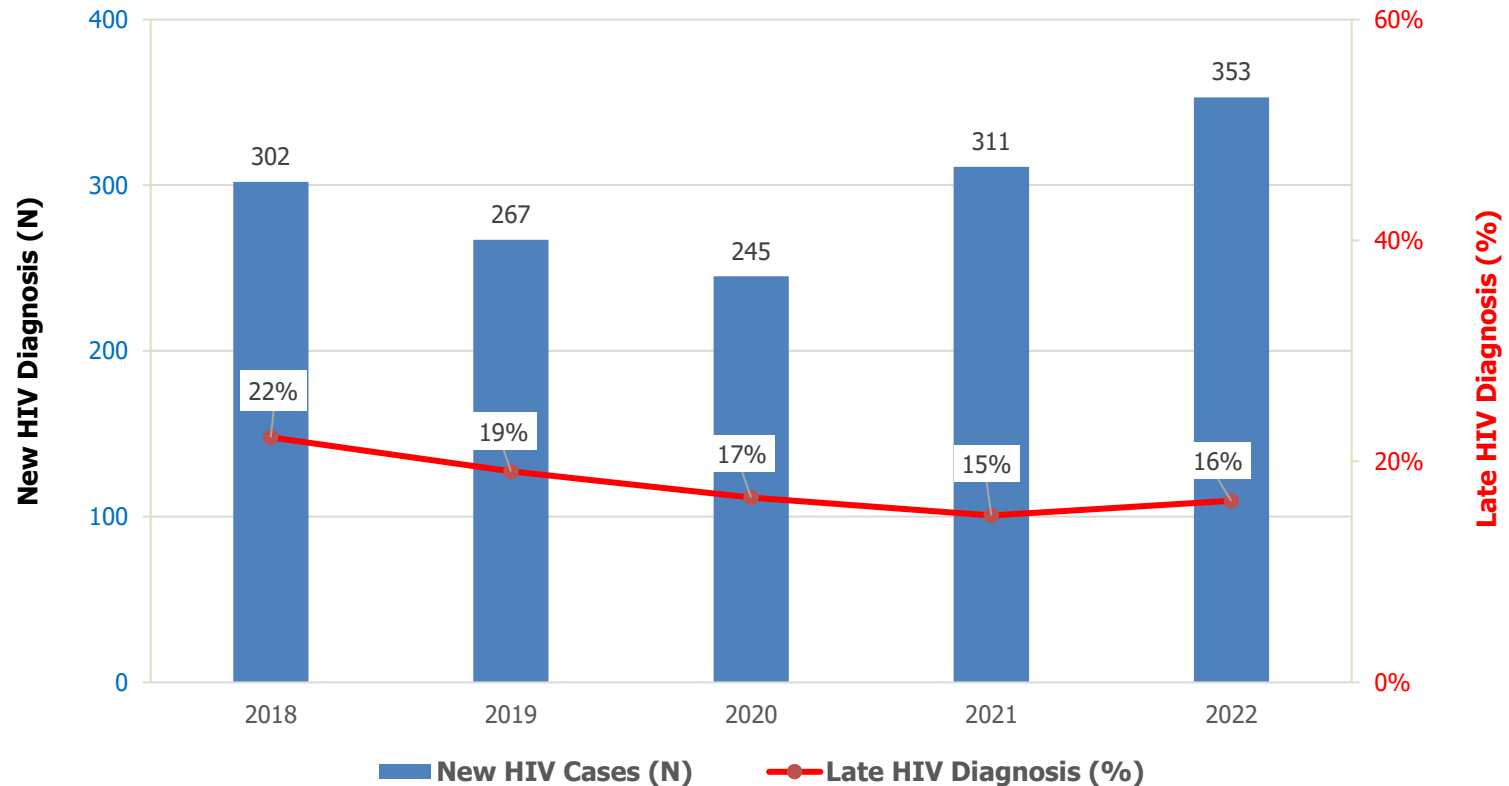
New HIV Disease Proportion by Risk/Exposure, Memphis TGA, 2018-2022*



Based on this 5-year trend, we see that in recent years risk exposure has shifted more to Risk not identified. The need to better identify and document risk exposure is crucial for care and outreach services.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

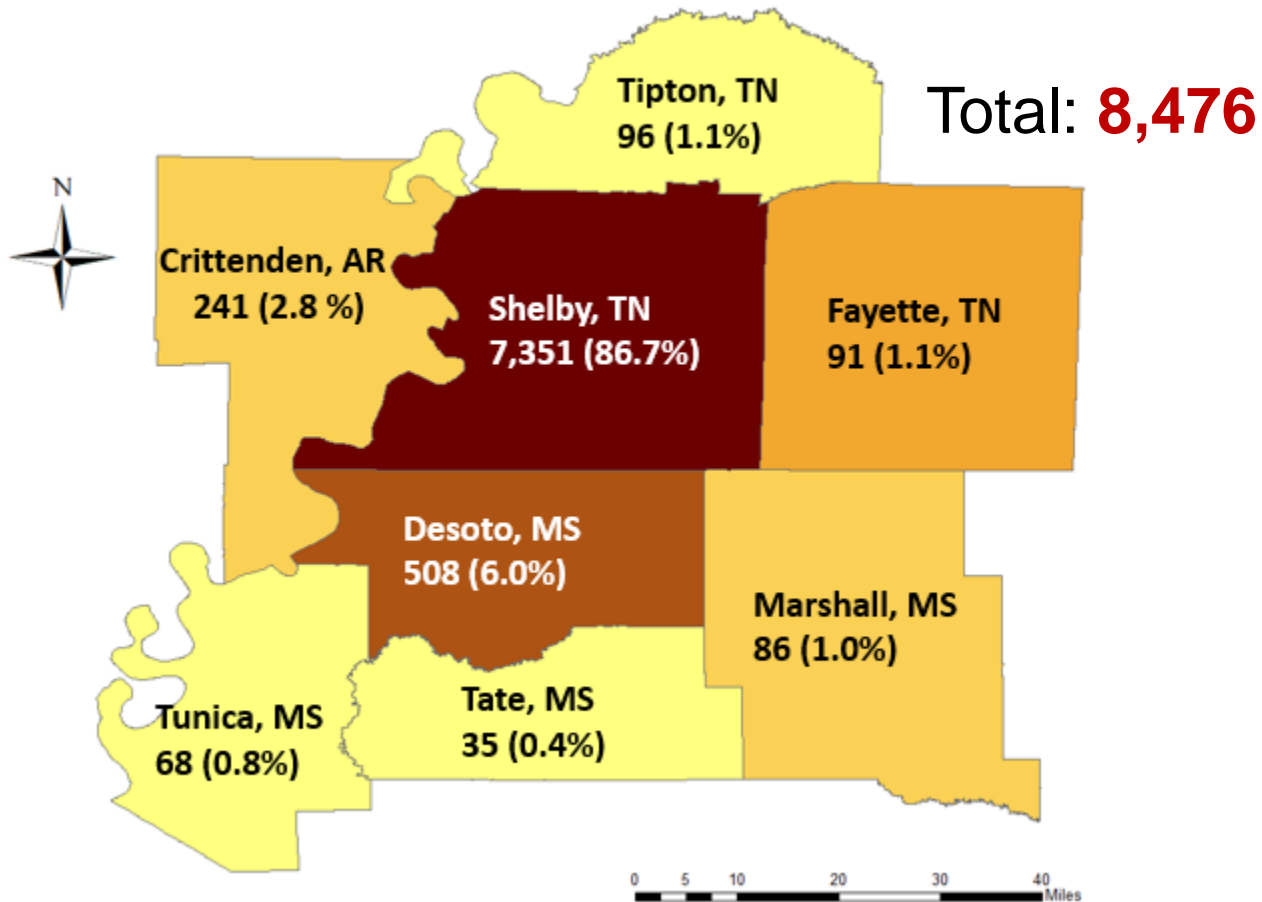
New HIV Cases and Late HIV Diagnoses, West TN Counties, 2018-2022*



Of the newly diagnosed HIV cases, the proportion of Late HIV Diagnosis has gradually declined over the past 5 years. A positive indicator that HIV testing is capturing people early in their diagnosis where the virus has not advanced to AIDS.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

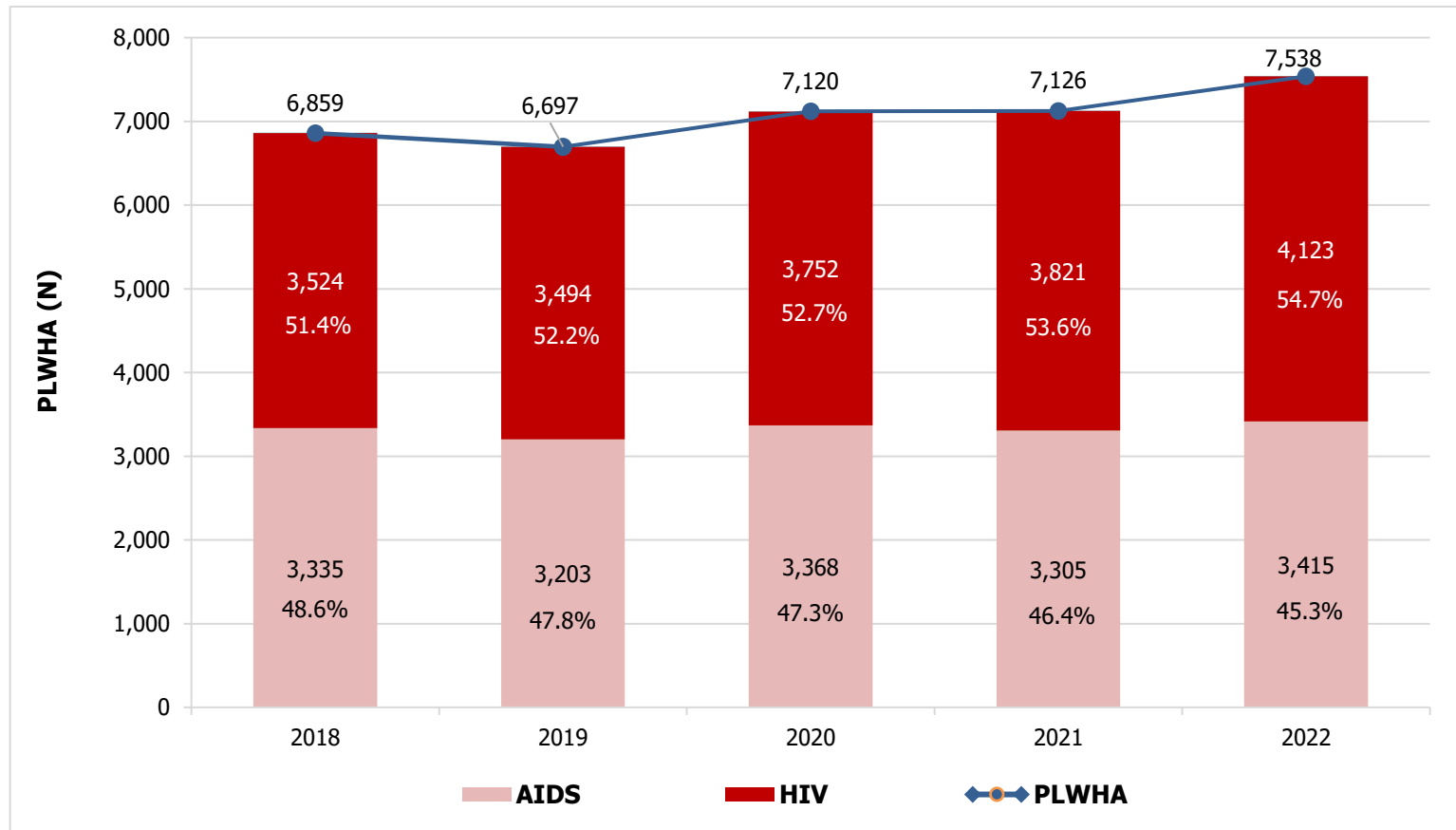
PLWHA by County, Memphis TGA, as of 2022*



As of 2022, a total of 8,476 individuals were currently living with HIV disease in the Memphis TGA. The largest proportion of PLWHA is in Shelby County (86.7%), followed by DeSoto, MS (6.0%) and Crittenden, AR (2.8%).

