Tennessee HIV/AIDS Strategy

An Integrated HIV Care and Prevention Plan

September 2016

TN Department of Health

Acknowledgements

The development of this plan was a coordinated effort requiring the input of many talented individuals. We would like to gratefully acknowledge the contributions of all those who actively contributed to this plan including the Tennessee Community Planning Group members, Tennessee Department of Health (TDH) staff, people living with HIV/AIDS (PLWHA), Ryan White Providers, TDH grantees, all prevention and care providers, advocates and all other stakeholders. Thank you for your time, input, guidance and other valuable resources allowing this process to be successful.

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Section 1: Introduction

Since the previous Statewide Coordinated Statement of Need (SCSN) and the development of plans for HIV prevention and care for HRSA and CDC, the HIV/STD/Viral Hepatitis Program within the Tennessee Department of Health (TDH) has made exceptional strides towards the goals of primary prevention of HIV, early identification, linkage to care, and supporting high quality health care services resulting in viral suppression.

In 2015, the Ryan White Program provided outpatient ambulatory medical care to nearly 4,500 patients in HIV Centers of Excellence sites across the State. Medical Case Managers provided coordination of services and access to benefits and pharmacologic support to 6,300 patients. More than $1 million in oral health support provided for the dental care needs of Tennesseans enrolled in Ryan White programs.

Also in 2015, some 120,000 HIV tests were conducted and 462 new positives were identified. Of these, nearly 75% were successfully linked to care. Some 1,200 individuals participated in behavioral programs for high-risk negative clients, and nearly 2.5 million condoms were distributed in Tennessee. Through Data to Care efforts, more than 300 individuals were either re-engaged in care or records were amended to align individuals in care with their medical records.

Still, in 2014 some 756 Tennesseans were diagnosed with HIV. Of these, nearly 60% were African-American, though African-Americans make up a mere 16% of the State population. Of these new diagnoses, nearly 60% are occurring in individuals younger than 35. In spite of great strides providing access to care and life-saving medications, some 18% of Tennesseans remain unaware of their HIV status and some 55% have not been retained in care.

TDH views the process of conducting this SCSN and the subsequent development of an Integrated HIV Prevention and Care Plan as an important opportunity to assess and prioritize unmet needs and gaps in services and to re-double efforts to address the treatment cascade. The Division of HIV/STD is committed to finding innovative methods to prevent new cases of HIV in Tennessee, and to assure that Tennesseans living with HIV will access medical care and support services allowing them to experience better health and enhanced quality of life. Together with its clinical and community partners, the efforts are sure to succeed.

Section 2: Overview of the Process

Description of the Planning Process

The HIV/STD Program began the process by determining the need for an external contractor to assist with the SCSN and Integrated Plan development. Funds were made available through an existing contract with the United Way of Nashville and an RFP was issued. Following review by an external review committee, the firm JL Sacco & Associates was awarded the contract.

The 'kick-off' for the SCSN coincided with the March 2016 statewide meetings held in Nashville. TDH offered an overview of the SCSN plan and invited stakeholders to ask questions and offer comment. This allowed more than 200 providers, consumers, and advocates exposure to the plan and an opportunity to provide input. The agenda allowed focus groups to be held during which gaps/barriers and unmet needs were identified. This process allowed TDH to populate surveys and focus group guides with input from stakeholders in these meetings.

Early in the planning process, the TDH HIV/STD/Viral Hepatitis Program reached out to the Ryan White Part A staff in Memphis and Nashville and advised them of the tentative plan. Both Part A partners agreed to co-host a local meeting to gather input on prevention and care gaps, recognizing the activity could serve as an important element in their SCSN.

A series of Regional meetings was set up to gather input on barriers and gaps that needed to be addressed and development of strategies to address the treatment cascade. Throughout April 2016, these meetings generated rich input and allowed the possibility for the HIV/AIDS Program to analyze differences by Region.

In tandem with the Regional meetings and select key informant interviews, a statewide survey of stakeholders was conducted. More than 450 responses were obtained. In addition to the online survey, paper copies were distributed at consumer meetings and through medical case managers and mailed to the contractor. These data were sorted and separate reports for both Memphis and Nashville were shared with the Part A grantees.

Linking the SCSN and the Integrated Plan

The diversity and comprehensive nature of input from all stakeholders is designed as a model for the collaborative and creative strategies employed in the IHPC Plan. For the plan to overcome the complex needs of those most-at-risk and of people living with HIV but not in care, creative and collaborative solutions to existing problems will need to be instituted. This strategy will maximize coordination, integration, and effective linkages across programs and organizations.

By building on a diversity of stakeholder input, the SCSN has been executed to be a comprehensive assessment of barriers, gaps, and unmet needs. Given the attention to making

sure the assessment was done well, the plan will be able to address the concerns expressed as part of the SCSN. Every effort to have an achievable plan has been employed. These measurable, practical strategies for addressing the treatment cascade will assure that the plan goals and activities are realistic and achievable.

Tennessee Community Planning Group (TCPG): Engagement and Oversight

The Tennessee Community Planning Group (TCPG) has overseen the process as partner with TDH. In 2015, the Guidance for the SCSN/IHPCP was shared with the TCPG and input was gathered on structuring the process.

TCPG membership was intimately involved in the initial kick-off meeting, providing support—including facilitation assistance—to the process. TCPG members were involved in focus groups and were active in making sure access to surveys was widespread. Since TCPG is nearly 40% PLWHA, the stakeholder engagement of consumers was guaranteed.

At the April 2016 TCPG meeting, TDH provided an update on the SCSN process and Regional breakout groups discussed the unique regional needs. Finally, the TCPG voted to concur with the goals and objectives of the Integrated Plan in August 2016 (see Letter of Concurrence in the Appendix A).

Participation in SCSN by all Parts/Key Stakeholders

The success of the SCSN is due to the collaboration and commitment of TDH staff and community partners throughout the State. All Ryan White partners in the State participated in the SCSN - both Part A grantees collaborated on needs assessment activities, the Part C EIS grantees, Part D grantees, and the Part F AETC grantee. In addition, both CDC directly-funded CBOs were involved. Also, the Tennessee Division of Substance Abuse Services, the state's SAMHSA grantee, has been involved in the process as a member of the TCPG.

Internally, TDH staff including leadership, prevention and care program staff, surveillance staff, and field staff provided input and guidance to be included in the SCSN and IPCP development processes.

Finally, the goal of substantive and meaningful input of PLWHA was clearly achieved. In addition to members of the TCPG, PLWHA were engaged via the statewide survey and were involved in the planning and review of the IPCP.

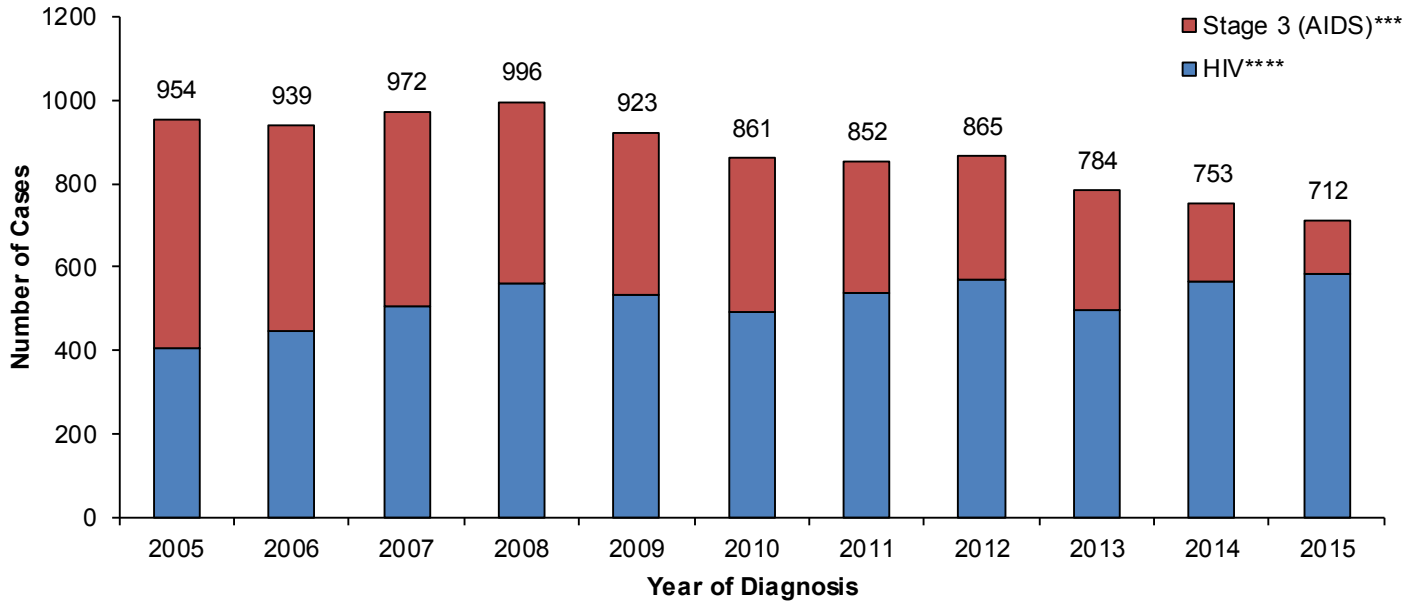
Section 3: Statewide Coordinated Statement of Need (SCSN)

Epidemiologic Overview (including Continuum of Care data)

Notes to the Reader:

- HIV disease includes all individuals diagnosed with the human immunodeficiency virus (HIV), regardless of the stage of disease progression. All persons with HIV disease can be sub-classified as either a stage 3 (acquired immunodeficiency syndrome (AIDS)) case (if they are in the later stages of the disease process and have met the case definition for stage 3 (AIDS)), or an HIV case (if they are in the earlier stages of the disease process and have not met the stage 3 (AIDS) case definition). In this report, the sub-classification of HIV or stage 3 (AIDS) is based on an individual's status of disease progression as of December 31, 2015.
- The data presented in this report only include cases diagnosed through December 31, 2015, based on information reported to the Tennessee Department of Health through August 10, 2016. The difference between the date of diagnosis and the date of report represents delays in case reporting.

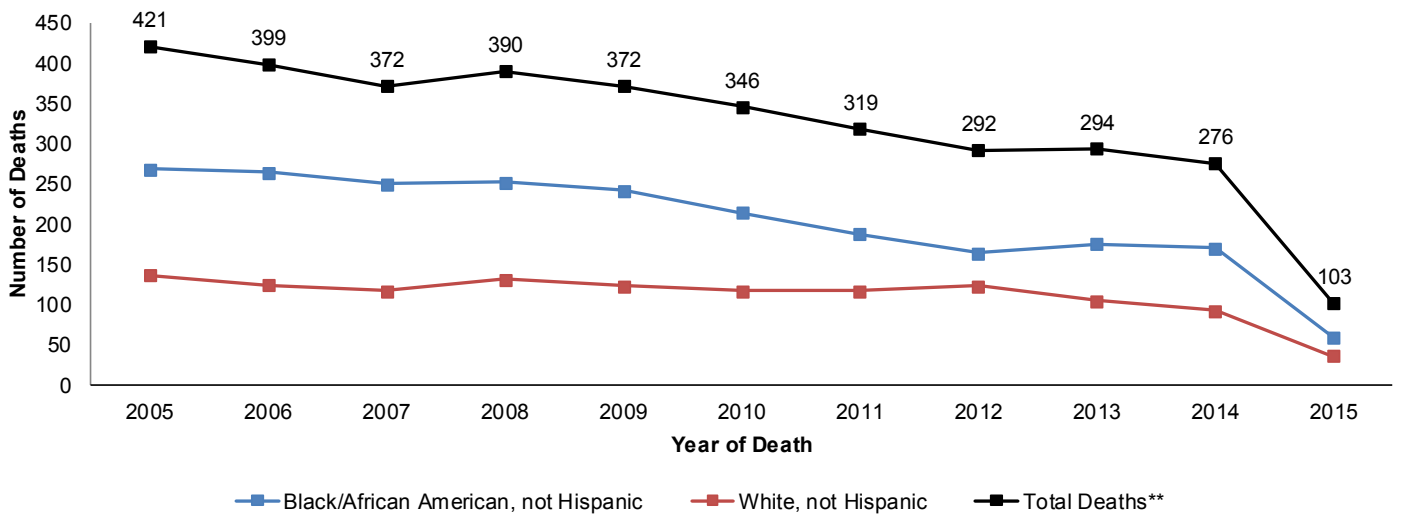
Figure 1. HIV disease cases, by current status* and year of diagnosis, Tennessee, 2005-2015**



*HIV case vs. stage 3 (AIDS) case
**Cases are indicated by year of initial diagnosis reported to the Tennessee Department of Health. (The year in which the first diagnosis of the person, whether as an HIV case or a stage 3 (AIDS) case, was documented by the Department).
***These cases were either: 1) initially reported as HIV cases and then later reclassified as stage 3 (AIDS) cases because they subsequently met the stage 3 (AIDS) case definition; or 2) initially reported as stage 3 (AIDS) cases.
****These cases were initially reported as HIV cases and have remained HIV cases. They have not met the case definition for stage 3 (AIDS) as of December 31, 2015.

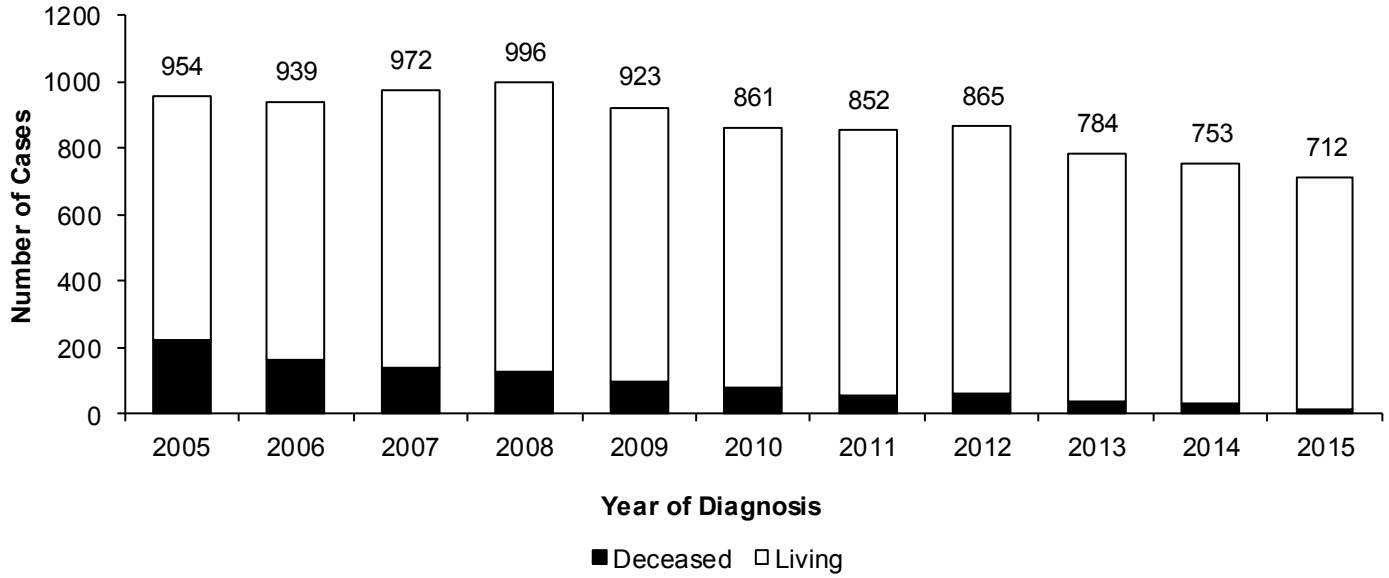
- Since 1982, there have been a total of 27,737 HIV disease cases diagnosed through December 31, 2015.
- There have been 712 new HIV disease diagnoses from January to December 2015. In comparison, there were 756 new HIV disease diagnoses reported in 2014 (Figure 1).
- The differences in the number of individuals sub-classified as stage 3 (AIDS) cases are due to the progression of the disease over time. For those diagnosed with HIV disease in 2005, a larger number are currently classified as stage 3 (AIDS) cases compared to those diagnosed in 2015 because they have been living with the virus longer.

Figure 2. HIV disease deaths*, by selected race, by year of death, Tennessee, 2005-2015†



*Includes deaths that have occurred among those diagnosed with HIV disease in Tennessee.
†Only includes deaths through December 31, 2015 and reported by August 10, 2016.

Figure 3. Persons diagnosed with HIV disease by current vital status* and year of diagnosis, Tennessee, 2005-2015**



*Vital status on December 31, 2015.
**Cases are indicated by year of initial diagnosis reported to TDH. (The year in which the first diagnosis of the person, whether as an HIV case or an AIDS case, was documented by the Department).

- The total number of deaths among those diagnosed with HIV disease in Tennessee has generally decreased from 2005 to 2015 (Figure 2). The decline in 2015 may be due to delays in death reporting.
- A larger proportion of those diagnosed in 2005 have died as of December 31, 2015 compared to those diagnosed in 2015, which is likely due to differences in the length of time living with the virus and current age (Figure 3).

Table 1. Living† HIV, stage 3 (AIDS) and HIV disease cases by sex, by race/ethnicity, by race/ethnicity and sex, and current age*, Tennessee, 2015**

	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	6,057	72.6%	188.3	6,409	74.9%	199.2	12,466	73.8%	387.5
Female	2,251	27.0%	66.5	2,122	24.8%	62.7	4,378	25.9%	129.4
Transgender	35	0.4%	n/a	29	0.3%	n/a	64	0.4%	n/a
Total	8,343	100.0%	126.4	8,560	100.0%	129.7	16,903	100.0%	256.1
Race/Ethnicity									
Black/African American	4,869	58.4%	431.0	4,666	54.5%	413.0	9,535	56.4%	844.0
Hispanic	357	4.3%	n/a	407	4.8%	n/a	764	4.5%	n/a
White	2,957	35.4%	56.9	3,232	37.8%	62.2	6,189	36.6%	119.0
Asian	38	0.5%	n/a	33	0.4%	n/a	71	0.4%	n/a
Native Hawaiian/Pacific Islander	7	0.1%	n/a	2	0.0%	n/a	9	0.1%	n/a
American Indian/Alaskan Native	8	0.1%	n/a	7	0.1%	n/a	15	0.1%	n/a
Two or More Races	107	1.3%	n/a	213	2.5%	n/a	320	1.9%	n/a
Total	8,343	100.0%	126.4	8,560	100.0%	129.7	16,903	100.0%	256.1
Race/Ethnicity-Males									
Black/African American Male	3,254	53.7%	608.2	3,164	49.4%	591.4	6,418	51.5%	1199.5
Hispanic Male	276	4.6%	n/a	325	5.1%	n/a	601	4.8%	n/a
White Male	2,418	39.9%	94.8	2,737	42.7%	107.3	5,155	41.4%	202.1
Asian Male	23	0.4%	n/a	24	0.4%	n/a	47	0.4%	n/a
Native Hawaiian/Pacific Islander Male	6	0.1%	n/a	1	0.0%	n/a	7	0.1%	n/a
American Indian/Alaskan Native Male	5	0.1%	n/a	5	0.1%	n/a	10	0.1%	n/a
Two or More Races Male	75	1.2%	n/a	153	2.4%	n/a	228	1.8%	n/a
Total	6,057	100.0%	188.3	6,409	100.0%	199.2	12,466	100.0%	387.5
Race/Ethnicity-Females									
Black/African American Female	1,594	70.8%	268.1	1,480	69.7%	248.9	3,074	70.3%	517.0
Hispanic Female	78	3.5%	n/a	81	3.8%	n/a	159	3.6%	n/a
White Female	529	23.5%	20.0	489	23.0%	18.5	1,018	23.3%	38.4
Asian Female	15	0.7%	n/a	9	0.4%	n/a	24	0.5%	n/a
Native Hawaiian/Pacific Islander Female	1	0.0%	n/a	1	0.0%	n/a	2	0.0%	n/a
American Indian/Alaskan Native Female	3	0.1%	n/a	2	0.1%	n/a	5	0.1%	n/a
Two or More Races Female	31	1.4%	n/a	60	2.8%	n/a	91	2.1%	n/a
Total	2,251	100.0%	66.5	2,122	100.0%	125.4	4,373	100.0%	125.4
Race/Ethnicity-Transgender Persons									
Black/African American Transgender	21	60.0%	n/a	22	75.9%	n/a	43	67.2%	n/a
Hispanic Transgender	3	8.6%	n/a	1	3.4%	n/a	4	6.3%	n/a
White Transgender	10	28.6%	n/a	6	20.7%	n/a	16	25.0%	n/a
Asian Transgender	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
Native Hawaiian/Pacific Islander Transgender	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
American Indian/Alaskan Native Transgender	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
Two or More Races Transgender	1	2.9%	n/a	0	0.0%	n/a	1	1.6%	n/a
Total	35	100.0%	n/a	29	100.0%	n/a	64	100.0%	n/a
Current Age‡									
<15	82	1.0%	6.6	12	0.1%	1.0	94	0.6%	7.6
15-24	530	6.4%	59.9	211	2.5%	23.9	741	4.4%	83.8
25-34	1,967	23.6%	225.5	893	10.4%	102.4	2,860	16.9%	327.9
35-44	1,937	23.2%	231.4	1,879	22.0%	224.4	3,816	22.6%	455.8
45-54	2,305	27.6%	257.6	3,174	37.1%	354.7	5,479	32.4%	612.2
55-64	1,189	14.3%	139.0	1,867	21.8%	218.3	3,056	18.1%	357.4
65+	333	4.0%	32.8	524	6.1%	51.5	857	5.1%	84.3
Total	8,343	100.0%	126.4	8,560	100.0%	129.7	16,903	100.0%	256.1

†Includes persons who are currently living in Tennessee. Includes person diagnosed in Tennessee correctional facilities.
*Cases which remained HIV cases at the end of 2015.
**Cases classified as stage 3 (AIDS) by December 31, 2015.
***The sum of HIV cases and stage 3 (AIDS) cases.
****Per 100,000 population based on 2015 TDH estimates.
‡Based on age as of December 31, 2015.
Note: Percentages may not total due to rounding.

- Of the 16,903 persons living with HIV at the end of 2015, 73.8% were males (Table 1).
- The rate of those living with HIV disease was 3.0 times as high among males compared to females.
- Blacks/African Americans represented the largest proportion of living HIV disease cases (56.4%) and had a rate that was 7.1 times as high as the rate among whites.
- Among males, the rate of living cases among blacks/African Americans was 5.9 times as high as the rate among whites.
- Among females, the rate of those living with HIV disease among blacks/African Americans was 13.5 times as high among whites.
- Blacks/African Americans represented the largest proportion of transgender persons living with HIV disease (67.2%).
- The greatest proportion of living HIV disease cases were persons 45-54 years of age (32.4%).

Table 2. Diagnosed HIV, stage 3 (AIDS) and HIV disease cases by sex, by race/ethnicity, by race/ethnicity and sex, and current age*, Tennessee, 2015**

	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	457	78.5%	14.2	105	80.8%	3.3	562	78.9%	17.5
Female	118	20.3%	3.5	24	18.5%	0.7	142	19.9%	4.2
Transgender	7	1.2%	n/a	1	0.8%	n/a	8	1.1%	n/a
Total	582	100.0%	8.8	130	100.0%	2.0	712	100.0%	10.8
Race/Ethnicity									
Black/African American	356	61.2%	31.5	65	50.0%	5.8	421	59.1%	37.3
Hispanic	31	5.3%	n/a	10	7.7%	n/a	41	5.8%	n/a
White	183	31.4%	3.5	54	41.5%	1.0	237	33.3%	4.6
Asian	8	1.4%	n/a	0	0.0%	n/a	8	1.1%	n/a
Native Hawaiian/Pacific Islander	1	0.2%	n/a	0	0.0%	n/a	1	0.1%	n/a
American Indian/Alaskan Native	1	0.2%	n/a	1	0.8%	n/a	2	0.3%	n/a
Two or More Races	2	0.3%	n/a	0	0.0%	n/a	2	0.3%	n/a
Total	582	100.0%	8.8	130	100.0%	2.0	712	100.0%	10.8
Race/Ethnicity-Males									
Black/African American Male	283	61.9%	52.9	48	45.7%	9.0	331	58.9%	61.9
Hispanic Male	27	5.9%	n/a	9	8.6%	n/a	36	6.4%	n/a
White Male	139	30.4%	5.5	47	44.8%	1.8	186	33.1%	7.3
Asian Male	4	0.9%	n/a	0	0.0%	n/a	4	0.7%	n/a
Native Hawaiian/Pacific Islander Male	1	0.2%	n/a	0	0.0%	n/a	1	0.2%	n/a
American Indian/Alaskan Native Male	1	0.2%	n/a	1	1.0%	n/a	2	0.4%	n/a
Two or More Races Male	2	0.4%	n/a	0	0.0%	n/a	2	0.4%	n/a
Total	457	100.0%	14.2	105	100.0%	3.3	562	100.0%	5.3
Race/Ethnicity-Females									
Black/African American Female	67	56.8%	11.3	16	66.7%	2.7	83	58.5%	14.0
Hispanic Female	4	3.4%	n/a	1	4.2%	n/a	5	3.5%	n/a
White Female	43	36.4%	1.6	7	29.2%	0.3	50	35.2%	1.9
Asian Female	4	3.4%	n/a	0	0.0%	n/a	4	2.8%	n/a
Native Hawaiian/Pacific Islander Female	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
American Indian/Alaskan Native Female	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
Two or More Races Female	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
Total	118	100.0%	3.5	24	100.0%	0.7	142	100.0%	4.2
Race/Ethnicity-Transgender Persons									
Black/African American Transgender	6	85.7%	n/a	1	100.0%	n/a	7	87.5%	n/a
Hispanic Transgender	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
White Transgender	1	14.3%	n/a	0	0.0%	n/a	1	12.5%	n/a
Asian Transgender	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
Native Hawaiian/Pacific Islander Transgender	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
American Indian/Alaskan Native Transgender	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
Two or More Races Transgender	0	0.0%	n/a	0	0.0%	n/a	0	0.0%	n/a
Total	7	100.0%	n/a	1	100.0%	n/a	8	100.0%	n/a
Current Age‡									
<15	8	1.4%	0.6	1	0.8%	0.1	9	1.3%	0.7
15-24	169	29.0%	19.1	10	7.7%	1.1	179	25.1%	20.2
25-34	210	36.1%	24.1	37	28.5%	4.2	247	34.7%	28.3
35-44	91	15.6%	10.9	30	23.1%	3.6	121	17.0%	14.5
45-54	72	12.4%	8.0	36	27.7%	4.0	108	15.2%	12.1
55-64	28	4.8%	3.3	13	10.0%	1.5	41	5.8%	4.8
65+	4	0.7%	0.4	3	2.3%	0.3	7	1.0%	0.7
Total	582	100.0%	8.8	130	100.0%	2.0	712	100.0%	10.8

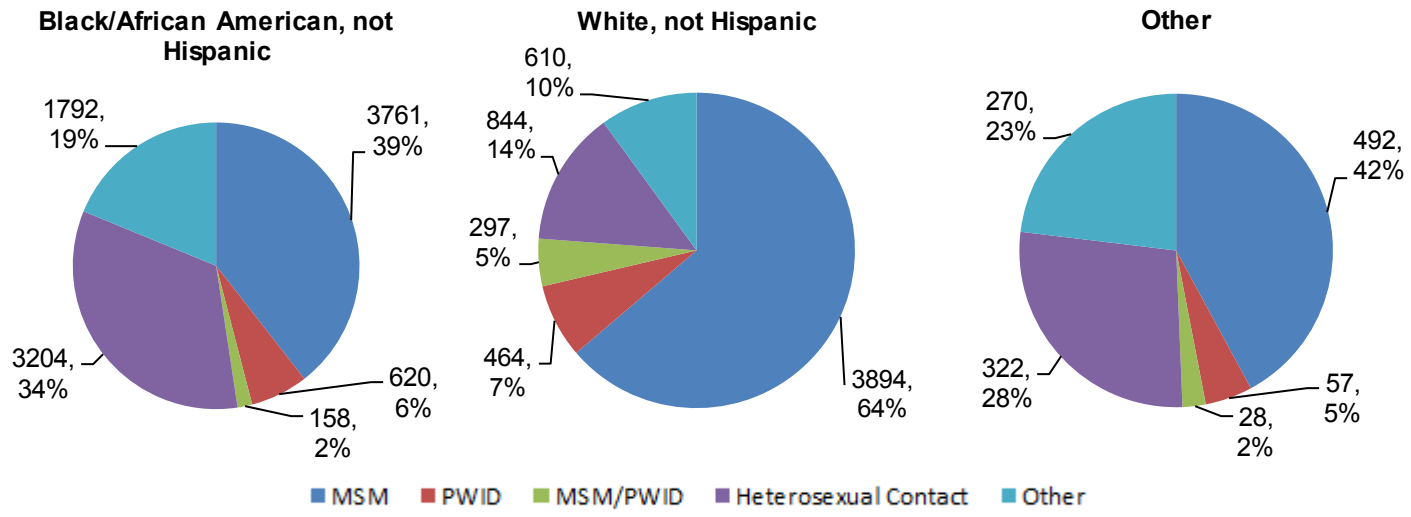
*HIV cases diagnosed during 2015 which remained HIV cases at the end of the year. Includes persons diagnosed in Tennessee correctional facilities.
**Stage 3 (AIDS) cases initially diagnosed in 2015.
***The sum of newly diagnosed HIV cases and newly diagnosed stage 3 (AIDS) cases. Does not include cases diagnosed prior to 2015 with HIV, which progressed to stage 3 (AIDS) in 2015.
****Per 100,000 population based on 2015 TDS estimates.
‡Based on age as of December 31, 2015.
Note: Percentages may not total due to rounding.

- Of the 712 persons newly diagnosed with HIV disease in 2015, 18.3% were classified as stage 3 (AIDS) cases by the end of 2015 (Table 2).
- Males represented the largest proportion of persons newly diagnosed with HIV disease (78.9%). The rate of new HIV disease diagnoses was 4.1 times as high among males compared to females.
- A greater proportion of the newly diagnosed cases occurred among blacks/African Americans compared to living cases (59.1% and 33.3%, respectively). The rate of new HIV disease cases was 8.2 times as high among blacks/African Americans compared to whites.
- The greatest proportion of newly diagnosed cases occurred among persons 25-34 years of age (34.7%). The rate of new HIV disease diagnoses was greatest among persons 25-34 years of age at the end of 2015 (28.3 per 100,000 persons).

Table 3. New and living HIV disease cases by exposure category, Tennessee, 2015†				
	HIV Disease			
Exposure Category	2015†		Living*	
Adult/Adolescent/Pediatric				
Men who have sex with men (MSM)	380	53.4%	8,217	48.6%
Persons who inject drugs (PWID)	36	5.1%	1,144	6.8%
MSM & PWID	15	2.1%	494	2.9%
Heterosexual contact	146	20.5%	4,370	25.9%
Perinatal	5	0.7%	169	1.0%
Other/Unknown	130	18.3%	2,509	14.8%
TOTAL	**712**	**100.0%**	**16,903**	**100.0%**

†Only includes cases diagnosed through December 31, 2015 and reported by August 10, 2016.

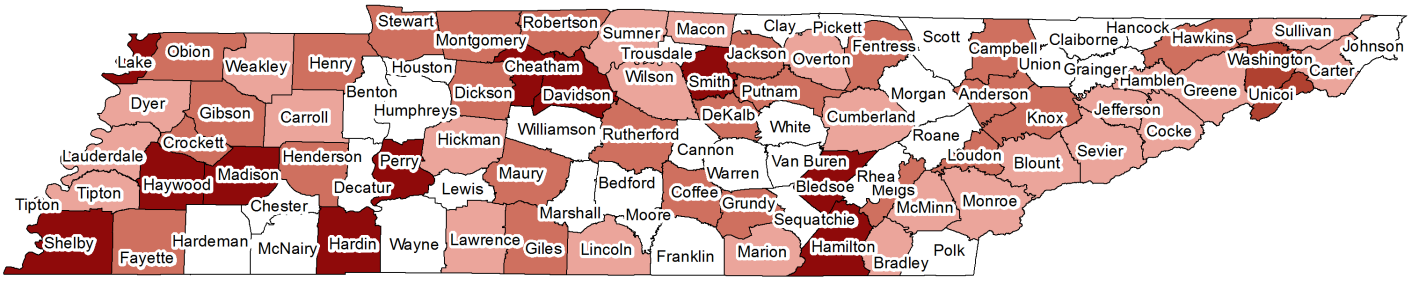
Figure 4. Living HIV disease cases by exposure category and race/ethnicity, Tennessee, 2015†



†Only includes cases diagnosed through December 31, 2015 and reported by August 10, 2016.

- Of 712 cases diagnosed from January 1, 2015 to December 31, 2015, 18.3% did not have a reported risk as of August 10, 2016 (Table 3). Surveillance activities have been implemented to resolve cases reported with unknown risk information.
- The majority of living cases are attributed to MSM (48.6%), with cases attributed to heterosexual contact representing the second greatest proportion (25.9%).
- There are differences in the distribution of exposure categories among living cases by race/ethnicity (Figure 4). Among whites, 64% of living cases are attributed to MSM, compared to 39% among blacks/ African Americans. In contrast, heterosexual contact represents the exposure category for 34% of living black/African American cases and only 14% of living white cases.

Figure 5. Rate of persons diagnosed with HIV disease, Tennessee, 2015†



Rate per 100,000
State Rate: 10.8

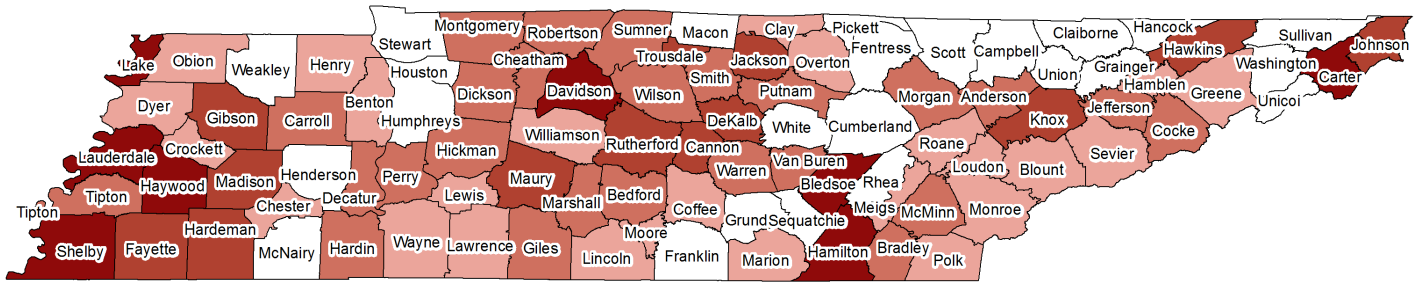
- 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 11.5
- Greater than 11.5

TN Department of Health

Map Created by HIV/STD Surveillance and Epidemiology
Data Source: eHARS, accessed August 10, 2016
Method: Manual, 5 Clases
Map Created on: September 8, 2016

†Only includes cases diagnosed through December 31, 2015 and reported by August 10, 2016.

Figure 6. Rate of persons living with HIV disease, Tennessee, 1982-2015†



Rate per 100,000
State Rate: 256.1

- 0.0 - 75.0
- 75.1 - 100.0
- 100.1 - 150.0
- 150.1 - 256.5
- Greater than 256.5

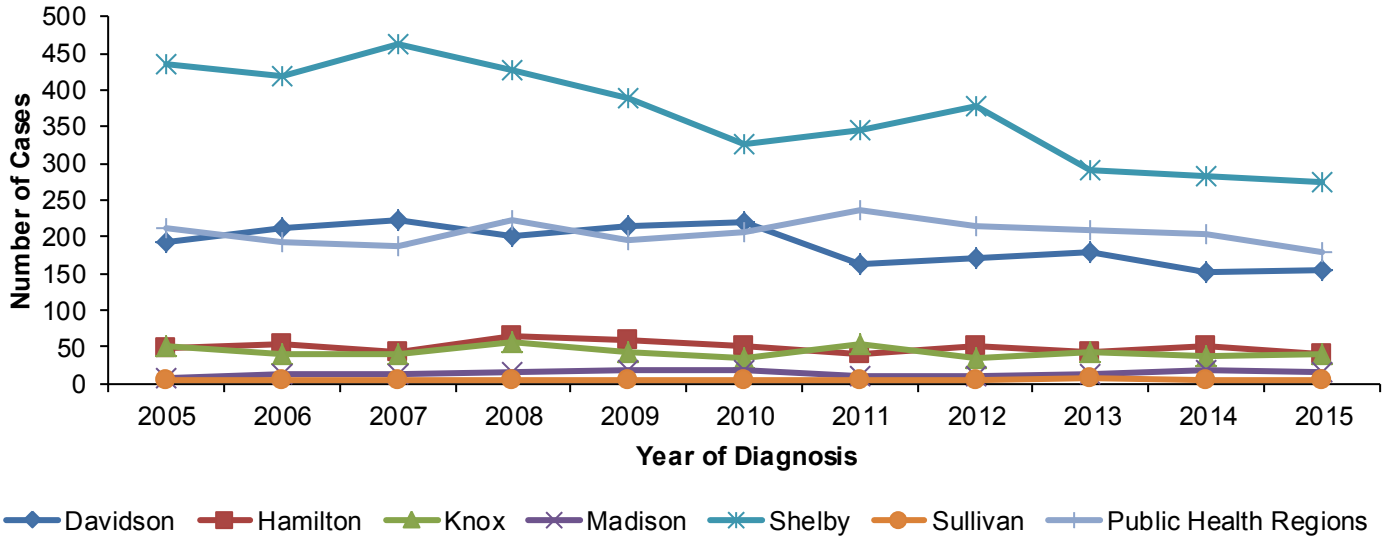
TN Department of Health

Map Created by HIV/STD Surveillance and Epidemiology
Data Source: eHARS, accessed August 10, 2016
Method: Manual, 5 Classes
Map Created on: September 8, 2016

†Includes those living with HIV disease as of December 31, 2015 and reported by August 10, 2016.

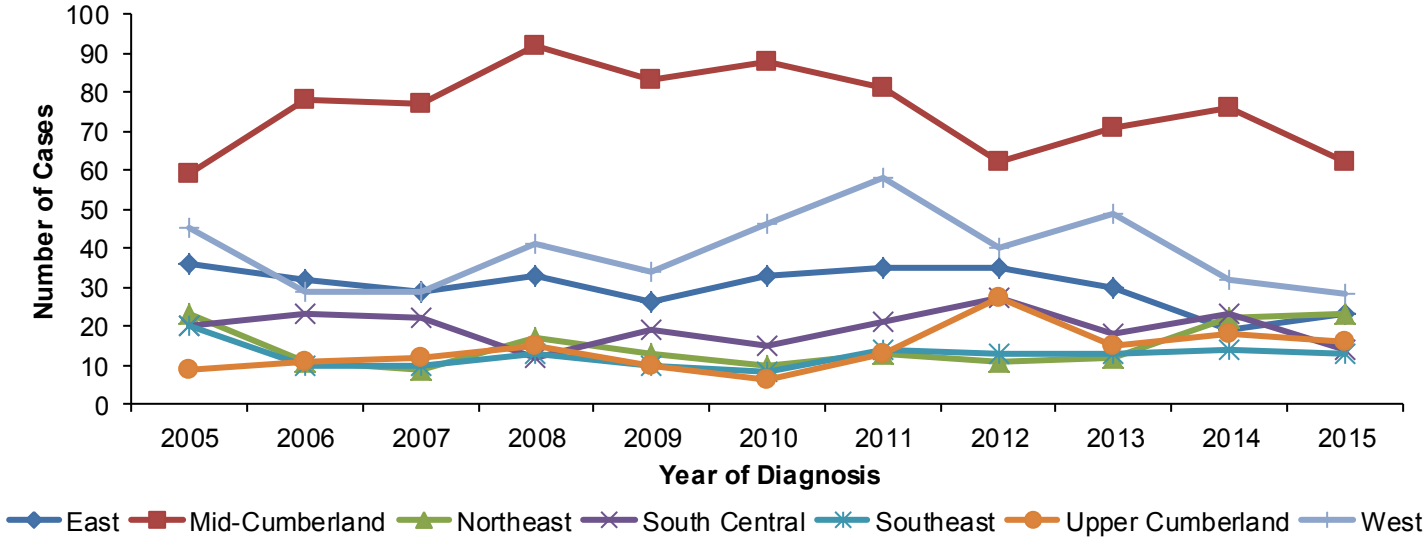
- Figure 6 presents the new HIV case rate (incidence) in Tennessee for 2015. The state rate was 10.8 cases per 100,000 persons.
- Figure 7 displays the living HIV case rate based on the current address of a living person with HIV disease. The state rate is 256.1 per 100,000 persons.
- Both figures depict the metropolitan areas of Shelby County, Davidson County, and Hamilton County representing the greatest burden of HIV disease.

Figure 7. Persons diagnosed with HIV disease by metropolitan area at time of diagnosis, Tennessee, 2005-2015†



†Only includes cases diagnosed through December 31, 2015 and reported by August 10, 2016.

Figure 8. Persons diagnosed with HIV disease by Public Health Regions at time of diagnosis, Tennessee, 2005-2015†



†Only includes cases diagnosed through December 31, 2015 and reported by August 10, 2016.

- Although Shelby County represents approximately 14% of Tennessee's general population, over the period from 2005 to 2015, the Shelby County represented 42% of the new HIV diagnoses in Tennessee (Figure 7).
- Figure 8 displays 24% of new HIV diagnoses from 2005-2015 that occurred in the Public Health Regions. Among the Public Health Regions, the greatest proportion of new diagnoses occurred in Mid-Cumberland.

Table 4. Reported P&S syphilis cases and rates, by race*, by metropolitan area, by sex Tennessee, 2015

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Tennessee								
White	138	41.6%	5.3	11	47.8%	0.4	149	2.8
Black/African American	191	57.5%	36.4	12	52.2%	2.0	203	18.3
Other/Unknown	3	0.9%	4.1	0	0.0%	0.0	3	2.0
Total Cases	332	100.0%	10.4	23	100.0%	0.7	355	5.4
Shelby								
White	7	7.3%	3.4	2	20.0%	1.0	9	2.2
Black/African American	89	92.7%	36.7	8	80.0%	2.8	97	18.5
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	96	100.0%	20.7	10	100.0%	2.0	106	10.9
Davidson								
White	37	42.5%	18.2	1	33.3%	0.5	38	9.5
Black/African American	50	57.5%	59.8	2	66.7%	2.1	52	29.2
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	87	100.0%	28.6	3	100.0%	1.0	91	14.8
Knox								
White	25	71.4%	13.3	1	50.0%	0.5	26	6.7
Black/African American	10	28.6%	54.1	1	50.0%	4.8	11	28.0
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	35	100.0%	16.4	2	100.0%	0.9	37	8.4
Hamilton								
White	8	61.5%	7.8	1	100.0%	0.8	9	3.6
Black/African American	5	38.5%	16.1	0	0.0%	0.0	5	7.4
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	13	100.0%	9.5	1	100.0%	0.6	14	4.3
Madison								
White	3	27.3%	9.1	0	0.0%	0.0	3	4.5
Black/African American	7	63.6%	43.0	0	0.0%	0.0	7	20.0
Other/Unknown	1	9.1%	134.6	0	0.0%	0.0	1	66.2
Total Cases	11	100.0%	22.0	0	0.0%	0.0	11	10.6
Sullivan								
White	3	75.0%	4.2	0	0.0%	0.0	3	2.0
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown	1	25.0%	124.8	0	0.0%	0.0	1	60.5
Total Cases	4	100.0%	5.4	0	0.0%	0.0	4	2.6

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2014 TDH population estimates.

- There were a total of 355 P&S syphilis cases reported in 2015 (Table 4).
- The majority of cases (93.5%) were reported among males.
- The rate of P&S syphilis cases among males was highest in Davidson County (28.6), followed by Madison County (22.0).
- Nearly 30% of all P&S syphilis cases were reported in Shelby County and 25.6% were reported in Davidson County.
- The rate of reported P&S syphilis cases was higher for blacks/African Americans compared to whites in all metropolitan areas that reported P&S syphilis cases among blacks/African Americans.

Table 5. Reported P&S syphilis cases and rates, by race*, by Public Health Region, by sex Tennessee, 2015

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Tennessee								
White	138	41.6%	5.3	11	47.8%	0.4	149	2.8
Black/African American	191	57.5%	36.4	12	52.2%	2.0	203	18.3
Other/Unknown	3	0.9%	4.1	0	0.0%	0.0	3	2.0
Total Cases	332	100.0%	10.4	23	100.0%	0.7	355	5.4
Northeast								
White	6	100.0%	3.6	1	100.0%	0.6	7	2.0
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	6	100.0%	3.4	1	100.0%	0.5	7	2.0
East								
White	17	89.5%	4.6	0	0.0%	0.0	17	2.3
Black/African American	2	10.5%	24.3	0	0.0%	0.0	2	12.3
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	19	100.0%	5.0	0	0.0%	0.0	19	2.4
Southeast								
White	3	75.0%	1.9	0	0.0%	0.0	3	0.9
Black/African American	1	25.0%	16.5	0	0.0%	0.0	1	8.3
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	4	100.0%	2.4	0	0.0%	0.0	4	1.2
Upper Cumberland								
White	4	80.0%	2.4	0	0.0%	0.0	4	1.2
Black/African American	1	20.0%	41.3	1	100.0%	47.0	2	44.0
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	5	100.0%	2.9	1	100.0%	0.6	6	1.7
Mid-Cumberland								
White	19	50.0%	3.8	3	100.0%	0.6	22	2.2
Black/African American	19	50.0%	40.8	0	0.0%	0.0	19	19.8
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	38	100.0%	6.8	3	100.0%	0.5	41	3.6
South Central								
White	3	42.9%	1.6	1	100.0%	0.5	4	1.1
Black/African American	4	57.1%	26.7	0	0.0%	0.0	4	13.6
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	7	100.0%	3.5	1	100.0%	0.5	8	2.0
West								
White	3	42.9%	1.3	1	100.0%	0.4	4	0.9
Black/African American	3	42.9%	6.3	0	0.0%	0.0	3	3.1
Other/Unknown	1	14.3%	33.8	0	0.0%	0.0	1	17.1
Total Cases	7	100.0%	2.6	1	100.0%	0.4	8	1.4

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2014 TDH population estimates.

- The rate of P&S syphilis cases among males in the Public Health Regions was highest in the Mid-Cumberland Public Health Region (6.8) (Table 5).
- The rate of reported P&S syphilis cases was higher for blacks/African Americans compared to whites in all Public Health Regions that reported P&S syphilis cases among blacks/African Americans.

Figure 9. Reported P&S syphilis cases, by race and sex, by age group at diagnosis, Tennessee, 2015

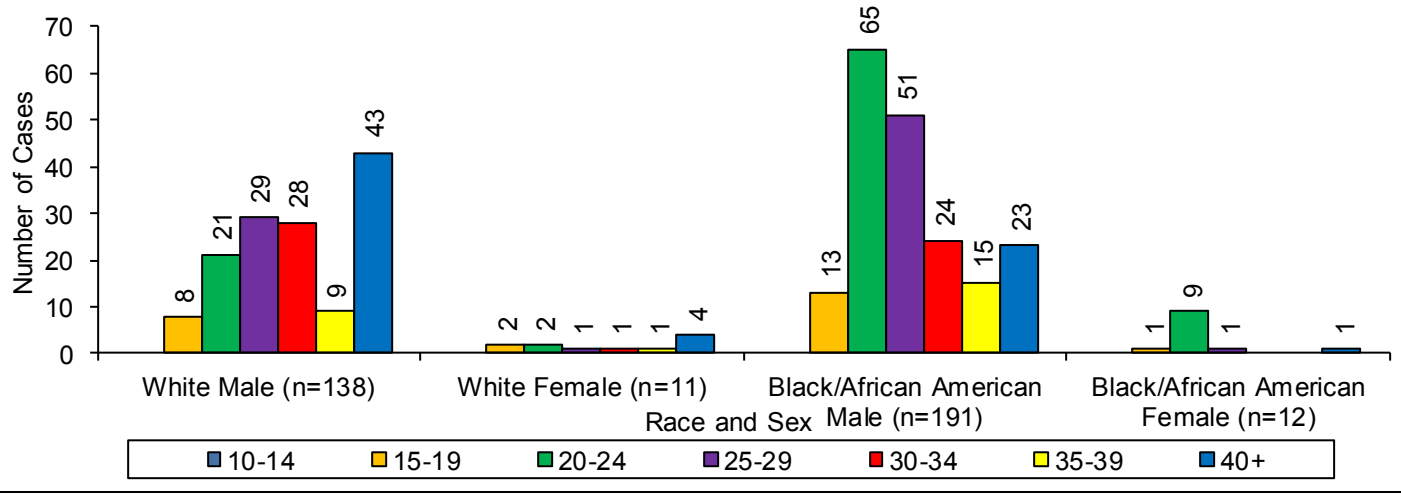
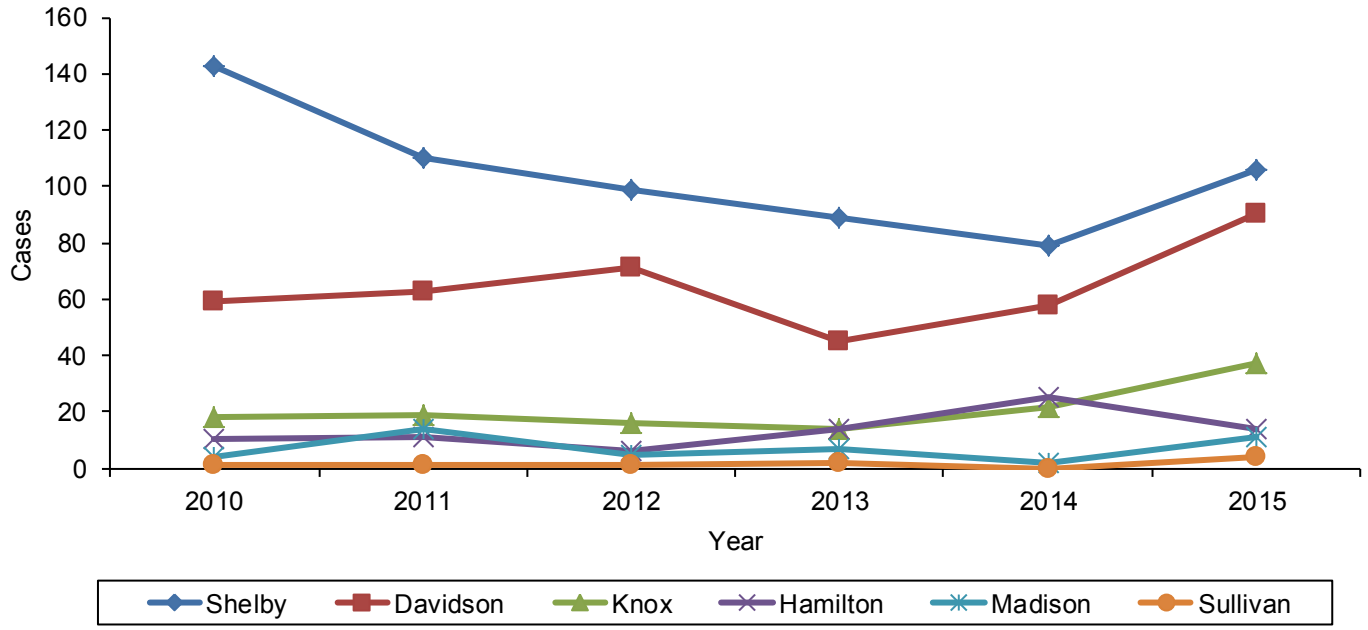
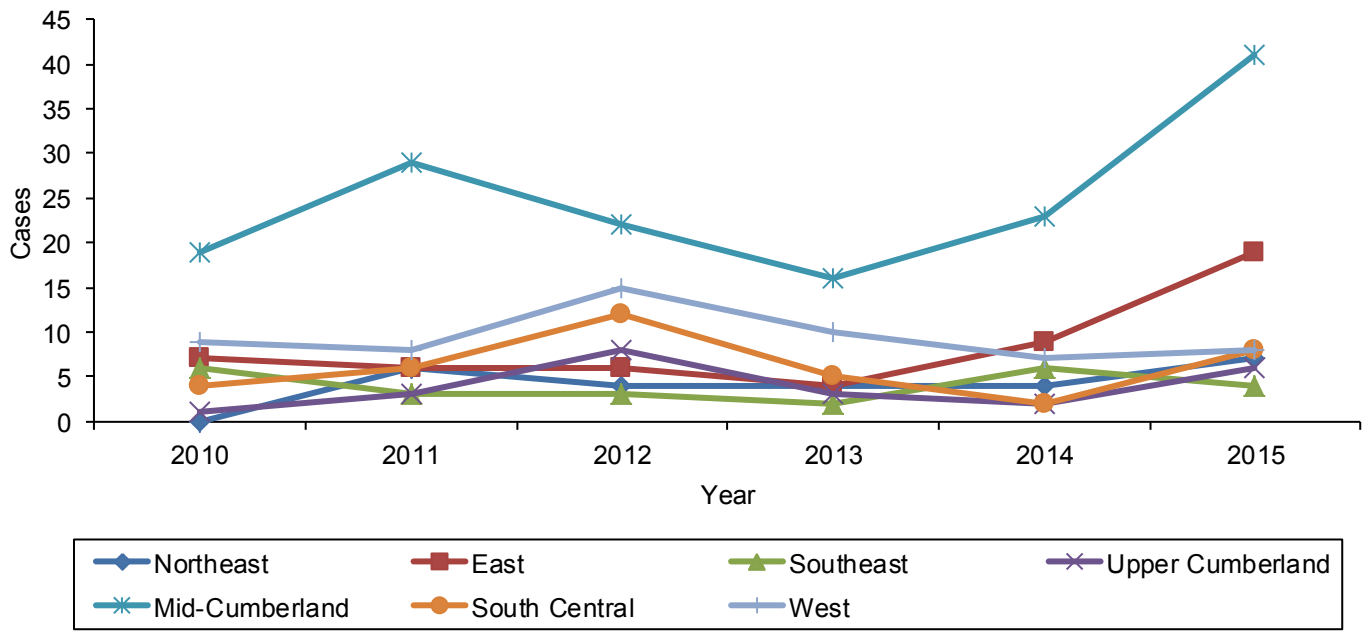


Figure 10. Reported P&S syphilis cases, by metropolitan area and year of report, Tennessee, 2010-2015



- The largest number of P&S syphilis cases were reported among black//African American males (191) and white males (138) (Figure 9). There were differences in the distribution of reported cases by age at diagnosis among the race/ethnicity and sex categories. Among black/African American males and females, the largest number of cases was reported among individuals 20-24 years of age at the time of diagnosis. Among white males and females, cases were greatest among those 40 or more years of age.
- The number of reported P&S syphilis cases in the Tennessee metropolitan areas generally decreased from 2010 through 2014 and then increased in 2015 (Figure 10).

Figure 11. Reported P&S syphilis cases, by Public Health Region and year of report, Tennessee, 2010-2015



- The number of reported P&S syphilis cases in Tennessee Public Health Regions stared to generally increase from 2013 through 2015 (Figure 11).
- The greatest number of P&S syphilis cases were reported in Mid-Cumberland from 2010 through 2015.

Table 6. Reported early latent syphilis cases and rates, by race*, by metropolitan area, by sex Tennessee, 2015

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Tennessee								
White	82	31.9%	3.2	11	19.0%	0.4	93	1.8
Black/African American	171	66.5%	32.6	47	81.0%	8.0	218	19.6
Other/Unknown	4	1.6%	5.4	0	0.0%	0.0	4	2.7
Total Cases	257	100.0%	8.1	58	100.0%	1.7	315	4.8
Shelby								
White	13	10.3%	6.4	1	2.9%	0.5	14	3.4
Black/African American	113	89.7%	46.6	33	97.1%	11.7	146	27.8
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	126	100.0%	27.1	34	100.0%	6.7	160	16.5
Davidson								
White	22	40.0%	10.8	2	16.7%	1.0	24	6.0
Black/African American	31	56.4%	37.1	10	83.3%	10.6	41	23.1
Other/Unknown	2	3.6%	11.0	0	0.0%	0.0	2	5.6
Total Cases	55	100.0%	18.1	12	100.0%	3.9	67	10.9
Knox								
White	13	81.3%	6.9	2	100.0%	1.0	15	3.9
Black/African American	3	18.8%	16.2	0	0.0%	0.0	3	7.6
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	16	100.0%	7.5	2	100.0%	0.9	18	4.1
Hamilton								
White	8	66.7%	7.8	0	0.0%	0.0	8	3.2
Black/African American	4	33.3%	12.9	1	100.0%	2.8	5	7.4
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	12	100.0%	8.7	1	100.0%	0.6	13	4.0
Madison								
White	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Black/African American	3	100.0%	18.4	0	0.0%	0.0	3	8.6
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	3	100.0%	6.0	0	0.0%	0.0	3	2.9
Sullivan								
White	2	100.0%	2.8	0	0.0%	0.0	2	1.3
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	2	100.0%	2.7	0	0.0%	0.0	2	1.3

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2014 TDH population estimates.

- There were a total of 315 early latent syphilis cases reported in 2015 (Table 6). Of the cases reported, 263 early latent syphilis cases were reported in the metropolitan areas.
- The majority of the cases reported in the metropolitan areas were among males (81.6%).
- The rate of early latent syphilis cases among all cases in the metropolitan regions was highest in Shelby County (16.5).
- Nearly 51% of all early latent syphilis cases were reported in Shelby County.
- The rate of reported early latent syphilis cases was higher for blacks/African Americans compared to whites in all metropolitan areas that reported cases among blacks/African Americans.

Table 7. Reported early latent syphilis cases and rates, by race*, by Public Health Region, by sex Tennessee, 2015

	Male			Female			Total	
	Cases	%	Rate	Cases	%	Rate	Cases	Rate
Tennessee								
White	82	31.9%	3.2	11	19.0%	0.4	93	1.8
Black/African American	171	66.5%	32.6	47	81.0%	8.0	218	19.6
Other/Unknown	4	1.6%	5.4	0	0.0%	0.0	4	2.7
Total Cases	257	100.0%	8.1	58	100.0%	1.7	315	4.8
Northeast								
White	2	100.0%	1.2	3	100.0%	1.7	5	1.5
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	2	100.0%	1.1	3	100.0%	1.6	5	1.4
East								
White	4	100.0%	1.1	0	0.0%	0.0	4	0.5
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	4	100.0%	1.1	0	0.0%	0.0	4	0.5
Southeast								
White	4	100.0%	2.6	1	100.0%	0.6	5	1.6
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	4	100.0%	2.4	1	100.0%	0.6	5	1.5
Upper Cumberland								
White	3	75.0%	1.8	0	0.0%	0.0	3	0.9
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown	1	25.0%	56.8	0	0.0%	0.0	1	29.1
Total Cases	4	100.0%	2.3	0	0.0%	0.0	4	1.1
Mid-Cumberland								
White	6	33.3%	1.2	2	66.7%	0.4	8	0.8
Black/African American	12	66.7%	25.8	1	33.3%	2.0	13	13.5
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	18	100.0%	3.2	3	66.7%	0.5	21	1.8
South Central								
White	3	100.0%	1.6	0	0.0%	0.0	3	0.8
Black/African American	0	0.0%	0.0	1	100.0%	6.9	1	3.4
Other/Unknown	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Total Cases	3	100.0%	1.5	1	100.0%	0.5	4	1.0
West								
White	2	25.0%	0.9	0	0.0%	0.0	2	0.4
Black/African American	5	62.5%	10.6	1	100.0%	2.0	6	6.2
Other/Unknown	1	12.5%	33.8	0	0.0%	0.0	1	17.1
Total Cases	8	100.0%	2.9	1	100.0%	0.4	9	1.6

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2014 TDH population estimates.

- The rate of early latent syphilis cases among males in the Public Health Regions was highest in the Mid-Cumberland Public Health Region (1.8) (Table 7).
- The rate of reported P&S syphilis cases was higher for blacks/African Americans compared to whites in all Public Health Regions that reported early latent syphilis cases among blacks/African Americans.

Figure 12. Reported early latent syphilis cases, by race and sex, by age group at diagnosis, Tennessee, 2015

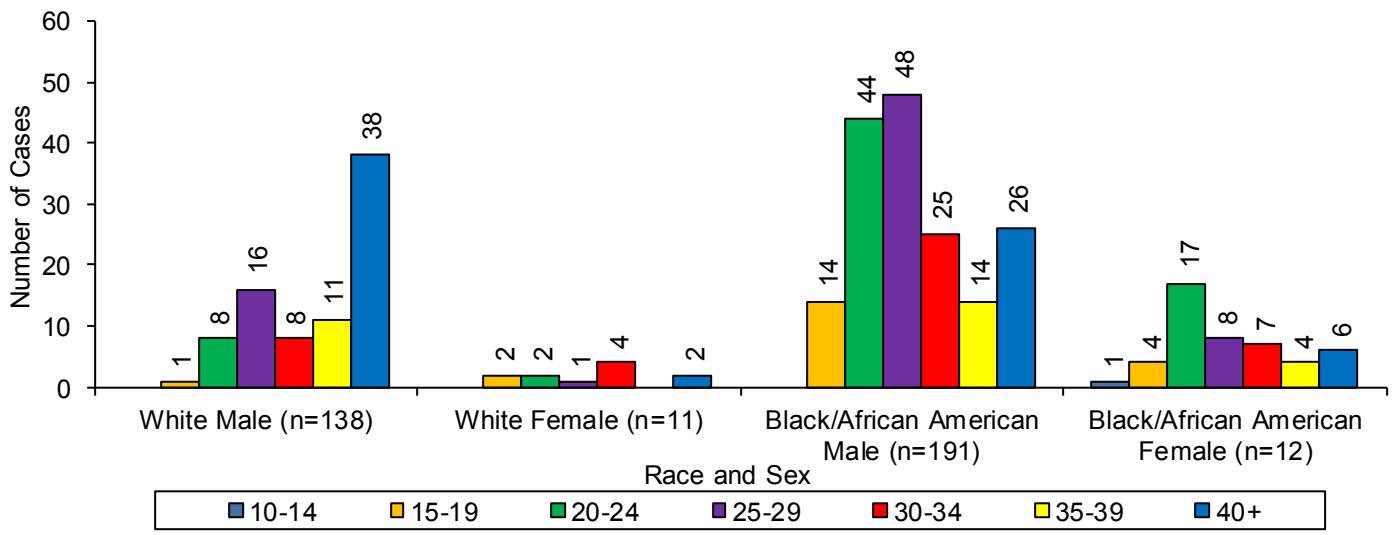
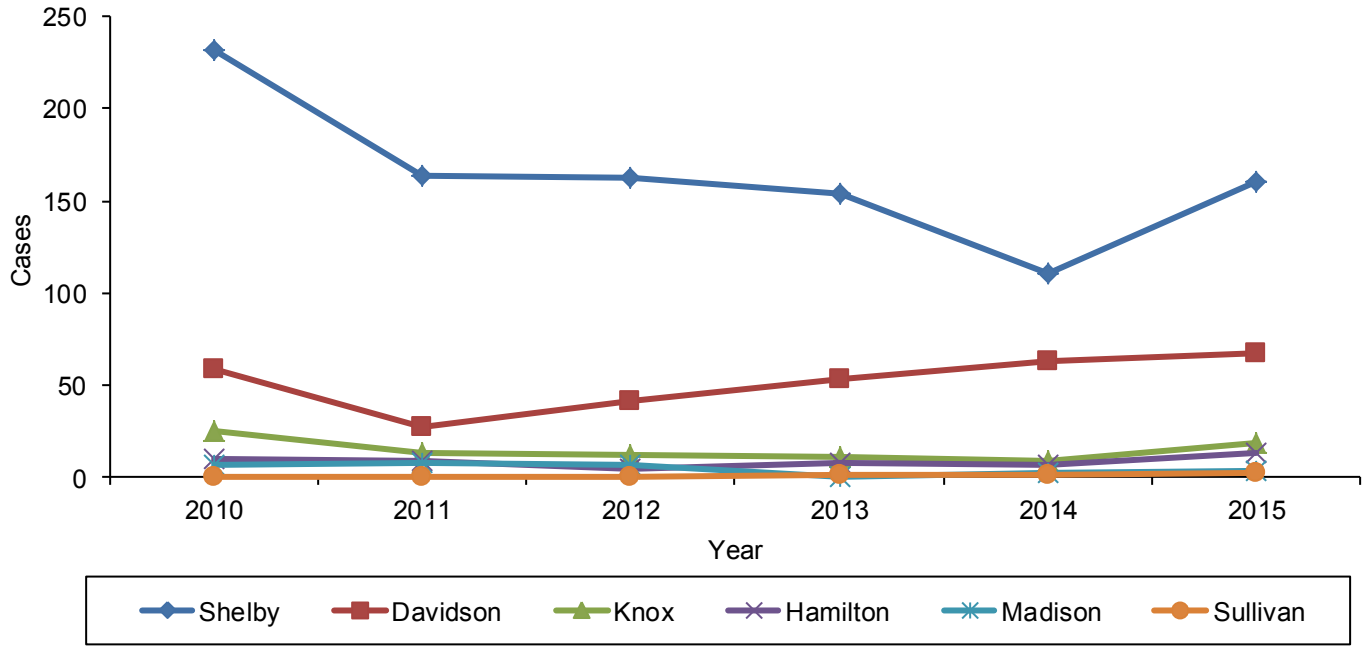
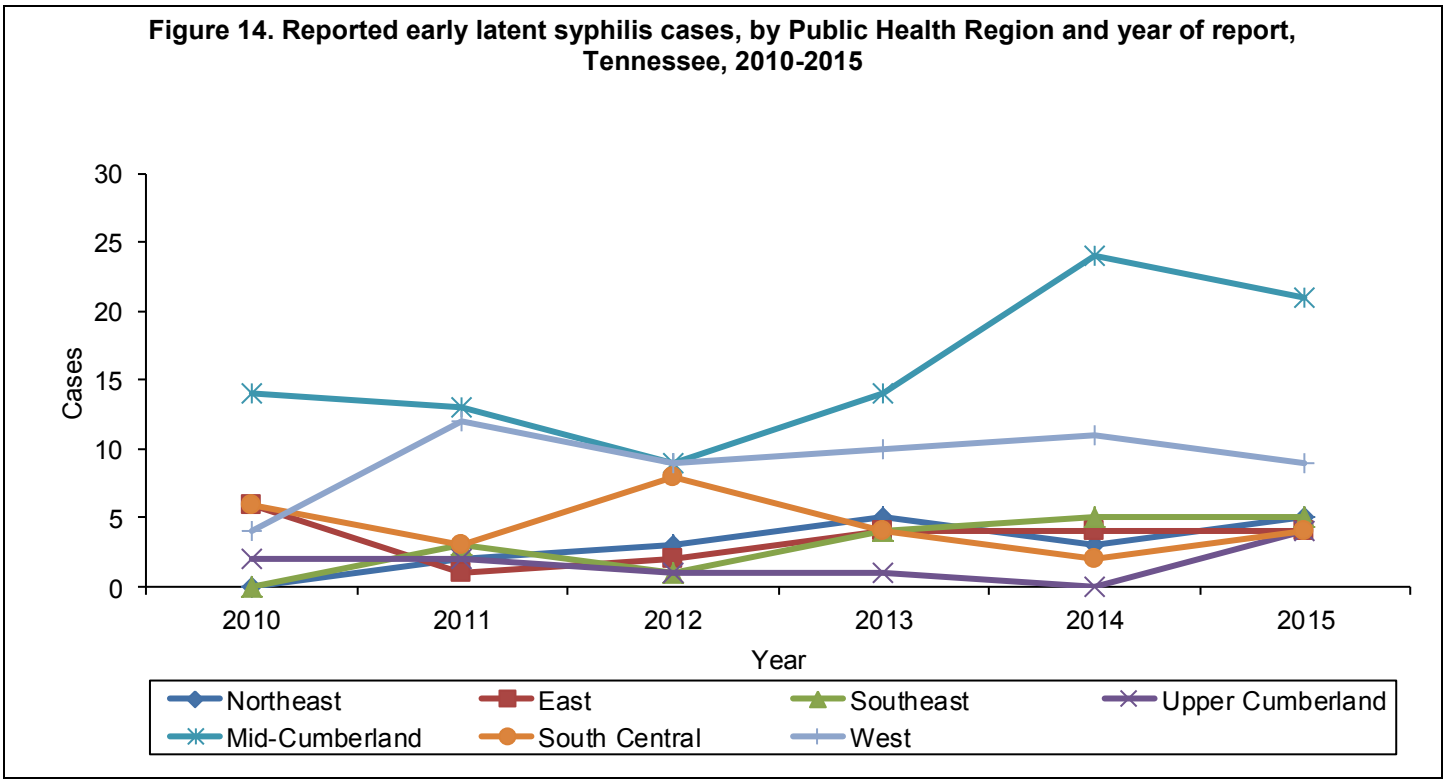


Figure 13. Reported early latent syphilis cases, by metropolitan area and year of report, Tennessee, 2010-2015



- The largest numbers of early latent syphilis cases were reported among black/African American males (171) and white males (138) (Figure 12). There were differences in the distribution of reported cases by age at diagnosis among the race/ethnicity and sex categories.
- The number of reported early latent syphilis cases in the metropolitan areas fluctuated from 2010 to 2015 (Figure 13). The number of reported cases increased in 2015 in all of the metropolitan areas.



- The number of reported early latent syphilis cases in Tennessee Public Health Regions fluctuated from 2010 through 2015 (Figure 14).
- The greatest number of early latent syphilis cases were reported in Mid-Cumberland from 2010 through 2015.

Table 8. Reported gonorrhea cases and rates, by race*, by metropolitan area, by sex Tennessee, 2015

	Male			Female			Total	
	Cases	%	Rate	Cases	%	Rate	Cases	Rate
Tennessee								
White	1,117	24.1%	43.1	1,194	30.9%	44.6	2,311	43.9
Black/African American	3,435	74.0%	655.4	2,602	67.3%	443.3	6,037	543.3
Other/Unknown	89	1.9%	120.2	70	1.8%	91.4	159	105.6
Total Cases	4,641	100.0%	145.4	3,866	100.0%	115.8	8,507	130.3
Shelby								
White	70	5.1%	34.3	52	4.3%	25.2	122	29.7
Black/African American	1,298	94.4%	534.8	1,153	95.5%	408.9	2,451	467.1
Other/Unknown	7	0.5%	39.6	2	0.2%	11.0	9	25.1
Total Cases	1,375	100.0%	296.2	1,207	100.0%	238.4	2,582	266.0
Davidson								
White	268	28.4%	132.1	132	22.2%	66.8	400	99.8
Black/African American	665	70.5%	795.3	456	76.8%	484.1	1,121	630.4
Other/Unknown	10	1.1%	54.9	6	1.0%	34.2	16	44.7
Total Cases	943	100.0%	309.5	594	100.0%	191.9	1,537	250.2
Knox								
White	137	32.8%	72.7	208	55.3%	104.8	345	89.1
Black/African American	275	65.8%	1,486.8	164	43.6%	788.7	439	1,117.4
Other/Unknown	6	1.4%	104.9	4	1.1%	66.5	10	85.2
Total Cases	418	100.0%	196.4	376	100.0%	166.9	794	181.3
Hamilton								
White	126	26.3%	122.9	98	27.4%	77.7	224	90.8
Black/African American	345	71.9%	1,111.6	251	70.1%	692.5	596	882.8
Other/Unknown	9	1.9%	234.6	9	2.5%	229.1	18	231.8
Total Cases	480	100.0%	349.3	358	100.0%	215.3	838	260.3
Madison								
White	5	4.5%	15.1	17	13.8%	50.0	22	32.8
Black/African American	103	93.6%	632.5	105	85.4%	563.1	208	595.4
Other/Unknown	2	1.8%	269.2	1	0.8%	130.2	3	198.5
Total Cases	110	100.0%	219.8	123	100.0%	230.4	233	225.3
Sullivan								
White	19	61.3%	26.3	28	90.3%	36.0	47	31.4
Black/African American	9	29.0%	543.2	2	6.5%	125.5	11	338.5
Other/Unknown	3	9.7%	374.5	1	3.2%	117.4	4	242.0
Total Cases	31	100.0%	41.6	31	100.0%	38.6	62	40.0

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2014 TDH population estimates.

- There were a total of 8,507 gonorrhea cases reported in 2015 (Table 8). Of the cases reported, 6,046 gonorrhea cases were reported in the metropolitan areas.
- The majority of the cases reported in the metropolitan areas were among males (55.5%). The rate of gonorrhea cases among males was highest in Hamilton Country (349.3) followed by Davidson County (309.5).
- The rate of gonorrhea cases among all cases in the metropolitan regions was highest in Shelby County (266.0).
- Thirty percent (30.4%) of all gonorrhea cases were reported in Shelby County.
- The rate of reported gonorrhea cases higher for blacks/African Americans compared to whites in all metropolitan areas.

Table 9. Reported gonorrhea cases and rates, by race*, by Public Health Region, by sex Tennessee, 2015

	Male			Female			Total	
	Cases	%	Rate	Cases	%	Rate	Cases	Rate
Tennessee								
White	1,117	24.1%	43.1	1,194	30.9%	44.6	2,311	43.9
Black/African American	3,435	74.0%	655.4	2,602	67.3%	443.3	6,037	543.3
Other/Unknown	89	1.9%	120.2	70	1.8%	91.4	159	105.6
Total Cases	4,641	100.0%	145.4	3,866	100.0%	115.8	8,507	130.3
Northeast								
White	34	56.7%	20.3	46	83.6%	26.1	80	23.3
Black/African American	25	41.7%	528.4	7	12.7%	168.5	32	360.2
Other/Unknown	1	1.7%	59.2	2	3.6%	105.5	3	83.7
Total Cases	60	100.0%	34.5	55	100.0%	30.2	115	32.3
East								
White	81	63.3%	22.2	82	83.7%	21.3	163	21.7
Black/African American	45	35.2%	547.2	14	14.3%	173.5	59	362.1
Other/Unknown	2	1.6%	47.9	2	2.0%	44.2	4	46.0
Total Cases	128	100.0%	33.9	98	100.0%	24.6	226	29.1
Southeast								
White	72	53.7%	45.9	108	77.1%	65.9	180	56.1
Black/African American	46	34.3%	756.8	22	15.7%	366.9	68	563.1
Other/Unknown	16	11.9%	915.9	10	7.1%	529.9	26	715.5
Total Cases	134	100.0%	81.4	140	100.0%	81.5	274	81.5
Upper Cumberland								
White	34	75.6%	20.1	38	92.7%	21.7	72	20.9
Black/African American	6	13.3%	247.7	1	2.4%	47.0	7	153.9
Other/Unknown	5	11.1%	283.8	2	4.9%	119.2	7	203.5
Total Cases	45	100.0%	25.9	41	100.0%	23.0	86	24.4
Mid-Cumberland								
White	186	33.5%	37.0	205	47.1%	39.8	391	38.4
Black/African American	354	63.8%	760.8	219	50.3%	442.8	573	596.9
Other/Unknown	15	2.7%	119.3	11	2.5%	77.6	26	97.2
Total Cases	555	100.0%	98.7	435	100.0%	75.2	990	86.8
South Central								
White	50	43.1%	27.0	105	66.9%	55.7	155	41.5
Black/African American	65	56.0%	434.0	51	32.5%	352.7	116	394.0
Other/Unknown	1	0.9%	46.5	1	0.6%	43.7	2	45.1
Total Cases	116	100.0%	57.4	157	100.0%	76.6	273	67.0
West								
White	35	14.2%	15.6	75	29.9%	32.3	110	24.1
Black/African American	199	80.9%	420.3	157	62.5%	319.9	356	369.2
Other/Unknown	12	4.9%	405.1	19	7.6%	660.9	31	531.1
Total Cases	246	100.0%	89.6	251	100.0%	88.3	497	89.0

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2014 TDH population estimates.

- The rate of gonorrhea cases among males in the Public Health Regions was highest in the Mid-Cumberland Public Health Region (98.7) (Table 9).
- The rate of reported gonorrhea cases was higher for blacks/African Americans compared to whites in all Public Health Regions.

Figure 15. Reported gonorrhea cases, by race and sex, by age group at diagnosis, Tennessee, 2015

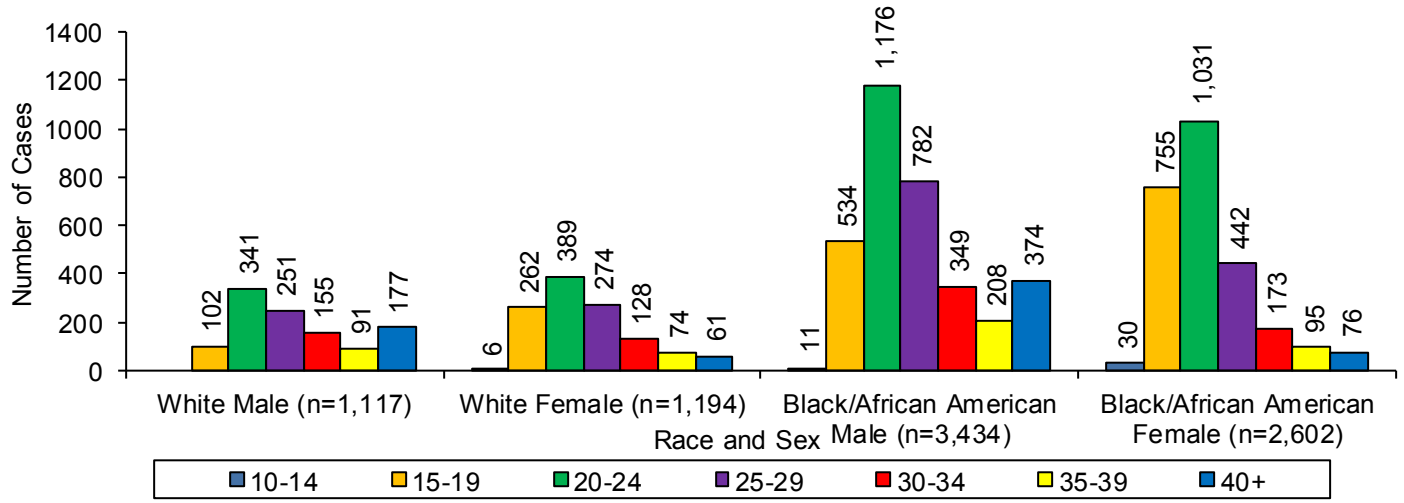
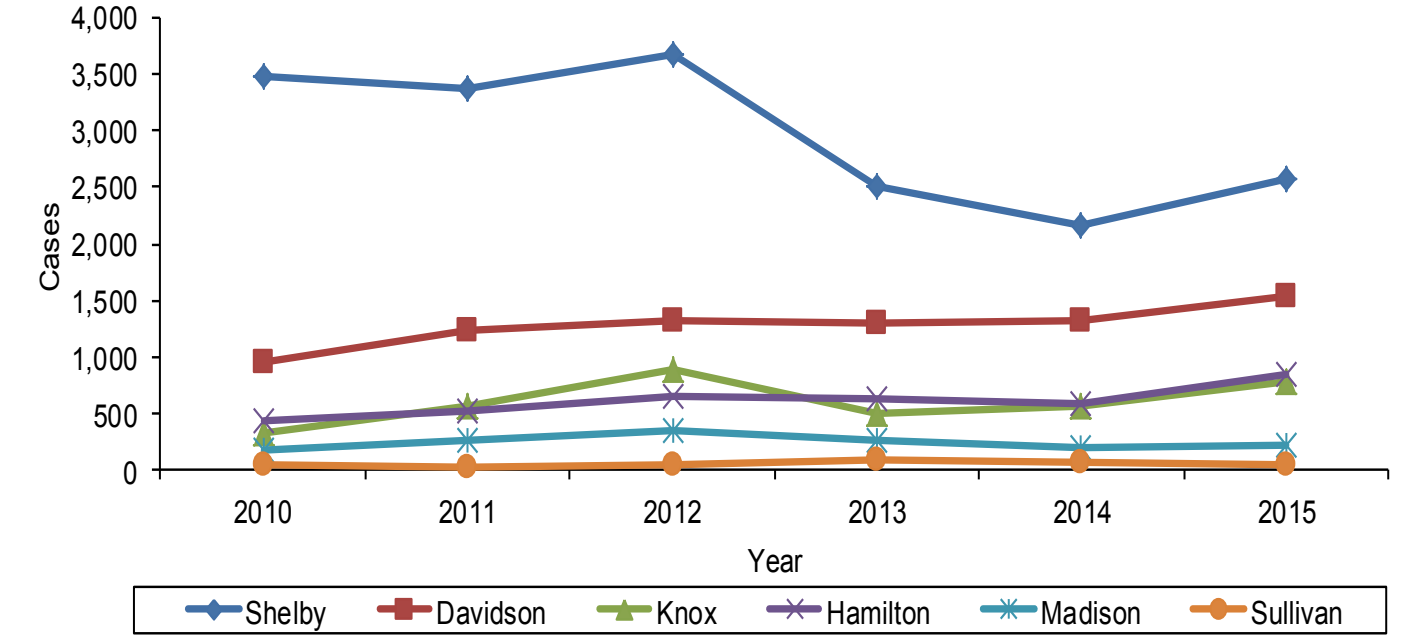
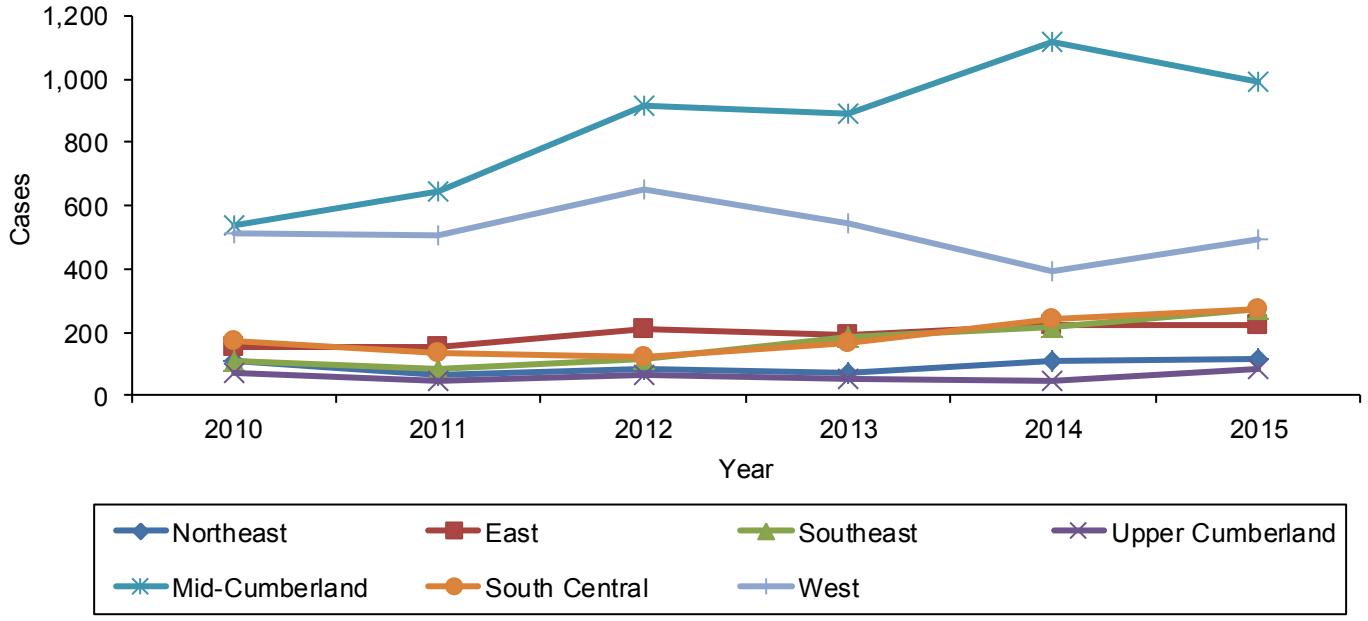


Figure 16. Reported gonorrhea cases, by metropolitan area and year of report, Tennessee, 2010-2015



- The largest numbers of gonorrhea cases were reported among black/African American males (3,434) and black African American females (2,602) (Figure 15). Among all race/ethnicity and sex categories presented, the largest number of cases was reported among individuals 20 to 24 years of age at the time of diagnosis.
- The number of reported gonorrhea cases in the metropolitan areas generally increased from 2010 through 2015 with the exception of Shelby County (Figure 16). The number of reported cases increased in 2015 in all of the metropolitan areas except Sullivan County.