Data Source: eHARS, TN, AR, MS. *Preliminary data. Subject to updates.

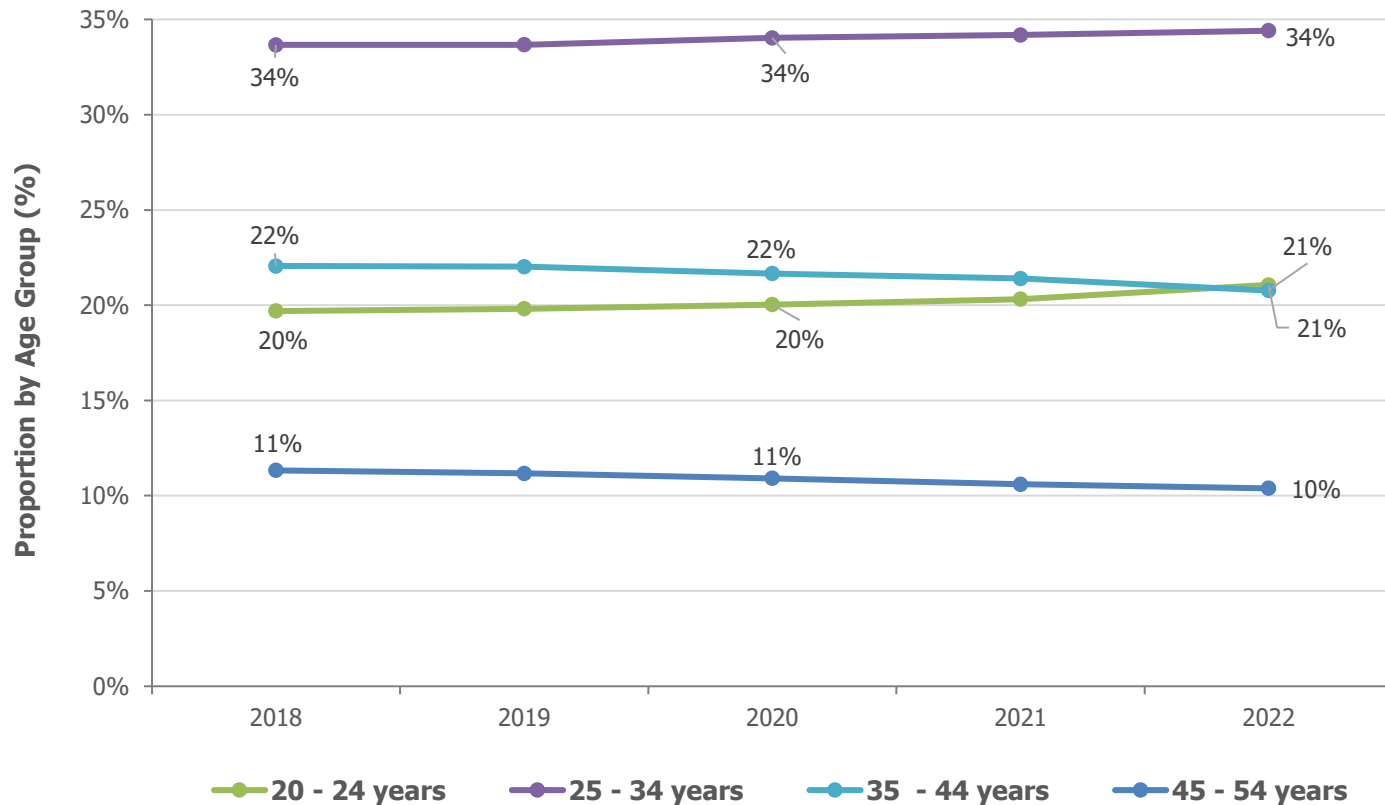
PLWHA in the Memphis TGA, 2018-2022*



The numbers of PLWHA continue to increase in the Memphis TGA. The proportions of PLWH and PLWA have seen subtle changes as well with a gradual increase in PLWH in recent years.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

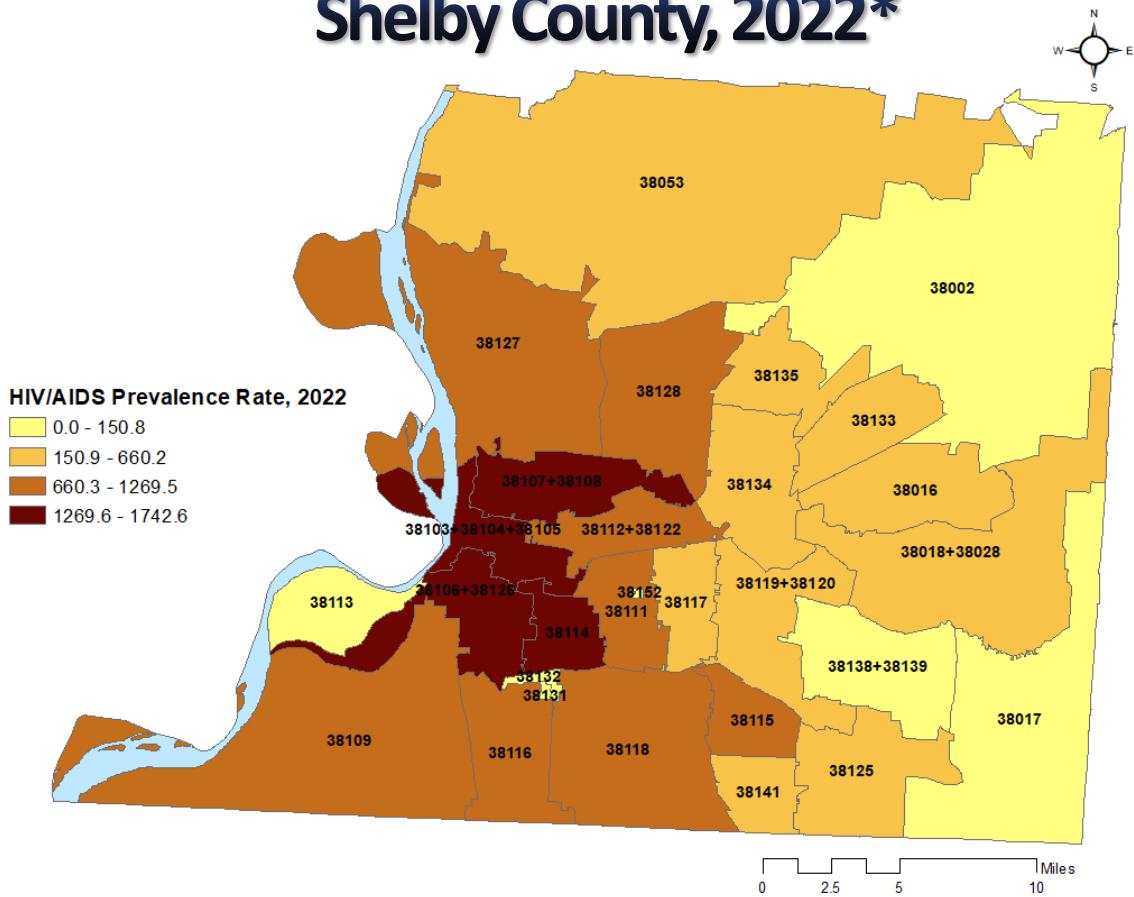
PLWHA by Age Group, Memphis TGA, 2018-2022*



Prevalence of HIV/AIDS by Age Groups for the past 5 years have remained consistent and relatively stable. The proportion of those in the 25-34 age group have remained high compared to the other age groups, falling around 34% throughout the 5-year trend.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

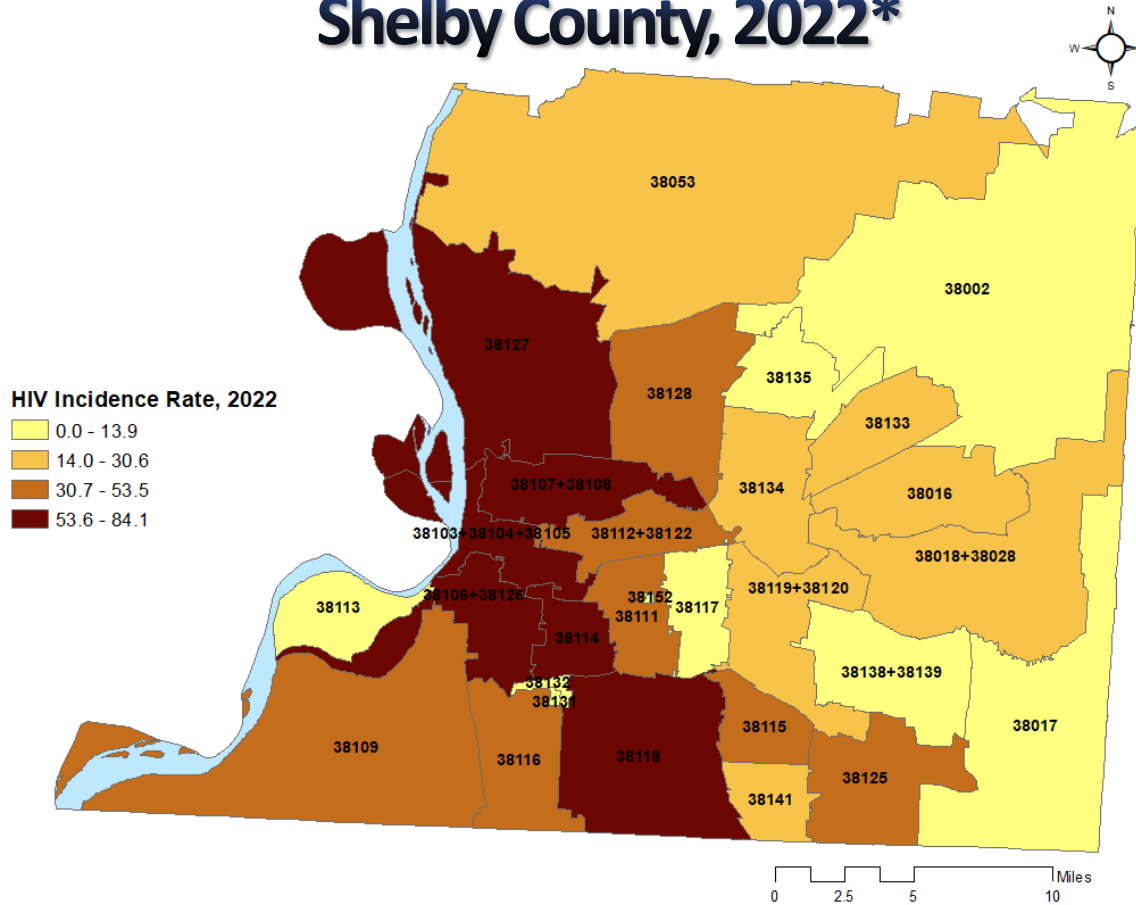
HIV/AIDS Prevalence Rates (per 100,000 population), Shelby County, 2022*



The darkest shaded areas represent the highest rates of PLWHA, which is mainly the west and south parts of Shelby County.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

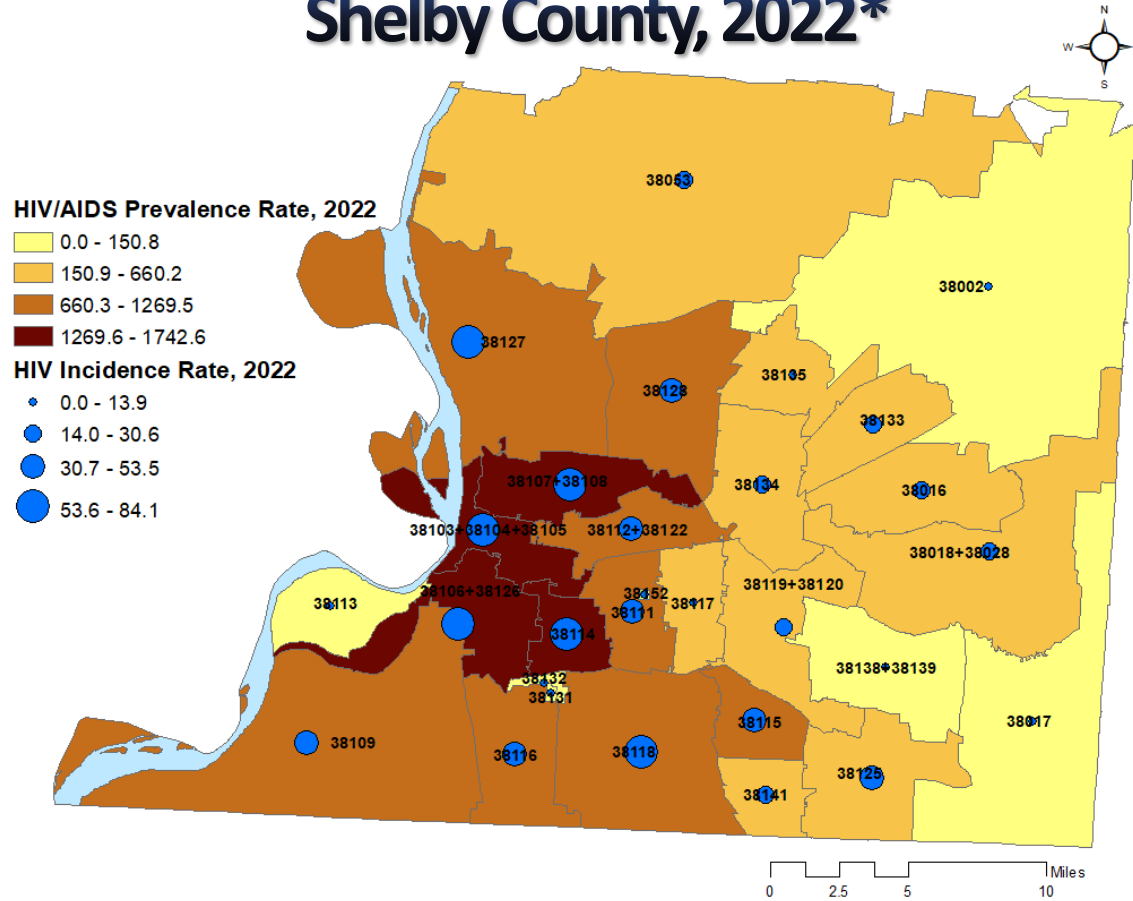
HIV Incidence Rates (per 100,000 population), Shelby County, 2022*



The darkest shaded areas represent the highest rates of new HIV diagnosed infections, which are predominantly in the west and southwest parts of Shelby County.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

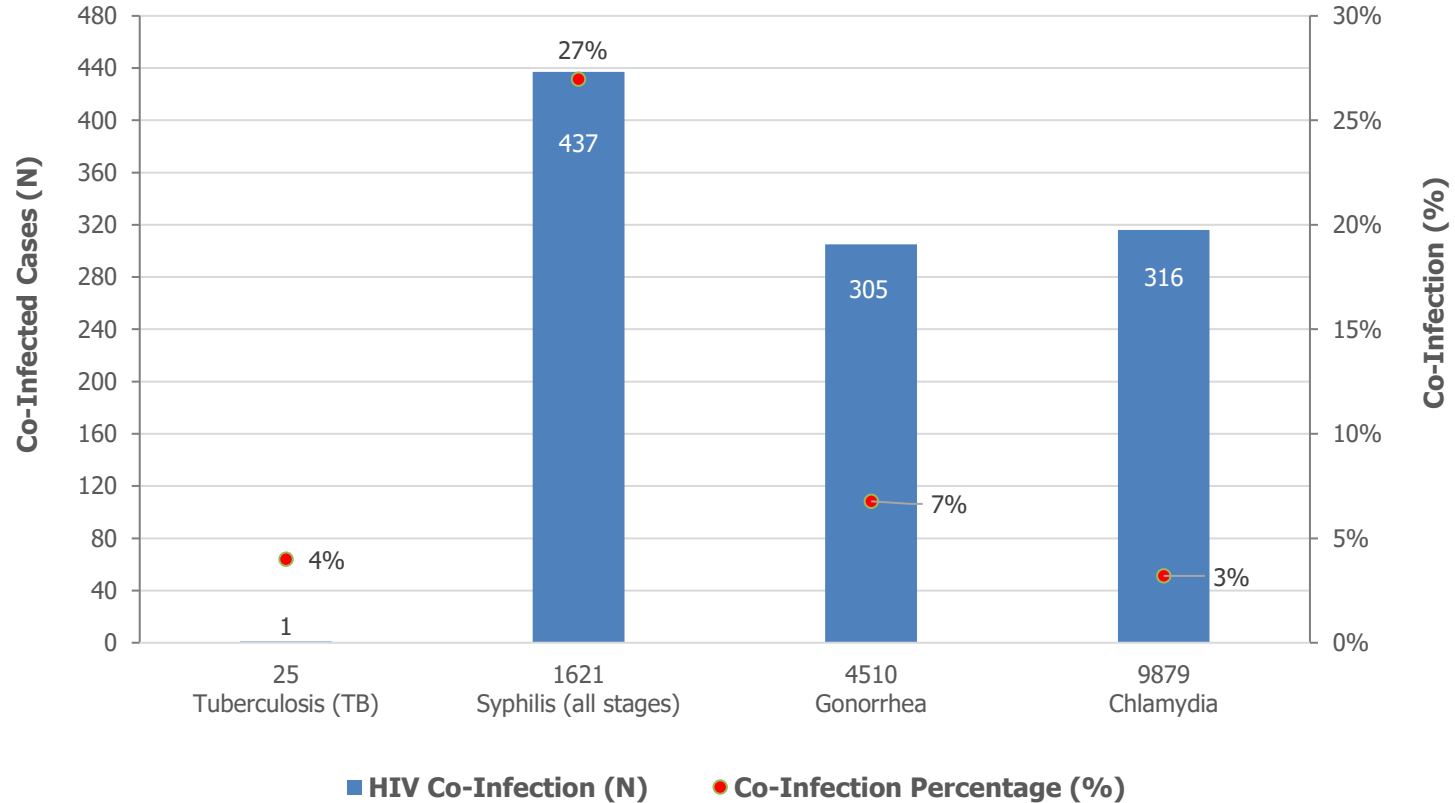
Prevalence & Incidence Rates (per 100,000 population), Shelby County, 2022*



The positive correlation between prevalence and incidence rates indicate that these zip code areas need to be considered high priority areas for resource allocation in terms of HIV testing and care.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

Co-Infection among PLWHA in Shelby County, 2022



The proportion of HIV co-infection was highest (27%) among the Syphilis (all stages) cases followed by Gonorrhea cases (7%) and Chlamydia cases (3%). Only one case of TB co-infection (4%) was observed for 2022.