Figure 17. Reported gonorrhea cases, by Public Health Region and year of report, Tennessee, 2010-2015



- The number of reported gonorrhea cases in Tennessee Public Health Regions generally increased from 2010 through 2015 (Figure 17).
- The greatest number of gonorrhea cases were reported in Mid-Cumberland from 2010 through 2015.

Table 10. Reported chlamydia cases and rates, by race*, by metropolitan area, by sex Tennessee, 2015

	Male			Female			Total	
	Cases	%	Rate	Cases	%	Rate	Cases	Rate
Tennessee								
White	4,211	41.0%	162.4	9,955	46.6%	372.0	14,166	268.9
Black/African American	5,774	56.3%	1,101.6	10,674	50.0%	1,818.4	16,448	1,480.3
Other/Unknown	275	2.7%	371.5	721	3.4%	941.5	996	66.1
Total Cases	10,260	100.0%	321.5	21,350	100.0%	639.3	31,610	484.0
Shelby								
White	192	7.9%	94.2	531	9.3%	257.5	723	176.3
Black/African American	2,196	90.5%	904.8	5083	89.3%	1,802.6	7,279	1,387.3
Other/Unknown	39	1.6%	220.8	79	1.4%	435.8	118	329.7
Total Cases	2,427	100.0%	522.8	5693	100.0%	1,124.3	8,120	836.6
Davidson								
White	576	36.6%	283.9	1,004	34.8%	507.7	1,580	394.4
Black/African American	978	62.2%	1,169.7	1,807	62.7%	1,918.2	2,785	1,566.2
Other/Unknown	18	1.1%	98.8	70	2.4%	398.5	88	246.0
Total Cases	1,572	100.0%	515.9	2,881	100.0%	930.8	4,453	725.0
Knox								
White	426	52.5%	225.9	909	65.9%	458.0	1,335	344.9
Black/African American	366	45.1%	1,978.8	449	32.5%	2,159.4	815	2,074.4
Other/Unknown	20	2.5%	349.8	22	1.6%	365.8	42	358.0
Total Cases	812	100.0%	381.6	1,380	100.0%	612.6	2,192	500.4
Hamilton								
White	218	34.6%	212.6	463	37.3%	367.2	681	276.1
Black/African American	391	62.1%	1,259.8	728	58.7%	2,008.4	1,119	1,657.4
Other/Unknown	21	3.3%	547.3	49	4.0%	1,247.5	70	901.5
Total Cases	630	100.0%	458.5	1,240	100.0%	745.8	1,870	580.9
Madison								
White	41	15.1%	124.2	99	19.3%	291.4	140	209.0
Black/African American	220	80.9%	1,350.9	390	76.0%	2,091.5	610	1,746.2
Other/Unknown	11	4.0%	1,480.5	24	4.7%	3,125.0	35	2,316.3
Total Cases	272	100.0%	543.6	513	100.0%	960.8	785	759.0
Sullivan								
White	93	77.5%	128.9	245	90.1%	315.0	338	225.5
Black/African American	26	21.7%	1,569.1	15	5.5%	941.6	41	1,261.5
Other/Unknown	1	0.8%	124.8	12	4.4%	1,408.5	13	786.4
Total Cases	120	100.0%	160.9	272	100.0%	339.0	392	253.2

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2014 TDH population estimates.

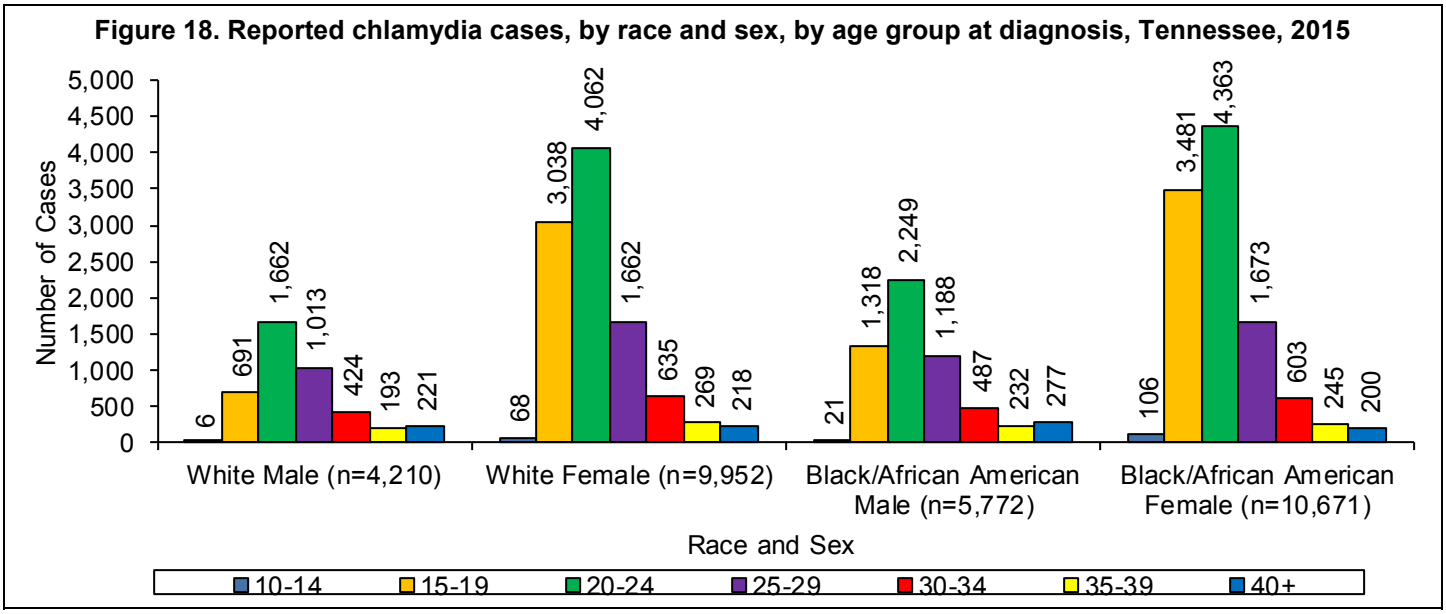
- There were a total of 31,610 chlamydia cases reported in 2015 (Table 10). The majority of cases (67.5%) were reported among females. The proportion of chlamydia cases reported among females varied by metropolitan area.
- The rate of chlamydia cases among females in metropolitan areas was highest in Shelby County (1,124.3) followed by Madison County (960.8).
- Nearly 26% of all chlamydia cases were reported in Shelby County and 14.1% were reported in Davidson County.
- The rate of reported chlamydia cases was higher for blacks/African Americans compared to whites in all metropolitan areas.

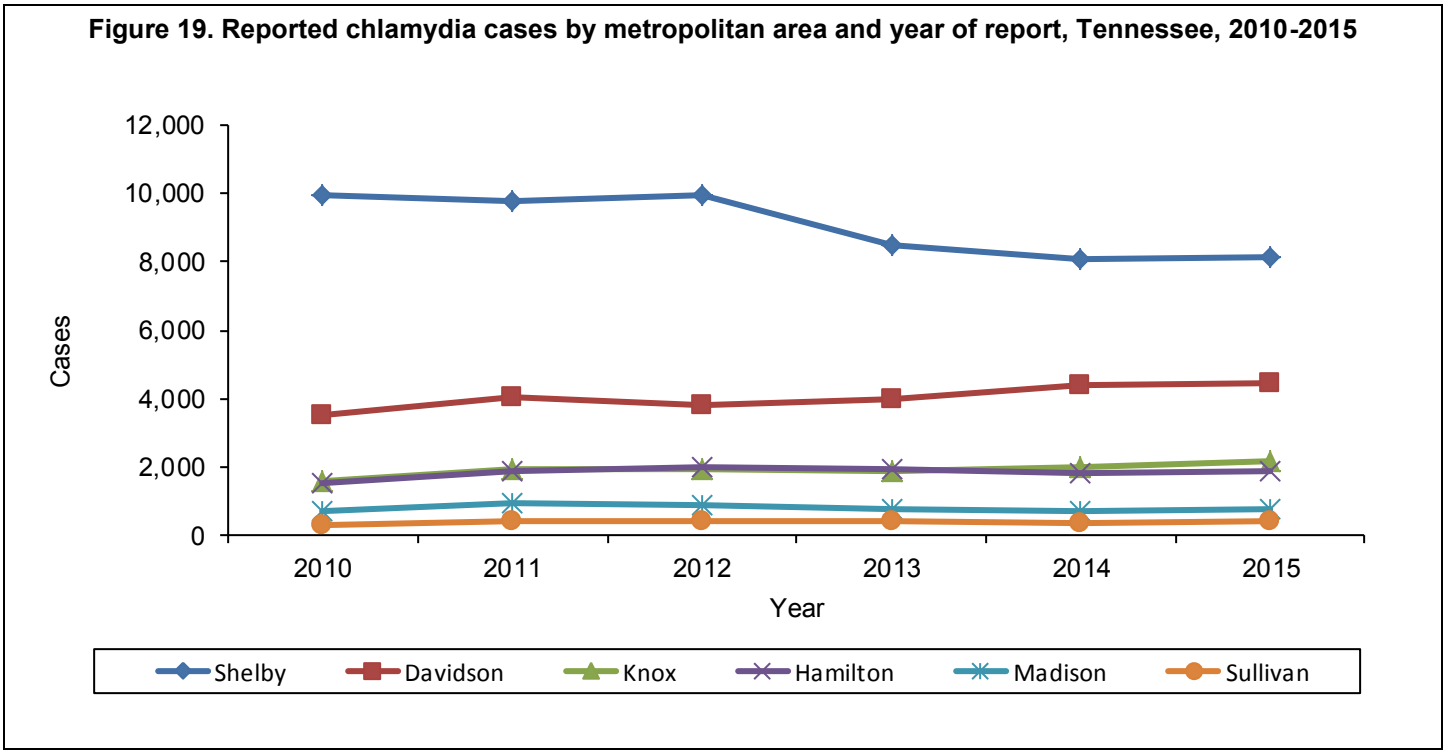
Table 11. Reported chlamydia cases and rates, by race*, by Public Health Region, by sex Tennessee, 2015

	Male			Female			Total	
	Cases	%	Rate	Cases	%	Rate	Cases	Rate
Tennessee								
White	4,211	41.0%	162.4	9,955	46.6%	372.0	14,166	268.9
Black/African American	5,774	56.3%	1,101.6	10,674	50.0%	1,818.4	16,448	1,480.3
Other/Unknown	275	2.7%	371.5	721	3.4%	941.5	996	66.1
Total Cases	10,260	100.0%	321.5	21,350	100.0%	639.3	31,610	484.0
Northeast								
White	174	76.3%	103.8	576	89.2%	326.6	750	218.0
Black/African American	45	19.7%	951.2	48	7.4%	1,155.5	93	1,046.7
Other/Unknown	9	3.9%	533.2	22	3.4%	1,160.9	31	865.2
Total Cases	228	100.0%	131.0	646	100.0%	354.2	874	245.2
East								
White	545	84.4%	149.1	1,359	92.9%	352.8	1,904	253.6
Black/African American	88	13.6%	1,070.2	87	5.9%	1,077.9	175	1,074.0
Other/Unknown	13	2.0%	311.6	17	1.2%	375.5	30	344.9
Total Cases	646	100.0%	170.9	1,463	100.0%	367.7	2,109	271.8
Southeast								
White	264	61.1%	168.4	527	76.0%	321.7	791	246.7
Black/African American	129	29.9%	2,122.4	76	11.0%	1,267.3	205	1,697.7
Other/Unknown	39	9.0%	2,232.4	90	13.0%	4,769.5	129	3,549.8
Total Cases	432	100.0%	262.5	693	100.0%	403.6	1,125	334.5
Upper Cumberland								
White	225	88.6%	133.0	527	86.5%	301.5	752	218.6
Black/African American	13	5.1%	536.7	20	3.3%	940.7	33	725.6
Other/Unknown	16	6.3%	908.1	62	10.2%	3,694.9	78	2,267.4
Total Cases	254	100.0%	146.5	609	100.0%	341.0	863	245.1
Mid-Cumberland								
White	893	54.1%	177.5	2,111	64.0%	410.0	3,004	295.0
Black/African American	707	42.8%	1,519.5	1,081	32.7%	2,185.6	1,788	1,862.7
Other/Unknown	50	3.0%	397.6	109	3.3%	768.7	159	594.3
Total Cases	1,650	100.0%	293.4	3,301	100.0%	570.5	4,951	434.0
South Central								
White	250	66.8%	135.1	781	82.9%	414.7	1,031	276.1
Black/African American	121	32.4%	807.9	149	15.8%	1,030.4	270	917.2
Other/Unknown	3	0.8%	139.4	12	1.3%	524.7	15	337.9
Total Cases	374	100.0%	185.0	942	100.0%	459.3	1,316	323.1
West								
White	314	37.2%	140.1	823	47.9%	354.5	1,137	249.2
Black/African American	494	58.6%	1,043.4	741	43.2%	1,509.7	1,235	1,280.8
Other/Unknown	35	4.2%	1,181.6	153	8.9%	5,321.7	188	3,220.8
Total Cases	843	100.0%	307.2	1,717	100.0%	604.3	2,560	458.3

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2014 TDH population estimates.

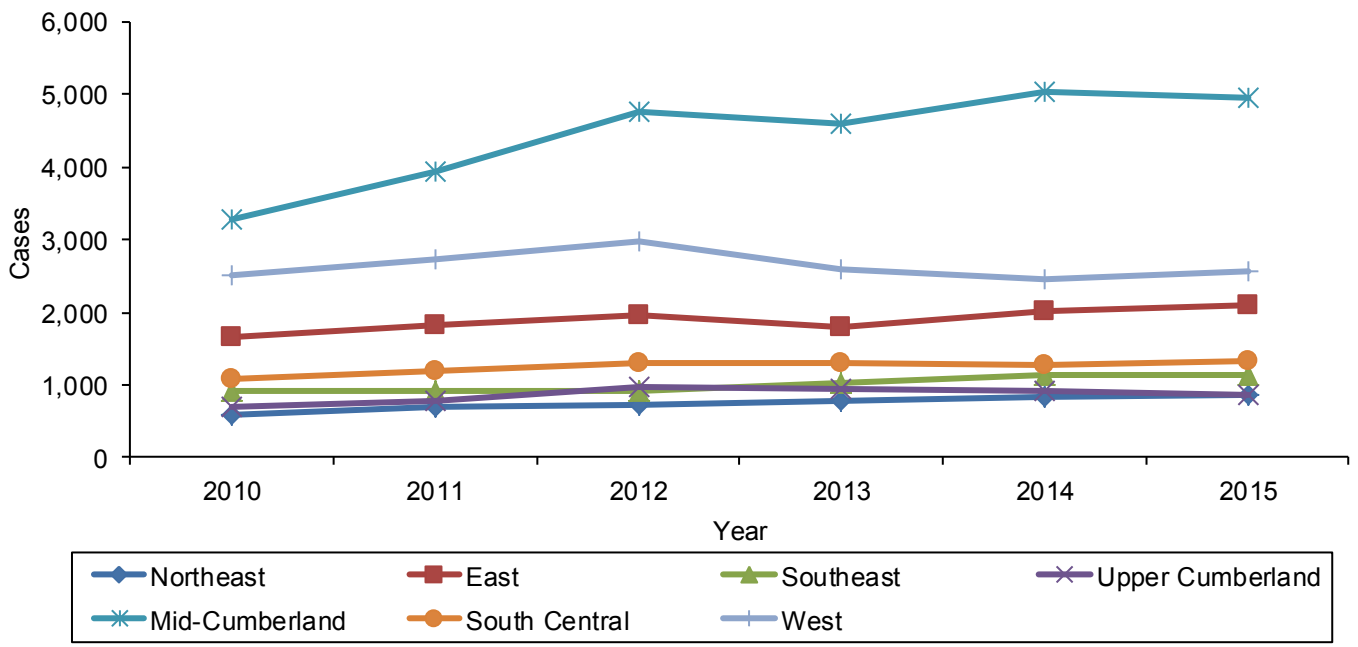
- The rate of chlamydia cases among males in the Public Health Regions was highest in the West Public Health Region (458.3) (Table 11).
- The rate of reported chlamydia cases was higher for blacks/African Americans compared to whites in all Public Health Regions.





- The largest numbers of gonorrhea cases were reported among black/African American females (10,671) and white females (9,952) (Figure 18). Among all race/ethnicity and sex categories presented, the largest number of cases was reported among individuals 20 to 24 years of age at the time of diagnosis.
- The number of reported chlamydia cases in the metropolitan areas generally increased from 2010 through 2015 with the exception of Shelby County (Figure 19). The number of reported cases increased in 2015 in all of the metropolitan areas except Sullivan County.

Figure 20. Reported chlamydia cases by Public Health Region and year of report, Tennessee, 2010-2015

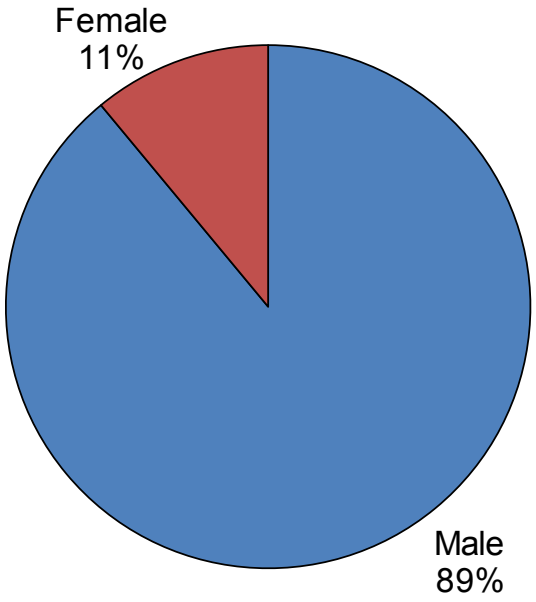


- The number of reported chlamydia cases in Tennessee Public Health Regions generally increased from 2010 through 2015 (Figure 20).
- The greatest number of chlamydia cases were reported in Mid-Cumberland from 2010 through 2015.

Table 12. HIV and STD co-infections, Tennessee, 2015						
	Diagnosed with HIV Prior to 2015		Diagnosed with HIV in 2015		Total	
Co-Infection	N	%	N	%	N	%
Chlamydia	230	31.2%	43	24.7%	273	29.9%
Gonorrhea	189	25.6%	44	25.3%	233	25.5%
Syphilis*	176	23.8%	43	24.7%	219	24.0%
Chlamydia and Gonorrhea	76	10.3%	29	16.7%	105	11.5%
Chlamydia and Syphilis*	21	2.8%	7	4.0%	28	3.1%
Gonorrhea and Syphilis*	21	2.8%	5	2.9%	26	2.9%
Chlamydia, Gonorrhea, and Syphilis*	25	3.4%	3	1.7%	28	3.1%
Total	**738**	**100.0%**	**174**	**100.0%**	**912**	**100.0%**

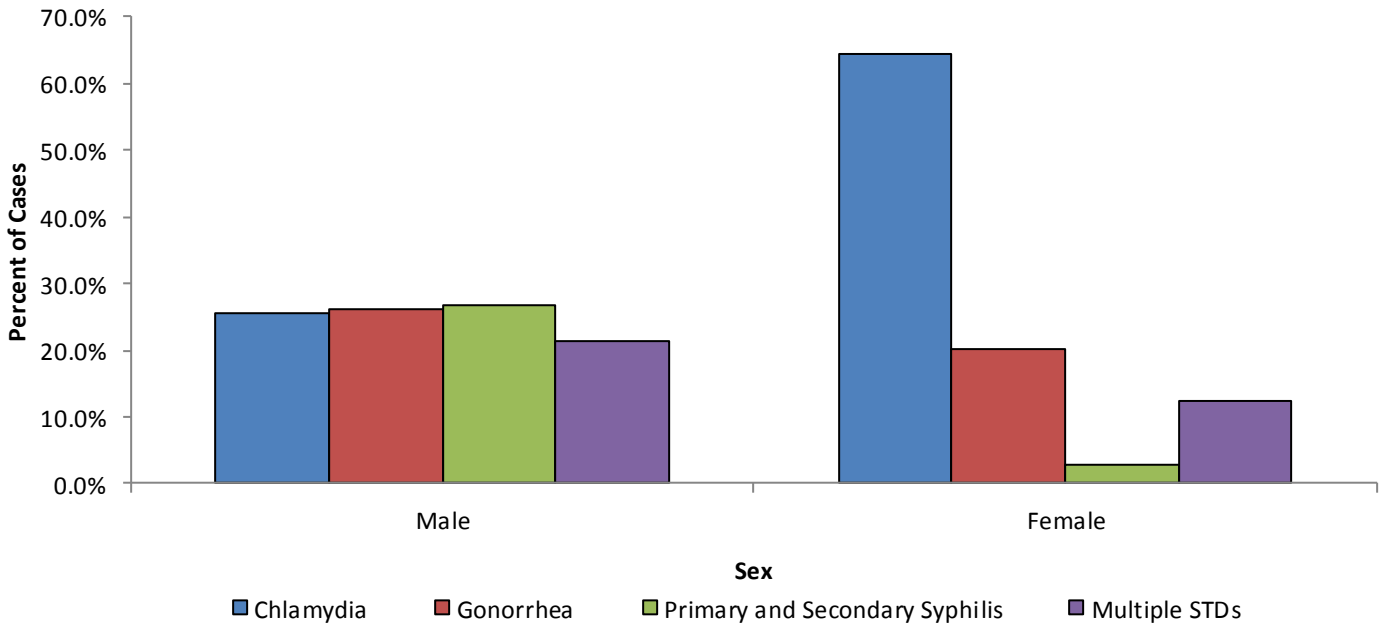
*Only includes diagnoses of primary, secondary, and early latent syphilis.

Figure 21. HIV and STD co-infections by sex, Tennessee, 2015



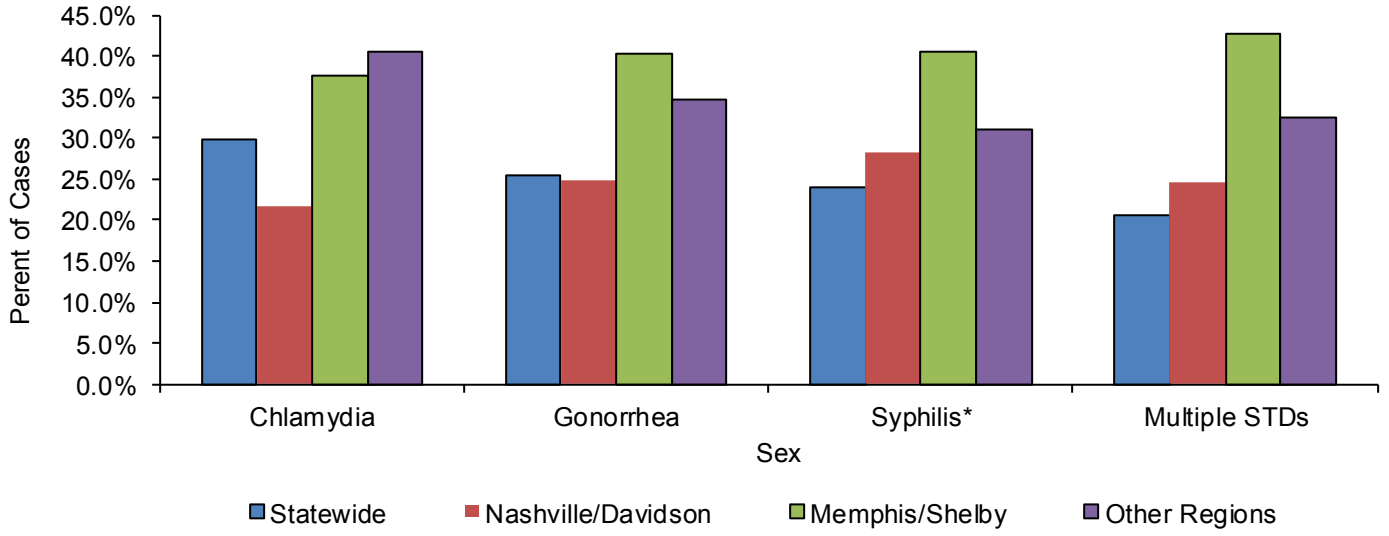
- Of the 16,903 individuals living with HIV disease, 912 were reported with an STD co-morbidity in 2015 (Table 12). The majority of those reported with an STD co-morbidity were diagnosed with HIV prior to 2015 (81%). The largest numbers of HIV co-morbidities were with chlamydia and gonorrhea alone. The proportion of reported STD infections in 2015 that were living with HIV varied by infection type. Of the 670 early syphilis cases reported in 2015, 44.5% were among individuals living with HIV. Only 4.6% of gonorrhea cases and 1.4% of chlamydia cases reported in 2015 were among individuals living with HIV.
- Of the 912 reported STD co-morbidity cases, 89% were among males (Figure 21). Males represented a higher proportion of the STD co-morbidity cases (89%) compared to all males living with HIV disease (73.8%).

Figure 22. HIV and STD co-infections by sex and type of co-infection, Tennessee, 2015



*Only includes diagnoses of primary, secondary, and early latent syphilis.

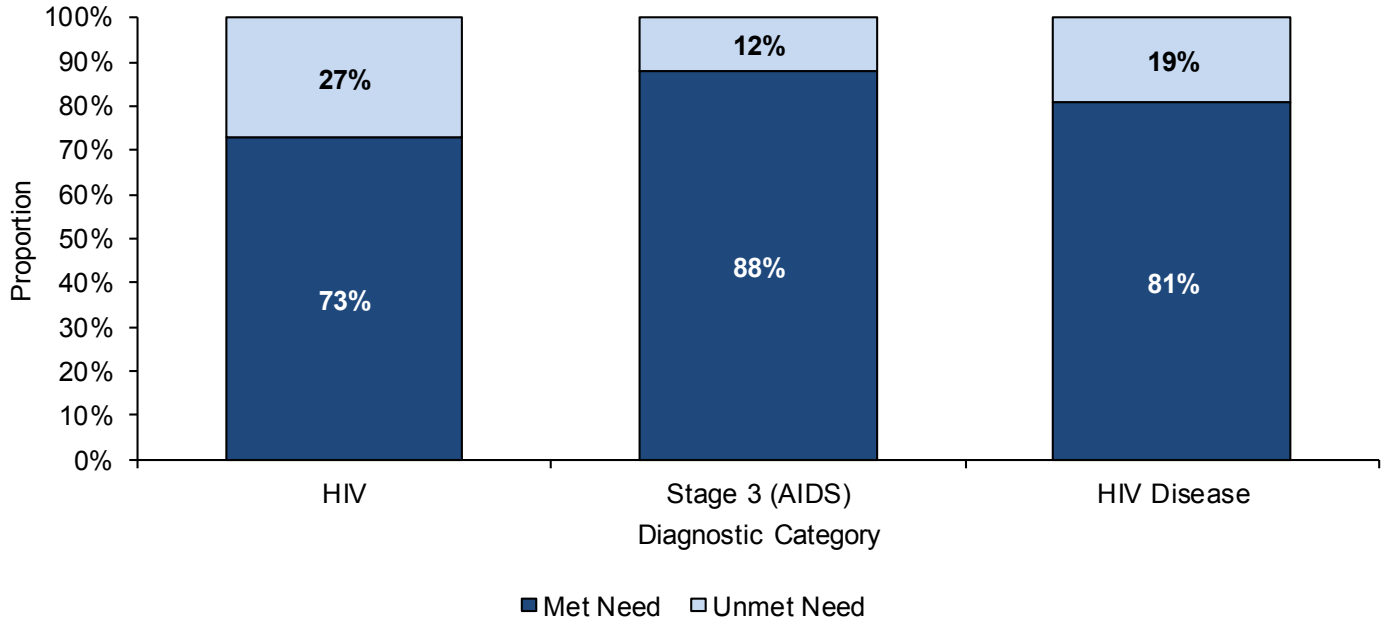
Figure 23. HIV and STD co-infections by metropolitan areas of STD diagnosis, Tennessee, 2015



*Only includes diagnoses of primary, secondary, and early latent syphilis.
Note: Percentages may not total due to rounding.

- There were differences in the distribution of STD co-morbidity types by sex (Figure 22). Among females living with HIV who were reported with an STD co-morbidity in 2015, 64.4% were co-infected with chlamydia.
- Among all HIV and STD co-morbidity types except chlamydia, the greatest proportion of cases was diagnosed in Memphis (Figure 23).

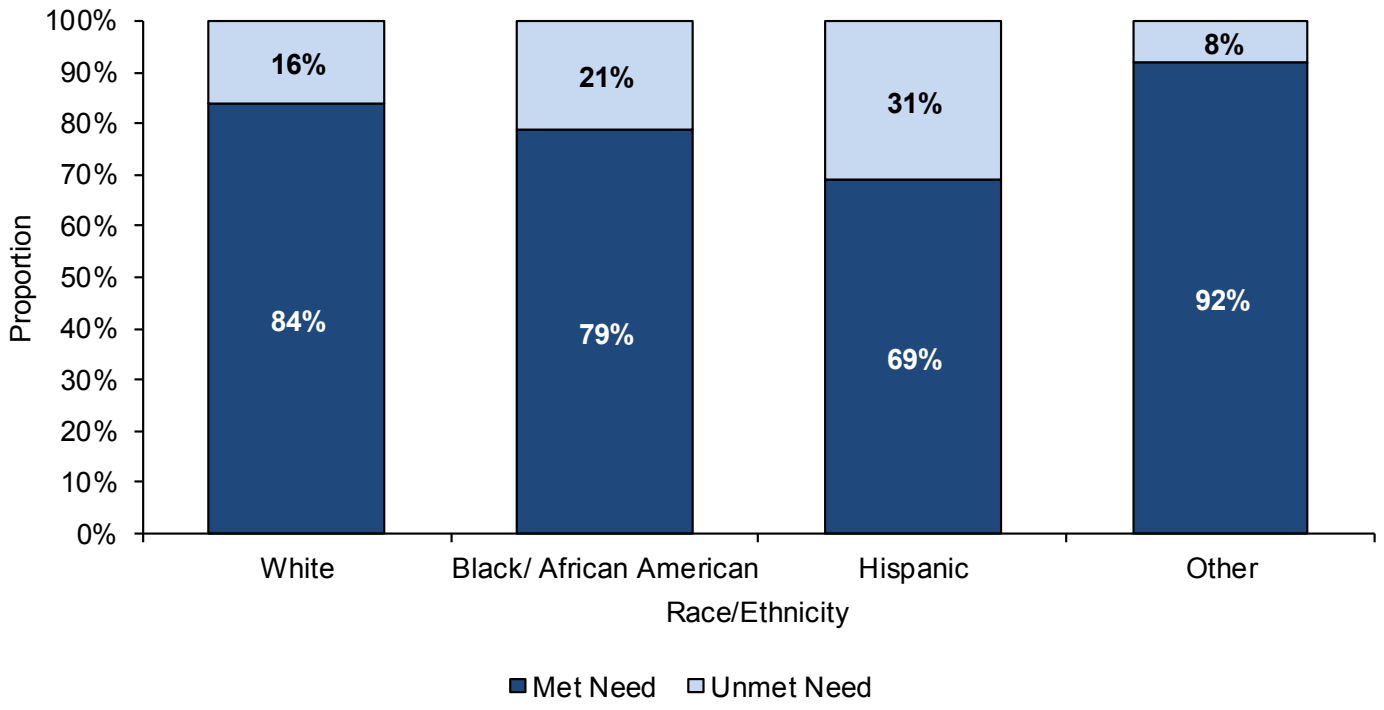
Figure 24. HIV disease unmet need*, Tennessee, 2014



*Unmet need is defined as the number of individuals for which there is no evidence of any of the following three components of HIV primary medical care during a specified 12 month time frame: viral load (VL) testing, CD4 count, or provision of anti-retroviral therapy (ART). Unmet need is further defined as the need for HIV-related health services by individuals with HIV who are aware of their HIV status but are not receiving HIV primary health care.

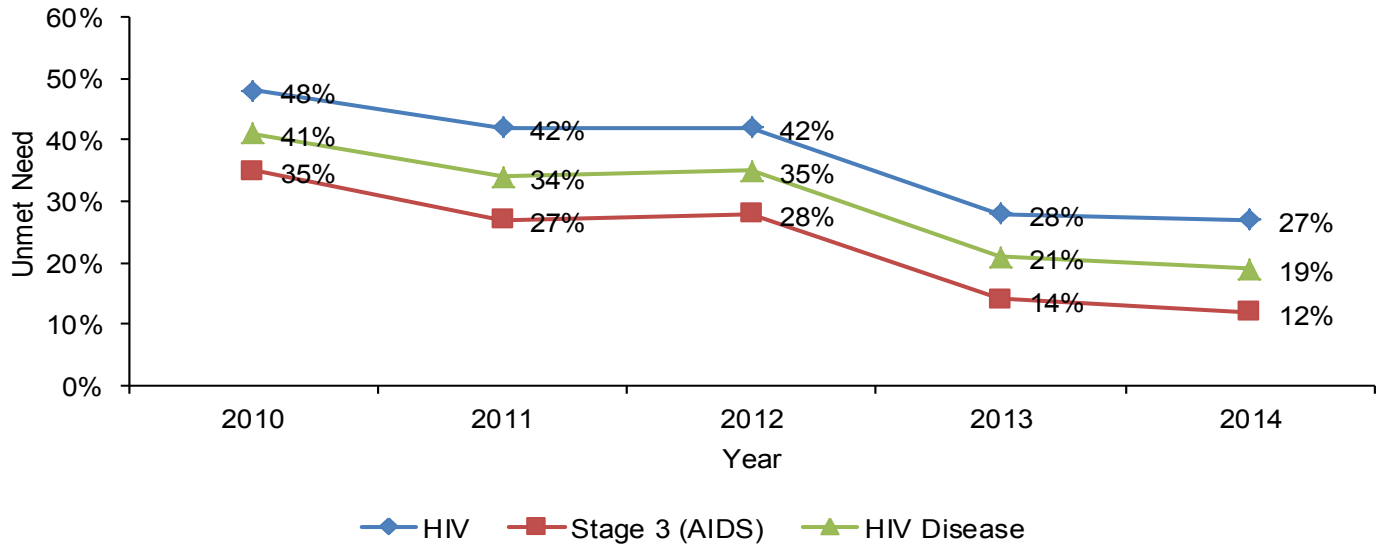
- Approximately 19% of individuals living with HIV disease met the criteria for unmet need (Figure 24).
- Persons who had a HIV diagnosis had a greater proportion of unmet need than persons who had a stage 3 (AIDS) diagnosis (27% and 12%, respectively).

Figure 25. HIV disease unmet need*, by race/ethnicity, Tennessee, 2014



*Unmet need is defined as the number of individuals for which there is no evidence of any of the following three components of HIV primary medical care during a specified 12 month time frame: viral load (VL) testing, CD4 count, or provision of anti-retroviral therapy (ART). Unmet need is further defined as the need for HIV-related health services by individuals with HIV who are aware of their HIV status but are not receiving HIV primary health care.

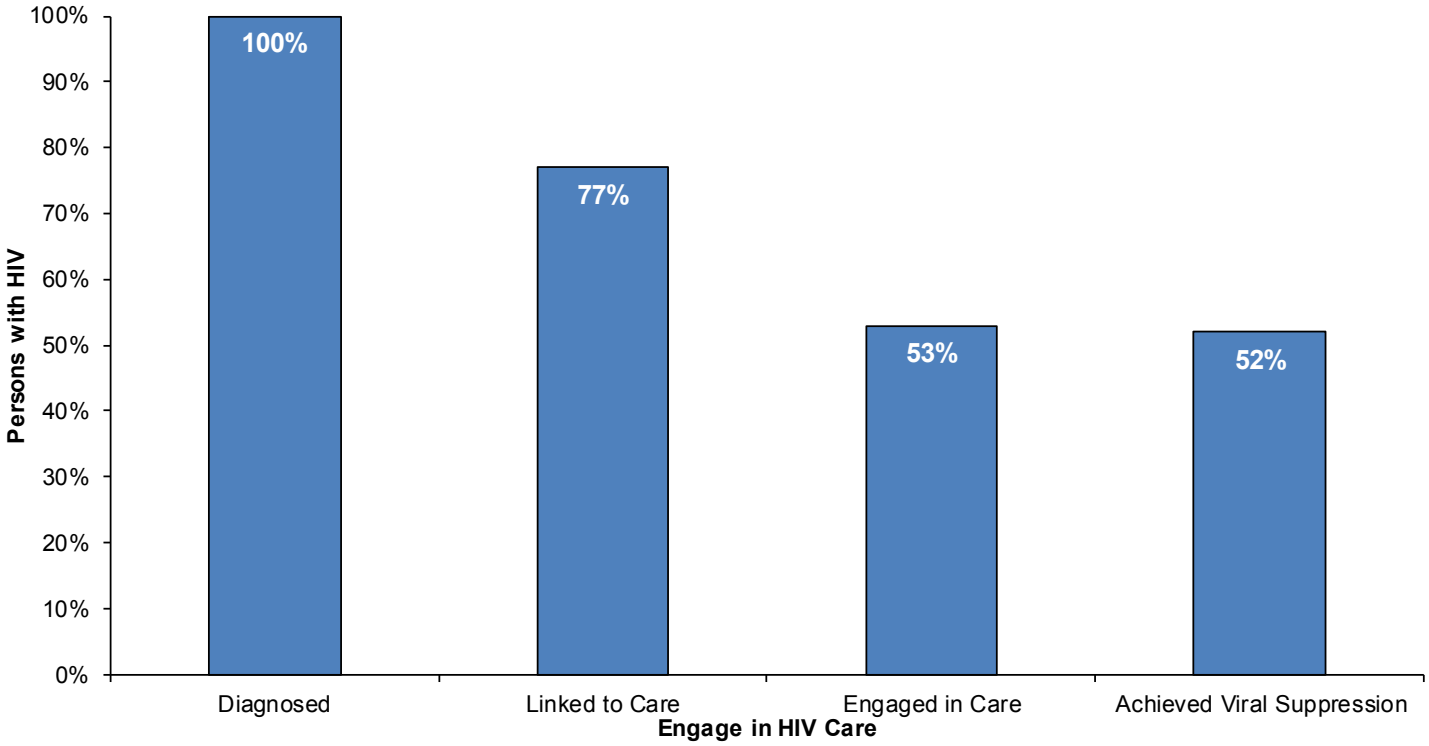
Figure 26. HIV disease unmet need*, Tennessee, 2010-2014



*Unmet need is defined as the number of individuals for which there is no evidence of any of the following three components of HIV primary medical care during a specified 12 month time frame: viral load (VL) testing, CD4 count, or provision of anti-retroviral therapy (ART). Unmet need is further defined as the need for HIV-related health services by individuals with HIV who are aware of their HIV status but are not receiving HIV primary health care.

- Hispanics represent the greatest proportion of unmet need (31%, Figure 25).
- There has been a steady decline in the proportion of unmet need (Figure 26). This decrease may be in part a result of changes in surveillance activities.

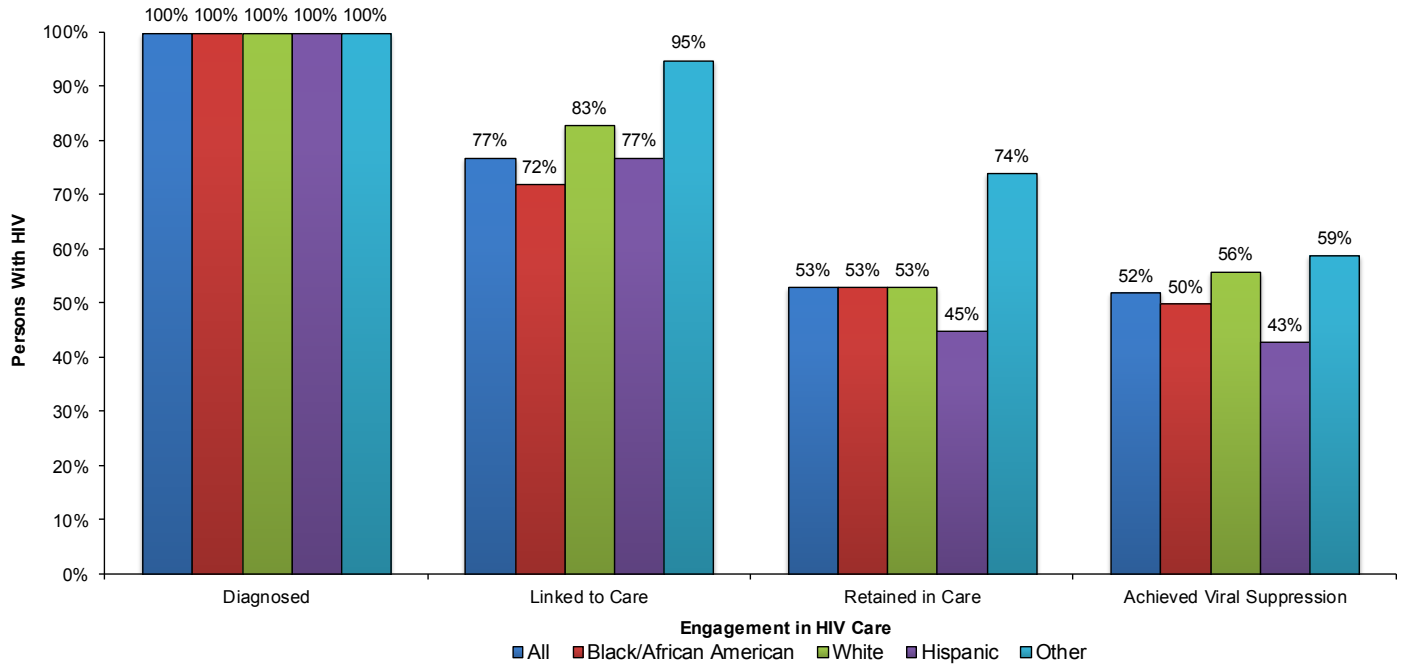
Figure 27. Continuum of Care, Tennessee, 2014



Diagnosed: All individuals diagnosed on or before December 31, 2013 and believed to be alive and residing in Tennessee as of December 31, 2014.
Linked to Care: At least 1 CD4 or viral load result reported within three months after the diagnosis date for those newly diagnosed with HIV in 2014 in Tennessee.
Engaged in Care: At least 2 CD4 and/or viral load results reported at least three months apart in 2014 for all individuals diagnosed with HIV on or before December 31, 2014 and believed to be alive and residing in Tennessee as of December 31, 2014.
Achieved Viral Suppression: HIV diagnosed individuals who had at least one viral load measurement in 2013 whose last viral load measure in 2014 was less than or equal to 200 copies/mL for all individuals diagnosed with HIV on or before December 31, 2013 and believed to be alive and residing in Tennessee as of December 31, 2014.