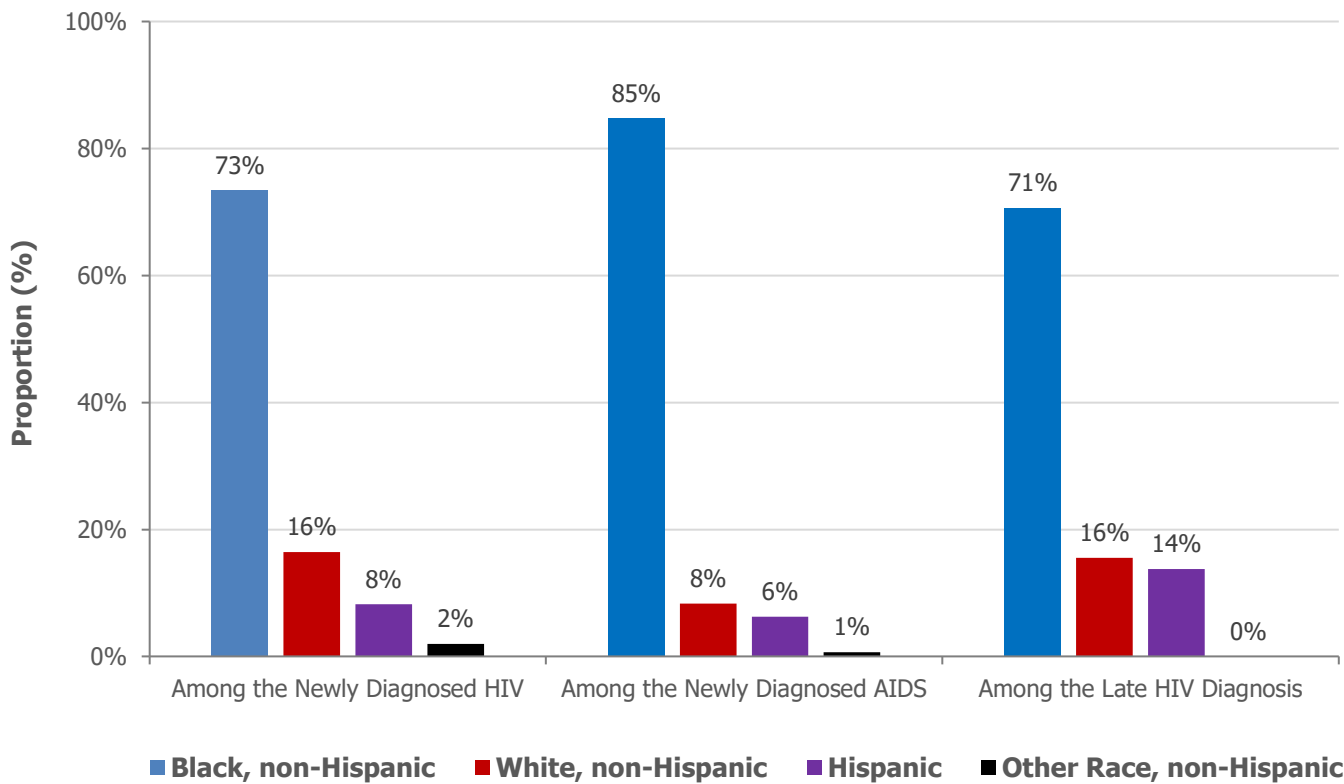
Data Source: Tennessee eHARS, PRISM & NEDSS.

Indicators of HIV Risk

- Non-Hispanic Blacks
- Young Adults
- Adolescents and Young Adults
- Hispanics/Latinos

Non-Hispanic Blacks

New HIV, New AIDS, Late HIV Diagnoses – West TN Counties, 2022*

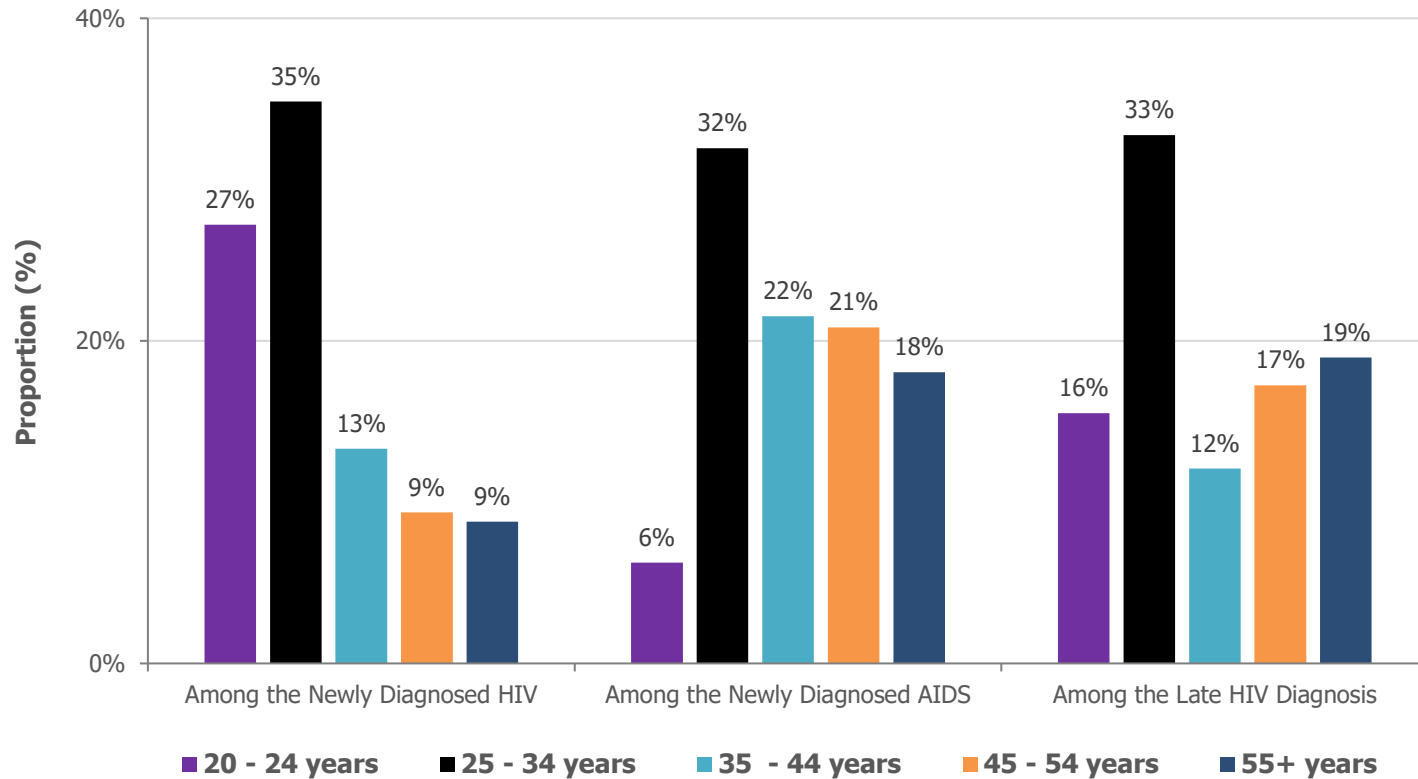


In 2022, non-Hispanic Blacks accounted for 73% of new HIV cases, 85% of new AIDS cases and 71% of late HIV diagnoses. The HIV disease burden is disproportionately higher in the non-Hispanic Black community.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

Young Adults

New HIV, New AIDS, Late HIV Diagnoses – West TN Counties, 2022*

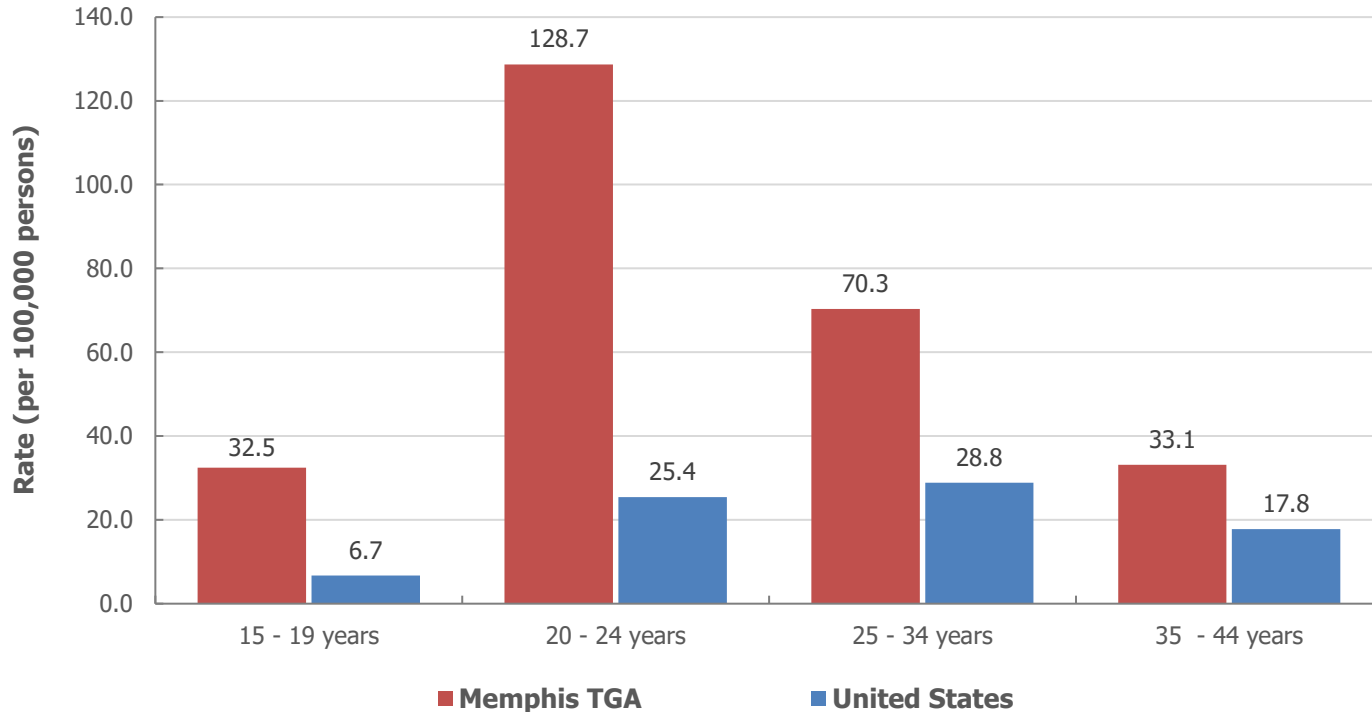


For new HIV, new AIDS and late HIV diagnosis, those 25-34 years old have higher proportions than any of the other age groups. Young adults, age 20-24 years old, also experienced high proportions of new HIV diagnosis. New AIDS and late HIV diagnosis vary in age group distribution outside of those 25-34 years old.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

Adolescents and Young Adults

Rates of New HIV Cases (per 100,000 persons) by Age Group in the Memphis TGA and United States, 2021

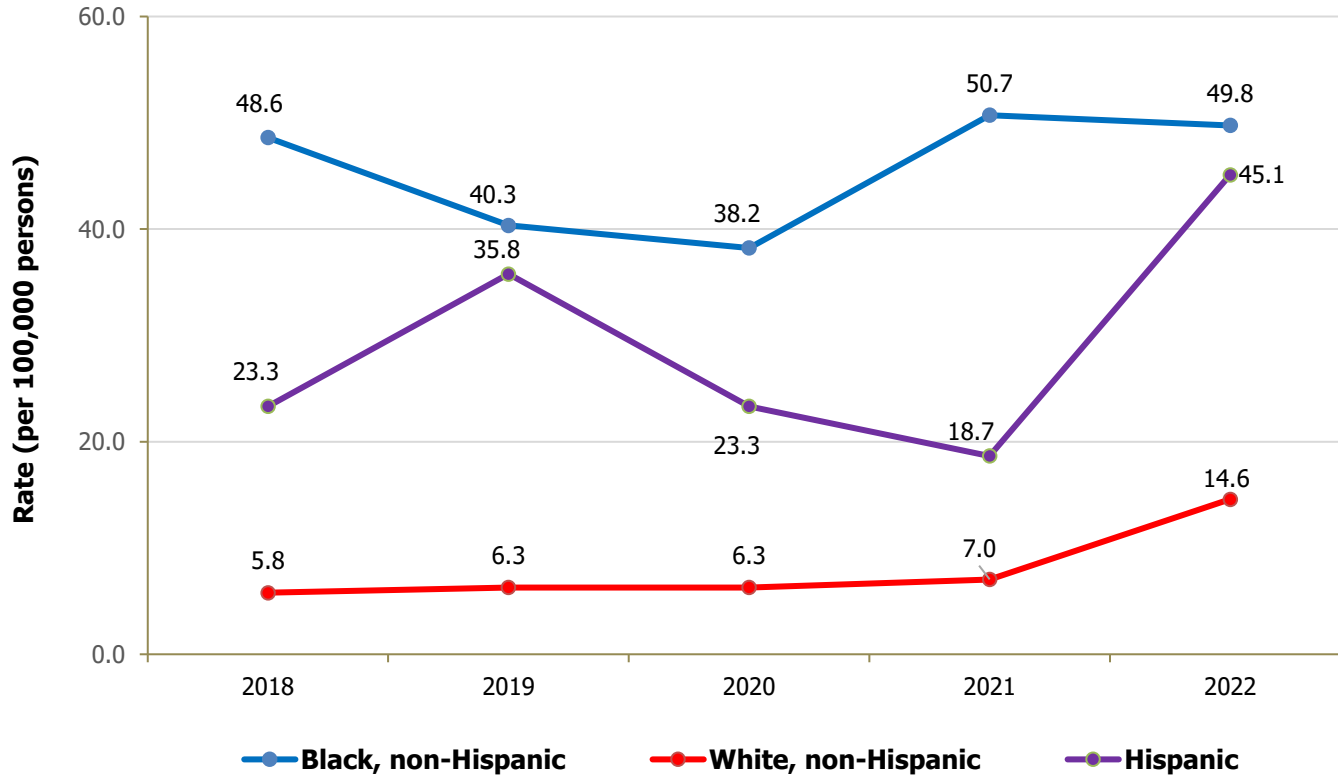


Compared to U.S. rates, the Memphis TGA experienced much higher newly diagnosed HIV rates. Those 20-24 years old were more than 5x higher, and among those 15-19 years old, nearly 5x higher as well compared to those among the same age groups in the U.S.

Data Source: U.S. Census Bureau. Centers for Disease Control and Prevention. HIV Surveillance Report, 2021; vol. 34. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance/vol-34/content/tables.html>. Published May 2023. Accessed June 2023. eHARS, TN.

Hispanics/Latinos

Rates of New HIV Cases (per 100,000 persons) by Race/Ethnicity, Memphis TGA, 2018 – 2022*



Non-Hispanic Blacks throughout the 5-year trend have had higher rates of HIV infection compared to Whites and Hispanics. However, in 2022, we see a sharp rise in new HIV infection rates for Hispanics, 45.1 per 100,000 persons.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

Questions/Comments?

Part II

Unmet Need, HIV Testing and HIV Care Continuum



Definition of Unmet Need

How many PLWHA are not receiving Primary Medical Care?

“**Primary Medical Care**” as defined by HRSA as having one of the following during a calendar year:

- CD4+ count or
- Viral load or
- Provision of ARV (antiretroviral) drugs

Unmet Need Data Sources and Limitations

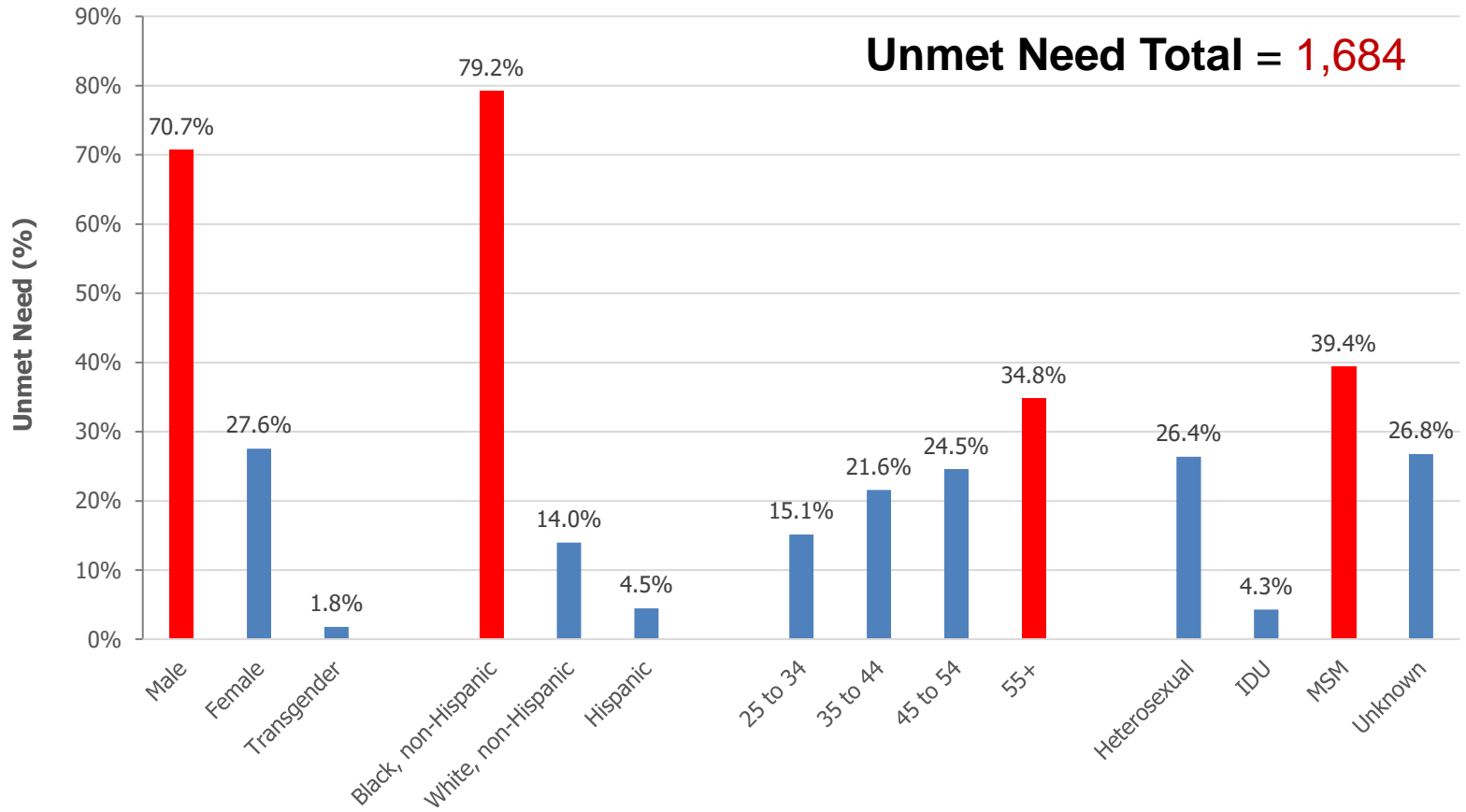
Data Sources:

- CD4 and viral load tests in eHARS
- CD4 and viral load tests in CAREWare
- Lists of persons receiving ADAP, IAP

Limitations:

- Data quality and availability

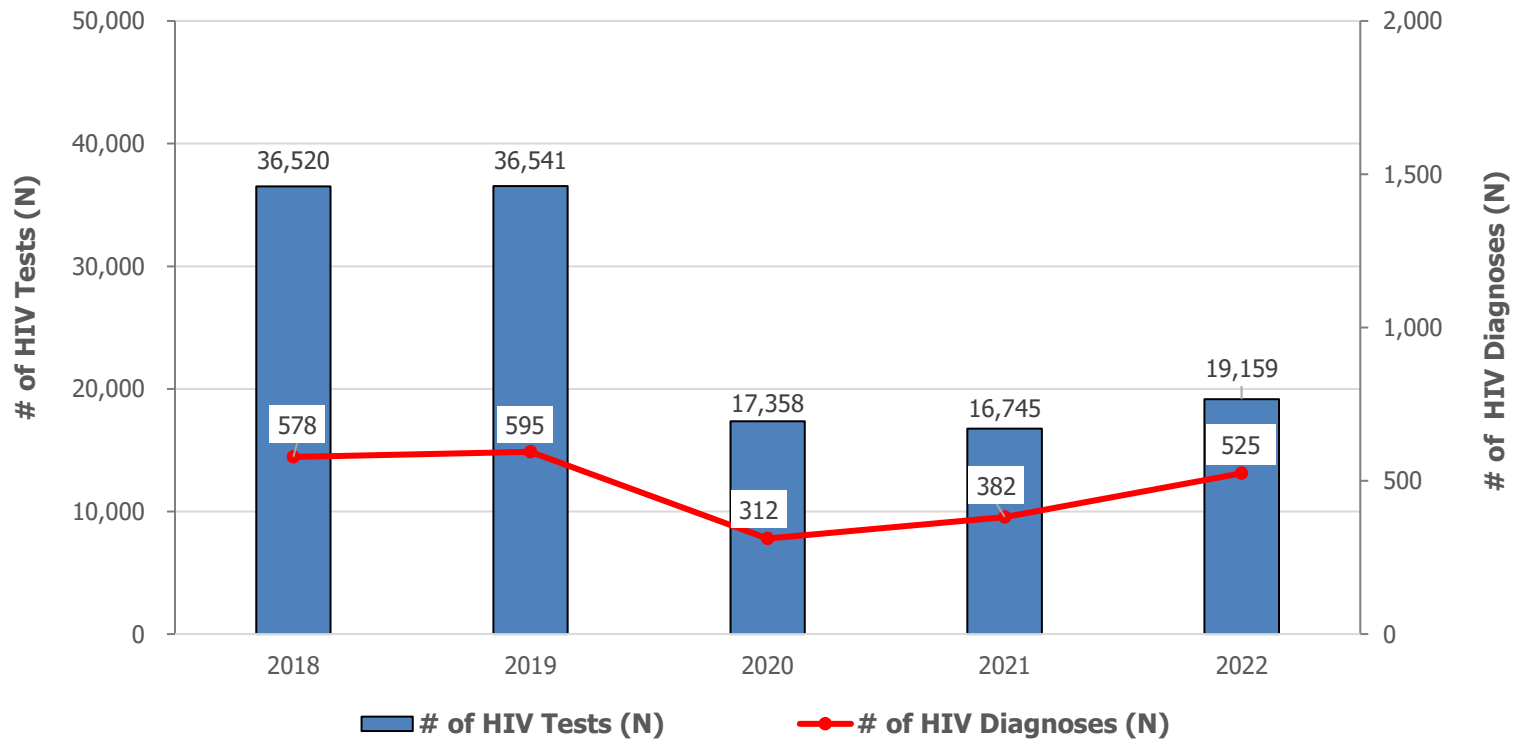
Demographic Characteristics, Unmet Need, West TN Counties, 2022*



In 2022, 1,684 PLWHA in West TN Counties did not receive primary medical care. Of them, 71% were males, 79% were Blacks, 35% were adults aged 55+ and 39% were identified as MSM.