Of all of the newly diagnosed HIV cases, 77% were linked to care in 2014 (Figure 27). Of the individuals diagnosed with HIV on or before December 31, 2013 and believed to alive and residing in Tennessee as of December 31, 2014, 53% had evidence of being engaged in care in 2014 (i.e., 2 or more CD4 or viral load results reported at least three months apart in 2014). Additionally, 52% of individuals diagnosed with HIV in Tennessee achieved viral suppression in 2014. These individuals had at least one viral load measurement in 2013 whose last viral load measure in 2014 was less than or equal to 200 copies/mL.

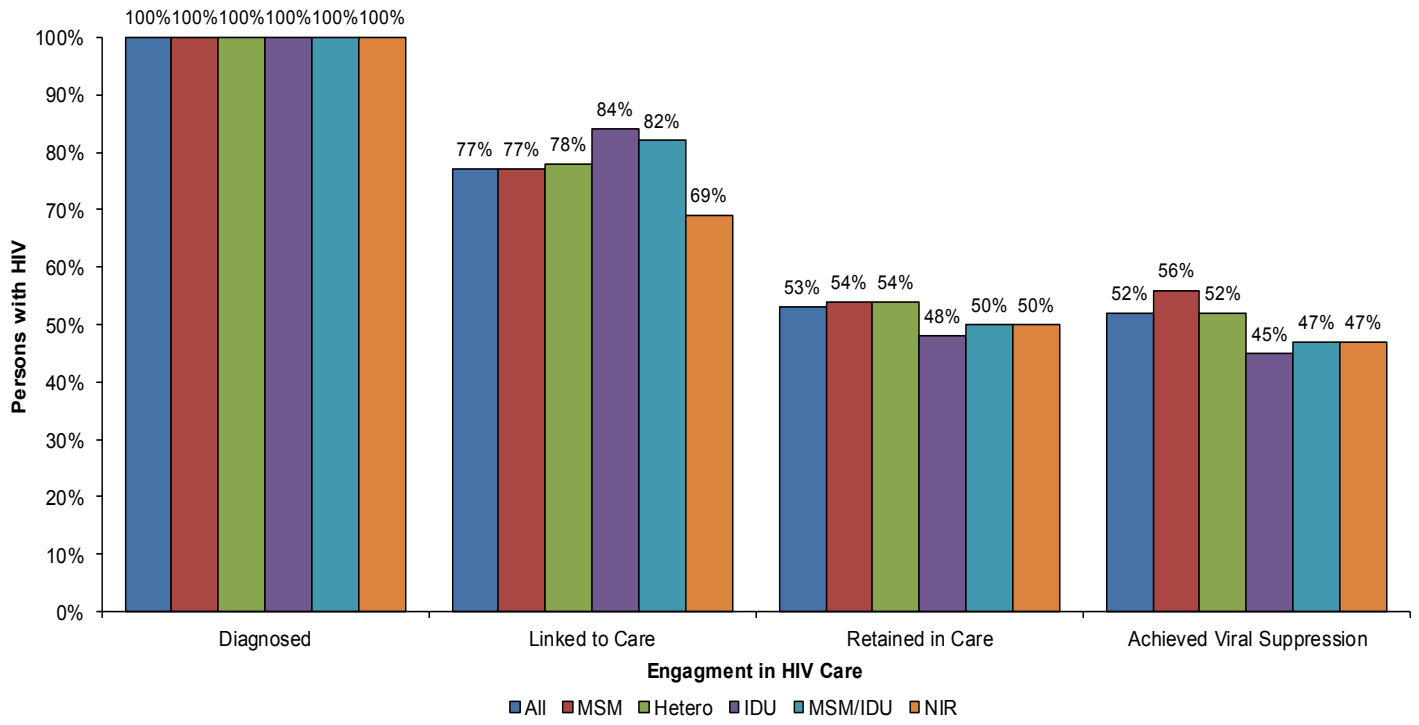
Figure 28. Continuum of Care, by race/ethnicity, Tennessee, 2014



Diagnosed: All individuals diagnosed on or before December 31, 2013 and believed to be alive and residing in Tennessee as of December 31, 2014.
Linked to Care: At least 1 CD4 or viral load result reported within three months after the diagnosis date for those newly diagnosed with HIV in 2014 in Tennessee.
Engaged in Care: At least 2 CD4 and/or viral load results reported at least three months apart in 2014 for all individuals diagnosed with HIV on or before December 31, 2014 and believed to be alive and residing in Tennessee as of December 31, 2014.
Achieved Viral Suppression: HIV diagnosed individuals who had at least one viral load measurement in 2013 whose last viral load measure in 2014 was less than or equal to 200 copies/mL for all individuals diagnosed with HIV on or before December 31, 2013 and believed to be alive and residing in Tennessee as of December 31, 2014.

When divided by race, Tennessee's 2014 Continuum of Care demonstrates poorer outcomes for blacks/ African Americans with respect to linkage to care (72%), and for both blacks/African Americans (50%) and Hispanic persons (43%) in viral suppression when compared to other races (Figure 28).

Figure 29. Continuum of Care, by transmission category, Tennessee, 2014



Diagnosed: All individuals diagnosed on or before December 31, 2013 and believed to be alive and residing in Tennessee as of December 31, 2014.
Linked to Care: At least 1 CD4 or viral load result reported within three months after the diagnosis date for those newly diagnosed with HIV in 2014 in Tennessee.
Engaged in Care: At least 2 CD4 and/or viral load results reported at least three months apart in 2014 for all individuals diagnosed with HIV on or before December 31, 2014 and believed to be alive and residing in Tennessee as of December 31, 2014.
Achieved Viral Suppression: HIV diagnosed individuals who had at least one viral load measurement in 2013 whose last viral load measure in 2014 was less than or equal to 200 copies/mL for all individuals diagnosed with HIV on or before December 31, 2013 and believed to be alive and residing in Tennessee as of December 31, 2014.

When divided by transmission category, Tennessee's 2014 Continuum of Care demonstrates poorer outcomes for IDU population in retention (48%) and viral suppression (45%), despite higher than average linkage to care rates (84%) (Figure 29).

Using Continuum of Care (CoC) data in planning, prioritizing, targeting and monitoring resources:

Each year, TDH develops a Continuum of Care based on the prior year's eHARS data. Per CDC guidelines, there is a 15 month delay between the end of the year and the generation of the Continuum of Care, to allow for the data to be finalized. Abiding by these guidelines, the 2014 CoC was generated in April 2016. The 2015 CoC will be finalized in April 2017.

TDH has used the CoC to develop our Jurisdictional Plan goals and to identify where on the continuum we most need to improve programs or shift resources to new services. As an example, due to the identification of the extreme health disparities identified for young black/African American MSM, TDH began the Social Network Strategy program targeting young black/African American MSM in Memphis and Nashville —eventually identifying 170 HIV positive young men and linking them to care.

TDH staff reviewed linkage to care data on all tests conducted by TDH (120,000/year) on a quarterly basis. Technical assistance and follow up is provided to agencies that do not achieve linkage requirements. Additionally, electronic lab submission data is reviewed quarterly for completeness and accuracy. This data is also used for program planning purposes, helping TDH determine what areas of the program need technical assistance and where resources should be targeted.

Improving engagement at each stage of continuum:

Increases in the percentage of people linked to care, retained in care, and virally suppressed may reflect true improvements in HIV CoC outcomes, enhanced surveillance activities, or both. TDH has several programs in place to improve outcomes at each stage of the CoC.

The State improved its surveillance activities by requiring laboratory reporting of all CD4 and viral load test results to TDH starting in 2013. Tennessee added additional surveillance strategies, such as matching state death data with National Death Index data and updating residential status using Accurint software. These strategies helped to provide more accurate information on the number of people living with HIV disease in Tennessee. Jurisdictions that do not use these methods might inaccurately construct their HIV CoC data because they may be missing critical laboratory data or including people in analyses who are no longer residing in their jurisdiction.

In addition to enhanced surveillance, Tennessee improved its HIV CoC activities. New activities initiated between 2010-2013 included the 2012 CAPUS award from CDC. CAPUS seeks to increase the proportion of people with HIV disease from racial/ethnic minority groups who know their status by expanding testing capacity and optimizing linking to, retention in, and reengagement in care and prevention services. In Tennessee, CAPUS funds supported (1) transition from third-generation (i.e., HIV antibody only) to fourth-generation (i.e., combined HIV antibody and antigen) HIV testing in three state laboratories, (2) implementation of social networking strategy to engage hard-to-reach black/African American MSM in HIV testing, (3) use of 'corrections navigators' (i.e., TDH staff members) to facilitate linkage of inmates to HIV care upon release, and (4) use of surveillance data to help disease intervention specialists identify and locate people living with HIV disease who are not engaged in care and to inform HIV health care providers of clients who are in care but are not virally suppressed.

TDH applies data obtained from local jurisdictional analyses to interventions to reduce locally identified health disparities in HIV disease. Line-item data about people identified as not retained in care are provided to

CAPUS funded disease intervention specialists who locate and navigate people for reengagement in HIV care. By repeated continuum analyses, we will assess the effects of changes in surveillance practices and CAPUS or other programs over time.

To improve linkage to care, TDH's HIV testing program requires all testers to link newly diagnosed HIV positive clients they have tested to care. TDH provides feedback quarterly to every testing partner, alerting them of any of their clients who tested positive and were not linked, and requires follow up on each un-linked client. This program encompasses two-thirds of all newly diagnosed positives in the state, as the testing program currently identifies 66% of all new positives in Tennessee.

In addition, TDH funds four agencies to implement ARTAS with newly diagnosed HIV positive clients.

Through Tennessee's network of HIV Centers of Excellence clinics located throughout the state, clients have access to outpatient ambulatory care and medical case management services. All Medical Case Managers (MCMs) have been trained in helping clients navigate the HIV care system. The availability of Ryan White services is communicated through media, social networks, and peer networks. The provision of wrap-around services such as transportation, food, housing, emergency financial assistance, and other programs are crucial for maintaining clients in care. There are mechanisms in place to notify MCMs when an individual appears to be out of care. The contracted mail order pharmacy notifies the MCMs any time a currently eligible person fails to re-order prescriptions. The State's new web-based eligibility system automatically notifies MCMs when eligible individuals are due for the six month re-eligibility determination. The MCM then initiates contact. If someone does not respond to schedule an appointment, the MCM attempts to locate the person and reconnect them to care.

Minority AIDS Initiative funding is used to fund specialists/coordinators in rural areas (West (2), Southeast (1)) who try to find persons a) who have dropped out of care and assist them in returning to care or b) who have never accessed care and engage them into care. All three contracted agencies have strong relationships with the Centers of Excellence in their respective areas. Both the Memphis and Nashville TGAs have implemented Early Intervention Services (EIS) in their respective geographic areas to find people and get them into care.

Challenges:

TDH is fortunate to have an integrated program —with HIV Surveillance, HIV Prevention, and Ryan White programs co-located with shared leadership. Despite required viral load and CD4 reporting by laboratories, TDH has discovered all labs are not reliably reporting viral load and CD4 data. These issues have been easier to identify since instituting a data feedback loop with the Data to Care program in 2013.

Although laboratory values were used as a proxy for clinic visits, they may not accurately reflect clinic visits. Dates or names can be misapplied to given laboratory results. Although Tennessee met CDC criteria for designation as a complete CD4 and viral load laboratory-reporting jurisdiction during 2013, noncompliance with reporting of laboratory results may have reduced the completeness of the data set.

Partnerships:

With respect to improving engagement in care and thus viral suppression, TDH has a Data to Care program, which has been in operation since 2013. Each year, TDH generates lists of clients who have fallen out of care, based on eHARS data, and assigns those cases to re-engagement specialists, trained as DIS and

housed at the central office and at the Memphis Shelby County Health Department. These DIS then work their caseload of out of care clients each month —using specialized skills in strengths based counseling and motivational interviewing to re-engage clients back into HIV care. They also address social and structural barriers that have prevented past access to or retention in care. TDH Data to Care staff have partnered closely with both Ryan White Part A programs to ensure EIS programs and Data to Care programs do not overlap and are working together to provide the best possible outcomes.

Background

The Division of HIV/AIDS Prevention at the Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA) released the revised *Integrated Guidance for Developing Epidemiologic Profiles* in 2014. These guidelines are meant to assist states in creating standardized profiles that meet the planning needs of HIV prevention and care programs, while allowing freedom to portray unique situations within the state. The epidemiologic profile is divided into two sections, within which three questions are addressed.

Profile Organization:

Section 1: Core Epidemiological Questions

This section deals with understanding the characteristics of the general population, the distribution of human immunodeficiency virus (HIV) disease and sexually transmitted diseases (STDs) in the state, and a description of the population at risk for HIV and STD infection. This section is organized around two key questions:

> **Question 1: What is the scope of the HIV disease epidemic in Tennessee?**
> Describes the impact of the HIV disease epidemic in Tennessee?
>
> **Question 2: What are the indicators of HIV disease risk in Tennessee?**
> Provides an analysis of the high-risk populations. Both the direct and indirect measures of risk behaviors associated with HIV transmission and the indicators of high-risk behaviors are described in this section.

Section 2: Ryan White HIV/AIDS Care Act Special Questions and Considerations

This section focuses on the questions that pertain to the HRSA HIV/AIDS care planning groups. It describes access to, utilization of, and standards of care among persons in Tennessee who are HIV infected. It is organized around one key question:

> **Question 3: What are the HIV service utilization patterns of individuals with HIV disease in Tennessee?**
> Characterizes patterns in the use of services by the population living with HIV/AIDS in Tennessee. Assess the unmet need of person who know they are HIV positive, but are not in care. Describes their service needs and perception of care.

Data Sources

1. Population Data

Population Estimates, Tennessee Department of Health (TDH)

TDH maintains population files for Tennessee and its counties based on data provided by the U.S. Census Bureau in partnership with the Federal State Cooperative Program for Population Estimates. Census counts are produced every ten years, with the 2010 census representing the most recent census. Population estimates are produced for non-census years based on adjustments made to the most recent census counts. The population estimates include race/ethnicity categories for whites, blacks/African Americans, and other.

2. HIV Epidemic Data

HIV/Stage 3 (AIDS) Surveillance Data, eHARS

The Tennessee Department of Health form PH-1600 (for patients less than 13 years of age) or PH-3274 (for patients over the age of 13) must be completed for the following events: (1) new diagnosis of HIV (i.e. acute HIV infection or first report of an antibody positive test result); (2) new diagnosis of stage 3 (AIDS) (CD4 < 200 or <14% (if the CD4 count is unavailable), or presence of one or more opportunistic infections; or (3) patient with a previously diagnosed HIV diagnosis on their first provider visit. Providers are required to report such events within 7 days, and reporting forms are located at: http://tn.gov/health/topic/STD-professionals.

By Phone: To either the Local Health Department, Regional Health Office, or the Tennessee Department of Health, Communicable and Environmental Disease Emergency Preparedness Section: 615.741.7500 or 1.800.525.2437

By Email: Using the appropriate Regional Health Office email address

By Fax: To either the Local Health Department, Regional Health Office, or the Tennessee Department of Health, Communicable and Environmental Disease Emergency Preparedness Section: 615.741.3691

TDH, Surveillance & Epidemiology Program is responsible for managing the HIV/stage 3 (AIDS) surveillance data, stored in the enhanced HIV/AIDS Reporting System (eHARS). The data collected in the surveillance system is based on diagnosis date, and not the time of infection. The diagnosis can be made at any clinical stage of the disease. The characteristics associated with new diagnoses may not reflect characteristics associated with recent infection. The surveillance system only includes data on individuals that are tested confidentially and reported. Members of certain subpopulation may be more or less likely to be tested, and therefore different subpopulations could be over or under-represented among diagnosed and reported HIV cases.

Death Data

Data on deaths occurring in Tennessee are from matches of our HIV case registry with the Tennessee Vital Statistics Death Registry and medical chart reviews by local surveillance staff. The most recent match with the Tennessee Vital Statistics Death Registry was completed for the 2014 calendar year. Information on deaths occurring outside of Tennessee is obtained from the National Death Index (NDI) and the Social Security Death Match. Due to limitations, the most recent available death data from these two sources is from calendar year 2011.

3. STD Surveillance Data

PRISM

The Tennessee Department of Health, STD Prevention Program is responsible for managing all reportable STD surveillance data. STD data collected through 2010 were managed in the STD

Management Information System (STD*MIS). In April 2010, TDH began utilizing Patient Reporting Investigation Surveillance Manager (PRISM) to collect and manage STD surveillance data. Data in this system are presented based on the date of report to the health department and not the diagnosis date. The data represent only those individuals tested and reported, which underestimates the true burden of infection as many infected individuals do not seek care, often due to lack of symptoms. In addition, many people receive treatment without being tested, again underestimating the true burden of infection. Since morbidity is frequently entered based on the receipt of laboratory reports at TDH, race and ethnicity information is often not available. Incomplete race and ethnicity reporting limits the interpretation of trends for these characteristics.

4. HIV Care Services Data

HIV Case Management Data, CAREWare

TDH participates in a cooperative agreement with HRSA for the provision of several programs funded by the Ryan White HIV Treatment Modernization Act. Data for persons served by these programs are collected and stored in the CAREWare database. Data include key demographic and eligibility related variables for persons residing in Tennessee, and portions of Mississippi and Arkansas. These data are used to monitor the level of need and the provision of services for individuals utilizing Ryan White funded services.

Technical Notes

HIV Disease, HIV case, stage 3 (AIDS) case: HIV disease includes all individuals diagnosed with the HIV virus regardless of the stage of disease progression. All persons with HIV disease can be sub-classified as either a stage 3 (AIDS) case (if they are in the later stages of the disease process and have met the case definition for stage 3 (AIDS)), or an HIV case (if they are in the earlier stages of the disease process and have not met the stage 3 (AIDS) case definition). In this report, the sub-classification of HIV or stage 3 (AIDS) is based on an individual's status of disease progression as of December 31, 2015.

Date of Diagnosis: Represents the date an individual was first diagnosed with the HIV virus, regardless of the stage of disease progression. However, in many instances the initial diagnosis of infection does not occur until several years after the initial infection, so at best the trends in diagnosed HIV cases can only approximate actual trends in new HIV infections.

Reporting Delay: Delays exist between the time HIV infection is diagnosed and the time the infection is reported to TDH. As a result of reporting delays, case numbers for the most recent years of diagnosis may not be complete. Data from recent years should be considered provisional. The data presented in this report have not been adjusted for reporting delay. The data in this report represent all information reported to TDH through August 10, 2016.

Vital Status: Cases are presumed to be alive unless TDH has received notification of death. Current vital status information for cases is ascertained through routine matches with Tennessee death certificates, reports of death from other states' surveillance programs, and routine site visits with major reporting sites. When comparing *Profiles*, changes in the number of living cases in a select year between the *Profiles* is due to adjustments based on results of death matching activities.

Routine Interstate Duplicate Review (RIDR): The mobility of American citizens impacts the ability to accurately track individuals living with HIV. Mobility may result in the same HIV infected person being counted in two or more different states. To help respond to potential duplication problems, the CDC initiated the Interstate Duplication Evaluation Project (IDEP), now called Routine Interstate Duplicate Review (RIDR) in 2002. RIDR compares patient records throughout the nation in order to identify duplicate cases. The states with duplicate cases contact one another to compare patient profiles in order to determine the state to which the case belongs, based on the residence during the earliest date of diagnosis. In addition, surveillance programs are able to update patient records with the most recent information. Because of this process, the cumulative number of cases for Tennessee may change, but the process has increased the accuracy of Tennessee's data by reducing the chance that a case has been counted more than once nationally.

Small Numbers: Data release limitation are set to ensure that the information cannot be used to inadvertently identify an individual. It is difficult to make meaningful statements concerning trends in areas with low numbers of cases. Please interpret rates where the numerator is less than 20 cases with caution due to the low reliability of rates based on a small number of cases.

Financial and Human Resources Inventory

Overview of Funding

Federal and State Prevention and Care Funding, FY 2016*

Funding Type	Funding Amount	Percent of Total	How Resources are Being Used	Impact on Continuum of Care
HIV Prevention				
PS 12-1201 (Cat A&B)	$5,422,383	11.0	HIV Testing, Partner Services, Condom Distribution, Linkage to Care, Re-engagement in Care, Effective Behavioral Interventions	Diagnosis, Linkage, Re-engagement
PS 12-1210 (CAPUS)	$1,260,524	2.5	HIV Testing in young AA MSM, Linkage to Care, Re-engagement in Care	Diagnosis, Linkage, Re-engagement
PS 15-1506 (PrEP)	$1,579,826	3.2	PrEP Infrastructure development for AA MSM and TG women in Memphis MSA	Primary Prevention
HIV Care				
ADAP	$21,188,318	43.0	HAART	Engagement/ Retention, HAART, Viral Suppression
State ADAP**	$7,000,000	14.2	HAART	Engagement/ Retention, HAART, Viral Suppression
Part B Base	$5,284,566	10.7	HIV Core Medical and Support Services	Linkage, Engagement/Retention, Reengagement, Viral Suppression
MAI	$200,662	0.4	Health Education/Risk Reduction and Outreach Activities	Linkage, Reengagement, Retention, HAART
State Part B**	$200,000	0.4	HIV Core Medical and Support Services	Linkage, Engagement/Retention, Reengagement, Viral Suppression

HOPWA				
Base Award	$4,938,497	10.0	----	----
SAMHSA				
Base Award	$2,161,810	4.4	----	----
Total Federal Funds	**$ 42,036,586**	**85.3**		
Total State Funds	**$ 7,200,000**	**14.6**		
Prevention and Care Total	**$ 49,236,586**	**100.0**		

*Due to rounding, totals do not add up to 100%.
**State funding

Funding for Prevention

TDH conducts HIV Prevention activities in all regions of the state, primarily through funding via CDC cooperative agreements. The base HIV Prevention award funds HIV testing [in both clinical and non-clinical settings], comprehensive prevention for HIV positive persons, including partner services, condom distribution, and behavioral interventions for PLWHA and high-risk negative populations – namely, MSM and Transgender populations. TDH provides support to metro and regional health departments to provide 4th Generation HIV Testing and partner services. In addition, community HIV Prevention activities are conducted through contracts with five regional lead agencies that assist with competitive awards for community-based organizations and oversee the Regional Planning Groups (RPGs) that complement the statewide TCPG. Each year approximately 15 CBOs across the state receive funding to provide HIV Testing and culturally relevant, high impact HIV Prevention interventions to consumers in their communities.

HIV testing services are provided primarily by nurses in clinical settings, including metro and regional health departments. TDH also conducts testing in emergency rooms, corrections settings, federally qualified health centers, and in a variety of non-clinical settings. Behavioral interventions and public health strategies are delivered through community organizations through a network of peer specialists and trained counselors who have had approved training through TDH. TDH works closely with CDC and regularly hosts targeted training and capacity-building to assure high-quality HIV Prevention services.

In addition to the base HIV Prevention award, Tennessee has successfully competed for demonstration project funding for PS 12-1210 (CAPUS) and PS 15-1506 (PrEP). The CAPUS demonstration project has provided the ability for 4th Generation HIV Testing in all state labs in Tennessee, as well as targeted HIV testing for young black MSM via Social Network Strategy. In addition, the funding has supported correctional navigation, re-engagement activities (Data to Care), and social/structural interventions. Funding from PS 15-1506 from CDC—awarded in 2015—will expand infrastructure for and access to pre-exposure prophylaxis (PrEP) in the Memphis MSA.

Funding for Care, Treatment and Support Services

The bulk of HIV primary care is delivered through 14 Centers of Excellence (COE) across the State. Many Core Medical Services are available at each of the COEs. Primary medical services are provided by physicians - both Infectious Disease specialists and Internal Medicine providers - and nurse practitioners, registered nurses, and physician assistants (PAs). Each clinical site provides access to medical case managers who facilitate access to housing, medication assistance, assistance with insurance program which cover premiums, co-pays, and deductibles, and behavioral health services. All COEs provide or have access to high-quality dental care and nutrition services.

The Part F (AETC) grantee for the Southeast is based at Vanderbilt University and has a long and successful history in training health care providers—especially Ryan White providers—in Tennessee. As part of the annual training needs assessment, the Part F grantee assesses needs of Ryan White providers and programming and training offered reflect the current needs in Ryan White settings.

Additional Federal support in Tennessee comes through HUD contributions to support HOPWA services and SAMHSA funding for the Tennessee Department of Mental Health and Substance Abuse Services to provide HIV testing and education in substance abuse treatment settings. In addition to the prevention activities funded through TDH, CDC directly funds two community organizations: Nashville CARES and Le Bonheur Community Health and Well-Being in Memphis.

Workforce Capacity

A network of highly skilled health workers from many disciplines delivers HIV prevention and care services in Tennessee. HIV primary care is provided by physicians and mid-level providers (physician assistants, nurse practitioners) in Centers of Excellence clinics and Ryan White provider sites throughout the State. All clinical settings host or have relationships with medical case managers who coordinate health care services and all core medical services. Psychosocial needs are also addressed by peer navigators, mental health providers, substance abuse treatment providers, and other behavioral health professionals. Linkage and retention in care services are

provided by Disease Intervention Specialists (DIS), patient navigators, and medical case managers. Additional core medical services are provided by contracts with private dental offices, nutritional counselors, and TDH employees in HIV and STD roles overseeing early intervention services.

Ryan White Part B manages ADAP enrollment and encourages participation in the health care marketplace. Staff in all Ryan White sites are engaged in assessing coverage, assisting consumers in obtaining health care (Marketplace, TennCare, or Medicare) and assisting with insurance co-pays and deductibles where indicated. Where no other payer source is found, consumers are enrolled and receive HIV medication through the ADAP Mail Order Pharmacy Program.

Prevention work is performed by multidisciplinary teams in health departments and community-based organizations. HIV testing and counseling in TDH clinical sites is primarily performed by licensed nurses employed in county health departments. In addition, Disease Intervention Specialists (DIS) are involved in both HIV testing activity and linkage and re-engagement in care. CBO staff includes masters and bachelors-prepared employees, most often in social work or human service fields. Outreach workers, peer specialists, and group facilitators are an integral part of the prevention activities in most CBOs.

Service Continuity

The Part B program is housed with both the STD Prevention and HIV Prevention programs. The prevention portfolio also includes the adult Viral Hepatitis program. This allows for close working relationships across programs towards the delivery of a continuum of comprehensive HIV prevention and care programs and serves as a bridge between prevention and care systems. The network of care providers in the HIV Centers of Excellence provide high-quality HIV medical care, medical case management, and access to all core medical services.

In addition to health department services, TDH directly provides HIV Prevention services and contracts with local organizations to deliver community-based prevention services. HIV counseling and testing services are provided in every county health department; partner counseling/notification services are also offered. Persons who test HIV positive are informed of HIV care providers in their region and referred to the provider of their choice. Community organizations that also provide testing through contracts with TDH include several Part C funded agencies, 10 other organizations, and both CDC directly-funded organizations. Other prevention services such as risk reduction counseling and group interventions are provided by both CDC-directly funded community organization and other organizations contracted by TDH. Efforts are targeted to persons at greatest risk of HIV according to the state HIV prevention plan.

Coordination of services is imperative in Tennessee, a resource poor state, to ensure the best use of limited resources to serve the most people without duplication of services. Current plans for sustainability and continuity of services include ongoing capacity-building efforts of staff using internal TDH resources and collaborating closely with the AIDS Education and Training Center at Vanderbilt in Nashville to assess and provide training on a broad range of clinical topics. Cross-training of staff is consistently encouraged in awarded contracts and contract monitoring visits, and focus on staff retention is included in TDH's technical support of its grantees.

Assessing Gaps/Unmet Needs

This section summarizes the efforts of the Tennessee Department of Health to analyze unmet needs, gaps and barriers in both HIV-related prevention and care efforts throughout the state. Information was collected via surveys, focus groups/community forums and key informant interviews. A **Statewide On-line Survey** was conducted via Survey Monkey and gathered input from prevention/care providers and PLWHA. To compliment this survey-based data, a series of **Regional Focus Groups/Community Forums** and **Key Informant Interviews** were conducted with providers, PLWHA, and other stakeholders to provide valuable in-depth qualitative insights for this assessment process. All activities are described below in more detail along with a summary of findings for each activity.

Statewide On-line Survey

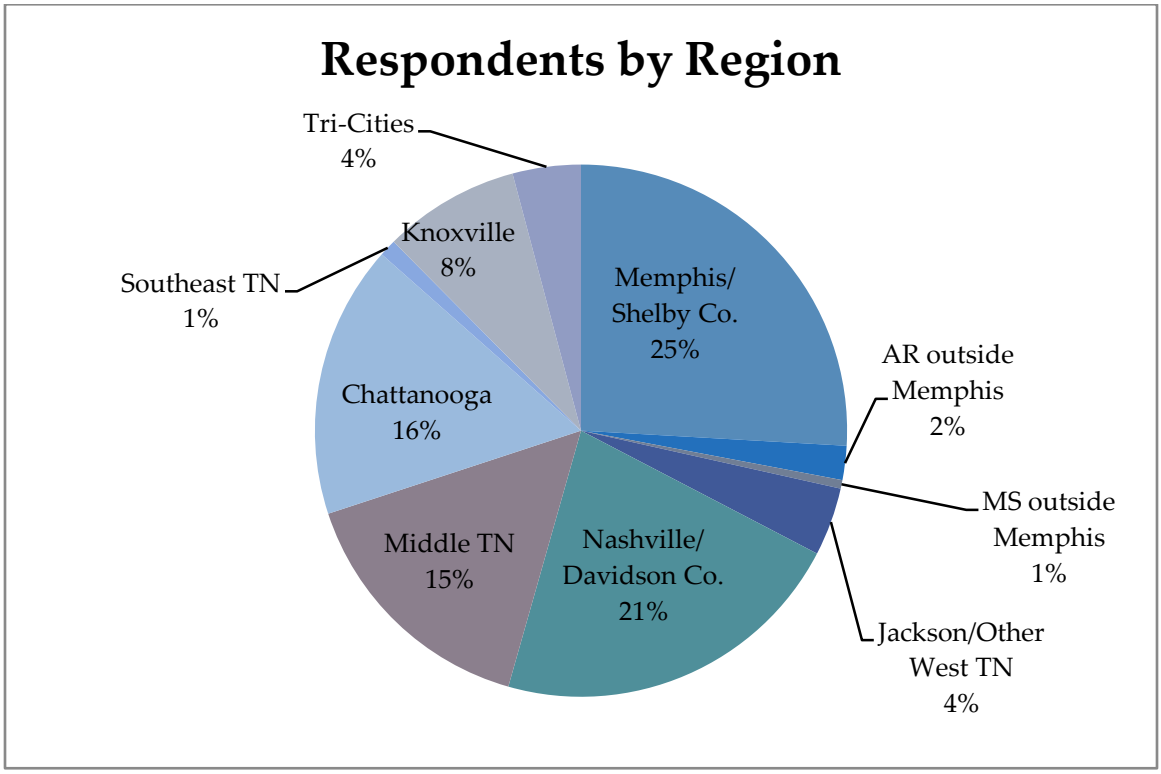
As one component of data collection for the Tennessee Prevention and Care Needs Assessment, a web-based needs assessment questionnaire was deployed in late April through early May 2016. The snowball technique was used to enlist as many stakeholders as possible throughout the state as survey respondents. To initiate this technique, the website link to this questionnaire was distributed electronically to more than 150 stakeholders who were asked to complete the survey themselves and then distribute it among other stakeholders including, but not limited to, PLWHA, prevention providers, substance abuse treatment providers, advocacy/policy workers, physicians, nurses/nurse practitioners, dentists/dental hygienists, case managers, psychosocial support staff members, consumers of HIV prevention services, and HIV peer educators. Further, a paper version of the questionnaire was sent to case managers and their supervisors to capture the input of those individuals who may not have access to the internet. A second reminder email was sent as the deadline for survey completion approached.

The total number of surveys collected included 352 web-based surveys and 94 responses via the paper version. Of that total (446), 77% identified their role in HIV prevention/care in Tennessee and region of residence – both of which were necessary for the level of requested analysis. Therefore, a total of 424 surveys were included in this summary. As not all respondents answered all questions, the total number of respondents for each question/set of questions varies

and is noted. Additionally, all percentages are rounded up and therefore may not always add to 100%.

Respondent Demographics

The breakdown ***by region*** of the 424 individuals who responded to this question follows:



The self-identification ***role in HIV prevention/care*** of the 424 individuals who responded to this question follows:

25%	Person living with HIV/AIDS (PLWHA)
23%	Other*
22%	Prevention provider
15%	Consumer of HIV prevention services
14%	Medical/Non-medical case manager
13%	HIV peer educator
13%	Advocate/policy worker
7%	Nurse/Nurse Practitioner/Physician Assistant
4%	Psychosocial support staff
3%	Substance abuse treatment provider
3%	Dentist/Dental hygienist
2%	Physician

**Other* roles suggested by respondents included: administrator, college professor, pharmacist, social worker, community member, psychotherapist, spiritual/faith support, epidemiological clerk/ surveillance staff, high school teacher, training coordinator, hotline operator, nutritional expert, grant writer, and researcher.

Seventy-five percent of respondents (318) identified themselves as providing services and indicated the following as the ***primary setting*** for providing those services:

35% HIV community-based organization
24% Health department/public clinic
13% Other (non-HIV specific) CBO
10% Other*
7% Private physician's office
5% College/university
5% Federally qualified health center
1% Emergency room
1% Veteran's Administration

**Other* settings suggested by respondents included: social media, pharmacy, support groups, client homes, drug/treatment facility, hospital-based clinic, and politician's office.

Barriers to HIV Testing

What have you seen among 'late-testers' [i.e., people whose HIV test seems to take place late in their disease process] that can advise us about barriers for HIV testing?

Respondents were allowed to select up to three responses from a list of possible barriers to HIV testing. Of the 391 respondents to this question, nearly three-quarters of respondents (72%) indicated *fear of diagnosis;* nearly two-thirds (65%) indicated *stigma;* and nearly half of respondents (41%) indicated *low perceived risk or denial of risk*. All responses are reported below:

72% Fear of diagnosis
65% Stigma
41% Low perceived risk or denial of risk
28% Substance abuse
24% Mental health disorders/issues
17% Absence of routine testing (medical setting)
14% Lack of transportation
13% Unsure where to go for testing
12% Lack of access-testing/healthcare
9% Lack of access-culturally competent materials
7% Other*

5% Cost of testing
3% Need translation services

**Other* barriers suggested by respondents included: teachers unable to talk to youth about safer sex/lack of HIV-related education in schools, lack of incentives, HIV criminalization laws, lack of advertising, clients with developmental delays, lack of accountability, lack of staff who will address questions and health needs in culturally-competent manner, lack of community-based testing sites, family/religious pressures, and individual being asymptomatic.

What interventions might be employed to increase awareness of testing benefits or increase uptake of HIV testing?

Common themes among the 242 respondents included the need for the following interventions:

- Targeted, community-level interventions to address stigma
- Public education (share personal stories, TV/radio/print ads, social media)
- HIV-related education in schools to include local resources (e.g., testing sites)
- Community outreach (testing vans, churches, bars, schools, peer specialists)
- Testing in primary care settings (provide as routine lab work/universal testing)
- Education among providers to deliver culturally-competent care/education
- Peer involvement in education and testing
- Incentives for testers (including free testing, gift cards, food, fun activities)
- Transportation to confidential testing sites

Primary Prevention

What barriers to accessing HIV primary prevention services do 'most-in-need' Tennesseans face?

Respondents were allowed to select up to three responses from a list of possible barriers to HIV primary prevention. Of the 369 respondents to this question, more than half of all responses (56%) indicated *stigma* followed by *denial of perceived HIV risk* (41%), *lack of social support* (34%) and *substance abuse* (31%). All responses are reported below:

56% Stigma
41% Denial of perceived HIV risk
34% Lack of social support
31% Substance Abuse
25% Housing instability/homelessness
25% Mental health disorders/issues

23% Lack of health insurance
16% Concerns about cost
15% Previous negative experiences-health care
15% Lack of transportation
14% Competing priorities (work, childcare)
9% Lack of service providers
8% Lack of access-culturally competent materials
5% Need translation services
3% Other*

**Other* included such barriers as: lack of sexual health training/education for teens/preteens, lack of incentives and lack of services.

What system issues result in poorer access to primary prevention services?

Respondents were allowed to select up to three responses from a list of possible system issues to primary prevention services. Of the 362 respondents to this question, more than half of all responses (56%) indicated *stigma* followed by *denial of perceived HIV risk* (41%), *lack of social support* (34%) and *substance abuse* (31%). All responses are reported below:

45% Poor referral practices of collaborating agencies
43% Transportation
36% Staff/provider attitudes
32% Wait time for services
23% Lack of staff resources
20% Staff training/capacity not well-matched to client need
20% Times/days of prevention programming not appropriate
20% Lack of cultural competence in organizations
7% Other*
6% Need translation services

**Other* system issues suggested by respondents included: housing, HIV criminalization laws, lack of universal testing, lack of resources to pay for PrEP, and lack of support for comprehensive sexual health school policies.

What suggestions (system issues, provider issues) do you have for Tennessee's HIV planning efforts to enhance HIV primary prevention?

Common themes among the 206 respondents included the following suggestions:

- Training to providers/staff (e.g., more awareness of client needs, creating patient-friendly environments, cultural sensitivity, PrEP)
- Primary prevention (sexuality education) in schools
- Information/list of resources marketed/delivered to PLWHA
- Public education (share personal stories, TV/radio/print ads, social media)
- Resources (e.g., staff)
- Extended service hours (i.e., nights and weekends)
- Transportation to those outside bus routes
- Outreach services (e.g., free testing sites)
- Testing for all those entering jails/prison
- Collaborative efforts with bordering states
- Prevention counseling for those that test negative
- Updated HIV prevention materials to reflect current technology
- Targeted efforts for the homeless/those in unstable housing

Which HIV prevention interventions do you feel are most successful at recruiting persons 'most-in-need'?

Common themes among the 192 respondents included:

- Peer navigation/education
- Education for all community members shared via various media (print, radio, internet)
- Outreach services (e.g., mobile testing, testing events, bars, health fairs, home visits)
- Universal testing
- Incentives (e.g., free testing, money, free condoms, gift cards)
- Youth-focused programs to reach at-risk youth
- Standardized referral practices between care, intervention and surveillance entities
- Awareness/availability of rapid linkage to care
- One-on-one counseling
- Social Networking Strategy
- ARTAS
- 3MV

Prevention with PLWHA – Positive Prevention/Secondary Prevention Services

What barriers to persons living with HIV/AIDS (PLWHA) face in accessing secondary (positive prevention) services?

Respondents were allowed to select up to three responses from a list of barriers. Of the 349 respondents to this question, half of all respondents (50%) indicated *stigma* followed by *lack of social support* (45%), *housing instability* (34%) and *mental health issues* (34%). All responses are reported below:

50% Stigma
45% Lack of social support
34% Housing instability
34% Mental health issues
30% Substance abuse
27% Denial of HIV risk
26% Transportation
23% Lack of insurance
21% Lack of access
19% Cost of services
5% Other*
4% Translation services

**Other* barriers suggested by respondents included: workforce training and retention, lack of knowledge of need for secondary services, lack of motivation, and lack of trust in providers.

What system issues result in poorer access to secondary prevention services by PLWHA?

Three hundred and thirty-eight individuals responded to this question and were allowed to select up to three responses from a list of system issues. All responses are reported below:

43% Transportation
41% Staff training/capacity not well-matched to client need
38% Poor referral practices of collaborating agencies
27% Wait time for services
27% Staff/provider attitudes
25% Lack of staff resources
22% Lack of cultural competence in organizations
21% Times/days of prevention programming not appropriate
8% Need translation services
3% Other*

**Other* system issues suggested by respondents included: EIS, ASL for deaf clients, limited services for transgender PLWHA, funding, and lack of universal testing.

What suggestions (system issues, provider issues) do you have for Tennessee's HIV planning efforts to enhance HIV prevention among individuals living with HIV?

Common themes among the 137 respondents included:

- Hire more PLWHA to work in prevention/care
- Promote peer navigation
- Include HIV prevention education in schools
- Extend clinic service hours
- Provide transportation (bus passes)
- Advertise HIV resources throughout community (schools, libraries, social media)
- Increase infectious disease (ID) physicians/providers across state (especially in rural areas)
- Enhance lab services in rural areas
- Improve cultural competency for providers and staff
- Improve environments to be more patient-friendly
- Promote collaboration between HIV/mental health and substance abuse providers
- Improve referral practices among agencies
- Increase access to affordable housing, mental health services, and substance abuse providers
- Enhance community-level education to decrease stigma
- Advertise and educate about PrEP among community and providers
- Enhance field/home visiting capability

<u>Access to Pre-Exposure Prophylaxis (PrEP)</u>

What are the barriers to increased uptake of PrEP in your area?

Three hundred and thirty-nine individuals responded to this question and were asked to select up to three responses from a list of barriers. All responses are reported below:

64% Lack of patient knowledge/awareness
44% Cost of medication
41% Lack of provider knowledge/acceptance
21% Poor access to health care
18% Stigma of PrEP
17% Fear of taking medication for rest of life
16% Unknown long term effects of PrEP

14% Fear of side effects
11% Non-medication financial burden
5% Other*

**Other* barriers suggested by respondents included: legislation preventing access, out of pocket costs for labs/doctor visits for uninsured/low income, lack of appeal to women and heterosexuals, and lack of commitment to regimen.

How else can Tennessee re-allocate resources/interventions to enhance PrEP services in your area?

Common themes among 172 respondents included the following suggestions:

- Promote PrEP navigators
- Provide public information/education on PrEP in schools and churches
- Advertise the need for/importance of prevention among providers and community
- Increase number of local providers prescribing PrEP
- Promote local PrEP providers
- Train primary care providers on PrEP along with cultural competence in providing PrEP
- Provide funding to support clients in paying for lab costs, provider visits, and medication

Linkage to Care

What do you believe are the predominant reasons people are not linked to care successfully?