Data Source: eHARS, TN. ADAP, IAP, Ryan White CAREWare. *Preliminary data. Subject to updates.

Number of HIV Tests Conducted at Prevention/Expanded Sites, West TN Counties, 2018-2022*



Since the COVID-19 pandemic, HIV testing numbers have decreased. The impact of COVID-19 on testing is significant. In 2019, there was n=36,541 tests, and in 2022, there was n=19,159 tests. Testing numbers have struggled to return to pre-pandemic levels.

Data Source: Tennessee Evaluation Web. *Data is subject to updates.

Number of New HIV Tests and Test Positivity, West TN Counties, 2022*

County	# of Tests (N)	Proportion of Tests (%)	Positive Tests (N)	Positivity (%)
Shelby	19,025	99.3%	524	2.8%
Tipton	117	0.6%	0	0.0%
Fayette	17	0.1%	1	5.9%
Total	19,159	100%	525	2.7%

Higher percent positive may suggest higher transmission of HIV within the community. The lower the test positivity, the better. 2022 saw a total test positivity of 2.7% overall for West TN Counties with Fayette County having a higher test positivity of 5.9%.

Data Source: Tennessee Evaluation Web. *Data is subject to updates.

HIV Tests at Publicly Funded Test Sites, West TN Counties, 2022*

Test Sites	# of Tests (N)	# of Positives (N)	Test Positivity (%)
Health Department	11,446	419	3.7%
Community Based Organizations (CBOs)	3,296	67	2.0%
Hospitals	4,417	39	0.9%
Total	19,159	525	2.7%

Prevention and expanded test sites include Shelby Co. Health Dept., Cherokee Health, Children & Family Services, Friends for Life, Hope House, MeHarry MAT, Memphis Area Prevention Coalition, Partnership to End AIDS Status (PEAS), Planned Parenthood of TN and North MS, Regional One Health (Adult Special Care); Hospitals include: Methodist Hospitals

In 2022, the Health Department administered the highest number of tests (n=11,446) with a 3.7% positivity. CBOs had the next highest test positivity (2.0%) but had smaller testing numbers than Hospitals (n=3,296 vs. n=4,417, respectively).

Data Source: Tennessee Evaluation Web. *Data is subject to updates.

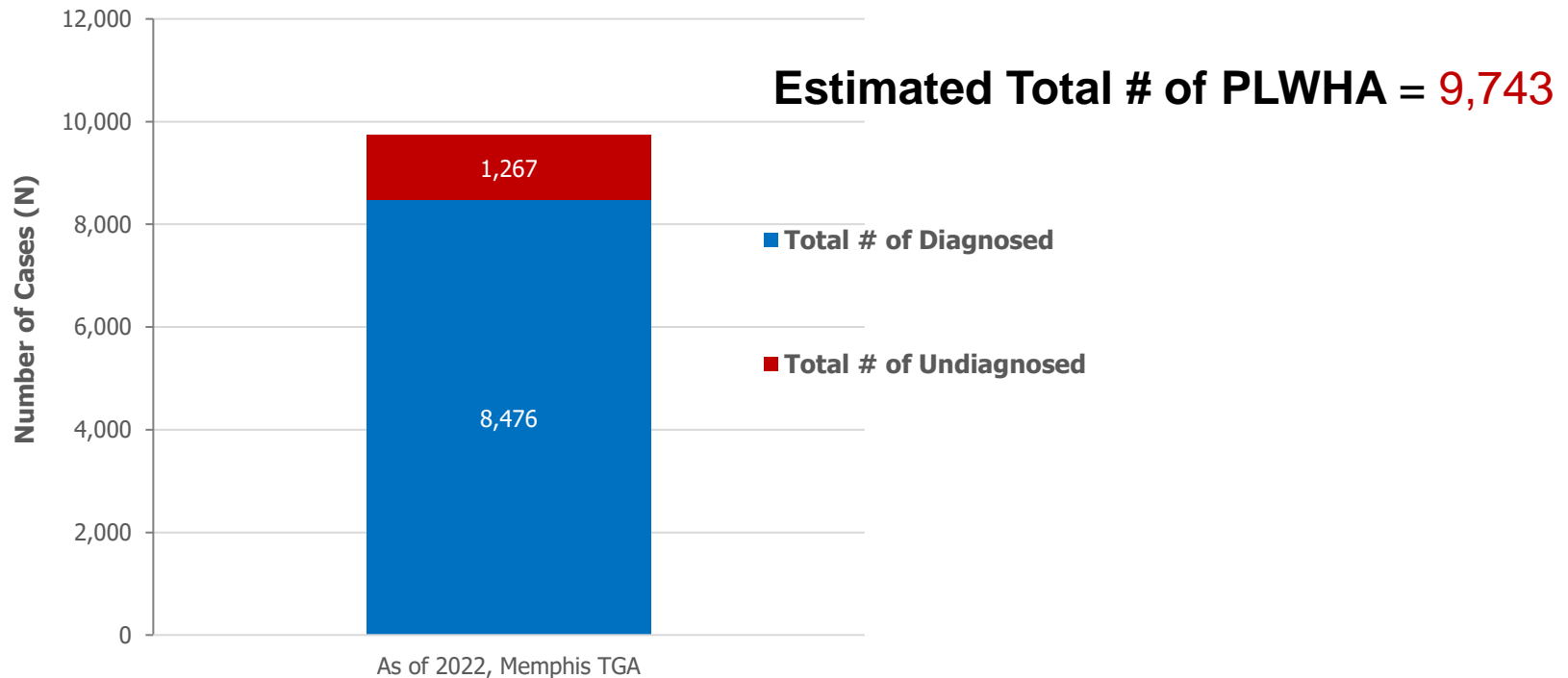
HIV Care Continuum – CDC Recommended Definitions

Stages of HIV Care Continuum:

- **Estimated HIV Infection**
 - Total number of PLWHA including the people unaware of their HIV infection status
- **Diagnosed with HIV Infection**
 - The number of people currently diagnosed and living with HIV
- **Linkage to HIV Medical Care (30 days)**
 - The number and percentage of persons who had at least one or more viral load or CD4+ test within 30 days of HIV diagnosis
- **Retention in HIV Medical Care**
 - The number and percentage of diagnosed individuals who had two or more documented viral load or CD4+ tests, performed at least three months apart, in the observed year
- **Antiretroviral Therapy (ART)**
 - The number and percentage of people receiving medical care and who have a documented ART prescription in their medical records in the observed year
- **Viral Load Suppression**
 - The number and percentage of individuals whose most recent HIV viral load within the observed year was less than 200 copies/mL

Data Source: [HIV Care Continuum](#) | [HIV.gov](#)

Unaware Estimate, Memphis TGA, 2022



Extended Back Calculation Method uses Memphis TGA prevalence total as of 2022

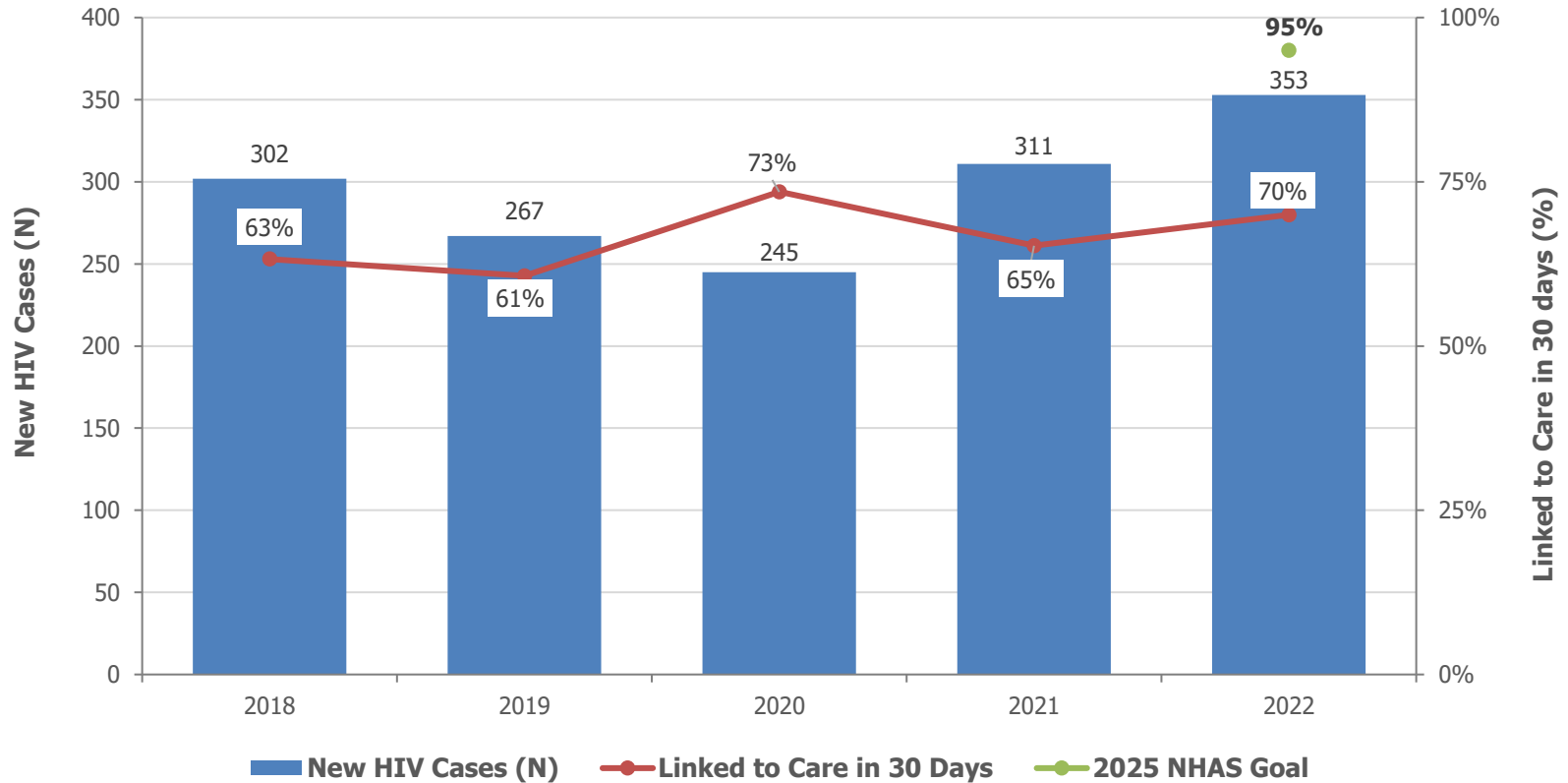
- P=Based on national proportion of persons not diagnosed = 13%
- N=total number PLWHA in the Memphis TGA as of 2022 = 8,476*

Total number undiagnosed = $P \div (1 - P) \times N = 0.13 \div (1 - 0.13) \times 8,476 = 1,267$

Total number of Estimated Infections in the Memphis TGA = $8,476 + 1,267 = 9,743$

Data Source: eHARS, TN, AR, MS. *Preliminary data. Subject to updates. [HIV Care Continuum | HIV.gov](#)

Linkage to Care in 30 Days, West TN Counties, 2018-2022*



Linkage to care has slowly increased over the years at 63% in 2018 to 70% in 2022. While this increase is a testament of successful prevention and care measures, the Memphis TGA has a ways to go still to reach the National HIV/AIDS Strategic goal of 95% linked to care within 30 days by 2025.

Data Source: eHARS, TN. *Preliminary data. Subject to updates. The White House. 2021. *National HIV/AIDS Strategy for the United States 2022–2025*. Washington, DC.

HIV Care Continuum

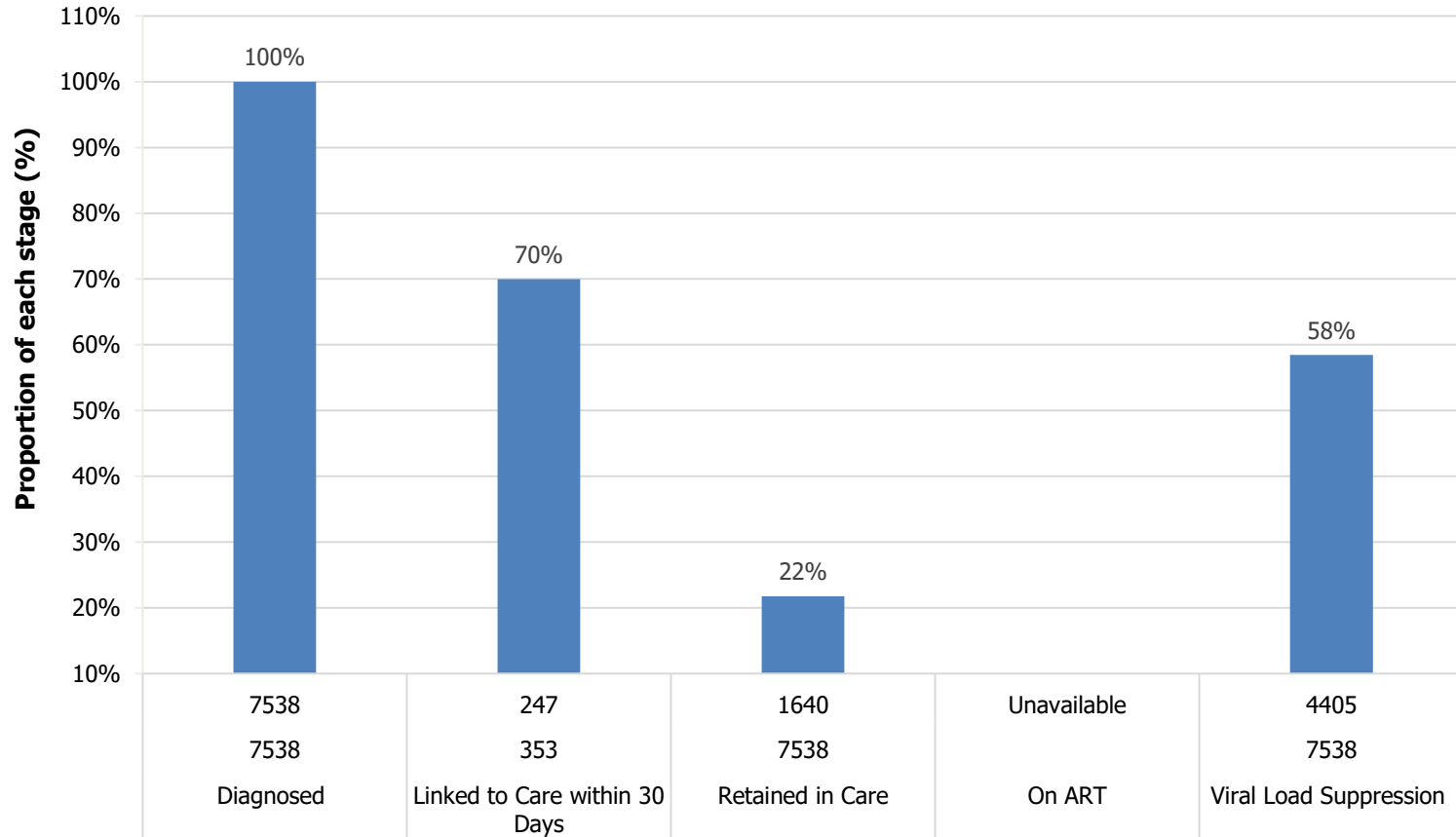
HIV CARE CONTINUUM:

The series of steps a person with HIV takes from initial diagnosis through their successful treatment with HIV medication



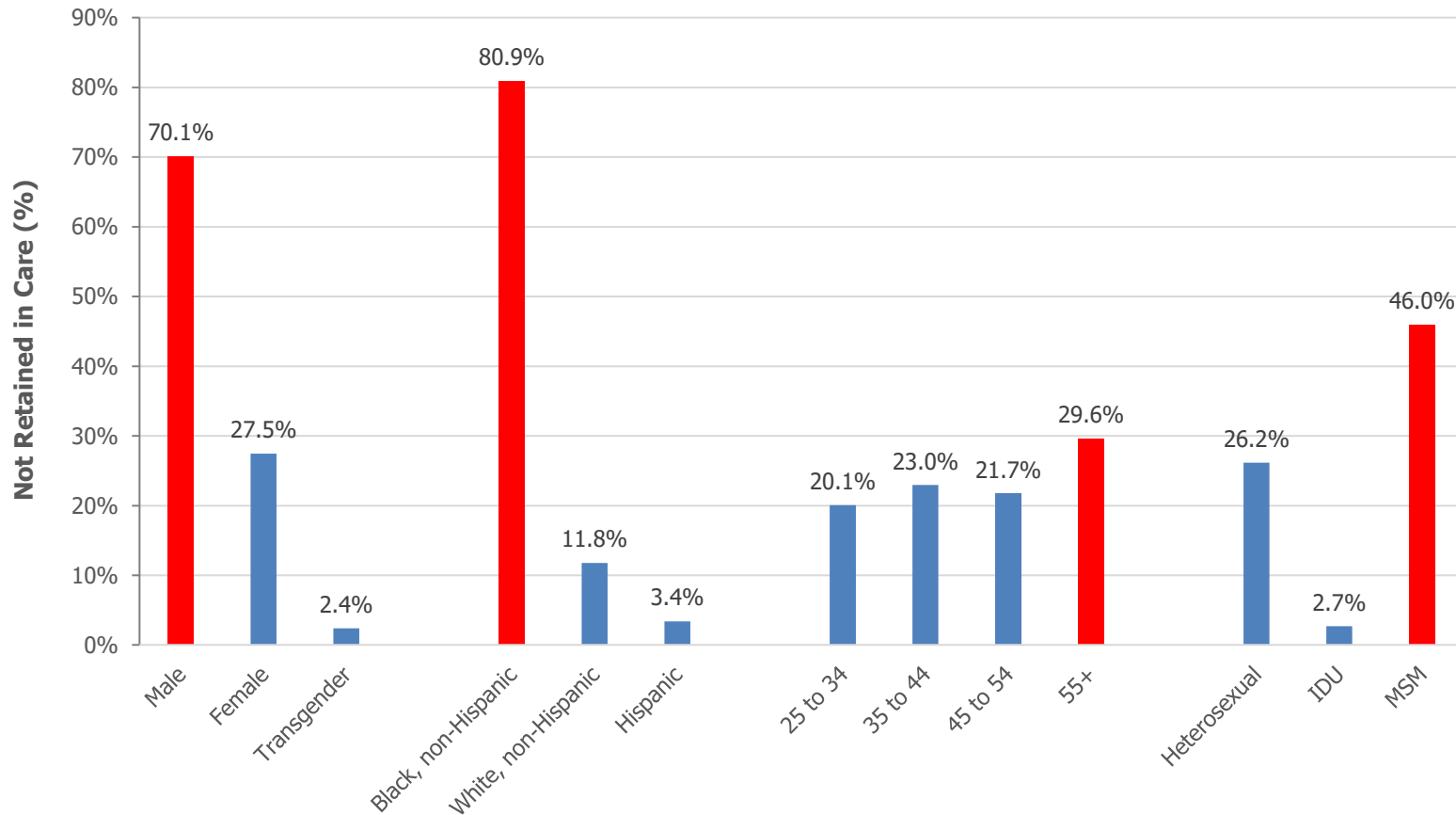
Data Source: [HIV Care Continuum | TargetHIV](#)

Stages of HIV Care Continuum, West TN Counties, 2022*



Data Source: eHARS, TN. *Preliminary data. Subject to updates.