Three hundred and forty-three individuals responded to this question and were asked to select up to three responses from a list of barriers. All responses are reported below:

37% Stigma
26% Denial
25% Lack of health insurance
23% Transportation
21% Substance abuse
20% Lack of social support
20% Concerns about cost
19% Not sure where to go
19% Housing instability/homelessness
18% Previous negative experience in health care
18% Long wait times for initial appointment
18% Mental health issues/disorders
17% Asymptomatic

14% Other competing priorities
12% Administrative processes
10% Poor referral practices of testing agency
10% Attitude of medical and social service staff members
8% Clinic hours
8% Experiencing prejudice from medical and social service staff
5% Lack of access to culturally competent health promotion materials
3% Other*
3% Need translation services

**Other* barriers suggested by respondents included: Lack of communication because of changed addresses or phone numbers, concerns about confidentiality, lack of compliance, limited number of providers, lack of collaboration between agencies, and consumer has own timeline for services.

What suggestions (system issues, provider issues) do you have for Tennessee's HIV plan to enhance linkage to care?

Common themes among 145 respondents included the following suggestions:

- Peer educators/navigators/counselors/buddy program
- Communications/follow-up with clients (e.g., calls, texts, social media)
- Expanded clinic service hours/free 24-hour services (care, testing, transportation, online Q&A)
- Cultural competence training with providers/create patient-friendly environments
- Transportation (e.g., bus passes, vouchers)
- Coordinated efforts with mental health/substance abuse providers
- Same-day, comprehensive services for first-time clients
- Infectious disease (ID) physician coverage, especially in rural areas
- Community-wide education
- Promoted access/contact with other agencies (e.g., referrals)
- Deployed case management in rural areas (e.g., home visits)
- Staffing (e.g., case managers, early intervention specialists)
- Increased number of providers prescribing PrEP
- Streamlined/simplified linkage to care process (i.e., each agency has different requirements/paperwork which delays the process)

Retention in Care

What patient factors result in poorer retention in care?

Respondents were allowed to select up to three responses from a list of barriers with 326 individuals responding to this question. All responses are listed below:

41% Substance abuse
39% Mental health disorders/issues
36% Lack of social support
32% Stigma
30% Housing instability/homelessness
30% Denial of perceived HIV risk
26% Lack of transportation
24% Competing priorities (e.g., work, childcare)
20% Lack of health insurance
15% Previous negative experience in health care
14% Concerns about cost
6% Lack of food services
5% Need translation services
4% Other*

**Other* factors suggested by respondents included: rural areas without care, noncompliance, MCM turnover, inconvenient clinic hours, and asymptomatic.

What system issues result in poorer retention in care?

Respondents were allowed to select up to three responses from a list of barriers with 314 individuals responding to this question. All responses are listed below:

44% Poor systems for follow-up in locating patients out of care
42% Clinic hours/scheduling not matched to patient need
38% Transportation
33% Poor referral practices of testing agency/collaborating agencies
33% Staff/Provider attitudes
33% Difficulty accessing appointments/scheduling
28% Wait times in clinics
13% Lack of cultural competence in organizations
5% Need translation services
4% Other*

**Other* factors suggest by respondents included: unaware of available services, staff turnover, too much paperwork, waiting list for positives, not a priority for clients, lack of standardized/systematic/collaborative approach to client need, clients not ready for care, lack of anonymity in HIV-only clinics, and stigma.

What suggestions (system issues, provider issues) do you have for Tennessee's HIV plan to enhance retention in care?

Common themes among 115 respondents included:

- Extended service hours
- Transportation and housing services
- Promote AETC collaboration
- Access to mental health and substance abuse services
- Access to providers in rural areas
- Advertisements of locations/services available to clients (social media)
- Cultural competency training for providers and clinical staff
- Patient-friendly/patient-centered environments in clinics
- Community education about HIV/AIDS to reduce stigma
- Communication protocols with clients using current technology (e.g., reminder calls/texts/emails prior to appointments)
- Peer navigators/counselors
- Use 'secret shoppers' in COEs
- Additional staff (e.g., retention specialists/EIS/engagement specialists, medical and non-medical case managers) to allow for one-on-one follow up

Similarities and Differences among Tennessee and Five Tennessee Regions

For purposes of this needs assessment and subsequent statewide on-line surveys, delivery of Tennessee prevention and care efforts are divided into five regions: East, Southeast, Middle, Southwest and West. These five regions and the areas each includes are indicated below:

Five Tennessee Prevention/Care Regions	Areas included in region
East	East Tennessee Knoxville Tri-Cities
Southeast	Chattanooga Southeast Tennessee

Middle	Middle Tennessee Nashville/Davidson Co
Southwest	Memphis/Shelby Co AR outside Memphis MS outside Memphis
West	Jackson/Other west Tennessee

The East Region

The East Tennessee Region mirrors the statewide results listed above with the same primary **barriers to HIV testing** (fear of diagnosis, stigma and low perceived risk/denial of risk); **barriers to primary prevention** to those most in need (stigma, denial of perceived HIV risk); **system barriers to primary prevention** (poor referral practices of collaborating agencies, transportation); **barriers to PLWHA accessing secondary services** (stigma, lack of social support); **barriers to PrEP** (lack of patient knowledge/awareness of PrEP, cost of medication/labs/services, and lack of provider knowledge/acceptance); **barriers to linkage to care** (stigma); **barriers to retention in care** (substance abuse, mental health disorders, lack of social support, and stigma); and **system barriers to retention in care** (poor systems for follow-up in locating patients out of care, clinic hours/scheduling not matched to patient need, and transportation). Also, like the statewide results, this region identifies **transportation** as the primary **system barriers to PLWHA accessing secondary services.**

Respondents noted that with a lower level of HIV incidence in this portion of the state, comes lower funding for prevention and care efforts. A common suggestion to address some of the above mentioned barriers then is **increased funding** to increase staffing of prevention and care services, transportation for clients to access care, and expand clinic hours. Complicating the delivery of information and services in this region are geographic barriers including a range of settings from very rural to urban. Frequent suggestions to address the issues of stigma and lack of knowledge in this region are to increase **community-wide HIV-related education**, especially in schools to address the lack of perceived risk among youth. Along with additional funding, education is necessary to increase the use of PrEP through **comprehensive trainings with providers** intended to enhance their acceptance and promotion of PrEP. Other suggestions to enhance HIV primary prevention efforts include **opening another Center of Excellence** to address issues close to the border with Virginia.

The Southeast Region

The Southeast Tennessee Region mirrors the statewide results listed above with the same primary **barriers to HIV testing** (fear of diagnosis, stigma and low perceived risk/denial of

risk); **barriers to primary prevention** to those most in need (stigma, denial of perceived HIV risk); **barriers to PLWHA accessing secondary services** (stigma, lack of social support); **barriers to PrEP** (lack of patient knowledge/awareness of PrEP, cost of medication/labs/services, and lack of provider knowledge/acceptance); **barriers to linkage to care** (stigma); **barriers to retention in care** (substance abuse, mental health disorders, lack of social support, and stigma); and **system barriers to retention in care** (poor systems for follow-up in locating patients out of care, clinic hours/scheduling not matched to patient need, and transportation).

At the statewide level, transportation was the primary system issue resulting in poorer access to secondary prevention services by PLWHA. For this region, however, transportation was listed only after *lack of staff training/capacity not well-matched to client need, poorer referral practices of collaborating agencies, and lack of cultural competence in organizations.* Survey respondents from this region noted a need for **more community partnerships** to increase HIV testing as well as a greater **need for translation services** (Spanish-speaking and Deaf) and **sensitivity/cultural competency training** than at the statewide level. Respondents from this region also noted that a lack of access to **culturally competent health promotion materials** was also a more prominent barrier to not being linked to care successfully. Also, noted the need to also **enlist more peers** to connect clients to services and educate clients about the process of linkage/retention to care. Enhanced HIV prevention was noted with both **youth** and with the **aging HIV-positive populations**.

The Middle Region

The Middle Tennessee Region mirrors the statewide results listed above with the same primary **barriers to HIV testing** (fear of diagnosis, stigma and low perceived risk/denial of risk); **barriers to primary prevention** to those most in need (stigma, denial of perceived HIV risk); **system barriers to primary prevention** (poor referral practices of collaborating agencies, transportation); **barriers to PLWHA accessing secondary services** (stigma, lack of social support, housing instability and mental health issues); **barriers to PrEP** (lack of patient knowledge/awareness of PrEP, cost of medication/ labs/services, and lack of provider knowledge/acceptance); **barriers to linkage to care** (stigma); and **patient barriers to retention in care** (substance abuse, mental health disorders, housing instability and denial of perceived HIV risk). Although the statewide results identify poor systems for follow-up as the primary system issues resulting in poorer retention in care, the Middle Region identified difficulty accessing appointments/scheduling as the primary barrier followed by poor system for follow-up.

More risk-focused, community-wide education including social media campaigns is needed to address low perceived risk and to advertise local services such as free testing. Respondents suggested enhanced education, outreach and testing are also needed in the schools, faith-based

community settings and unconventional settings such as liquor stores and fast food restaurants to reach those most in-need. Addressing housing and transportation issues, as well as implementing a "whole-patient-centered approach" were among the suggestions for Tennessee's HIV plan to enhance retention in care.

The Southwest Region

The Southwest Region of Tennessee mirrors the statewide results listed above with the same primary **barriers to HIV testing** (fear of diagnosis, and stigma); **barrier to primary prevention** to those most in need (stigma); **barriers to PLWHA accessing secondary services** (stigma, lack of social support, housing instability and mental health issues); **system barriers for PLWHA** (transportation, wait times for services, staff training, poor referral practices); **barriers to PrEP** (lack of patient knowledge/awareness of PrEP, cost of medication/labs/services, and lack of provider knowledge/acceptance); **barriers to linkage to care** (stigma); and **patient barriers to retention in care** (substance abuse, mental health disorders, housing instability, lack of social support and stigma).

Unlike the statewide primary system barrier to primary prevention of poor referral practices of collaborating agencies, the primary system barrier to both primary prevention and retention in care for this region was noted as wait time for services. Suggestions to decrease wait time for services include increased funding for more staff/providers, extended service hours and transportation.

The West Region

The West Region of Tennessee mirrors the statewide results listed above with the same primary **barriers to HIV testing** (fear of diagnosis, and stigma); **barrier to primary prevention** to those most in need (stigma, denial of perceived HIV risk, lack of social support); **barriers to PLWHA accessing secondary services** (stigma, lack of social support); **system barriers for PLWHA** (transportation, staff training, poor referral practices); **barriers to PrEP** (lack of patient knowledge/awareness of PrEP, cost of medication/labs/services, and lack of provider knowledge/acceptance); and **patient barriers to retention in care** (substance abuse, mental health disorders, housing instability, lack of social support and stigma).

Unlike the statewide results, transportation was noted as equally important as a barrier to primary prevention as stigma and lack of social support. Additionally, transportation was noted overwhelmingly as the primary system barrier to primary prevention services, primary patient and system barrier to retention in care, and the primary linkage to care (followed by stigma). When identifying barriers to PLWHA in accessing secondary services, housing instability/homelessness is ranked much lower than in the statewide results.

Regional Focus Groups/Community Forums

This portion of the needs assessment process was launched in spring 2016 with focus groups held in each of Tennessee's five regions around the state, beginning April 7 to April 25, 2016. Four of five focus groups were conducted in conjunction with Tennessee's Regional Community Planning and Consortia Group meetings; focus group sessions were conducted immediately following standard business proceedings. The remaining focus group was held in lieu of a regular regional planning meeting; however, Regional Community Planning and Consortia Group members attended and participated along with other key persons from the community. Each Regional Community Planning and Consortia Group's lead agency promoted the focus groups in advance of the Regional Community Planning and Consortia Group meetings to encourage strong attendance and participation. The focus groups were facilitated by the consultant team hired to assist with the needs assessment process. The length of the focus groups lasted from one hour to one-and-a-half hours. A total of **108** individuals participated in the focus groups. The size of the focus groups ranged from **14 to 27.**

Focus Group Summary

Location/Region	Type	Participants
Chattanooga-Southeast Tennessee	Regional Community Planning and Consortia Group Meeting	24
Jackson-West Tennessee	Regional Community Planning and Consortia Group Meeting	23
Memphis-Southwest Tennessee	Community Forum / Regional Community Planning and Consortia Group members	14
Nashville-Middle Tennessee	Regional Community Planning and Consortia Group Meeting	20
Knoxville-East Tennessee	Regional Community Planning and Consortia Group Meeting	27

Across the five focus groups, participants included persons living with HIV/AIDS, HIV/STD program administrators, HIV/STD program staff, health care providers, nurses, case managers, mental health and substance abuse professionals, health department employees, an epidemiologist, community agency volunteers, human resources personnel, and administrative and support staff. Focus group participants represented a myriad of prevention and care agencies/programs/organizations/professions throughout the state of Tennessee from rural and urban areas. These included: the Tennessee Department of Health; local and regional health departments; Ryan White Parts A and B; Early Interventions Services (EIS); Minority AIDS Initiative; providers of children and family services; AIDS Service Organizations; community-based organizations; faith-based programs; Homeless Healthcare; housing; Legal Aid;

emergency assistance; mental health and substance abuse; Aging and Disability; infectious disease physicians; and representatives from all Lead Agents.

Focus Groups/Community Forum Data Collection Process

The facilitator began each focus group session with an overview, timeline, and description of the comprehensive needs assessment process, and indicated focus groups as an essential component of the process. Participants were asked to reflect on their professional and consumer/client/patient-related experiences, and to consider the National HIV/AIDS Strategy and the White House HIV/AIDS Care Continuum Initiative in order to: (a) identify barriers, gaps, and unmet needs pertaining to prevention and treatment services in their communities/regions; (b) prioritize identified barriers and unmet needs into the top three as most prevailing; and (c) offer recommendations to address the prioritized (i.e., top three) unmet needs. Participants self-selected based on expertise and interest into one of four subgroups - **(1) HIV testing, (2) pre-exposure prophylaxis (PrEP) uptake, (3) linkage to care and retention in care, or (4) unmet service needs of persons living with HIV/AIDS.**

Participants' self-selection served as their primary subgroup in which to identify and prioritize unmet needs and make their recommendations; however, after considerable/timed deliberation, primary subgroup members rotated to each of the other three subgroups to provide feedback on the remaining topics. Each subgroup's lead/transcriber remained with the primary subgroup to address questions from rotating subgroup members. This process ultimately allowed comprehensive input on each of the four topics from all focus group participants.

Focus Groups/Community Forums Results

Results include brief discussions of 'regional perspectives,' i.e., any specific barriers/ unmet needs of particular importance to a region, prompting extended discussion and feedback.

Barriers to Seeking and Receiving HIV Testing Services

Top HIV Testing Barriers

There was some variance in the top three HIV testing barriers by region; however, striking similarities emerged as well. *Stigma* (all regions), *lack of knowledge about HIV disease/HIV testing* (four regions), and a *lack of outreach to, and available/accessible testing services in high-risk/high prevalence communities, including rural areas* (three regions) emerged as the top three most frequently reported client barriers. Only one site reported *fear and anxiety about HIV test results* among its top client barriers; however, its' significance as an important obstacle in getting tested for HIV was discussed and identified as a common barrier across all regions. In addition to client barriers, service provider barriers (except in West Tennessee) were reported. As seen

below, the most frequently reported top service provider barriers were identical to client barriers - *lack of HIV knowledge* (three regions), *stigma* (two regions), and l*ack of focus on, and testing offered in high risk communities* (two regions).

Top HIV Testing Barriers by Region

Region	Top Client Barriers	Top Service Provider Barriers
Southeast Tennessee	Stigma; Lack of HIV/HIV testing knowledge; Fear of HIV test results	Stigma; Lack of HIV /HIV testing knowledge; Cultural and religious bias
West Tennessee	Stigma; Lack of HIV /HIV testing knowledge; Lack of transportation	Unreported
Southwest Tennessee	Stigma; Lack of HIV /HIV testing knowledge; Lack of focus and testing in high risk communities	Stigma; Lack of HIV /HIV testing knowledge; Lack of focus and testing in high risk communities, especially for Hispanic/Latino
Middle Tennessee	Stigma; Lack of focus and testing in high risk communities; HIV Criminalization Laws	Lack of focus and testing in high risk communities; Lack of provider/staff sensitivity (2 barriers reported)
East Tennessee	Stigma; Lack of HIV/HIV testing knowledge; Limited number of testing facilities in high risk communities	Lack of funding/supplies; Shortage of staff/doctors; Lack of HIV/HIV testing knowledge

Suggested Recommendations to Address Prioritized HIV Testing Barriers

Focus group participants were progressive with suggestions for solutions to address prioritized HIV testing barriers. Across the regions, recommendations fell into one of four categories below.

1. **Education and Training**
   - All training should include significant focus in rural areas
   - Develop and implement comprehensive, plain language HIV and HIV testing training for multiple audiences: clients, consumers and the community at-large
   - Develop and implement comprehensive HIV and HIV testing awareness and skills building training, and provide resource materials for service providers and staff on cultural competence, sensitivity, and stigma
   - Include skills building in service provider/staff trainings, focusing on effective communication, delivering test results, and prevention counseling
   - In addition to education and training, identify and implement other strategies to enhance provider-patient relationships, address language barriers and communication
   - Collaborate with faith-based organizations and gatekeepers as HIV testing messengers for outreach and instruction
   - Target non-traditional audiences for training (e.g., law enforcement personnel and the legal community for training on HIV Criminalization Laws)

2. **Thoughtful and Creative Use of Marketing and Social Media**
   - Utilize multiple advertising strategies, employ multicultural mixed media, and provide English and Spanish translations of print and visual media
   - Incorporate ad campaigns that feature PLWHA experiences
   - Focus on HIV facts, but also emphasize what HIV is not, to help dispel myths
3. **Enhanced Community Outreach Efforts to Provide HIV Testing**
   - Concentrate in rural areas
   - Focus efforts in unserved/underserved/high risk communities, particularly Hispanic
   - Utilize CBOs, ASOs and health department staff to identify and reach out to high risk/high prevalence communities
   - Utilize outreach workers who mirror the intended target population(s)
   - Enlist and utilize a testing buddy system (similar to mammogram screening buddies) to encourage friends who don't know their status to get tested
   - Develop and implement non-traditional strategies to offer HIV testing services (e.g., mobile testing sites; incentivize providers and staff to travel to limited access areas)
   - Provide transportation services to testing sites, particularly in rural areas
4. **Federal, State, or Local Legislative/Policy Influence and Change**
   - Encourage and support CPG subcommittee members to continue working with legislation and other organizations to influence HIV Criminalization Laws
   - Provide/facilitate/support comprehensive, age appropriate sex education in schools beginning with sixth grade or earlier

Other Barriers, Gaps, and Unmet Needs of HIV Testing Services

1. **Client Barriers**
   - Risk denial ("I'm not at risk for HIV so I don't need to get tested")
   - Lack of transportation/access, especially in rural areas
   - Concern for privacy /confidentiality
   - Cultural and religious beliefs/living in the Bible Belt
   - Inability to negotiate time away from work to get tested
   - Homelessness/unstable housing
   - Cost prohibitive (private clinics)
2. **Service Provider Barriers**
   - Concern for liability
   - Lack of specialized resources, especially in rural areas
   - Shortage of optimal locations for providers to offer, and for target populations to receive testing services
   - Overall shortage of doctors/staff
   - Lack of/limited interagency collaboration
   - OraQuick versus blood testing

- Providers feel limited by target populations and the lack of access to free kits
- Mixed messages from CDC confound provider lack of access and provider anxiety; (i.e., CDC suggests testing 16-64 year olds, but there are not enough test kits available to do so)

Barriers to Pre-Exposure Prophylaxis (Prep) Uptake

Top PrEP Uptake Barriers

Lack of PrEP awareness/knowledge/education (all regions), *funding/cost issues* (all regions), and *lack of prescribers/clinics* (three regions) were most frequently reported as top PrEP uptake barriers for clients. As indicated below, similar barriers emerged as top barriers for service providers - *lack of PrEP awareness/knowledge/education* (four regions), *funding/cost issues* and *shortage of providers* (each cited by two regions). Dissimilar to the top client barriers, *stigma* was identified as a top service provider barrier (three regions).

Top PrEP Uptake Barriers by Region

Region	Top Client Barriers	Top Service Provider Barriers
Southeast Tennessee	Lack of PrEP awareness, knowledge and education; Funding/cost issues; Shortage of locally staffed PrEP clinics (e.g., providers and navigators)	Lack of PrEP awareness, knowledge and education; Shortage of prescribers; Stigma
West Tennessee	Lack of PrEP awareness, knowledge and education; Funding/cost issues; Complex process for clients	Lack of PrEP awareness, knowledge and education; Funding/cost issues (2 barriers reported)
Southwest Tennessee	Lack of PrEP awareness, knowledge and education; Shortage of prescribers; Funding/costs issues	Lack of PrEP awareness, knowledge and education; Stigma (leads to provider discomfort); Lack of pharmaceutical marketing and outreach to providers
Middle Tennessee	Lack of PrEP awareness knowledge and education; Prohibitive costs for labs; Stigma	Lack of PrEP awareness, knowledge and education; Funding/cost issues (2 barriers reported)
East Tennessee	Lack of PrEP awareness, knowledge and education; Funding/cost issues; Too few prescribers	Lack of education to facilitate prescribing; Shortage of prescribers; Bias from other physicians/concern about image in the community (Stigma)

Regional Perspectives

Shelby County's (Memphis, TN) Chief of Epidemiology discussed a landmark study conducted locally among Men Who Have Sex with Men (MSM) who have gonorrhea or syphilis. Study results indicated an eight-fold increase in their risk of acquiring HIV within 24-36 months of STI diagnosis, which significantly increases the justification for local outreach and counseling to this population.

Suggested Recommendations to Address Prioritized PrEP Uptake Barriers

Five major themes emerged as solutions to address prioritized barriers pertaining to PrEP:

1. **Client Education and Education Targeted to the Community At-Large**
   - Focus on the important goal of building and increasing community awareness about PrEP in urban and rural areas
   - Provide comprehensive training and education for clients/consumers to build and increase knowledge and dispel myths: What is PrEP? Is it right for me? Risks and side effects? Where /how to get it? What should I know about research/ clinical trials?
   - In addition to in-person educational sessions, consider utilizing web-based training (as appropriate for intended audiences and based on availability of resources)
   - Provide interactive educational sessions (appropriate to intended audiences) that include question and answers with service providers and staff
   - Incorporate discussion of PrEP users' experiences- their successes and challenges
   - Include explanation of practical aspects of PrEP use, for example total costs
2. **Education, Training and Support Services for Providers**
   - Provide comprehensive capacity building training and technical assistance for providers (What is PrEP? How to become a prescriber-benefits and challenges? What about burden/extra work to become a prescriber? How best to make PrEP accessible to patients? Rationale and benefits of prescribing, federal guidelines, etc.)
   - Offer continuing education through Vanderbilt University and the Southeast AIDS Training and Education Center (SEATEC)
   - In addition to in-person training, offer web-based training when appropriate for providers/staff and incorporate interactive capacity building training components
   - Incorporate comprehensive explanations of the practical aspects of prescribing PrEP (e.g., total costs associated, including labs)
   - Target primary care and specialty care providers for education and training
   - Target and train service providers of Federally Qualified Health Centers (FQHCs) to increase PrEP awareness and knowledge and identify potential prescribers
   - Utilize practice managers (owners of large medical groups) to reach out to a captive audience of providers who may be ready for training and education and who may consider becoming prescribers
   - Facilitate provider meetings in which local providers can share and address common concerns and develop ways to provide ongoing support for each other

3. **Funding and Cost Issues**
   - Encourage the State to develop program initiatives to address overall funding/cost issues
   - Identify specific funding sources (grants, foundations, local companies, other) to pay for patient out-of-pocket costs (co-payments, co-insurance, deductibles)
   - Identify specific funding sources (grants, foundations, local companies, other) to cover uninsured patients' medication costs
   - Develop and support a partnership between the Tennessee Department of Health and PrEP providers to off-set lab costs incurred by HIV/STI lab providers
   - Work with Gilead Sciences to provide outreach to physicians
4. **Program and Service Delivery Enhancement**
   - Make PrEP a priority
   - Restructure and streamline site management processes to allow easier access and user friendly services. Enhanced services would include but not be limited to: walk-in appointments; more convenient appointment slots for clients; non-traditional operating hours; more patient education; and on-site pharmacy services
   - Create a PrEP hotline that provides clinical consultation services for clinicians considering and actively prescribing PrEP for their patients
   - Develop and provide PrEP support groups for clients
   - Provide PrEP counseling for HIV negative MSM who have gonorrhea or syphilis
   - Provide enhanced patient adherence navigation services for clients
5. **Advertising, Marketing and Social Media (Targeting Providers and Consumers/Community)**
   - Concentrate in rural areas
   - Develop and conduct social media campaigns and other mass communication strategies to increase awareness and knowledge among service providers (including providers who serve high risk populations), clients/consumers, and the public
   - Utilize culturally sensitive, plain language in all adverting/marketing strategies
   - Develop and target audience-specific messages for HIV negative individuals who are at very high risk of acquiring HIV (MSM, heterosexual women, etc.)
   - Develop and partner with CBOs, ASOs, faith-based organizations, and LGBT and other special interest groups to build and strengthen PrEP awareness and knowledge
   - Incorporate "stealth marketing" strategies
   - Support and employ the production of commercial ads for broadcasting during popular television and radio programs
   - Continue use and evaluate the effectiveness of traditional media sources (print, signage, flyers, posters) targeting specific audiences
   - Enlist and utilize a PrEP buddy system to identify and encourage friends who are HIV negative and high-risk to seek counseling for potential PrEP use

Other Barriers, Gaps, and Unmet Needs Related to PrEP Uptake

1. **Client Barriers**
   - PrEP skepticism and use limitations (e.g., resistance issues, side effects, lack of protection against pregnancy and other STIs, use with other prevention strategies)
   - Perception that PrEP use is not realistic; condom messages may conflict with PrEP messages
   - Fear of discrimination (if others know I am taking PrEP)
   - Denial ("I don't need PrEP because I am not at high risk/It won't happen to me")
   - Using PrEP will (negatively) affect my relationships
   - Cultural and spiritual beliefs
   - Mistrust (of medical and pharmaceutical industries; of local service providers)
   - Concern about racial-ethnic disparities (e.g., Is PrEP similar to the Tuskegee Study experience?)
   - Lack of transportation
   - Lack of insurance coverage
   - Inability to pay co-payments
   - Unfamiliarity with medication assistance programs
   - Assistance with costs is inadequate (i.e., meds can be paid for, but doctor visits and labs still have to be paid)
   - Lack of medication compliance/adherence is crucial
   - Lack of patient-provider communication (e.g., patient non-disclosure of risk factors to provider)

Top Barriers Pertaining to Linkage and Retention

Linkage and retention issues produced significant discussion and feedback from focus group participants. As evidenced by the broad list of top client barriers across the five regions, there are numerous barriers/unmet needs, many of which are prioritized differently according to local circumstances. As seen below, *untreated mental health and substance services, lack of HIV knowledge particularly about newly diagnosed patients, lack of provider sensitivity/cultural competence/poor customer service,* and *stigma* were all cited by two regions as a top client barrier. Among the top service provider barriers, *lack of provider sensitivity/cultural competency* (three regions) was most frequently reported; followed by (two regions each) *provider lack of HIV knowledge particularly about newly diagnosed patients, provider lack of knowledge about available resources and services, providers spending too little time with patients during office visits,* and *staff difficulty in locating/tracking/reaching clients*.

Top Linkage to Care and Retention in Care Barriers by Region

Region	Top Client Barriers	Top Service Provider Barriers
Southeast Tennessee	Untreated mental health and substance abuse issues; Lack of HIV knowledge particularly among newly diagnosed; Lack of provider sensitivity and cultural competence/poor customer service	Untreated mental health and substance abuse issues, Difficult to locate/track/reach clients; Lack of provider sensitivity and cultural competence
West Tennessee	Lack of peer counselors who mirror the patients they serve; Denial of new HIV diagnosis; Stigma	Lack of HIV knowledge particularly around newly diagnosed; Lack of knowledge about available resources and services to refer patients; Providers spend too little time with patents during office visits
Southwest Tennessee	Lack of HIV knowledge particularly among newly diagnosed; Lack of provider sensitivity and cultural competence/poor customer service and communication; Provider lack of cultural competence and sensitivity training	Lack of HIV knowledge particularly around newly diagnosed; Providers spend too little time with patients during office visits; Lack of provider sensitivity and cultural competence
Middle Tennessee	Stigma; Lack of knowledge about available resources and services; Cultural disparities-limited/lack of focus on Hispanic/Latino communities	Untrained and undertrained providers and staff; Lack of provider sensitivity and cultural competence; Lack of knowledge about available resources and services
East Tennessee	Untreated mental health and substance abuse issues; Lengthy wait to secure appointments due to provider shortage; Non-compliance	Shortage of providers; Difficult to locate/track/reach clients; Providers unable to provide additional times/locations for services

Suggested Recommendations to Address Prioritized Linkage and Retention Barriers

Across all regions, recommendations for linkage and retention barriers clustered around three major themes: (1) implementing program enhancements to facilitate optimal linkage and retention services for HIV positive patients; (2) implementing training and education to address provider cultural competency/sensitivity/stigma; education and support for newly diagnosed patients; and education targeting family members and the community at-large; and (3) prioritizing mental health and substance abuse services and care for HIV positive patients.

1. **Program Enhancements**
   - Implement and/or expand the use of peer navigators to guide and assist patients in navigating the healthcare system, making and keeping appointments, facilitating transportation support, locating and utilizing services/care, etc.
     - Prioritize services to patients in underserved/unserved/rural communities, reaching out to persons who would otherwise be missed
   - Expand services for Hispanic/Latino patients and their families
     - Identify and hire bilingual staff to facilitate culturally appropriate/sensitive communication and patient-provider relations
     - Utilize multicultural patient-focused print and visual media (brochures, posters, etc.)
     - Develop and implement training for Hispanic/Latino patients and family
2. **Education and Training**
   - Provider Education and Training
     - Collaborate with health departments and other key agencies/organizations to develop and provide multiple cultural competence/sensitivity/stigma focused trainings that target a variety of relevant service providers: health care, allied health, mental health and substance abuse professionals, case managers, peer navigators, administrative and support staff
     - Develop and implement training on essential components of linkage and retention services
     - Place emphasis on educating service providers about locally available resources and services in their respective areas that will enhance their ability to provide care and that they can refer patients to
   - Education and Support for Newly HIV Diagnosed Patients
     - Collaborate with health departments and other key agencies/organizations to develop and implement interactive educational sessions that partner newly diagnosed patients with local service providers to discuss and share mutual patient care/provider concerns.
     - When appropriate, incorporate the experiences of PLWHAs in training sessions to share their successes and challenges (of living with HIV)
     - Ensure training content addresses client barriers, including but not limited to stigma, discrimination, fear and anxiety, prioritizing HIV care with competing needs, etc.
     - Develop HIV stigma focused training sessions for special populations including LGBT and MSM, especially in rural areas
     - Include discussion about identifying and utilizing local resources and services
   - Education for Family Members and the Community at-Large

    - Provide HIV education for family members, friends, and other support persons of newly diagnosed patients and include peer counselors as instructors and co-instructors (focused on stigma reduction/consumer support)
    - Ensure training content addresses client barriers, including but not limited to stigma, discrimination, fear and anxiety, prioritizing HIV care with competing needs, etc.
    - Develop and conduct neighborhood/community block parties to build and foster HIV awareness, dispel myths, and reduce HIV stigma
    - Incorporate HIV discussion in a non-threatening manner within the broader context of other health and non-health interests of the neighborhood

3. **Mental Health and Substance Abuse Issues**
   - Prioritize mental health and substance abuse services for HIV positive patients
     - Increase funding to support mental health and substance abuse programs and services
     - Increase staff support with new hires
     - Develop and/or restructure patient intake process for newly HIV diagnosed patients to include mental health/substance screening and related services
     - Provide onsite care for dually-diagnosed patients, and anticipate and provide crisis support when needed

Other Barriers, Gaps and Unmet Needs Related to Linkage to and Retention in Care

1. **Client Barriers**
   - Denial (when asymptomatic; of new diagnosis)
   - Lack of confidence and self-efficacy to co-manage care with service provider
   - Fear and anxiety (of discrimination; of others discovering their HIV status; of the consequences of being HIV positive)
   - Sense of helplessness/hopelessness/inability to cope with being HIV positive
   - Cultural and religious beliefs
   - Difficulty prioritizing and managing HIV versus managing other competing needs
   - Mistrust (of healthcare system and of providers)
   - Age and gender discrimination
   - Cost of services
   - Poverty
   - Homelessness/unstable housing
   - Patients are unable to keep appointments (e.g., inconvenient clinic hours for working patients and students; clinic locations too far)
   - Lengthy wait times for patients (i.e., too long to secure an appointment; too long waiting to be seen at doctor's office)
   - Lack of transportation
   - Other health problems/co morbidities (e.g., alcohol and drug use)

- Medical complications due to alternative and self-help treatments
- Lack of services and resources for soon-to-be released inmates

2. **Service Provider Barriers**
   - Shortage of providers
   - Complicated process and paperwork burden
   - Too little time spent with patients during appointments resulting in inability and/or unavailability to adequately address patient's concerns
   - Lack of training and education for corrections providers

Service Gaps for Persons Living With HIV/AIDS (PLWHA)

Top Service Gaps for PLWHAs

Housing issues was among the top service gaps in all regions, followed by *lack of dental and vision services /coverage* (four regions), and m*ental health and substance abuse services* (three regions).

Top Service Gaps for PLWHAs by Region

Region	Top Service Gaps
Southeast Tennessee	Housing especially rural areas (lack of, inadequate, unaffordable); Lack of dental and vision coverage; Limited mental health and substance abuse services
West Tennessee	Housing (lack of, inadequate, unaffordable); Lack of dental and vision services; Lack of transportation especially in rural areas
Southwest Tennessee	Housing (lack of, inadequate, unaffordable); Insensitive staff who interact with patients/clients; Lack of mental health and substance abuse services and resources
Middle Tennessee	Housing (lack of, inadequate, unaffordable); Lack of transportation especially rural areas; Limited/lack of dental and vision services and resources
East Tennessee	Housing (HOPWA restrictions); Lack of mental health and substance abuse services and support; Lack of dental and vision care services and providers

Regional Perspectives

Lack of education and employment among PLWHAs was of particular concern for Southeast Tennessee. Many PLWHAs are in need of skill/job training and some type of work placement to improve their living situations. Southwest Tennessee noted multiple housing issues including the harsh reality that many PLWHAs are in housing programs that make them feel "institutionalized." Middle Tennessee was particularly concerned that too few PLWHAs are seeking oral health care and that significant outreach and education is needed for consumers and service providers. Focus group participant in all five regions cited providers' and client/consumers' general lack of knowledge about comprehensive HIV-related resources and services in their respective communities as a service gap. Focus group participants commented

that this lack of knowledge and awareness most certainly contributes to incorrect and/or a dearth of important treatment and care information that is needed by patients and providers. Southwest and Southeast regions suggested resurrecting and developing (respectively) local resource directories for their areas.

Suggested Recommendations for Addressing Prioritized Service Gaps of PLWHAs

As evidenced by the depth and breadth of recommendations below, focus group participants' passion and awareness of needed services for PLWHAs was captured across six themes.

1. **Housing**
    - Encourage and support the GPC's housing subcommittee to continue its' work with legislators and others to address housing issues and to retain housing as a priority
    - Campaign to lift HOPWA's double dipping and address changing housing restrictions
    - Overall, develop and/or restructure housing options so that PLWHAs have multiple, affordable choices for themselves and family members
    - Address host of issues related to housing costs
    - Incentivize and build relationships with developers, builders and other decision makers to place housing options in mixed-income areas; areas that are safe, clean, and drug-free; and do not have the reputation as "bad neighborhoods"
    - Provide handicap accessible housing
    - Provide housing that meets the needs of newly HIV diagnosed patients
    - Place felony-friendly housing near public transportation
2. **Vision and Dental Services and Resources**
    - Build global awareness about the importance of oral health care for HIV positive
        - Conduct aggressive marketing/education targeting service providers
        - Conduct aggressive marketing/education to clients and the community
        - Educate patients about the importance of seeking oral health care and managing their oral health care
        - Provide additional and more affordable transportation
    - Prioritize funding for vision and dental care services and resources
        - Determine ways for the state to pay for vision and dental insurance coverage for PLWHAs
        - Partner with the Lion's Club (and others) to provide deeply discounted or free services
    - Fast track certification process and improve coordination of dental services in rural area to reduce/avoid multiple visit to clinics (i.e., bundle services to reduce travel since transportation and wait time are problems)
3. **Mental Health and Substance Abuse Services**
    - Recruit SAMHSA providers to collaborate with East Tennessee Health Planning Group

- Provide increased and better quality inpatient and outpatient mental health and substance abuse services for PLWHAs, at low or no cost

4. **Transportation(Especially in Rural Areas)**
   - Develop strategies and means to provide transportation for rural residents
   - Provide federally-funded non-medical transportation services for PLWHAs
   - Provide mileage reimbursement to PLWHAs
   - Provides funds to pay for and distribute patient gas cards
   - Provide increased transportation to medical and non-medical services
5. **Education and Training**
   - Continue to identify, recruit and train new dental and vision providers
   - Develop and provide multiple cultural competence/sensitivity/stigma focused education and trainings that target a variety of relevant service providers: health care, allied health, mental health and substance abuse professionals, case managers, peer navigators, administrative and support staff
   - Implement support groups for PLWHAs in general, and for special populations including LGBT and MSM
   - Provide HIV education, and resource materials to all support group members
   - Utilize mixed media and in person venues (e.g., billboards, public service announcements, health fairs) to educate the community at-large about HIV
6. **Resource Directory**
   - Develop and disseminate a comprehensive resource directory of available HIV related services and programs for clients/consumers and providers/staff in the Southeast region (Chattanooga and surrounding counties)
   - Update, expand, and utilize the existing resource directory for Memphis/Shelby County clients/consumers and providers/staff

Other Service Gaps for PLWHAs

- HIV and Aging issues
- Lack of case management services
- Lack of knowledge about insurance coverage
- Lack of food, food options, access to food services, and nutritional supplements

Key Informant Interviews

To further refine findings, a set of key informant interviews with case managers to identify vulnerable consumers—those consumers likely to be difficult to retain in care and interventions to enhance care services. These providers consistently raised mental health and substance abuse problems and younger age as being indicators of vulnerability. In addition, issues of poverty and difficulty with access to services because of transportation.

Recommendations for interventions include adding additional behavioral health providers, enhancing transportation, and adding retention-specific strategies including peer navigators and focused care management. The addition of services to enhance housing options and additional support groups were offered as suggestions.

Finally, there is a conceptual shift to HIV care settings as a 'one-stop shop' where services are co-located; particular services where gaps exist include vision and psychiatry.

Needs Assessments conducted by the Four Regional Consortia of the Tennessee Ryan White Part B Program

From 2013-2015, the four Regional Consortia of the Tennessee Ryan White Program conducted needs assessments aimed at identifying current gaps in services among PLWHA, consumer needs and challenges that impact attrition along the HIV continuum of care between diagnosis and long-term viral suppression. The four consortia and their needs assessment activities are briefly described below:

- **Middle Tennessee** – Client Survey with PLWHA in 26 counties (2015)
- **East/Northeast Tennessee** - Client survey with PLWHA; Interviews with Providers (2015)
- **West Tennessee** – Client Survey with PLWHA in 18 counties and the Jackson/ Madison County Metropolitan Region; Focus Groups with PLWHA and faith community leaders (2015)
- **Southeast Tennessee** – Client Survey with PLWHA; Focus Groups; Key Informant/Provider Survey; and an Audit of Regional Resources (2014/2015)

The analysis of these needs assessments indicates both similarities and differences among these four regions. It is important to note that not all areas reported below were included in all four consortia needs assessments.

<u>Gaps/Barriers related to HIV Medical Care and Services</u>

Linkage to Care/Retention in Care

Across Middle, East/Northeast and West Tennessee, most needs assessment participants report linkage to HIV medical care within 6 months of diagnosis and most have seen their HIV provider within the last 3-6 months. Across all consortia, **stigma** was a fundamental barrier to accessing care services.

In Middle Tennessee, barriers reported as related to delayed linkage to HIV medical care or to inconsistent retention or adherence to care/treatment included not understanding the importance of **getting HIV care early**, not knowing **where to go** or lack of **convenient provision of care**,

fear of HIV medical care, discrimination or **stigma**, and lack of **finances, housing,** and **transportation**.

Similarly in East/Northeast Tennessee, the most often cited reasons for not receiving care within thirty days of diagnosis included being afraid of **discrimination** because of their HIV status, **not wanting people to find out** they were HIV positive, worried about how they would **pay for care**, and not knowing **where to go** for HIV medical care.

In West Tennessee, **fear of disclosing HIV status**, **did not qualify financially**, and not knowing **where to go** for services were identified as the biggest barriers to receiving care in the past year.
In Southeast Tennessee, primary needs to enhance linkage/retention to care continue to be **stigma**, lack of **client education about available services,** lack of **client education about health insurance** and lack of **transportation**.

Medication Adherence

For those consortia that included medication adherence in their needs assessment, the vast majority of individuals participating reported good adherence to HIV anti-retroviral treatment. Primary barriers to medication adherence focused on **forgetting** and **monetary issues**.

Gaps/Barriers related to Non-medical/Non-HIV specific/Support Services

Linkage to services

For Middle Tennessee, approximately half of survey respondents received non-medical support services within six months of HIV diagnosis. **Cost**, **insufficient knowledge** about HIV services, **limited availability** and convenience of support services, lack of **transportation**, and fear of **stigma** or discrimination were reported as barriers to linking to non-medical services soon after initial diagnosis.

For East/Northeast Tennessee, approximately half of survey respondents received non-medical HIV services within one month of diagnosis. Primary reasons for not receiving non-medical HIV services within the last year included: **didn't know services were available**, didn't know **where to go** for services, no **transportation** to get to services, and **cost/did not qualify** for services.

For Southwest Tennessee, **transportation** continues to be a major barrier for clients accessing services, especially those clients living in rural areas.

Most important services needed but not currently offered/received

For Middle Tennessee participants, when asked which non-medical services that are NOT currently provided are the most important, respondents ranked **utility assistance**, **eye care**, **rent assistance**, **housing assistance**, and **support groups** as the most important services not currently being offered. Although not as highly ranked, other services included **early intervention services (EIS)**, **child care**, and **substance abuse treatment**.

For East/Northeast Tennessee, the most important Ryan White-funded non-medical services included **non-medical case management**, **food bank** and **dental care** (bridges/dentures). **Dental work** stood out as the most needed/but not received service with half of the respondents indicated they needed dental work but had not received it. Other services needed but not received included **psychosocial support** and **transportation**. Regarding transportation, most respondents did not know if they qualified for transportation services. For those who did use transportation services, **gas cards** were reported as the greatest transportation need. The most important non-Ryan White-funded services needed but not received included **eye care**, **rent assistance** and **utility assistance**.

Most individuals in West Tennessee responding to the survey reported that their non-HIV specific needs were being met. For those needing services but did not receive them, those services included: **eye care**, **dental care**, **drug treatment**, **support groups**, **mental health/grief counseling, legal assistance,** and **food assistance**. Other services needed included **domestic violence services**, **employment training**, **short-term housing assistance**, need of **volunteer companion**, help with **housework/ cooking**, **utility assistance** and **assistance with applying for disability**.

For Southwest Tennessee, identified areas of need include special needs of clients living with hearing impairment, particularly those who communicate via American Sign Language only (**interpretation services**). The need for **alcohol and drug recovery** services was also noted in this region. Other services that were identified as needed but not received included: **eye care**, **vision care**, **clothing**, **cleaning supplies**, **personal hygiene products**, **classes (cooking, budgeting)**, and **immune-boosting ingredients and herbs**.

Data: Access, Sources, and Systems

The HIV Care Continuum is developed using data from the *Enhanced HIV/AIDS Reporting Surveillance System (eHARS).* All health care providers, hospitals, and laboratories in Tennessee are required to report people diagnosed with confirmed HIV infection and/or AIDS to TDH. Each year approximately one-third of new cases are reported from county health departments, one-third from hospitals, one-fifth from physicians, and the remainder from state/federal facilities (including prisons) and laboratories. eHARS serves various functions: (1) monitoring

the incidence and demographic profile of HIV/AIDS; (2) describing the modes of transmission among people with HIV/AIDS; (3) guiding the development and implementation of public health intervention and prevention programs; and (4) assisting in evaluating the efficacy of public health interventions. It is the principal source of knowledge regarding trends in the number and characteristics of HIV-infected people. It includes people in all age, gender, race/ethnic, and mode-of-HIV-exposure groups; and it provides a historical perspective in trends dating to the earliest recognition of the AIDS epidemic.

Ryan White Eligibility System (RWES) is the web-based application/eligibility system for Part B recipients. It was created by TDH and implemented June 18, 2012. Medical and non-medical case managers enter new, renewal, and disenrollment client information into a web-based system for Central Office staff to review, approve, and deny such actions. The Pharmacy Database contains files of clients eligible for medication benefits (from RWES). This information is forwarded to the contracted mail order pharmacy each day in order for prescriptions to be filled and medications to be mailed directly to clients. Each month, a list of clients, drugs dispensed, pricing and inventory information is forwarded to TDH from the pharmacy allowing for quality management oversight.

Ryan White HIV/AIDS Program Services Report (RSR) shows which core and support services are currently being provided in the state. The RSR is an annual report that captures information regarding the services provided by all Ryan White funded entities captured in CAREWare. Providers report on all clients who received services eligible for Ryan White Parts A, B, C or D funding. Tennessee's Ryan White Part B providers are required to use CAREWare to collect, report, and analyze data. Several Part A, C and D providers also use CAREWare.

The *Insurance Database* provides a list of clients eligible for insurance benefits (from RWES). This list is forwarded to the contracted insurance administrator who provides TDH with monthly, quarterly, and yearly reports containing client level and insurance payment information. *TennCare* is Tennessee's Medicaid system and provides individual client information used for third party payment information and confirmation of payer of last resort status. It is also used for unmet need (and related) results.

TDH is mandated by PS12-1201 to use *CDC's Evaluation Web* for CDC reporting and also captures data in *PRISM*. Grantees are required to enter all HIV rapid test results (reactive, non-reactive, and indeterminate) on a monthly basis. This testing information is uploaded to CDC in order to monitor Tennessee's PS12-1201 deliverable progress. Evaluation Web is also used to collect information such as linkage to medical care, referral to prevention services, partner services interviews, and enrollment information in evidence-based interventions.

For program planning, TDH has monthly meetings with all HIV and STD prevention staff, including surveillance. Testing data from both PRISM and Evaluation Web is reviewed. On a quarterly basis, linkage to care data on all tests conducted is reviewed. Additionally, condom distribution data, DEBI enrolled and completed data, partner services data and electronic lab submission data is reviewed quarterly for completeness and accuracy. This data is also used for program planning purposes, helping TDH determine what areas of the program need technical assistance and where resources should be targeted.

The 2016 SCSN used the available surveillance data from eHARS and utilization data from RSRs and CAREWare to advise creation of the survey tools. Data for the care continuum, accessed through the Part B surveillance staff, was used to form questions regarding challenges in linkage and retention in care. A Statewide On-line Survey was conducted via Survey Monkey and gathered input from prevention/care providers and PLWHA. To compliment this survey-based data, a series of Regional Focus Groups/Community Forums and Key Informant Interviews were conducted with providers, PLWHA, and other stakeholders to provide valuable in-depth qualitative insights for this assessment process. Findings from the qualitative meetings with stakeholders (e.g., PLWHA, prevention and care providers and key informants) were collated and common themes identified. Input from these sources created a comprehensive, well-informed picture of the current state of prevention and care within the state. All necessary data to assist in the SCSN was available.

Section 4: Integrated Prevention and Care Plan

Using the National HIV AIDS Strategy as a guide, the following plan has been created as a response to the identification of gaps and unmet needs in the SCSN. Goals and activities have been adapted from suggestions in each of the community forums and synthesized by TDH staff into this document.

GOAL 1: Reduce New HIV Infections in Tennessee

Objective 1.A. By September 30, 2021 increase the percentage of Tennesseans living with HIV who know their serostatus to at least 90%.

Strategy 1: Deliver evidence-based HIV testing activities in areas with high distribution of HIV cases.

Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Implement 4th Generation Testing in state labs supporting STD testing in health departments throughout Tennessee	Health department clients	70,000 tests/year ≥ 0.1% positivity
By September 30, 2021:	TDH	Conduct high quality testing via Partner Services to all named cases of known HIV positive patients	Partners of PLWHA	1.5 partner index 50% of identified partners tested

Strategy 2: Support and strengthen integrated and patient-centered HIV and related screening.

Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH + community-based organizations	Implement Social Network Strategy for YMSM	YMSM in Memphis	500/year at 5% positivity
By September 30, 2021:	TDH + community-based organizations	Support 9 community-based organizations conducting targeted HIV testing in high-risk groups	MSM, high-risk negatives	4,000 tests per year for targeted testing

By September 30, 2021:	TDH + external partners	Conduct training and capacity-building with HIV prevention providers	Prevention providers	Documentation of at least 4 trainings per year
Strategy 3: Conduct HIV testing in clinical settings.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Testing in clinical settings—corrections and emergency departments	State prisons and select metro jails Memphis and Nashville EDs	40,000 tests annually ≥ 0.1% positivity
By September 30, 2021:	TDH + local health departments	Ensure integrated HIV/STD testing is implemented in all Tennessee health departments	STD patients	≥ 80% of HIV negative STD patients tested for HIV in same visit
By September 30, 2021:	TDH	Collaborate with TB screening programs to expand HIV testing	Prevention providers, TB programs	≥ 80% of HIV negative TB patients tested for HIV in same visit

Objective 1.B. By September 30, 2021 reduce the number of new diagnoses in Tennessee by at least 25% (compared to 2010).				
Strategy 1: Deliver effective, evidence-based HIV prevention interventions.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators

By September 30, 2021:	TDH + community partners	Conduct behavioral interventions for PLWHA (Healthy Relationships, CRCS, CLEAR)	PLWHA	300 participants/year
By September 30, 2021:	TDH + community partners	Conduct behavioral interventions with high-risk HIV negative individuals (3MV, MPowerment, VOICES/ VOCES, TWISTA	MSM and Transgender clients	300 participants/year
By September 30, 2021:	TDH + community partnerships	Distribute condoms (in tandem with social media) in communities at high risk for HIV infection	PLWHA High risk HIV negative persons General population	1.5 million condoms distributed
By September 30, 2021:	TDH + metro health departments	Partner services staff provide HIV risk-reduction counseling, linkage to care, and partner notification services	Partners of PLWHA	≥ 75% of new positives get DIS interview
Strategy 2: Expand access to Pre-exposure Prophylaxis (PrEP).				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH + community-based partners	Employ PrEP navigators in both health department and community-based settings	MSM, transgender persons	Hire ≥ 5 new PrEP navigators
By September 30, 2021:	TDH	Expand number of providers prescribing PrEP across Tennessee through academic detailing and provider practice liaisons	Physicians, mid-level providers	Increase # of providers prescribing PrEP in Tennessee by ≥ 300% (compared to 2015)

By September 30, 2021:	TDH	Conduct trainings for staff from all 13 public health regions on how to identify STD clients at high risk of subsequent HIV infection	Health department STD supervisors and DIS	Train health department STD supervisors and DIS in all 13 PH regions
By September 30, 2021:	TDH	Through traditional and digital media in Memphis, increase public awareness of PrEP as an HIV prevention tool	MSM, transgender persons	Increase PrEP awareness by ≥ 30% among high risk HIV negatives in Memphis (2018 compared to 2016)
Strategy 3: Educate all Tennesseans with easily accessible, scientifically accurate information about HIV risks, prevention, and transmission.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Distribute HIV prevention materials from CDC health communication campaigns	MSM, general population	≥ 2,500 materials distributed
By September 30, 2021:	TDH	Use health communication materials from additional national partners	General population	≥ 2,500 materials distributed
By September 30, 2021:	TDH + community partners	Support MSM Task Force to execute regionally-specific high impact prevention campaigns	MSM	≥ 5 social media campaigns executed

Objective 1.C. By September 30, 2021 reduce percentage of young Gay and bisexual men who have engaged in HIV-risk behaviors by 10%.
Strategy 1: Implementing high-impact prevention strategies focusing on MSM.

Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH + community partners	Prevention counseling with targeted testing directed toward young gay and bisexual men	YMSM	≥ 1000 YMSM/year receiving prevention counseling accompanied by HIV testing
By September 30, 2021:	TDH + planning groups	Distribution of condoms directed to young gay and bisexual men	YMSM	≥50 condom distribution sites targeted to young gay and bisexual men
By September 30, 2021:	TDH + community partners	Using PrEP Navigators, SNS to PrEP and Data-to PrEP strategies, increase the number of young gay and bisexual men referred to PrEP	YMSM	1000 young gay and bisexual men referred to PrEP providers
Strategy 2: Deliver evidence-based behavioral interventions targeted young, gay and bisexual men.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH + community partners	Fund 8 CBOs to serve high risk MSM (3MV, MPowerment, and VOICES/VOCES)	YMSM	≥ 300/year
Strategy 3: Collaborate with external partners to advance biomedical HIV prevention interventions.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators

By September 30, 2021:	TDH + Vanderbilt	Work with Vanderbilt AMP study to increase participation in vaccine trial	YMSM	≥ 90 patients enrolled
By September 30, 2021:	TDH + St. Jude	Work with St. Jude into research study on efficacy of injectable PrEP	YMSM	≥100 patients enrolled

GOAL 2: Increase Access to Care and Improve Health Outcomes for Tennesseans Living with HIV/AIDS

Objective 2.A. By September 30, 2021 increase the percentage of newly HIV diagnosed persons linked to HIV medical care within one month of their diagnosis to at least 85%.				
Strategy 1: Establish seamless systems to link people to care immediately after diagnosis.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH, health departments, and CBOs	All TDH funded testers receive notification every 30 days for clients not linked to care	Newly diagnosed PLWHA not linked to care within 30 days	≤ 15% of newly diagnosed persons not linked to care
By September 30, 2021:	TDH, health departments, and CBOs	Enhance linkage to care by positioning additional EIS staff focused on regions with lowest linkage rates focused on linkage rates ≤ 70%	Newly diagnosed PLWHA	# of new EIS positions placed in regions with ≤ 70% linkage rates
Strategy 2: Enhance Early Intervention collaborations in Memphis/Nashville to improve linkage to medical care.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators

By September 30, 2021:	TDH	Implement quarterly conference calls with Memphis and Nashville Part A recipients to enhance collaborations and improve linkage/retention rates.	Early Intervention staff	4 quarterly conference calls
By September 30, 2021:	TDH	Increase number of medical case managers targeting newly diagnosed individual to promote linkage to care	Newly diagnosed PLWHA	% of persons linked to care
By September 30, 2021:	TDH	Promote recruiting and hiring of diverse staff to enhance cultural competence in HIV testing and care sites	Newly diagnosed PLWHA	% of persons linked to care
Strategy 3: Implement behavioral interventions and public health strategies.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH + community partners	Fund five ARTAS programs across the state	Newly diagnosed PLWHA	% of persons linked to care 125 linkages to care using ARTAS as a tool
By September 30, 2021:	TDH + ARTAS trainers	Provide ARTAS training to all MAI-funded and community partner staff	MAI staff	Conduct 2 trainings/year
By September 30, 2021:	TDH + community partners	Expand patient navigation (including peer navigators) programs to enhance linkage and retention efforts	RW providers	Current patient navigation staff increased by 50%

By September 30, 2021:	TDH + community partners	Provide TA and capacity-building for linkage to care providers through collaboration with Part F grantee and other TA providers	Linkage to care staff	Conduct 2 training/year and provide TA on as needed basis

Objective 2. B. Increase the percentage of persons with diagnosed HIV infection who are retained in HIV medical care to at least 90%.				
Strategy 1: Enhance systems to support retention in care to maximize the benefits of early treatment.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Increase the number of providers offering psychosocial support services in Part B settings to improve likelihood of retention in care	RW providers	Increase by number of service providers by 50%
By September 30, 2021:	TDH	Use corrections navigators to ensure those being released from correctional settings are linked to care in their local communities within 30 days	PLWHA	≥90% of referrals are linked to care
By September 30, 2021:	TDH	Promote pilot program re: evening clinic hours to assess patient satisfaction	RW providers	# of HIV COEs providing after hours services
By September 30, 2021:	TDH	Increase number of medical case managers (MCMs) providing enhanced services focused on retention in care/treatment adherence	PLWHA identified by providers as being at high risk of falling out of care	50% patients identified as high risk are retained in care
By September 30, 2021:	TDH + Centers of Excellence	Build capacity by increasing the number of HIV Centers of Excellence in Tennessee	RW providers	# COEs

By September 30, 2021:	TDH + private providers	Collaborate with Part F AETC to train/support private providers in enhanced comprehensive care	Private HIV providers	40% of identified private HIV providers trained
By September 30, 2021:	TDH + Part B grantees	Enhance ease of re-certification via self-attestation processes	MCM, PLWHA	75% of eligible consumers continuously enrolled in Part B services
Strategy 2: Use Data-to-Care strategies to enhance retention in care.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH + partners	Using EHARS data, create a data feedback loop between HIV surveillance, HIV prevention, and Ryan White to re-engage patients in care	PLWHA that are out of care	% patients retained in care
By September 30, 2021:	TDH + Part B providers	Use validated treatment readiness tools to assess current needs and make referrals for appropriate services	HIV re-engagement staff, PLWHA	% patients retained in care
By September 30, 2021:	TDH	Provide technical assistance regarding the use of surveillance data to augment data-to-care	HIV providers, MCMs	% patients retained in care
Strategy 3: Utilize Ryan White-funded staff to enhance retention in care.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Fund peer navigators to enhance retention	RW providers	Current patient navigation staff increased by 50%

By September 30, 2021:	TDH	Provide training on benefits management to Ryan White clients to increase capacity in navigating changing healthcare landscape	Ryan White clients, MCMs	2 trainings/year
Objective 2.C. Increase the percentage of persons with diagnosed HIV infection who are virally suppressed to at least 80%.				
Strategy 1: Continue comprehensive coordinated patient-centered care for people living with HIV.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Use Continuous Quality Improvement processes to assess clinical performance and provide training to providers to build capacity	RW providers	2 trainings/year
By September 30, 2021:	TDH	Furnish HIV providers with facility-based Continuum of Care data regarding their clients	RW providers	75% of providers receive CoC data within 12 month timeframe
By September 30, 2021:	TDH	Evaluate patient feedback to determine quality of services and ongoing gaps in services	PLWHA	50% of HIV+ clients
Strategy 2: Enhance systems to support medication adherence to increase likelihood of viral suppression.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Train medical case managers on Every Dose/Every Day phone application to promote medication adherence	MCMs	# consumers who download app
Strategy 3: Take deliberate steps to increase the capacity in systems of clinical care and related services for PLWHA.				

Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Assess need for support services and co-locating psychosocial support staff in targeted sites	Ryan White patients	# expanded services
By September 30, 2021:	TDH	Annual site visits to COEs and providing targeted feedback on performance and plan for technical support	Ryan White patients	# site visits
By September 30, 2021:	TDH	Continue high quality training for Ryan White providers	Providers	# trainings offered
Objective 2.D. By September 30, 2021 reduce the percentage of persons in HIV medical care who are homeless to less than 5%.				
Strategy 1: Collaborate with HOPWA grantee on innovative mechanisms.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH HOPWA grantee	Provide training to HOPWA providers on needs of HIV + consumers	HOPWA providers	Training completed
By September 30, 2021:	TDH	Work collaboratively with HOPWA grantee to create and distribute statewide resource directory	PLWHA	Directories distributed
Strategy 2: Provide specialized case management.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators

By September 30, 2021:	TDH + COEs	Expand pilot project in Middle and East Tennessee with HIV specialty case managers to focus on assisting clients to develop skills to remain in long-term sustainable housing	PLWHA	% consumers stably housed
By September 30, 2021:	TDH + HOPWA grantees	Coordinate resources with HOPWA program to assure continuity of services for consumers receiving housing assistance services	PLWHA	% consumers stably housed
Strategy 3: Provide specialized training to re-engagement providers on working with homeless persons.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Develop training materials for re-engagement providers offering information and skills to manage needs of homeless persons	Re-engagement staff	Successful training outcomes
By September 30, 2021:	TDH	Educate re-engagement specialists on needs of homeless persons living with HIV and strategy for successful resource	Re-engagement staff	Successful training outcomes

GOAL 3: Reducing HIV-related disparities and health inequities in Tennessee

Objective 3.A. By September 30, 2021 reduce by at least 15 percent the rate of new diagnoses among MSM, particularly young Black gay and bisexual men.

Strategy 1: Reduce stigma and decrease discrimination associated with HIV status.				
Timeframe	Responsible	Activity	Target	Data Indicators

	Parties		Population	
By September 30, 2021:	TDH + Task Force	Reduce stigma of HIV testing and the use of PrEP among MSM through support of MSM Task Force local media campaigns	MSM, YMSM	Implementation of ≥ 5 locally developed media campaign
By September 30, 2021:	TDH + Task Force	Reduce stigma of HIV testing and the use of PrEP among transgender individuals through support of Transgender Task Force local media campaigns	MSM, YMSM	Implementation of ≥ 5 locally developed media campaign
By September 30, 2021:	TDH	Develop PrEP Media campaign & website for Memphis to increase knowledge and decrease stigma of PrEP use	MSM, YMSM	Implementation of Memphis PrEP Media campaign & website
By September 30, 2021:	TDH	Implementing cultural-competency assessment programs to ensure culturally-competency services within metro-STD clinics	Metro STD clinic staff	≥ 2 metro-STD clinics with programs implemented
By September 30, 2021:	TDH	Training surveillance system users to accurately identify transgender persons	TDH Surveillance field staff	# of trainings
Strategy 2: Implement approaches to reduce HIV infections and improve health outcomes in high-risk communities.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Use CDC's Social Network Strategy (SNS) to target YMSM with enhanced HIV testing in Memphis	YMSM	Successful execution of SNS

By September 30, 2021:	TDH	Assure representation in State and Regional planning bodies to ensure needs of vulnerable populations are considered	MSM, YMSM	Parity, Representation in planning bodies
By September 30, 2021:	TDH	Develop a Continuum of Care to quantify health outcomes along each stage of the continuum for Transgender Persons	Transgender Persons	Linkage to Medical Care Engaged/Retention to Medical Care Viral Suppression
Strategy 3: Provide support for community-level HIV prevention interventions in high-risk communities.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH + CBO partners	Support 15-1502 grantees in their community-level behavioral interventions (MPowerment, Community Promise)	MSM, YMSM	# of successful community-level interventions
By September 30, 2021:	TDH + COEs	Explore adding viral suppression for youth and IDUs as a performance indicator for COEs	MSM, YMSM	Increased tracking of viral suppression
By September 30, 2021:	TDH + CBO partners	Provide funding opportunities for evidence-based community-level interventions targeting young MSM in communities with largest burden of disease	MSM, YMSM	# of successful community-level interventions
Objective 3.B. By 2021, increase the percentage of youth and persons who inject drugs with diagnosed HIV infection who are virally suppressed to at least 80%.				

Strategy 1: Reduce HIV-related disparities in communities at high risk for HIV infection.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Prioritize youth and IDU for re-engagement within the data-to-care re-engagement program	Youth, IDU	Increased utilization of Data to Care
By September 30, 2021:	TDH	Prioritize youth and IDU for re-engagement within the MAI retention and re-engagement program	Youth, IDU	Enhanced retention and re-engagement rates
By September 30, 2021:	TDH	Work with SAMHSA-funded mental health and substance abuse providers to identify and re-engage known HIV+ clients not currently receiving HIV care	SAMSHA funded HIV providers	# of providers engaged
Strategy 2: Implement policies and procedures to increase number and diversity of providers.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Conduct comprehensive lectures, presentations, and intersessions on the National HIV/AIDS Strategy, impact of HIV/AIDS on disparate populations, governmental public health's role in addressing HIV/AIDS, ways to achieve an AIDS-free generation, and careers in public health to medical school students and public health students.	Medical school students and public health students	10 lectures, presentations, and/or intersessions

By September 30, 2021:	TDH	Establish relationships with community partners treating youth and IDUs, especially Nashville and Memphis	Youth, IDUs	# collaborations with community agencies
Strategy 3: Enhance programs for Hep C co-infected persons with HIV.				
Timeframe	Responsible Parties	Activity	Target Population	Data Indicators
By September 30, 2021:	TDH	Augment HDAP Formulary and Medical Services Fee Schedule to cover HCV diagnostics and treatment	RW clients who are HIV/HCV co-infected	# of HCV medications and services available through the HDAP Formulary and Medical Services Fee Schedule
By September 30, 2021:	TDH	Augment HDAP Formulary and Medical Services Fee Schedule to cover mental health and substance abuse treatment	RW clients experiencing mental health and substance abuse disorders	# of mental health and substance abuse medications and services available through the HDAP Formulary and Medical Services Fee Schedule
By September 30, 2021:	TDH	Ensure all HIV + clients in care receive annual HCV screening	PLWHA	90% of all RW clients receive annual screening
By September 30, 2021:	TDH	Train HIV providers to evaluate and treat HCV	RW providers	# of trainings conducted and # of HIV providers trained

By September 30, 2021:	TDH	Train HIV providers and MCMs to identify mental health and substance abuse co-morbidities jeopardizing access to HCV treatment and/or sustained care	HIV providers, MCMs	# of trainings conducted and # of HIV providers trained

Anticipated Challenges or Barriers in Implementing the Plan

There are a few challenges which may impact the capacity to execute this plan. The issues of stigma and lack of awareness have been long-standing barriers to HIV prevention and care. As HIV continues to disproportionately impact people of color—especially MSM of color—the intersection of racism, poverty, and homophobia continue to call on TDH and its partners to renew efforts to change community norms as well as individual's behavior to promote lasting impact. Significant among the concerns is the uncertain of Federal funding for HIV prevention and care services. As uncertainty over the future of HRSA funding continues, questions arise about continuity of services—particularly in a State without Medicaid expansion. By continuing to use 340B rebate funds wisely, it is hoped that TDH can continue to pave the future of services for PLWHA.

Continued need for housing, transportation, behavioral health, and other ancillary services continue to arise as barriers for individuals living with HIV. The complex challenges faced by consumer's present complex needs that may be costly to address. Continuing to work to enroll patients in health plans and work with pharmacy assistance programs will be additional strategies which may result in cost-savings which ultimately may be used to meet ancillary needs. Finally, the growing opiate epidemic must certainly be monitored. While absolute rates of injection drug related HIV continue to be low, recent outbreaks of HIV in other parts of the country (believed to be linked to opiate injection) serve as a warning to TDH to carefully work with the Division of Substance Abuse and its prevention and treatment providers to assure HIV prevention services will be available if an increase in drug injection occurs in Tennessee.

Collaborations, Partnerships, and Stakeholder Involvement

As suggested earlier, the SCSN and planning process sought to reach a wide range of stakeholders. All Part B and HIV Prevention funded grantees, representatives from all Ryan White Parts and both SAMHSA and CDC funded organizations participated in the process. The community planning group (TCPG) was informed of the Joint Guidance at their fall 2015 meeting. The SCSN kick-off was held during an all Parts meeting to introduce the planning process at the statewide meeting in March 2016. The TCPG was advised of progress toward SCSN goals and provided input on recommendations for interventions at their April 2016 meeting. On an August 2016 conference call, the TCPG offered a letter of concurrence with the Integrated Plan (see Appendix). No relevant stakeholders have been identified as 'not engaged' in this planning and needs assessment process.

Extensive efforts were made to collaborate with the Part A programs in Nashville and Memphis during the planning process. Conference calls with the contractor were held within 4 weeks of the award and the Part A program offices were informed at all stages in the process. Both Part A

grantees co-sponsored Regional meetings. Data from the statewide survey was extracted and shared with both Part A grantees to assist with their SCSN.

Stakeholder meetings and other SCSN activities involved both directly-funded CBOs in Tennessee, all Part B contractors, all Part C partners, and engaged the Part F AETC. In addition, the state SAMHSA grantee for Tennessee was engaged.

Persons Living With HIV (PLWH) and Community Engagement

TDH continues its long tradition of substantive participation by PLWHA in this SCSN process. The statewide survey reached 107 PLWHA, meaning nearly 27% of respondents identified as living with HIV/AIDS. Additionally, the regional focus groups had substantial consumers in attendance providing honest and meaningful input.

Recruitment of survey participants relied heavily on case manager outreach to current clients. In addition to the option of an online survey, hard copy of the survey was offered to consumers for whom internet access was uncertain. Some 25 consumers provided input through this mechanism. Through this survey process, PLWHA had an opportunity to provide valuable input on timeliness between their own diagnosis and first-time medical care, quantity and quality of their current medical care including medication adherence, and suggestions to enhance first-time connection to medical care and on-going retention in care for themselves and others. PLWHA also provided input on insurance and means of paying for medical care to include HIV-related medications, access to HIV-related education and support, and other medical and social service needs.

The representation of PLWHA in surveys and community forums roughly reflects the regions and population distribution in the State. More than 50% of responses were from Nashville and Memphis, though all Regions were proportionally represented. A significant percentage of stakeholders (including PLWHA) identify as MSM, and representation included transgender and gender non-conforming community members.

Stakeholder engagement - particularly PLWHA - has been essential to the success of the SCSN. The involvement of the TCPG in the planning of the SCSN process, their oversight and collaboration, and their final input into goals and activities is essential to the success of the Integrated Plan. Their critical insights, including strategies for engaging other stakeholders and intervention approaches to address barriers, have made this plan stronger and more relevant.

Section 5: Monitoring and Improvement

HIV Planning Council Engagement/Monitoring

The Tennessee Community Planning Group (TCPG) is the prevention/care planning body which collaborates with the health department on achieving goals of the Tennessee HIV AIDS Strategy. The goal of the TCPG is to improve the effectiveness of Tennessee's HIV prevention and care programs by strengthening the scientific basis, relevance and focus of prevention and care strategies and interventions. This goal is accomplished in collaboration with TDH in support of the National HIV/AIDS Strategy by carrying out the steps in HIV high impact prevention planning and Health Resources and Services Administration (HRSA) guidelines for the Ryan White Treatment Modernization Act program grantees.

The role of TCPG in the HIV Prevention and Care Planning Process is as follows: (1) Delineate technical assistance and capacity development needs for effective community participation in the planning process; (2) Review available epidemiological, evaluation, behavioral and social science, quality assurance indicators, cost-effectiveness, and community services assessment data and other information required to prioritize HIV prevention and care needs. Collaborate with TCPG partners on how best to obtain additional data and information; (3) Assess existing community resources to determine the community's capability to respond to the HIV epidemic; (4) Identify unmet HIV Prevention and Care needs within defined populations; (5) Prioritize HIV Prevention and Care needs among target populations as based on the HIV epidemiologic data in Tennessee and propose high priority strategies and interventions; (6) Identify the technical assistance needs of community-based providers in the areas of program planning, intervention, and evaluation; (7) Ensure that a) HIV counseling, testing, and referral services (CTRS; with particular emphasis on linkage to care), early intervention, primary care, specialty care, drug assistance, and other HIV-related services; b) sexually transmitted disease, viral hepatitis, tuberculosis and substance abuse prevention and treatment; c) mental health services; and d) other public health needs are addressed in the comprehensive HIV Prevention and Care Plan.

The progress and/or challenges in meeting the goals of the plan are discussed during TCPG meetings bi-annually. In addition, by routinely sharing information, TDH enlists the help of CPG members in developing community-focused plans where performance targets are not being met. TDH—especially the health department TCPG co-chair—is also consistently involved with the CPG leadership and the Executive Committee.

During typical TCPG meetings, TDH Program staff provide updates on progress toward prevention and care targets, and frequently presents surveillance and care continuum data to advise TCPG priority-setting. Historically, the TCPG has been involved in providing feedback

and recommendations which TDH Program staff, in turn, use to revise program activities. As suggested earlier, a major role of the members of the CPG is to continue to engage with Regional CPGs.

The input of the TCPG also guides training and capacity-building efforts. TDH Program supports staff in attending training events like two statewide meetings that happen bi-annually. In addition, other training topics and capacity-building initiatives are frequently suggested by CPG members; and in turn, the training staff within TDH Program use this input to advise training/TA opportunities.

Additionally, there are multiple opportunities for updating Ryan White providers, who are not members of TCPG on the progress of plan implementation, soliciting feedback, and using the feedback to plan for improvements. The Ryan White All Parts Meeting facilitated by TDH meets bi-annually. The Ryan White All Parts Quality Management Steering Committee meets regularly. The Ryan White Part C providers meet every other month and the Part B Directors meet quarterly with monthly contractor calls.

Continuous Quality Improvement

The data sources identified in the plan are readily available data sources, such as HIV/AIDS Bureau (HAB) Performance Measures and report data required for submission to CDC or HRSA. Performance measures from various quality initiatives were aligned with the milestones along the HIV Care Continuum beginning with linkage to care, antiretroviral therapy, retention in care and viral suppression.

TDH contracts with a consultant from the National Quality Center to coordinate the Tennessee Regional Quality Management Group. This group meets quarterly and has as its focus measuring and improving retention in care. In addition to this group, the Ryan White program supports a statewide quality management group. This *Quality Management (QM) Statewide Committee* includes all Ryan White providers (Parts A, B, C, D, & F). In order to respond to needs more appropriately, the committee has designated an executive Committee comprised of representatives from all five regions. The Executive Committee reviewed national, state and local HIV quality initiatives and determined the QM project to focus on patients with Hep C/HIV co-infection.

Evaluation of the Ryan White Programs for progress on the SCSN and Integrated Plan will continue statewide through QM Program data collection and reporting of Performance Measures. Additionally, evaluation will take place through the required semi-annual Ryan White Part B progress reports and the annual data reporting.

The Part B staff conducts bi-annual site visits to all medical and non-medical case management sites to conduct review of client enrollment and verifying eligibility. Sites receive feedback within 30 days following the site visit and are expected respond the any findings or recommendations within 30 days. Part B staff provides additional follow-up monitoring and technical assistance as indicated.

TDH staff conducts site visits annual to Centers of Excellence (COEs) to re-designate centers eligible to continue in the program. Additionally, staff conducts internal quality audits and on-site visits to oversee web-based applications for RW services and monitor data to assure accurate and timely inclusion in the Continuum of Care.

Part B grantees are required to submit *quarterly implementation plan reports* fifteen days following the end of each quarter. The implementation plan is a federally required report that requires agencies to report on program outcomes and objectives per core and support service area. All grantees are also required to submit quarterly CAREWare exports which report on client level data services. Each Part B grantee must have a Quality Management Plan in place and must conduct a minimum of two special studies each year.

The prevention activities funded by TDH are documented using multiple data-collection tools. TDH is mandated by PS12-1201 to use *CDC's Evaluation Web* for reporting. Evaluation Web is a secured database developed by Luther Consulting used to collect information on Counseling, Testing, and Referral Services (CTRS) in the form of rapid HIV testing information received from grantees funded by TDH. In addition, TDH uses *PRISM* to collect additional data on HIV prevention interventions. Grantees are required to enter all HIV rapid test results (reactive, non-reactive, and indeterminate) on a monthly basis. This testing information is uploaded to CDC in order to monitor Tennessee's PS12-1201 deliverable progress.

Evaluation Web is also used to collect information such as linkage to medical care, referral to prevention services, partner services interviews, and enrollment.

TDH prevention grantees are required to submit *quarterly narrative reports (QNR)* at the end of each quarter. The QNR is an internal report that requires grantees to provide information of meeting contract deliverables, condom distribution, challenges and barriers, and technical assistance needs. Also, grantees are required to submit a *monthly CTR summary* which includes a breakdown of the total number of rapid tests administered for each month by priority population, non-priority population and number tested positive. This is crossed checked with Evaluation Web to ensure reporting consistency and reporting of progress.

In addition to formal data analysis, a critical arm of TDH Program's monitoring plan involves *site visits* with funded partners to measure their progress toward strategic goals. These site visits provide Program staff with an important perspective on implementation activities. These site visits typically include review of records, staff interviews, and review of consumer feedback. The combination of review of quantitative data and site visit impressions allows Program staff to craft a TA plan that is designed specifically to build on the strengths of the organization and to address challenges in succinctly targeted ways.

Implementation and Monitoring Plan

Building on the strength of existing quality management activities, the Program Implementation and Monitoring Plan involves two strategic activities.

First, Program staff will use the plan goals and activities as a 'map' of internal progress and review progress toward strategic outcomes at least quarterly. This *data review* will look at targets established and measure progress toward the goals. Regularly measuring the outcomes against data sources, particularly Care Continuum data, allows for course correction. Where problems exist, reallocation of additional resources, development of supplemental strategies, and provision of additional training and TA will be indicated.

Second, Program staff will utilize quantitative and observational methods described above to advise contractors and TDH staff regarding progress towards benchmarks and need for program improvement plans. Following the analysis of data, TDH staff will *share findings* with partners. Where problems exist, the intention is to work collaboratively to develop solutions and an implementation timeline.

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Appendix A: Letter of Concurrence

Tennessee Community Planning Group

Statewide Community Planning for HIV Prevention

August 17, 2016

John Messick
Grants Management Officer
Procurement and Grants office
Centers for Disease Control and Prevention
2920 Brandywine Road
Room 3000, Mailstop E-15
Atlanta, GA 30341

Dear Mr. Messick,

The Tennessee HIV Community Planning Group (TCPG) confirmed concurrence by consensus on August 12, 2016 with the state of Tennessee's Jurisdictional Plan for HIV Prevention & Care. The planning group reviewed the state's epidemiology, needs assessment, goals and objectives and finds them to be responsive to the needs for HIV Prevention & Care in Tennessee.

The health department co-chair and the community co-chair have signed this letter of concurrence.

Sincerely,

Melissa Morrison
TN Department of Health Co-Chair

Gary Law
TCPG Community Co-Chair

Appendix B: Nashville/Memphis Part A Plans

Nashville TGA Comprehensive Plan

(with information from the Memphis EMA and TDOH where available at this time)

2017-2021

Acknowledgements:

Many Planning Council and community stakeholders participated in the creation of this plan and provided their time and knowledge.

In particular, we would like to thank the following:

- **The Executive Committee of the Nashville Regional HIV Planning Council who designed the approach to be used in creating this document.**

Robert Adams	Deidre Parrish, M.D.	Michael Tribble
Larry Frampton	Brady Morris	Lawayne Childrey

- **The Needs Assessment Committee of the Nashville Regional HIV Planning Council who providing the data included in the plan.**

Joe Interrante, Ph.D.	Deidre Parrish, M.D.	Lawayne Childrey
Tom DeMong	David Long	

- **The Tennessee Department of Health STD/HIV Bureau (TDH) and the Memphis Part A Program who provided information to assist in coordination of plans.**

Tonya King	James Sacco	TDH Epi Section
Melissa Morrison	Shanell McGoy, Ph.D.	Memphis TGA Staff

- **The many community stakeholder organizations that provided input on needs, gaps, barriers and ideas for service improvement during the formal planning process. Including:**

Neighborhood Health	TennCare Bureau	TN Office of Minority Health
TN Commission on Aging	Street Works	Vanderbilt Compr. Health Clinic
Nashville CARES	Mental Health Cooperative	Metro Public HD STD Clinic
Oasis Center	Metro Housing Authority	TN Mental Health Consumers Assoc.
Meharry Wellness Center	First Response Center	

- **Liz Allen-Fey and Rachel Moore-Beard, the facilitators for the Comprehensive Plan stakeholder meetings.**

As always, we are grateful for the countless hours that the many community members who volunteer their time to this work, in particular to those living with HIV. In addition, we recognize the ongoing commitment of the professional providers in assuring the delivery of quality care and services.

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APPENDICIES:

A: Nashville Regional TGA Integrated HIV Prevention & Treatment Work Plan

B: Memphis TGA HIV Prevention & Treatment Work Plan

C: TDH Tennessee HIV Prevention & Treatment Work Plan

D: SE Regional AETC Needs Assessment

E: Letter of Concurrence

Introduction

HIV disease is a chronic health care condition that affects many residents of Tennessee and impacts the health of the entire community. Although there have been many medical advances in the last several years, and this disease is now a manageable chronic disease, HIV disease remains a serious public health concern.

Specific to Tennessee, there is an additional layer of concern as a southern state. As noted in the *Southern AIDS Coalition* 2012 report, the southern United States continues to face great challenges. The South has the most people living with HIV and AIDS, the greatest poverty, the highest rates of sexually transmitted infections (STIs), the greatest number of persons without health insurance, the least access to health care, the highest mortality rates, and the fastest growing epidemic in the nation. These statistics are fueled by a number of underlying factors, including stigma, discrimination, racial and ethnic disparities, aggressive homophobia, and poor social determinants (*Sothern AIDS Coalition, 2012 Update*).

This plan is Middle Tennessee's community driven effort to address these challenges and not only assure a quality of life for persons living with the disease, but also strives to eliminate new HIV infections.

Overview of Requirements of the Plan

The Ryan White HIV/AIDS Treatment Modernization Act of 2006 specifies that recipient of Ryan White Part A funds, Metropolitan Public Health Department of Nashville/Davidson County and the Ryan White Part A Planning Councils, are jointly responsible for developing a comprehensive plan for the organization and delivery of HIV services in their local community.

As specified in Section 2602(b)(4)(D) the plan must include discrete goals and a timetable, In addition, the plan must:

- Develop a strategy to identify and address the needs of those who know their HIV status and are not in care as well as the needs of those who are currently in the care system and inform/enable them to utilize services;
- Address disparities in HIV care, access, and services among affected subpopulations and historically underserved communities;
- Be compatible with the Statewide Coordinated Statement of Need for HIV/AIDS;
- Develop a strategy to coordinate services with HIV prevention programs and for the prevention and treatment of substance abuse; and
- Establish and support an HIV continuum of care that coordinates resources among other federal and local programs.

Additional guidance from HRSA/HAB (Health Resources and Services Administration/ HIV/AIDS Bureau) requires that the program continue earlier legislations' focus on planning, with a greater emphasis on quality management, oversight and accountability. HRSA/HAB guidance also states that comprehensive planning includes initiatives that maintain and improve the system of care and be responsive to the changing epidemic. In addition to the requirements specified above, the plan is to reflect a system that:

- Ensures the availability and quality of all core medical services;
- Includes a discussion of clinical quality measures; and
- Includes strategies for the prevention and treatment of substance abuse.

Lastly, a new initiative this year under the Centers for Disease Control and Prevention (CDC) and HRSA, offered guidance and encouragement for Ryan White Part A and B Grantees and the CDC state grantees to develop an Integrated HIV Prevention and Care Plan, including the Statewide Coordinated Statement of Need (SCSN). Their intent is to streamline the work of health department staff and HIV planning groups and promote collaboration and coordination in the use of data. An integrated plan is seen as a vehicle to develop a coordinated approach to addressing the HIV epidemic at the state and local levels.

In order to meet the integrated HIV prevention and care plan guidance, the Memphis TGA, the Tennessee Department of Health HIV/STD Section (TDH) and the Nashville TGA administrative staff consulted with their planning bodies and met to attempt to coordinate their comprehensive plans as much as possible this year. Whenever possible, information from the three entities was included in the plan. In the future, the this group will work together to continue efforts to develop a single coordinated plan.

Key Influencers of this Plan

1. National HIV/AIDS Strategy (NHAS) and the HIV Continuum of Care

Two national documents set the tone and framework for this plan:

- National HIV AIDS Strategy https://www.aids.gov/federal-resources/national-hiv-aids-strategy/overview/
- HIV Continuum of Care (aka Cascade of Care, HIV Treatment Cascade) https://www.aids.gov/federal-resources/policies/care-continuum/

The National HIV/AIDS Strategy is a five-year plan that details principles, priorities, and actions to guide our collective national response to the HIV epidemic. The NHAS' vision is to be a place where new HIV infections are rare, and when they do occur, every person, regardless of age, gender, race/ethnicity, sexual orientation, gender identity, or socio-economic circumstance, will have unfettered access to high quality, life-extending care, free from stigma and discrimination. The strategy reflects many of the approaches that HRSA and CDC believe will make the greatest difference in reducing HIV, such as intensifying prevention for individuals with HIV and those at highest risk of becoming infected with HIV, and targeting resources to the interventions and areas where we can have the greatest impact. The strategy was released in 2010, updated in 2015 and stresses the following points:

- There is still an active HIV epidemic and it remains a major health issue in the United States.
- Most people can live long, healthy lives with HIV if they are diagnosed and get treatment.
- For a variety of reasons, certain populations bear a disproportionate burden of HIV.
- People across the nation deserve access to tools and education to prevent HIV transmission.
- Every person diagnosed with HIV deserves immediate access to treatment and care that is non-stigmatizing, competent and responsive to the needs of the diverse population impacted by HIV.
- Using the HIV Care Continuum to measure and achieve outcomes, particularly in communities disproportionately impacted by HIV, is a critical means of assuring services are having a positive impact on individuals and the community as a whole.