Demographic Characteristics of those NOT Retained in Care, West TN Counties, 2022*



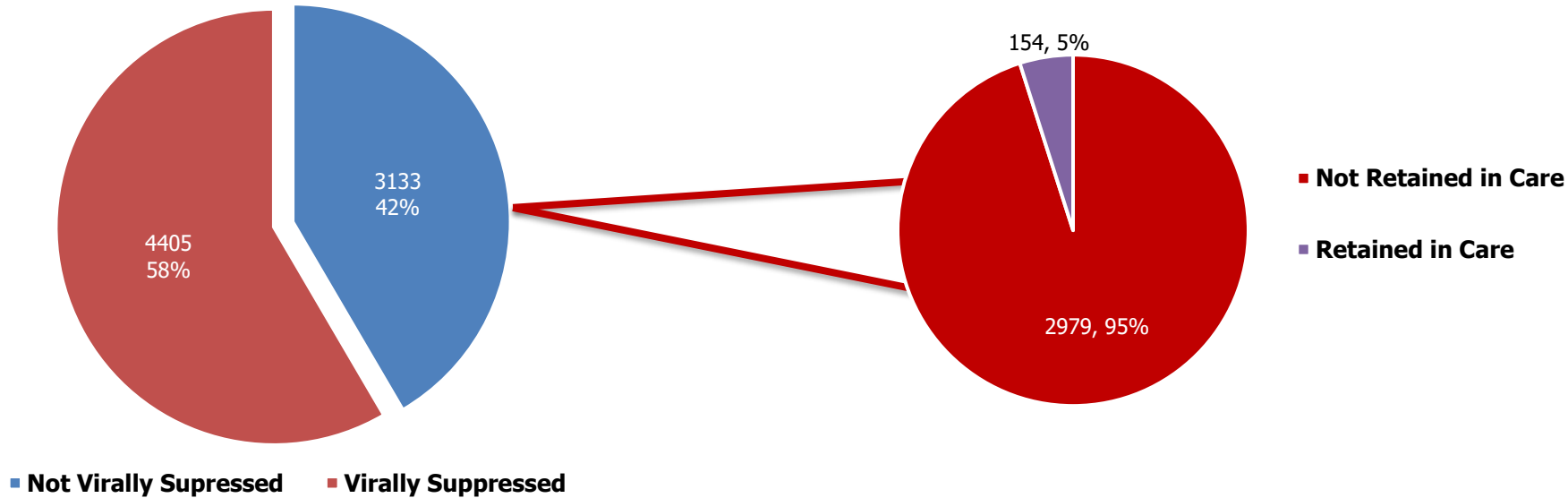
The groups that need the most efforts for retention in care are those who are more impacted by HIV in general.

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

Viral Load Suppression and Retention in Care, West TN Counties, 2022*

Total # of PLWHA as of 2022:
7,538

Not Virally Suppressed:
3,133



Among the PLWHA, 42% are not virally suppressed. What is of most significance is that most of those not virally suppressed are also not retained in care (95%).

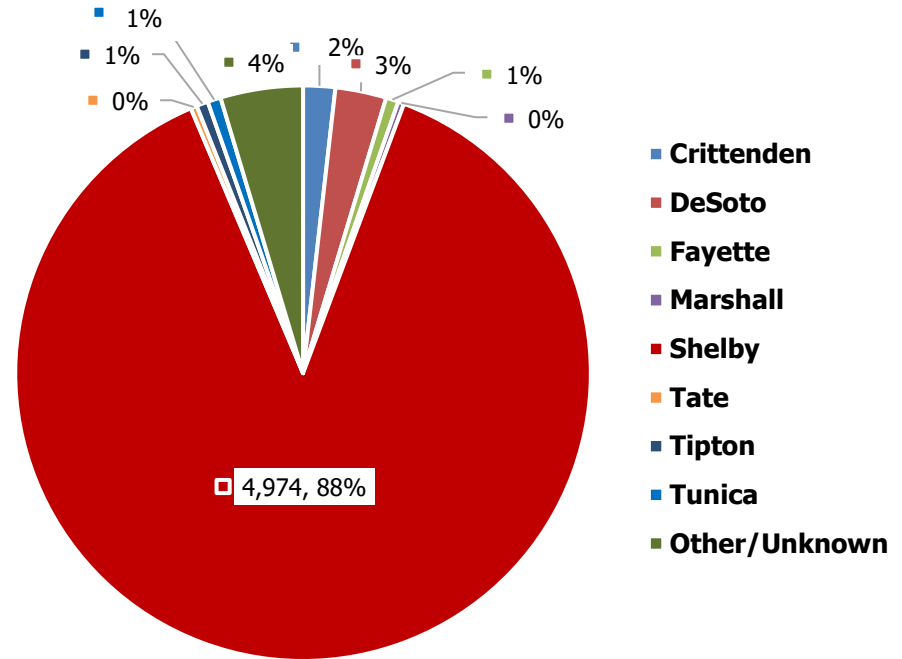
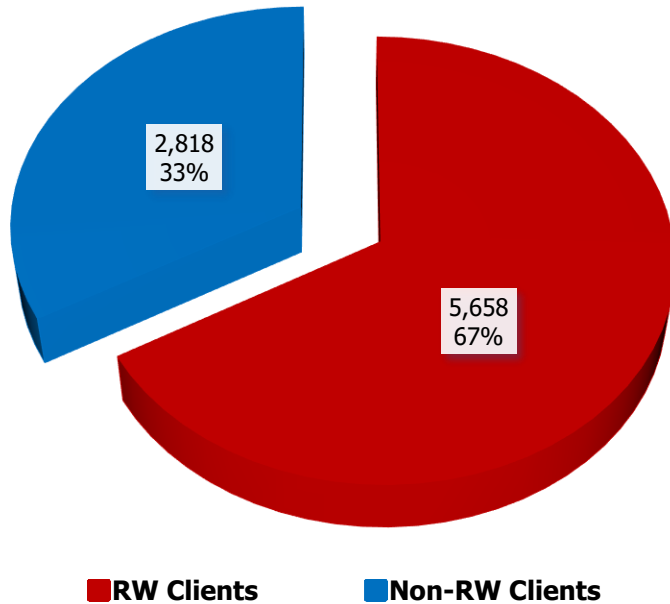
Achieving Viral Suppression: More People with HIV Need to be in Medical Care

Data Source: eHARS, TN. *Preliminary data. Subject to updates.

Memphis TGA Ryan White Part A, Clients by County, 2022*

PLWHA in the TGA: **8,476**

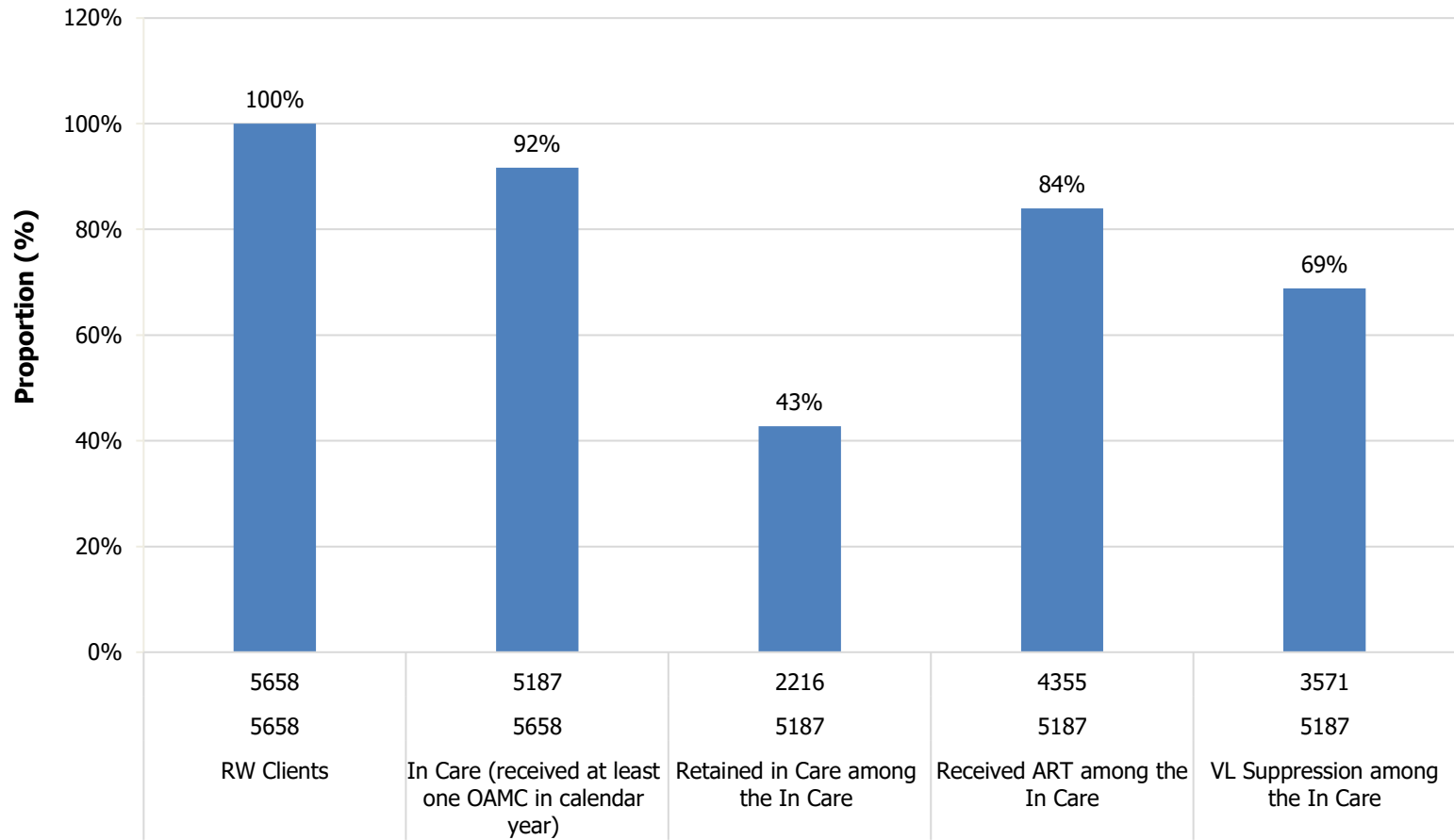
Ryan White Clients: **5,658**



In 2022, Ryan White Part A program served 5,658 clients, which comprises 67% of all PLWHA in the Memphis TGA. Of these, 88% of clients resided in Shelby County, followed by 3% in DeSoto and 2% in Crittenden.

Data Source: eHARS, TN, AR, MS. ADAP, IAP, Ryan White CAREWare. *Preliminary data. Subject to updates.

Memphis TGA Ryan White Clients, HIV Care Continuum, 2022*



Data Source: eHARS, TN. ADAP, IAP, Ryan White CAREWare. *Preliminary data. Subject to updates.

Notes and References

- All data are subject to revision. Use of preliminary data is restricted to planning purposes for the Ryan White Planning Council and may not be released to the general public or media.
- Questions? Need more data? Contact:
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Shelby County Health Department
Tel: 901-222-9233
Minh.Doan@shelbycountyttn.gov

HIV/STI Data:

- Shelby County Health Department, Epidemiology Section, 814 Jefferson Ave, Memphis, TN 38105.
- Tennessee Department of Health, HIV/STD Program, 710 James Robertson Pkwy, Nashville, TN 37243
- Arkansas Department of Health, HIV/AIDS/STI Surveillance, 4815 W. Markham, Little Rock, AR 77205.
- Mississippi Department of Health, STD/HIV Office, 570 East Woodrow Wilson Dr., Jackson, MS 39216

Questions/Comments?