The HIV Care Continuum a model that outlines the sequential steps or stages of HIV medical care that people living with HIV go through from initial diagnosis to achieving the goal of viral suppression (a very low level of HIV in the body), and shows the proportion of individuals living with HIV who are engaged at each stage. The specific stages of the continuum are: 1) the number of people with HIV disease; 2) the percentage of persons diagnosed with HIV disease who are linked to HIV medical care; 3) the percentage of persons who receive routine HIV medical care; 4) the percentage of persons in HIV medical care who receive HIV medications; and 5) the percentage of persons who are virally suppressed.

2. Advances in the HIV Field: Impact on HIV Care

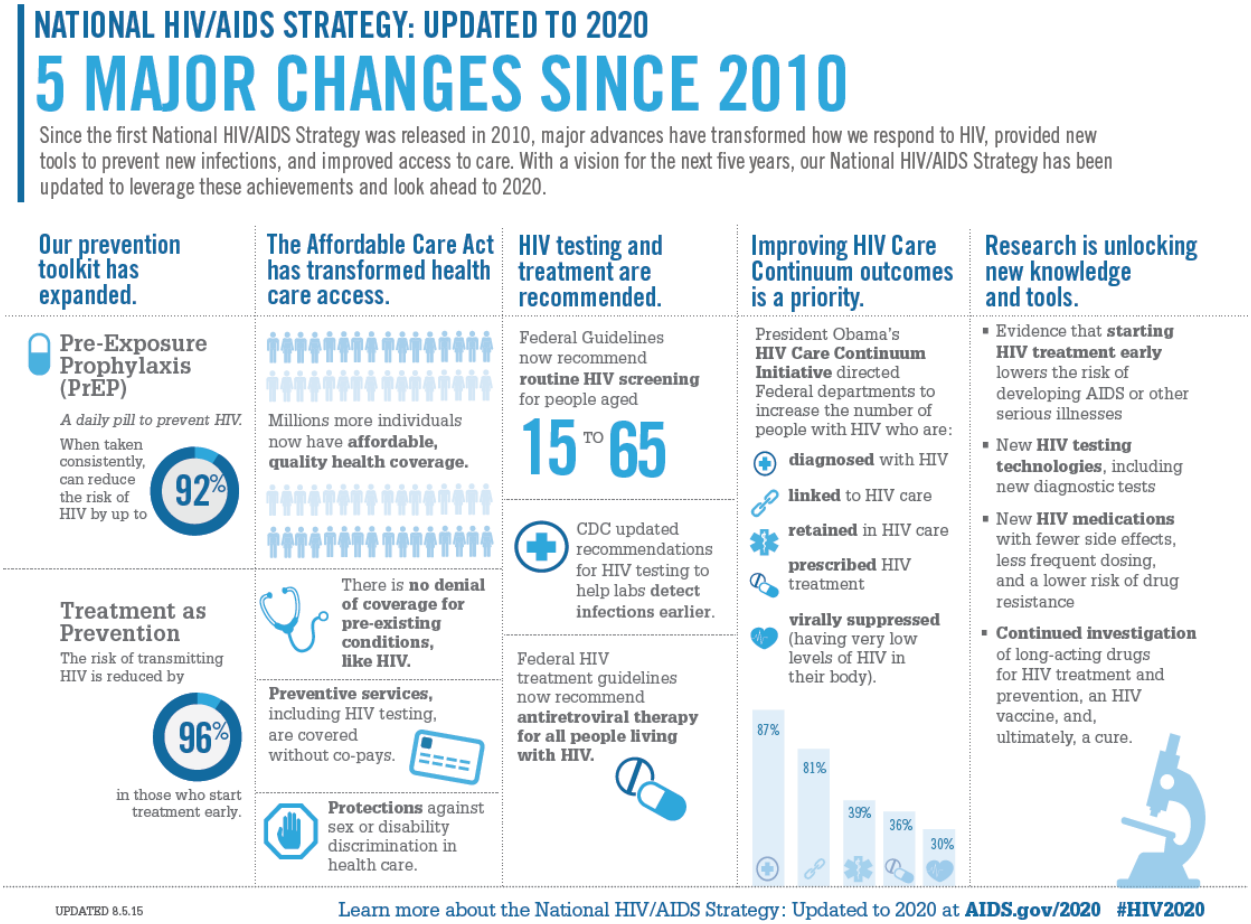
In the recent years, there have been several key national initiatives/activities that have changed the landscape of the HIV epidemic and support the ability of communities across the United States, to achieve the NHAS' vision. These initiatives/activities are critical elements to be considered as local communities develop their individualized plans for eliminating new HIV infections and assuring a quality life for those persons living with HIV disease. *See Figure 1.*

- Implementation of **Affordable Care Act**, which increases access to health care for persons living with HIV disease. As more PLWH in Tennessee gain access to marketplace insurance they not only gain access to insurance to cover their overall medical needs, there is less need for the Ryan White program to pay for HIV outpatient care. Ideally, Ryan White funds no longer needed for

HIV outpatient care will be directed to other key core and support services that support a person's ability to engage in HIV medical care and achieve viral suppression.

- Although **Medicaid expansion** has not yet occurred in Tennessee, it is another key activity that if enacted, will change the landscape of healthcare in Tennessee with an impact similar to enrollment in ACA insurance.
- The **START trial** which demonstrated that **early initiation of HIV medications** for HIV not only benefits a person with the disease, but has a preventative benefit by reducing the risk of onward transmission to others by 96%. This evidence highlights the critical need for newly diagnosed persons to quickly link to HIV medical care receive information to make an informed choice about initiation of antiretroviral medication. The study has found that earlier receipt of antiretroviral significantly improves health outcomes by reducing the risk of a combination of serious AIDS-related illness, serious non-AIDS-related illness and death by more than half compared to deferring treatment.
- Introduction of **PrEP** (pre-exposure prophylaxis) that reduces the risk of HIV infection by taking daily medication.
- CDC guidance for the adoption of **new HIV testing technologies** that enhance the ability to diagnosis HIV soon after infection – a time when HIV is most likely to be transmitted to others. *(Adapted from NHAS 2020)*

Figure 1:

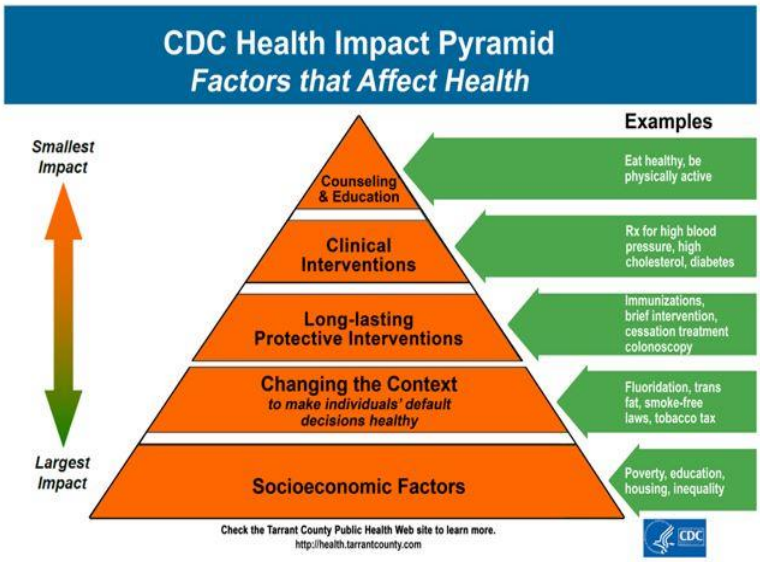


3. **Health Impact Pyramid: Impact on HIV Care**

HIV disease as both a chronic health condition and a public health concern, necessitate the use of a model developed by CDC which defines the range of needed health interventions, but also describes interventions with the greatest potential impact for sustaining health of individuals and communities. The strength of this model is that it addresses socioeconomic determinants of health that are many of the barriers faced by PLWH that often limit achievement of health outcomes. In addition, the model requires the involvement of a diverse representation of stakeholders, which not only provides opportunity for community based solutions but may also address concerns related to stigma of HIV disease.

Overview of the Health Impact Pyramid (*Figure 2*): At the base of this pyramid, interventions with the greatest potential impact, are efforts to address socioeconomic determinants of health. In ascending order are interventions that change the context to make individuals' default decisions healthy, clinical interventions that require limited contact but confer long-term protection, ongoing direct clinical care, and health education and counseling. Interventions focusing on lower levels of the pyramid tend to be more effective because they reach broader segments of society and require less individual effort. Implementing interventions at each of the levels can achieve the maximum possible sustained public health benefit. (*Adapted from: AmJ Public Health. 2010;100:590–595. doi:10. 2105/AJPH.2009.185652*)

Figure 2: Health Impact Pyramid



The model is an important tool for the Nashville Regional TGA Planning Council's work related to health planning and resource allocation. Use of the model can help the council answer the following questions:

- Why people do or do not engage in certain health behaviors (e.g., poverty, education)?
- What strategies will have the greatest impact on reaching the right audience?
- What strategies will have long-lasting impact on improving the health of the community?

Nashville TGA Process in Developing the Plan

The TGA's Comprehensive Plan is based upon data and findings from the Part A needs assessment (including information gathered from community forums, consumer surveys, provider surveys) and from the discussion of the comprehensive plan workgroup. The plan strives to balance service needs with available resources. The primary purpose of comprehensive planning is to serve as a five-year guide for informing the Part A Planning Council. With the information provided in the plan, the council can make better and informed decisions about services for Persons Living with HIV (PLWH) as they work to develop and maintain a comprehensive continuum of care that improves the health outcomes and lives of PLWH. Once the plan is being implemented, the Planning Council will monitor the plan on an on-going basis to assure achievement of the plan's goals and objectives.

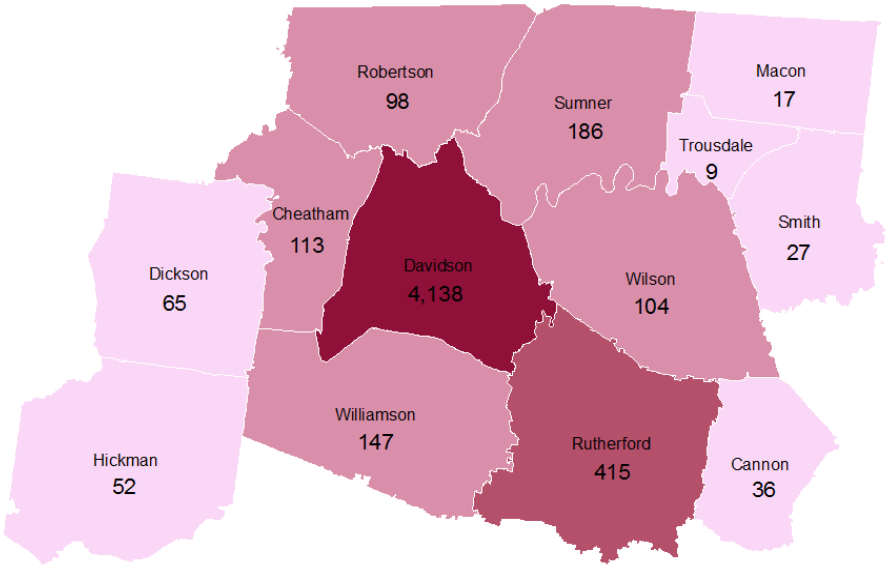
A. Epidemiological Profile:

A1: Geography of Region & Distribution of PLWH in the TGA

The Nashville TGA consists of the following 13 Middle Tennessee counties: Cannon, Cheatham, Davidson, Dickson, Hickman, Macon, Robertson, Rutherford, Smith, Sumner, Trousdale, Williamson, and Wilson.

The TGA has a nearly equal proportion of PLWH relative to the percentage of the total population of the state that lives here. According to the U.S. Census Bureau, the TGA had an estimated population of 1,742,588 in 2015 (26.4 percent of the state's total population). As of 2014, The Nashville TGA represents approximately 31 percent of the state's PLWH population, and 25.7 percent of the state's total population. While 39 percent of the TGA's total population lives in Davidson County, 76.5 percent of the PLWH population resides in Davidson County (see *Figure 3*).

Figure 3: HIV Disease Prevalence in the TGA



Source: eHARS

A. Epidemiological Profile:

General Population Changes: At this time, the overall population of the Nashville TGA area continues to grow rapidly, in particular Davidson, Rutherford, Sumner, Williamson and Wilson Counties. *Table 1* provides a breakdown of the most recent census demographics for the area.

Table 1: General Population Demographics of the TGA

County	2015 Population	% Change 2007-15	% White	% African American	% Hispanic	% Below Poverty	% Uninsured
TN	6,600,299	+8.38%	78.8%	17.1%	5.2%	18.3%	14.1%
Cannon	13,840	+1.80%	95.7%	1.9%	2.0%	16.4%	29.5%
Cheatham	39,741	+0.60%	95.6%	2.0%	2.8%	12.7%	13.6%
Davidson	678,889	+16.54%	65.5%	28.0%	10.0%	19.9%	16.4%
Dickson	51,487	+9.42%	92.5%	4.5%	3.3%	14.3%	14.2%
Hickman	24,363	+0.65%	92.4%	5.0%	2.1%	20.2%	15.7%
Macon	23,177	+5.52%	96.5%	0.9%	5.1%	19.3%	17.2%
Robertson	68,570	+8.55%	89.5%	7.7%	6.4%	13.4%	13.9%
Rutherford	298,612	+27.96%	79.1%	14.5%	7.5%	14.7%	12.1%
Smith	19,295	+1.59%	95.6%	2.2%	2.5%	15.0%	14.2%
Sumner	175,989	+16.15%	89.2%	7.2%	4.5%	11.3%	11.7%
Trousdale	8,042	+1.93%	88.0%	8.9%	3.2%	17.5%	15.2%
Williamson	211,672	+28.67%	89.7%	4.6%	4.8%	5.6%	7.6%
Wilson	128,911	+21.93%	89.2%	6.9%	3.9%	10.1%	11.3%
TGA	1,742,588						

Source: US Census 2015

A. Epidemiological Profile:

A2: Incidence

HIV disease incidence refers to people who were newly diagnosed with HIV disease in the past year, regardless of the stage of the disease (HIV or AIDS). Therefore, people who were newly diagnosed with HIV or concurrently diagnosed with HIV and AIDS are included; however, this does not include persons who were diagnosed with HIV in a previous year and may have converted to AIDS in the current year. There were a total of 188 new cases of HIV disease diagnosed in the Nashville TGA in 2015 (see *Figure 4*). This is an 11.7 percent decrease in the number of new cases from the previous year. Since 2011, there has been a 23.5 percent reduction in the number of new HIV disease cases and a 27.1 percent decrease in the *rate* of incidence (see *Figure 5*). Of the 188 new cases of HIV disease, 18.6% (35 cases) were new AIDS diagnoses in the Nashville TGA in 2015. Compared to the previous year, there was a 20.4% reduction in the number of AIDS cases in the TGA incidence statistics. Statewide rates by county are shown in *Figure 6*.

Figure 4: HIV Disease Incidence Nashville TGA 2011-2015

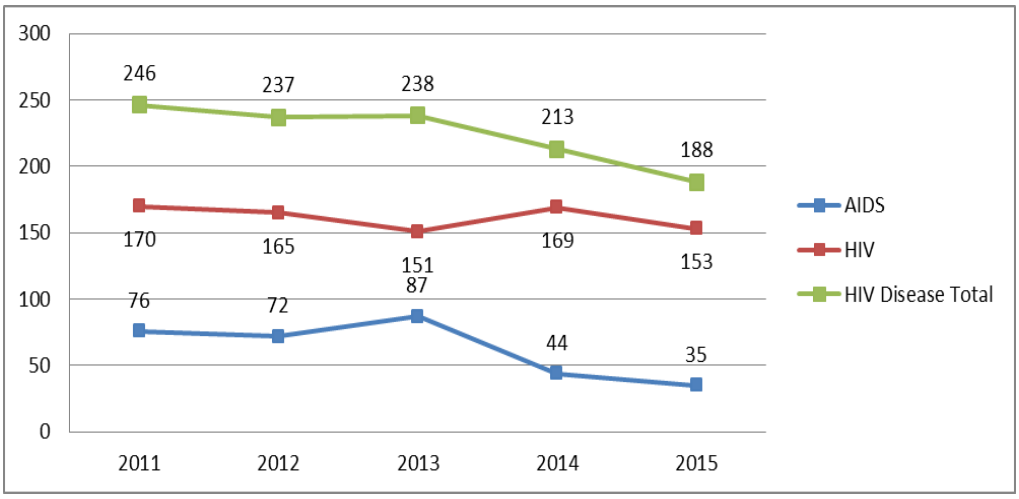
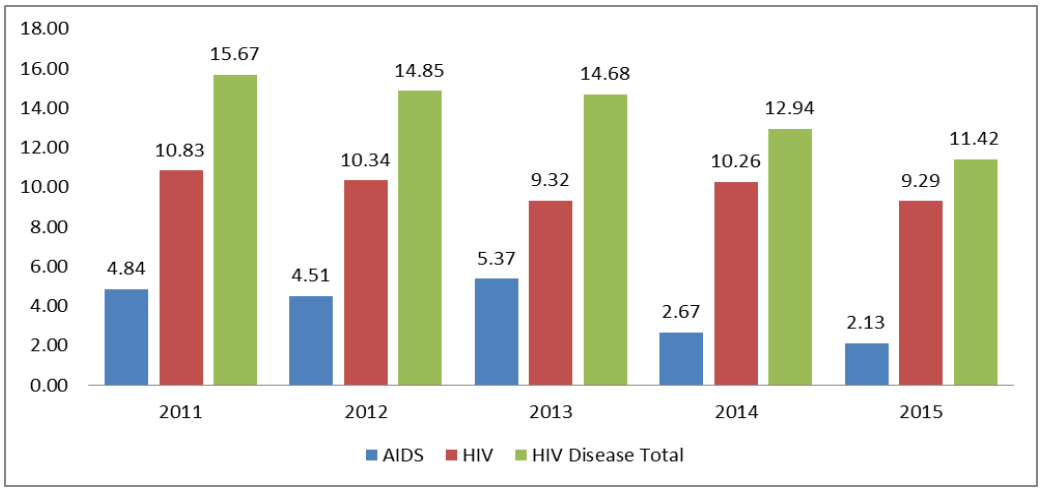


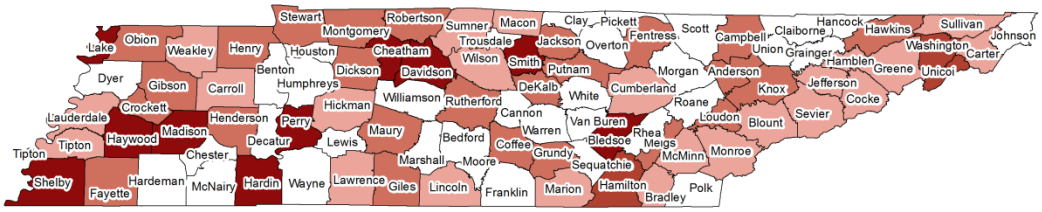
Figure 5: HIV Disease Incidence Rates Nashville TGA 2011-2015



Source: eHARS

A. Epidemiological Profile:

Figure 6 shows the rate of new infections in Tennessee for 2015.



TN Department of Health

Map Created by HIV/STD Surveillance and Epidemiology
Data Source: eHARS, accessed June 30, 2016
Method: Manual, 5 Clases
Map Created on: July 18, 2016

Rate per 100,000
State Rate: 10.8

- 0.0
- 0.1 - 5.0
- 5.1 - 10.0
- 10.1 - 11.5
- Greater than 11.5

Snapshot of TGA Incidence Data:

Nashville TGA HIV Disease Incidence Data by Subpopulations

The following incidence statistics were calculated for the 2015 comprehensive needs assessment; they did not have significant changes over time. Below is an updated snapshot of 2015's demographics. For more detailed data on incidence demographics, matching page numbers to the comprehensive 2015 Needs Assessment have been included. The 2015 Needs Assessment can be found here: http://www.nashrpc.com/

- **Incidence for HIV Disease by Race/Ethnicity (pg. 55)**: Non-Hispanic Blacks represent the majority (50.5 percent, 95 people) of all new cases, followed by Non-Hispanic Whites (38.3 percent, 72 people). Hispanic persons of all races made up approximately 7 percent (14) of the 2015 incidence.
- **Incidence by Sex Category (pg. 59)**: 81.4 percent (153) of new HIV disease cases in 2015 were men. In the past 5 years, there has been a 25 percent drop in the number of new infections in men (all races) since 2011 as well as a 16.7% drop of new infections in women.
- **Incidence by Transmission Category (pg. 58)**: Sixty percent (113) of new HIV disease cases in 2015 were from the MSM transmission category, the "Unknown Exposure/Other" category, which accounts for 23.9 percent (45 people) of incidence, Heterosexual contact (24) accounts for another 12.8 percent of incidence.
- **Race and Sex Interactions (pgs. 60-61)**: Among women in 2014 nearly 70 percent of all HIV disease cases were Non-Hispanic black women. Non-Hispanic black males account for 55 percent of the newly diagnosed while non-Hispanic white males are 35.6 percent of the newly diagnosed men with HIV disease.
- **Race and Transmission Category Interactions (pgs. 66-68)**: Every racial group has very high incidence and rates of MSM transmission, but non-Hispanic black PLWH have the highest number of new cases of MSM transmission in 2014. Non-Hispanic black PLWH are the majority of the heterosexual transmission category - they were 75% of the total for heterosexual transmission (white PLWH accounted for the other 25%)
- **Age Group and Sex Interactions (pgs. 69-70)**: For females in 2014, 80.5 percent of new cases fall in the age range of 25-54, with the majority occurring in the 35-44-year-old age range and near equal parts in 25-34 and 55-64. For males in 2014, the majority of the new cases (81 percent) occurred in the 15-44 age range with the newest cases occurring in the 15-24 and 25-34 age ranges.
- **Sex and Transmission Category Interactions (pgs. 71-72)**: for women, the majority of HIV disease incidence appears to be transmitted through heterosexual contact, followed by other transmission.

A. Epidemiological Profile:

Table 2 provides the demographics for persons newly diagnosed in 2015 with HIV disease in the State and in the Memphis and Nashville TGAs.

TABLE 2 : 2015 Incidence Demographics

	State of TN	EMA/TGA	
		Memphis	Nashville
Gender			
Male	455	*To be provided at a later date*	174
Female	119		36
Race/Ethnicity			
Black/African American	357	*To be provided at a later date*	121
White	180		72
Hispanic	31		12
Asian	8		
Other	4		5
Race/Ethnicity - Males			
Black/African American	284	*To be provided at a later date*	*To be provided at a later date*
White	136		
Hispanic	27		
Asian	4		
Other	4		
Race/Ethnicity - Females			
Black/African American	68	*To be provided at a later date*	*To be provided at a later date*
White	43		
Hispanic	4		
Asian	4		
Other	0		
Age			
<15	8	*To be provided at a later date*	0
15-24	169		44
25-34	209		73
35-44	90		51
45-54	71		31
55-64	28		7
65+	5		4
Transmission Category			
Heterosexual	146	*To be provided at a later date*	24
IDU	35		5
MSM	381		128
MSM/IDU	15		2
Perinatal	5		0
Other/Unknown Risk	129		51

Source: TDH and eHARS for Nashville TGA

A. Epidemiological Profile:

Snapshot of State Incidence Data:

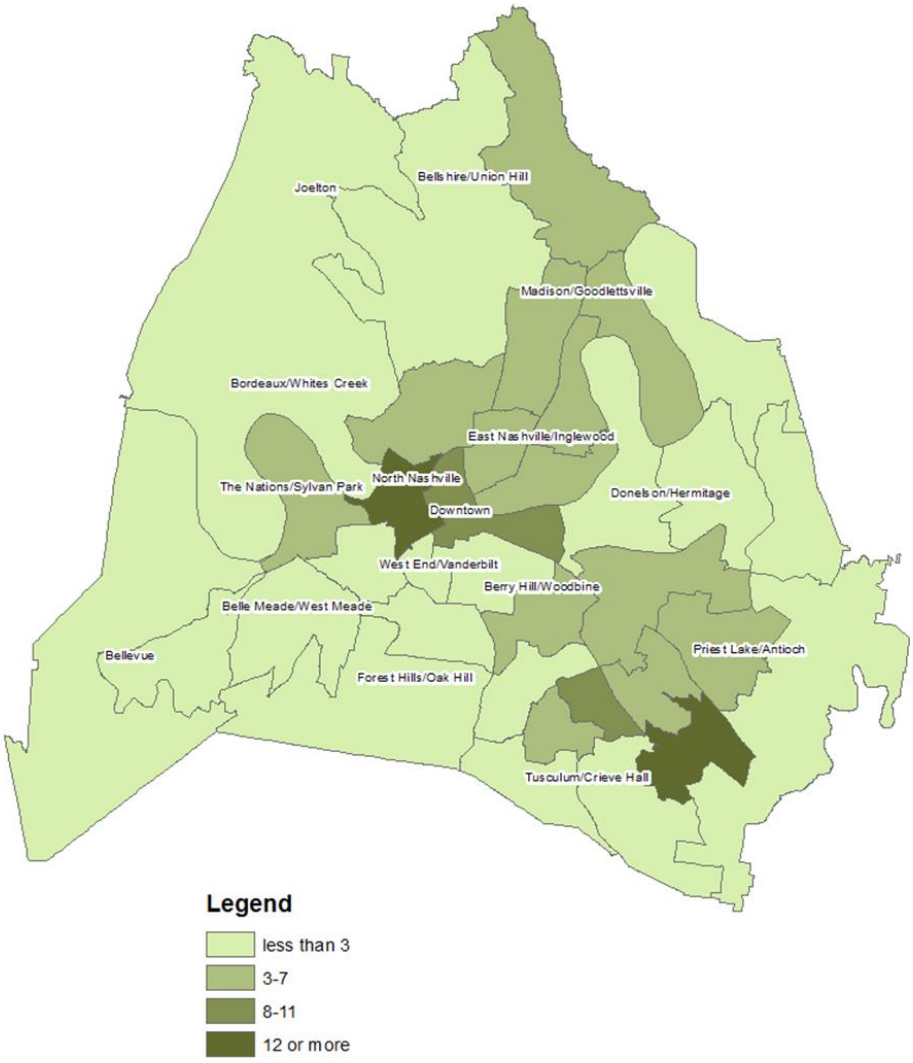
- Of the 711 persons newly diagnosed in TN with HIV disease in 2015, 18.4% were classified as stage 3 (AIDS) cases by the end of 2015.
- In TN, males represented the largest proportion of persons newly diagnosed with HIV disease (78.9%). The rate of new HIV disease diagnoses was 4.1 times as high among males compared to females.
- In TN, a greater proportion of the newly diagnosed cases occurred among blacks/African Americans compared to living cases (59.4% and 33.1% respectively). The rate of new HIV disease cases was 8.3 times as high among blacks/African Americans compared to whites.
- In TN, the greatest proportion of newly diagnosed cases occurred among persons 25-34 years of age (34.6%). The rate of new HIV disease diagnoses was greatest among persons 25-34 years of age at the end of 2014 (28.2 per 100,000)

Source: TDOH 2015 HIV Epidemiological Profile

A. Epidemiological Profile:

Figure 7 provides a picture of where new HIV disease is concentrated in Davidson County, the county of the TGA that has the majority of new HIV cases as well as HIV prevalence. This map depicts patterns that are similar to other health conditions impacted by social determinants of health; that is, HIV is concentrated in areas lower socio-economic factors.

Figure 7: HIV Disease Incidence for Davidson County by Council District, 2014



Source: eHARS

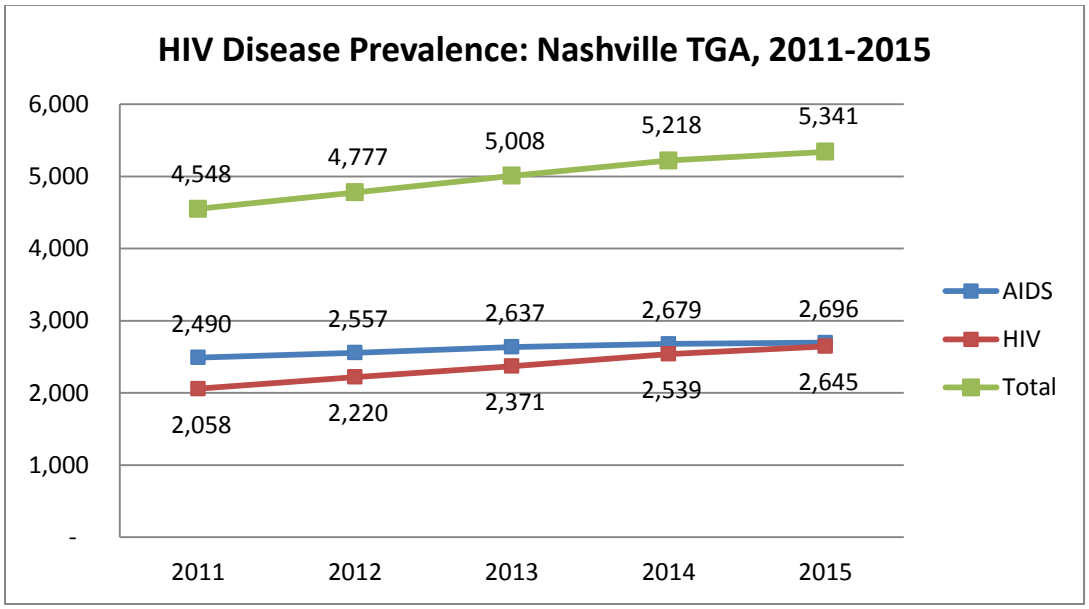
A. Epidemiological Profile:

A3: Prevalence

Prevalence tells us the number of people who are living with HIV disease. Prevalence is important because it documents the number of people who need HIV medical care and services. In Tennessee, approximately 40% of people living with HIV disease living in the Memphis TGA, approximately 30% live in the Nashville TGA and the remaining 30% live in other areas of the state.

There were 5,341 persons living with HIV/AIDS (PLWH) in the Nashville TGA at the end of the 2015 calendar year. Since 2011, the number of persons living with HIV disease has increased steadily from 4,548, which is roughly a 17.4 percent increase in the total number of PLWH in the Nashville TGA over this five-year span (see *Figure 8*).

Figure 8: HIV Disease Prevalence in the Nashville TGA 2011-2015



Source: eHARS

◆ See the TDH plan for more information about TN prevalence, including regional specific information.

The rates for HIV disease prevalence in the Nashville TGA are shown in *Figure 9*. From the figure, it can be seen that the rates of HIV disease (total) has increased steadily from 2011 (289.8) to 2015 (324.4). The rate of PLWH with AIDS has grown slowly, going from 158.7 per 100,000 in 2011 to 163.7 per 100,000 in 2015 while the rate of PLWH with HIV has increased much more rapidly, from 131.1 per 100,000 in 2010 to 160.6 per 100,000 in 2015 – a 22.5 percent increase in 5 years. Statewide prevalence rates by county are shown in *Figure 10*.

A. Epidemiological Profile:

Figure 9: HIV Disease Prevalence Rates Nashville TGA 2011-2015

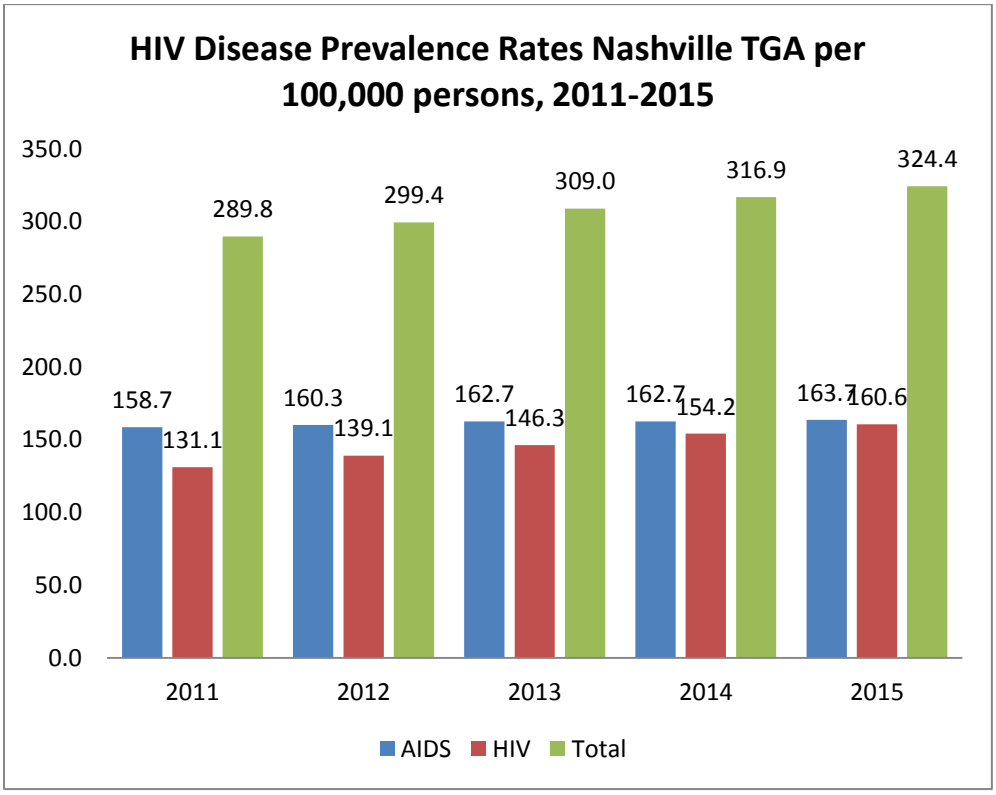
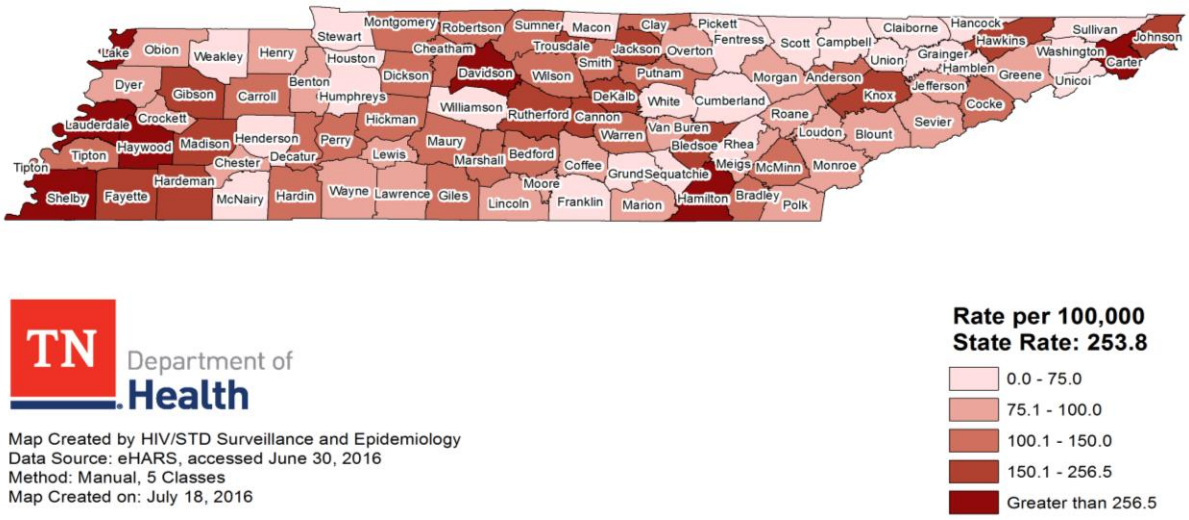


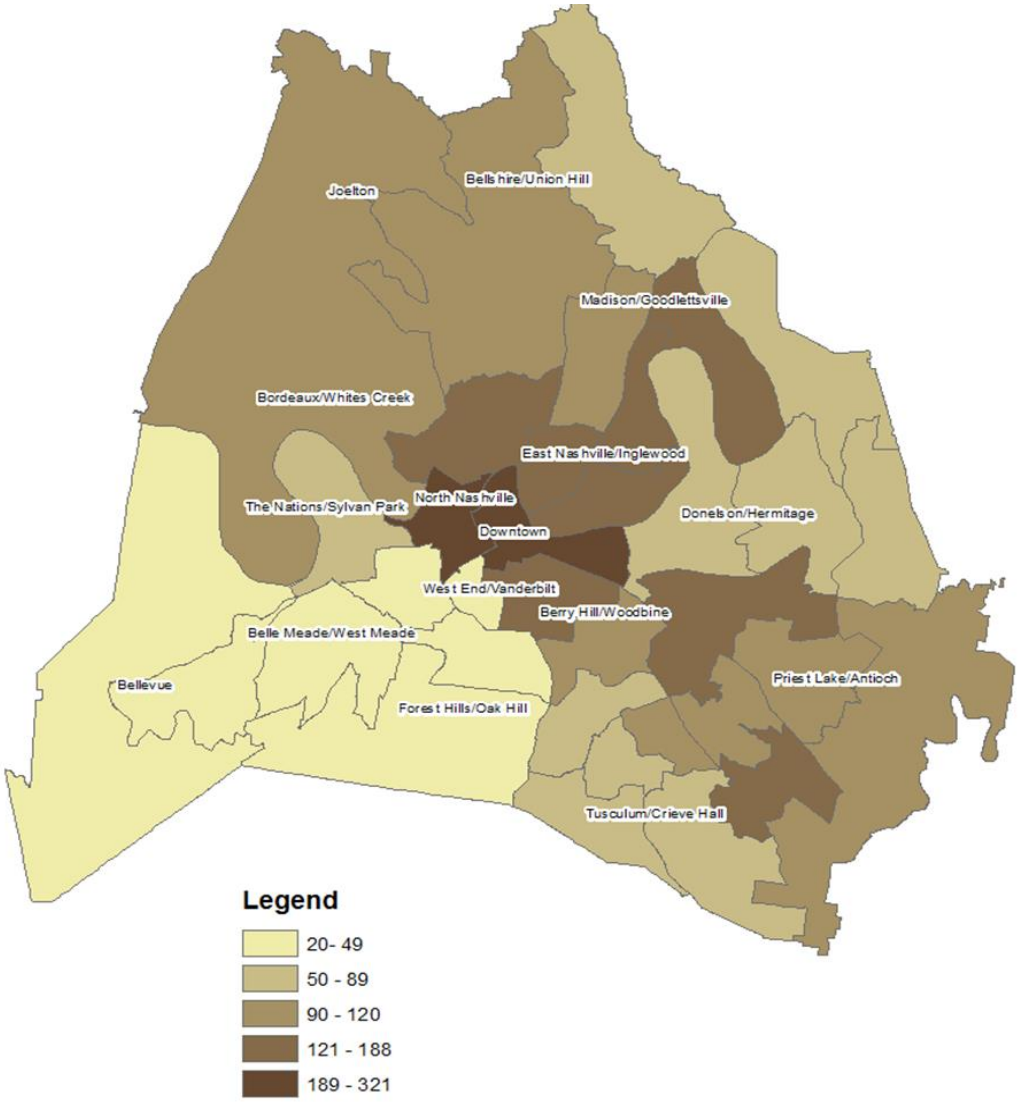
Figure 10 shows the prevalence rate by county in Tennessee for 2015.



A. Epidemiological Profile:

Figure 11 provides a picture of where HIV disease prevalence is concentrated in Davidson County. This map depicts a pattern similar to the earlier map for incidence.

Figure 11: HIV Disease Prevalence for Davidson County by Council District, 2014



Source: eHARS

A. Epidemiological Profile:

Nashville TGA HIV Disease Prevalence Data by Subpopulations:

The following prevalence statistics were calculated for the 2015 comprehensive needs assessment; they did not have significant changes over time. Below is an updated snapshot of 2015's demographics. For more detailed data on prevalence demographics, matching page numbers to the comprehensive 2015 Needs Assessment have been included. The 2015 Needs Assessment can be found here: http://www.nashrpc.com/

- **Prevalence for HIV Disease for Race/Ethnicity (pg. 19)**: Non-Hispanic Blacks represent nearly half (47.5 percent, 2,539 people) of all cases, followed by Non-Hispanic Whites (43.7 percent, 2,337 people). Hispanic persons of all races made up approximately 6.3 percent (334) of the 2015 prevalence. Other racial groups are roughly 2.5 percent of prevalence.
- **Prevalence for Sex Category (pg. 20)**: Males make up approximately 78 percent (4,171) of the prevalence in the TGA, with females making up the remaining 22 percent (1,170).
- **Prevalence by Age Category (pg. 21)**: 19.8 percent of HIV prevalence in the TGA occurs in individuals under the age of 34 (1,057 people), 24.7 percent of prevalence occurs in people aged 55 and up (1,318 people), 34.7 percent of prevalence is in the 45-54-year-old age group alone (1,851 people), with the remaining 20.8 percent in the 35-44 age group (1,115 people).
- **Prevalence by Transmission Category (pg. 22)**: The majority of the PLWH population in the TGA is MSM (53.4 percent, 2,854), followed next by heterosexual transmission (18 percent, 963). The third largest group is "other" transmission risk (14.8 percent, 788), while the fourth largest group are intravenous drug users (9.3 percent, 497). MSM+IDU transmission category (3.7 percent, 198) and perinatal transmission (0.8 percent, 41) complete the 2015 prevalence trends.
- **Race and Sex Interactions (pg. 24-25)**: In 2014 nearly 65 percent (734 women) of all female HIV disease cases were black women. The figure for men shows that white males account for 48.4 percent (1,971 men) of all HIV disease while black males are 42.8 percent (1,741 men) of men with HIV disease.
- **Race and Transmission Category Interactions (pg. 38-41)**: Every racial group has very high prevalence of MSM transmission. White PLWH have the highest prevalence of MSM transmission in the TGA. Black PLWH account for the majority (63.4 percent) of all IDU transmission cases
- **Age Group and Sex Interactions (pg. 42-44)**: For females in 2014, 75 percent of the disease burden of HIV falls in the age range of 25-54, with the majority occurring in the 35-54-year-old age range and near equal parts in 25-34 and 55-64. For males, 74.2 percent of the disease burden falls in the age range of 35-64, with the majority occurring in the 45-54-year-old group
- **Age Group and Transmission Category Interactions (pg. 46-47)**: MSM transmission accounts for the majority of HIV prevalence in every age group except those less than 15 years old.

Source: Nashville TGA 2015 Needs Assessment.

A. Epidemiological Profile:

Table 3 provides the demographics for persons living with HIV disease in 2015 in the State and in the Memphis and Nashville TGAs.

Table 3: 2015 Demographics of PLWH

	TN	Memphis TGA	Nashville TGA	
Gender				
Male	12,334	*To be provided at a later date*	4,064	
Female	4,362		1,154	
Race/Ethnicity				
Black/African American	9,476	*To be provided at a later date*	2,475	
White	6,109		2,269	
Hispanic	758		324	
Asian	70			
Other	341		123	
Age				
<15	94	*To be provided at a later date*	30	
15-24	733		219	
25-34	2,824		804	
35-44	3,780		1,194	
45-54	5,427		1,802	
55-64	3,043		923	
65+	853		246	
Transmission Category				
Heterosexual	*To be provided at a later date*	*To be provided at a later date*	945	
IDU			511	
MSM			2,759	
MSM/IDU			188	
Perinatal			36	
Other/Unknown Risk			779	
Socio Economic s				
FPL	*To be provided at a later date*	*To be provided at a later date*	Below 100%	66.4%
			100-138%	11.4%
			139-200%	9.7%
			201-250%	5.2%
			251-400%	6.3%
			401-500%	0.3%
			> 500%	0.7%
Health Insurance Status	*To be provided at a later date*	*To be provided at a later date*	Private-Employer	14.8%
			Private-Individual	3.6%
			Medicare	15.5%
			TennCare	16.8%
			VA	0.8%
			Indian Health	0.8%
			No insurance	43.7%
			Other plan	4.7%
Housing Status	*To be provided at a later date*	*To be provided at a later date*	Stable Permanent	81.3%
			Temporary	13.8%
			Unstable	4.9%

A. Epidemiological Profile:

Snapshot of State Prevalence Data:

- Of the 16,754 persons living with HIV at the end of 2015 in the State of Tennessee, 73.6 % were male.
- The rate of those living with HIV disease was 3.0 times as high among males compared to females.
- Blacks/African Americans represented the largest proportion of living HIV disease cases (56.6%) and had a rate that was 7.1 times as high as the rate among whites.
- Among males, the rate of living cases among blacks/African Americans was 6.0 times as high as among whites.
- Among females, the rate of living cases among blacks/African Americans was 13.5 times as high as among whites.
- Blacks/African Americans represent the largest proportion of transgender persons living with HIV disease (63.8%).
- The greatest proportion of living HIV disease cases were persons 45-54 years of age (32.4%)

Source: TDOH 2015 HIV Epidemiological Profile

A4: Number Estimated to be HIV+ (Individuals Unaware of their HIV-positive status)

In addition to the persons who are known to be HIV positive, there are persons who are HIV positive but have not received an HIV test and are therefore not aware of their status. According to the Centers for Disease Control and Prevention (CDC), the formula for calculating the estimated number of persons who are 13 years or older who do not know they are HIV positive is the following:

$$\frac{0.14 * Prevalence}{0.79}$$

The numerator (0.14*$Prevalence$) represents the portion of the population over the age of 13 that the CDC estimates to be unaware of their status in the state of Tennessee. The denominator represents the portion of the population that is aware of their HIV disease status. At the time of this report, the total prevalence in the Nashville TGA was 5,341, which means the estimate for the number of individuals who are HIV positive and unaware of their status is (0.14*5341)/0.79 or **947 people.**

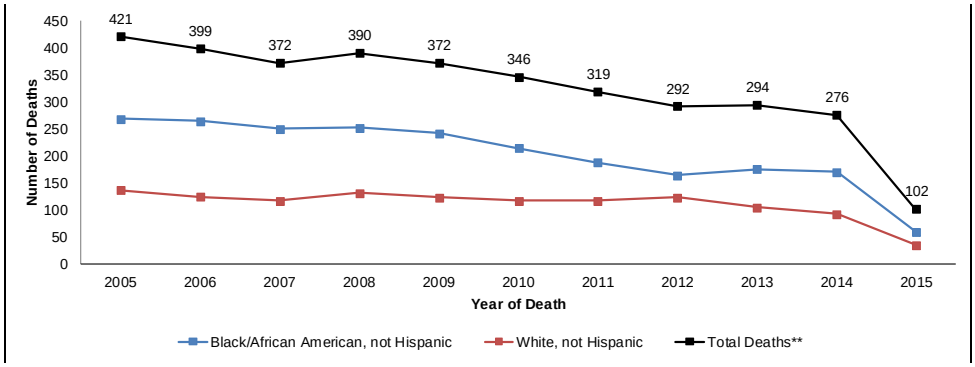
It is important to note, that it is estimated that half of new HIV infections are transmitted by people who do not know they are infected. By contrast, people living with diagnosed HIV and virally suppressed are 94% less likely to transmit the infection. Additionally, the longer a person remains unaware of his or her status, the more likely he or she is to advance to AIDS prior to identification and treatment and may unknowingly infect others. This information on the persons unaware of their HIV positive status could help guide testing efforts funded by HIV prevention programs in our community and can identify points of collaboration between HIV prevention and treatment services funded by the Ryan White Part A program.

A. Epidemiological Profile:

A5: HIV and HIV Related Deaths

In Tennessee since 2010, the total number of deaths for persons living with HIV disease from any cause, has decreased from 346 to 102 deaths (*Figure 12*). Although this overall trend is positive, the disparity for Blacks/African Americans compared to White/Caucasians , still exists.

Figure 12. HIV Disease Deaths, by Selected Race, by Year of Death, Tennessee, 2005-2015



Source: TDH, 2015 Epi Profile

Nationally, CDC completes an estimate of the "probability of survival" for >3 years (36 months) for persons with diagnosed HIV infection and for persons whose infection had ever been classified as stage 3 (AIDS).

- HIV: In the US in 2009 of 43 states, 38 of those states had at least 9 of 10 persons survived after a diagnosis of HIV infection, including Tennessee. In Tennessee, the likelihood of survival from 2004 to 2009 has increased by 5.6%.
- AIDS: In the US in 2009, 34 out of 39 states had at least 8 of 10 persons survived after a stage 3 (AIDS) classification diagnosis, including Tennessee. In Tennessee, the likelihood of survival from 2004 to 2009 has increased by 13.3%.

Source: Nashville TGA 2015 Needs Assessment

In reviewing "deaths due to HIV", there is a noted difference between rates for the state and the largest counties of the state's two TGAs (Memphis and Nashville) as noted in *Table 4*. Both TGA's have a higher rate than the state, and Shelby county's rate is roughly 3 times higher than the state.

Table 4: 2014 Mortality Numbers & Rates (HIV Cause of

	Mortality Rate	# of Deaths
TN	2.52	165
Davidson Co.	3.74	25
Shelby Co.	7.35	69

Source: TDH HIT website, 9/2016

Of the total number of deaths in the Nashville TGA in 2014:

- The majority occurred among males (78.5%). Of the men who died, 70.7%were between the ages of 45 and 64, 53.6% of them were white, and 41% were black.

A. Epidemiological Profile:

- People who were 45 years of age or older represented 83.1 percent (217) of all the deaths reported in 2014, while those who were between 15 and 34 years old accounted for only 3.8 percent (10) of deaths.
- People with an AIDS diagnosis represented 78.5 percent (205) of all deaths in 2014, while those with only an HIV diagnosis accounted for 21.5 percent (56) of deaths.
- When looking at transmission category, MSMs had the highest percentage of deaths in 2014 (44 percent, 115 people) – 63 percent (73 people) of the MSMs that died were white.
- Injection drug users (19.9 percent, 52 people) and hetero risk (18.3 percent, 48 people) made up the majority of the rest of transmission category deaths for 2014. Of the injection drug users and heterosexual risk people who died, 67.3 percent and 66.6 percent (respectively) were black.
- One demographic category that looks different with regard to the number of deaths is race. Non-Hispanic whites represented 48.6 percent (127) of deaths, while non-Hispanic blacks represented 46 percent (120). In past needs assessments, non-Hispanic whites accounted for a much higher percentage of reported deaths, and non-Hispanic blacks accounted for a much lower percentage.

◆ See the TDH plan for more information about deaths, including regional specific information.

A6: Indictors of Risk & High Risk Populations

TGA Key Indicators for HIV Risk:
HIV is primarily spread by having participated in high-risk behavior or sharing syringes and other injection equipment with someone who is infected with HIV. In addition, substance use can contribute to these risks indirectly because alcohol and other drugs can lower people's inhibitions and increase risk factors for HIV transmission. Also, having another STI can increase risk of contracting HIV disease. *Table 5* provides a quick review of a few key data points related to risk.

Table 5: HIV Risk Factor Data

	US	TN	Davidson County	Shelby County
Youth Risk Behavior Survey 2013 : Did not use a condom	40.9%	41.4%		
Youth Risk Behavior Survey 2015 : Ever injected any illegal drug	2.4%	Not reported		
Youth Risk Behavior Survey 2015: Had at least 1 drink of alcohol on at least 1 day during the last 30 days.	32.8%	28.4% (2013)		
Youth Risk Behavior Survey 2015: Used marijuana 1 or more times during the last 30 days.	21.7%	21.4% (2013)		
Adult Risk Behavior Survey 2013: Ever been tested for HIV		43.5%	54.3%	50.4%
Adult Risk Behavior Survey 2012: Participated in high-risk behavior in the past year.		4.2%	4.1%	4.4%
NSDUH Survey 2012: Any illicit drug use in the past year. (adults)	14.7	14.5	18.1	
NSDUH Survey 2012: Binge alcohol use in the past month. (adults)	23.2	18.1	20.1	
STI data	See *Table 8*			

◆ See the TDH plan for more information about indicators of risk for HIV infection.

Certain populations are at greater risk of becoming infected or living with HIV disease. *Table 6* notes the populations that are at high-risk and must be at the forefront of community efforts in planning and service provision.

A. Epidemiological Profile:

Table 6: High Risk Populations

	Tennessee	Memphis TGA	Nashville TGA
Young persons, age 15-24	✓	*To be provided at a later date*	✓
Incarcerated	✓		✓
MSMs	✓		✓
Homeless/Unstably housed	✓		✓
Persons with substance abuse diagnosis, particularly injection drug users	✓		✓
Persons with a mental health diagnosis	✓		✓

Snapshot of State Data:

- Of 711 cases diagnosed from January 1 to December 31, 2015, 18.1% did not have a reported risk as of June 30, 2016. Surveillance activities have been implemented to resolve cases reported with unknown risk information.
- The majority of living cases are attributed to MSM (48.4%), with cases attributed to heterosexual contact representing the second greatest proportion (26.0%).
- There are differences in the distribution of exposure categories among living cases by race/ethnicity. Among whites, 64% of living cases are attributed to MSM, compared to 39% among blacks/African Americans. In contrast, heterosexual contact represents the exposure category for 34% of living black/African American cases, but only 14% of living white cases.

Source: TDOH 2015 HIV Epidemiological Profile

A7: Disparities

Despite efforts, some groups of people are affected by HIV disease more than other groups of people. The occurrence of these diseases at greater levels among certain population groups more than among others is often referred to as a "health disparity." Differences may occur by gender, race or ethnicity, education, income, disability, geographic location and sexual orientation among others. Social determinants of health like poverty, unequal access to health care, lack of education, stigma, and racism are linked to health disparities (http://www.cdc.gov/nchhstp/healthdisparities/). As in the United States, racial disparities are of the great concern in the Nashville TGA due to the wide gap, particularly related to race and ethnicity. For example:

- In the Nashville TGA incident cases more likely in the following populations: persons 25-34, Black, and MSM. The rate of incidence disparities is 8 times higher for Blacks than for Whites.
- The racial breakdown of prevalence in the TGA for 2014 is as follows: Non-Hispanic Blacks represent nearly half (49.4%, 2,475 people) of all cases, followed by Non-Hispanic Whites (45.8%, 2,296 people). Hispanic persons of all races made up approximately 6.4% (324) of the 2014 prevalence. Other racial groups are roughly 2.5% of prevalence. In 2014 black people made up 15% of the total population of the TGA, but 49% of the HIV disease prevalence. This trend is also consistent over time: every year since 2010 has seen this same proportional relationship between these two racial groups. In 2014, the rate per

A. Epidemiological Profile:

100,000 persons for non-Hispanic white PLWHA was 190.0 – the rate for non-Hispanic black PLWHA was 978.7, which is just over 5 times greater.

Table 7 provides a representation of rates of racial disparities in the Nashville TGA and will be completed with rates from the State and the Memphis TGA as data is made available.

Table 7: Rates of Racial Disparities Nashville TGA, 2015

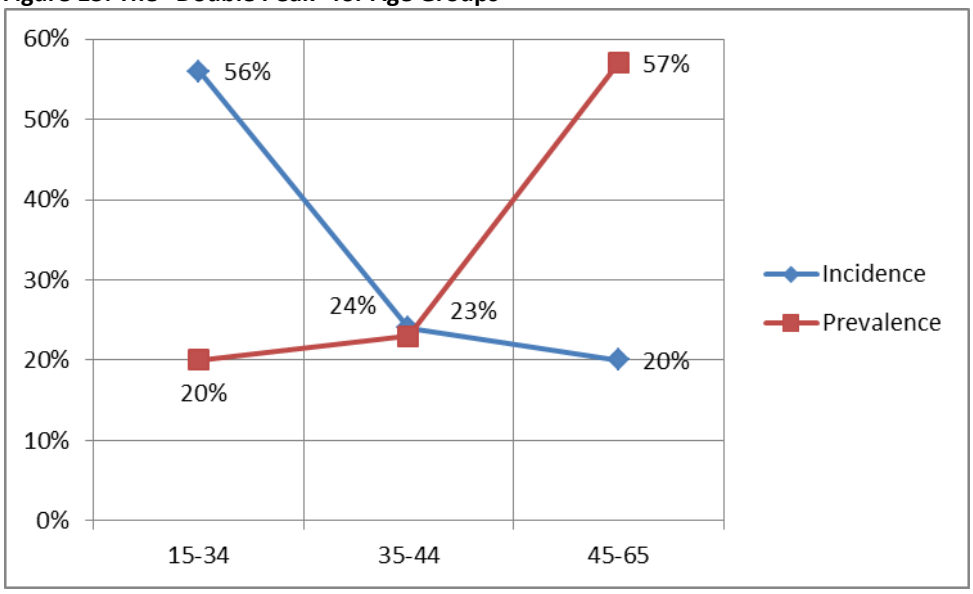
	Non-Hispanic White	**Non-Hispanic Black**			**Hispanic (all races)**		
		TN	Mem	Nashv	TN	Mem	Nashv
Incidence of HIV Disease	1	*Information to be provided at a later date*	*Information to be provided at a later date*	10	*Info to be provided at a later date*	*Info to be provided at a later date*	2
Prevalence of HIV Disease	1			6			4
Prevalence of HIV Disease - Males	1			5			
Prevalence of HIV Disease - Females	1			11			
Prevalence of AIDS	1			6			
Prevalence of AIDS - Males	1			5			
Prevalence of AIDS - Females	1			12			

Source: eHARS

A. Epidemiological Profile:

In the 2015 Comprehensive Needs Assessment a "double peak" was identified in the available data. A "double peak" is when there are two groups that stand out in some way when looking at a particular characteristic. For the age groups that were analyzed for this needs assessment, we found that there were two significant trends – or a double peak – with regard to age: for incidence, the most new cases (56%) are found in those aged 15-34, but for prevalence, the most cases overall are in those aged 45 and up (57%). This trend is better visualized in *Figure 13* below.

Figure 13: The "Double Peak" for Age Groups



Source: eHARS

This "double peak" is significant for a number of reasons, the chief among these is that the strategies required to address the two peaks are different: engaging youth to lower the transmission of HIV disease, and caring for an aging population to ensure that they are retained in care and virally suppressed. Data suggest that this "double peak" trend is going to carry forward through time and become more pronounced. Over the past 5 years there has been a 30.4% increase in the prevalence of HIV disease in the under 15 age group, a 9.5% increase in 15-24 year olds, and a 22% increase 25-34 year olds. Interestingly, there has been a 9.3% *decrease* in the 35-44-year-old group in that same time frame. The biggest changes in prevalence have occurred in the oldest age groups, primarily due to the aging of PLWHA: 45-54 year olds have seen a 22% increase, 55-64 year olds have seen a 76.1% increase, and those aged 65 and up have grown by 113.9% since 2010. This indicates that in the past five years, the number of people aged 65 and up with HIV disease has more than doubled.

From a planning perspective, it is very important for the Planning Council to recognize the needs of these two growing but very different populations, and to be deliberate in assuring services are targeted to meeting their needs.

A. Epidemiological Profile:

A8: Co-Morbidity

Co-morbid conditions add an additional level of risk for PLHW; some co-occurring conditions facilitate the transmission of HIV disease (e.g., STIs) and some conditions can put PLWH at risk for worsening medical conditions. Prevention, screening and treatment for co-morbid conditions are critical in assuring positive health outcomes. *Table 8* documents co-morbidities in the Nashville TGA.

Table 8: Co-morbidities in the Nashville TGA, 2014

Co-Morbidity	In PLWHA Population		In General Population		Data Source
	No. of Cases	%	No. of Cases	Rate per 100,000	
Chlamydia	143	2.7	TN: 31,055 TGA: 7,644	23.87 37.31	Tennessee Department of Health 2014: https://healthwebaccess.tn.gov/idashboards/?gues tuser=guest&dashID=474&c=0
Gonorrhea	133	2.5	TN: 7,295 TGA: 1,865	10.47 3.99	
Syphilis-S	160	3.0	309	17.4	
Hepatitis C	0	0	TN: 190 TGA: 10	0.25 0.01	
Homelessness	177	3.4	TGA: 2,152	133.1	Key Alliance and the Metropolitan Homelessness Commission (2011); U.S. Department of Housing and Urban Development, Homelessness Resource Exchange, Homeless Populations and Subpopulations, Murfreesboro/Rutherford County Co and Nashville/Davidson County Co, 2012
Substance Abuse	481	8.9	TGA: Alcohol: 95,600 Drug: 42,679	5.6% 2.5%	Nashville TGA Service Needs and Gaps Survey (2011); 2011 National Survey on Drug Use and Health, Substance Abuse and Mental Health Services Administration (upd 2013)
Mental Illness	1,367	26.2	TGA: 338,356	19.8%	Nashville TGA Service Needs and Gaps Survey (2011) (adults); SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2011 (upd 2013)

◆ See the TDH plan for more information about co-morbidities, including regional specific information.

B. HIV Care Continuum:

B1: HIV Care Continuum

The HIV care continuum—sometimes also referred to as the HIV treatment cascade—is a series of steps from the time a person is diagnosed with HIV through the successful treatment of their infection with HIV medications.

The stages of the continuum are:

1. *Diagnosed* with HIV infection
2. *Linked to care*, meaning visited a health care provider within three months after learning they were HIV positive
3. *Engaged or retained in care*, meaning they received medical care for HIV infection
4. *Prescribed antiretroviral therapy* to control their HIV infection (i.e., medications)
5. *Virally suppressed*, meaning that their HIV viral load – the amount of HIV in the blood – is at a very low level

(Understanding the HIV Care Continuum, CDC, December 2014)

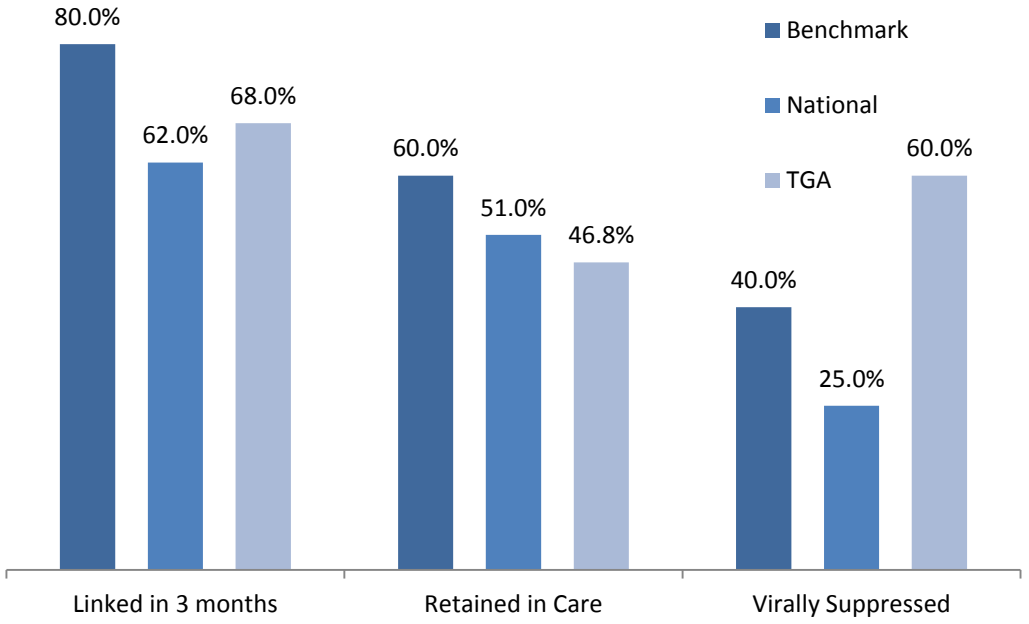
Collecting information about the HIV Care Continuum allows state and local health officials, the planning body and community stakeholders to monitor the outcomes of PLWH, but also helps identify gaps in care, populations who are not achieving positive health outcomes so that community resources can be better mobilized and used to improve the HIV care system for all residents.

In the Nashville TGA the Part A program has been using the framework of the HIV Care Continuum in both monitoring provider outcomes and in the service planning work with the Planning Council. The TGA's needs assessment document format is structured to reflect the elements of the continuum.

The data for the Nashville TGA continuum uses the "diagnosed based" approach. The data is then provided in two formats - figures (*Figures 14 & 15*) and in table format (*Table 9*). The information is presented using the CDC definitions/benchmarks and the HRSA/HAB definitions/benchmarks. The data represents the most recent outcomes related to each stage of the continuum.

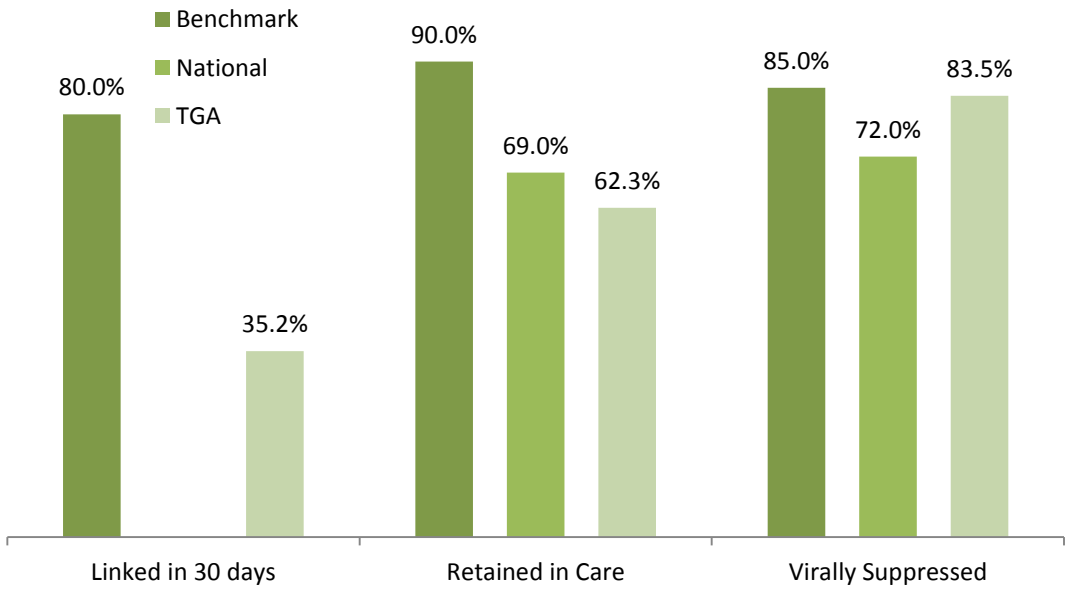
B. HIV Care Continuum:

Figure 14: Nashville TGA Results for "CDC" Defined Continuum of Care



Source: eHARS

Figure 15: Nashville TGA Results for "HRSA/HAB" Defined Continuum of Care



Source: CAREWare

B. HIV Care Continuum:

Table 9: Nashville TGA Results for Continuum of Care, 2014

a. LINKED TO CARE

CDC Benchmark (had viral load or CD4 labs): 80% linked in 3 months	HRSA Benchmark (saw medical provider): 80% linked in 30 days
National Average: 62% linked in 3 months	National Average: 83% linked in 3 months
TN score: *To be provided at a later date*	TN score: *To be provided at a later date*
MEMPHIS TGA score: *To be provided at a later date*	MEMPHIS TGA score: *To be provided at a later date*
NASHVILLE TGA score: 68% linked in 3 months	NASHVILLE TGA score: 35.2% linked in 30 days

Note: 85% linked within 90 days

b. RETAINED/ENGAGE IN CARE

CDC Benchmark (had CD4 or Viral Load test): 60% with 2 or more tests	HRSA Benchmark (saw medical practitioner): (top 25%) 90% saw provider
National Average: 51% with 2 or more tests	National Average: 69% saw provider
TN score: *To be provided at a later date*	TN score: *To be provided at a later date*
MEMPHIS TGA score: *To be provided at a later date*	MEMPHIS TGA score: *To be provided at a later date*
NASHVILLE TGA score: 46.8% with 2 or more tests	NASHVILLE TGA score: 62.3% saw provider

c. PRESCRIBED ANTIRETROVIRAL THERAPY

	HRSA Benchmark: x% were prescribed ART
	National Average: 91% were prescribed ART
	TN score: *To be provided at a later date*
	MEMPHIS TGA score: *To be provided at a later date*
	NASHVILLE TGA score: 91.5% were prescribed ART

d. VIRALLY SUPPRESSED

CDC Benchmark: 40% virally suppressed	HRSA Benchmark: 85% virally suppressed
National Average: 25% virally suppressed	National Average: 72% virally suppressed
TN score: *To be provided at a later date*	TN score: *To be provided at a later date*
MEMPHIS TGA score: *To be provided at a later date*	MEMPHIS TGA score: *To be provided at a later date*
NASHVILLE TGA score: 60% virally suppressed	NASHVILLE TGA score: 83.5% virally suppressed

Source: eHARS *Source: CAREWare*

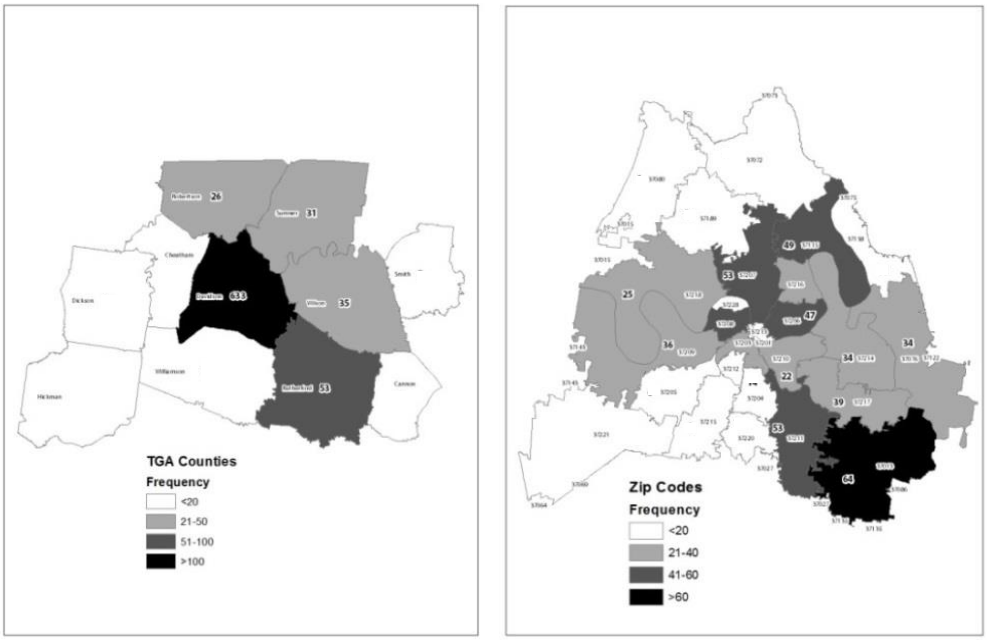
Unmet Need:

Although similar to retained in care, unmet need is another critical data point for measuring system performance. Unmet need is defined as individuals who are HIV-positive and know their status, but did not receive HIV primary medical care for HIV disease. An individual is considered to have unmet need if there is no evidence of any one of the following three components of HIV primary medical care in a specified 12-month period: (a) a viral load testing, (b) a CD4 count, or (c) provision of antiretroviral therapy.

In 2014, the estimated unmet need in the Nashville TGA is 27.2%. That is, a total of 1,420 people did not receive HIV primary medical care in 2014. It is not only important for PLHW to receive HIV medical care for their own health benefit, but if a person is not in care their risk of not being virally suppressed is increased which also poses a potential risk for others contracting HIV disease. *Figures 16a&b* below provide a picture of location of persons who are not in HIV care by TGA county and then by Davidson County neighborhoods.

B. HIV Care Continuum:

Figures 16a&b: Nashville TGA Results for Unmet Need



Source: eHARS

B2: Disparities in Outcomes Among Key Populations

As noted earlier, differences in outcomes may occur by gender, race or ethnicity, education, income, disability, geographic location and sexual orientation among others leading to disparities. Similar to national trends, there are disparities in outcomes among key populations in the TGA and in the state.

- *Table 10* notes disparities in viral suppression. Of particular note in the table are the groups with lower percentage of viral suppression; PLWH aged 13-24 that only have a viral suppression rate of 67.6%, and those persons who have temporary housing situations that have a viral suppression rate of only 45%.
- *Table 11* notes disparities in medical visit frequency. When data are disaggregated, we see there are stark differences in who goes to medical appointments. Of note are the transgender population, we see that only 11.1% of this group met the criteria for engaging in timely medical care. Another group that has a low HIV medical visit frequency is younger people, specifically the 13-24 and 25-34 age groups.
- *Table 12* is information from a TDH sponsored presentation. Three Poisson Regressions were performed on over 15,000 people in the state of Tennessee living with HIV for linkage to care, retention, and viral suppression achievement. Demographic variables included age, sex, race, risk category, and if they received Ryan White services. For linkage to care (N=792), regression coefficients and confidence intervals revealed that 15-34 year olds were significantly less likely to be linked into care than their older counterparts (35-44 year olds). This downward trend in younger people continued for engagement in medical care and viral suppression achievement (N=15,473). Females more likely to be linked, engaged, and virally suppressed in comparison to males, and Black PLWHA were less significantly less likely to be linked, engaged, and virally suppressed than White PLWHA. Hispanics were also less likely to be engaged in medical care and virally suppressed than Whites. Ryan White services were used in interactions with race to test the predictability in linkage, engagement, and viral suppression achievement. For both White and Black PLWHA, Ryan White services significantly predicted being linked in care, being engaged in care, and achieving viral suppression. For Hispanic PLWHA and Other race, obtaining Ryan White services

B. HIV Care Continuum:

significantly predicted engagement and viral suppression achievement, in comparison to not receiving any Ryan White services.

Table 10: Viral Suppression with Breakout by Subpopulation

	2013		2014	
TGA Total vs. Benchmark	TGA Total	Benchmark	TGA Total	Benchmark
	78.9%	85%	83.5%	85%
Race	% Virally Suppressed	Total Suppressed	% Virally Suppressed	Total Suppressed
Non-Hispanic Black	72.8%	1,132	77.6%	1,313
Non-Hispanic White	85.0%	1,345	89.1%	1,480
Hispanic (all races)	79.3%	119	82.1%	147
Other Race	73.0%	46	87.5%	63
Gender				
Male	80.1%	2,008	84.4%	2,281
Female	75.5%	621	80.6%	686
Transgender	59.0%	13	73.4%	36
Age Group				
13 to 24	54.5%	90	67.6%	119
25 to 34	70.9%	383	75.4%	468
35 to 44	77.4%	625	80.5%	647
45 to 54	82.5%	1,005	86.6%	1,109
55 to 64	86.2%	452	90.7%	550
65 and older	91.5%	87	94.0%	110
Housing Status				
Institution	73.3%	11	70.0%	7
Non-permanent	70.1%	374	76.5%	252
Stable/Permanent	80.7%	1,722	84.4%	2,200
Temporary	38.2%	18	45%	9
Insurance Status				
Insured	80.2%	1,153	81.9%	1,123
Not Insured	77.7%	1,489	84.2%	1,880
HIV Risk Factor				
Heterosexual	75.7%	892	79.9%	991
IDU	72.3%	131	80.4%	156
MSM	81.0%	1,407	86.2%	1,618
MSM+IDU	87.1%	34	85.7%	36
Other/Unspecified	82.7%	178	81.1%	202
Poverty Level				
Equal or Below FPL	74.4%	1,337	77.4%	1,326
101-200%	83.8%	448	89.1%	556
201-300%	83.9%	220	92.1%	328
Over 300%	80.0%	4	83.3	10

B. HIV Care Continuum:

Table 11: HIV Medical Visit Frequency with Breakout by Subpopulation

Total	TGA	Benchmark
	62.3%	90%
Race	MVF %	Total
Non-Hispanic Black	63.4%	815
Hispanic (all races)	70.3%	95
Non-Hispanic White	70.7%	965
Other Race	79.6%	43
Gender		
Male	68.1%	1,435
Female	67.4%	481
Transgender	11.1%	2
Age Group		
13 to 24	50.5%	43
25 to 34	57.8%	244
35 to 44	61.2%	380
45 to 54	70.6%	771
55 to 64	75.8%	389
65 and older	86.6%	91
Housing Status		
Institution	25.0%	2
Non-permanent	38.9%	120
Stable/Permanent	56.9%	1,318
Temporary	17.7%	8
Insurance Status		
Insured	54.6%	575
Not Insured	54.8%	1,126
HIV Risk Factor		
Heterosexual	50.8%	562
IDU	58.3%	918
MSM	44.7%	81
MSM+IDU	64.7%	22
Other/Unspecified	56.1%	118
Poverty Level		
Equal or Below FPL	56.8%	789
101-200%	60.2%	279
201-300%	66.5%	171
Over 300%	50.0%	4

B. HIV Care Continuum:

Table 12: TN Continuum of Care Update

Regression, Ryan White, Effect Modifier

	Linked to Care		Engaged in Medical Care		Achieved Viral Suppression	
	PR	95% CI	PR	95% CI	PR	95% CI
Age Category						
<15 years	1.20	(0.95, 1.52)	1.21	(0.99, 1.47)	1.07	(0.85, 1.34)
15-24 years	0.85	(0.76, 0.94)	1.06	(0.99, 1.14)	0.87	(0.79, 0.95)
25-34 years	0.86	(0.79, 0.95)	0.93	(0.89, 0.98)	0.91	(0.87, 0.95)
35-44 years	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
45-54 years	0.97	(0.88, 1.07)	1.15	(1.11, 1.19)	1.17	(1.13, 1.21)
>54 years	1.09	(0.98, 1.21)	1.24	(1.19, 1.29)	1.25	(1.21, 1.31)
Sex						
Male	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Female	1.14	(1.02, 1.27)	1.06	(1.02, 1.11)	1.05	(1.01, 1.10)
Race/Ethnicity						
White (NH)	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Black (NH)	0.85	(0.76, 0.97)	0.94	(0.90, 0.99)	0.83	(0.79, 0.87)
Hispanic	1.13	(0.92, 1.38)	0.65	(0.55, 0.75)	0.61	(0.53, 0.71)
Other	1.21	(1.01, 1.44)	1.39	(1.25, 1.54)	1.14	(1.01, 1.29)
Ryan White-by-Race Interaction						
RW vs. No RW (White)	1.13	(1.03, 1.26)	1.49	(1.42, 1.56)	1.42	(1.37, 1.48)
RW vs. No RW (Black)	1.28	(1.16, 1.41)	1.57	(1.51, 1.62)	1.57	(1.51, 1.63)
RW vs. No RW (Hisp.)	1.08	(0.86, 1.37)	2.61	(2.22, 3.07)	2.31	(1.96, 2.71)
RW vs. No RW (Oth.)	1.01	(0.82, 1.24)	1.18	(1.04, 1.34)	1.32	(1.14, 1.53)

*Estimates also adjusted by HIV transmission risk category and county/TGA of residence 16

Linkage (N=792); Retention (N=15,473); Viral Suppression (N=15,473)

Source: TDH sponsored presentation TN HIV Continuum of Care: Update, Peter F. Rebeiro, MHS, PhD. (September 24, 2015)

B3: Utilization of the HIV Care Continuum

The data from the continuum has been one of the most useful tools for the Grantee, the Planning Council, consumers, providers, community stakeholders, advocates, local policy makers and researchers. It creates a common language and a clear set of data, including national benchmarks, which are consistently used in educating, planning, allocation, monitoring and in quality improvement. Key examples of how the continuum has been used for each area are as follows.

- Planning: Local benchmarks have been established for “each stage” of the continuum. Areas of need have been identified.
- Prioritizing/Allocation: The Planning Council uses the data to inform decisions about priority setting and allocation of funds. For example, in 2015 the council increased funding for housing because persons in temporary/unstable housing had one of the lowest “viral load suppression” percentages of any other housing group.

B. HIV Care Continuum:

- Measuring Disparities: The Grantee and Planning Council have been focusing attention on the Continuum of Care and promoting this model to the community as a lens through which to address disparities along each step of the continuum.
- Targeting: The data provides information to use for focusing services in a specific manner, or on a certain population. For example, the council funded an outreach service targeted to young persons, particularly young Black MSMs, due to their low "viral suppression" and poor "linkage" to care.
- Monitoring: The Planning Council has adopted measures from the continuum into their Standards of Care. In addition, the benchmarks and provider specific results allow the Grantee to focus a portion of monitoring on these important results. The Part A Grantee is enhancing their data system so that each provider receives outcome results for each service they provide compared to the TGA benchmark for that specific service. This information also provides data needed for providers to identify areas of concern and move those to a QI process for improvement.
- Improving Outcomes: The availability of national data and current TGA and provider specific data are used in QI projects to improve outcomes at each state of the continuum. At the TGA level, two workgroups have been working to look at time to first medical appointment ("linkage and retention") and "viral suppression". The TGA has worked with a HIVQual consultant during the last year to support the efforts of the Regional HIVQual Group of funded HIV medical providers to address viral suppression rates. Since this effort started, there has been a 6.7% increase in the aggregate viral suppression score, with a 5.8% increase in just the last year (atypical for our TGA given historic trends). We believe that the efforts of staff, providers and collaborators on this project have had a large impact on the way care is delivered and how consumers are engaged.

C. Financial and Human Resource Inventory:

C1: Financial Inventory

This section provides an inventory of the financial and service delivery provider resources available in the TGA to meet the HIV prevention and treatment needs of the population, including identified gaps in resources. This section also provides information on workforce capacity and how it impacts the HIV prevention and treatment service delivery system.

Table 13 and *Figure 17* provides information about funding sources for HIV treatment services in the TGA by service area, agencies that provide the service and the relationship of the service to the HIV Care Continuum. *Table 14* provides information that details information about Part B and CDC funding managed by TDH (was included in *Table 13* under Other).

Table 13: 2016 Estimated HIV Funding in the Nashville TGA by Service Area

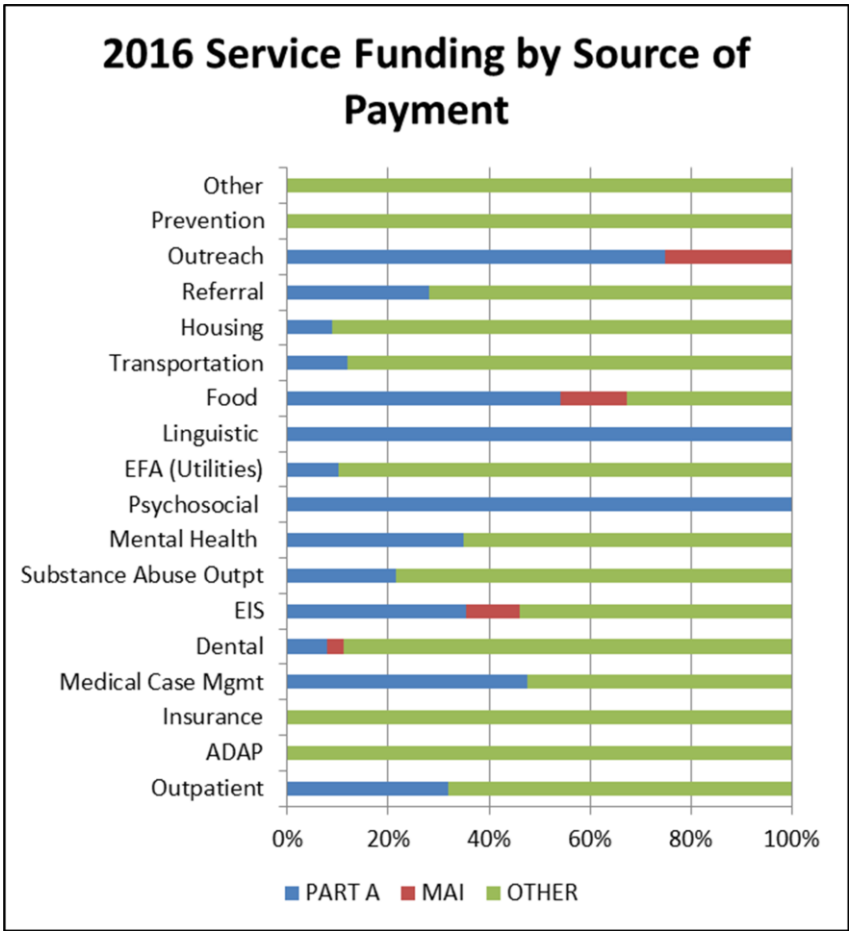
	PART A	***MAI***	***OTHER***	***TOTAL***	**Agencies**	**Continuum Steps Impacted**
Outpatient	$895,900	$0	$1,908,511	$2,804,411	1st Response Ctr Meharry Vanderbilt	Link/Retain/ ART/Viral Suppr
ADAP	$1,000	$0	$2,062,154	$2,063,154	NA	ART/Viral Suppr
Insurance	$0	$0	$7,440,475	$7,440,475	NA	Link/Retain/ ART/Viral Suppr
Medical Case Mgmt	$1,312,625	$0	$1,443,886	$2,756,511	Meharry Nashville CARES Street Works	Link/Retain/ Viral Suppr
Dental	$260,691	$116,312	$2,972,539	$3,349,542	20+ providers	Link/Retain/ Viral Suppr
EIS	$302,341	$89,067	$459,000	$850,408	MPHD Nashville CARES Street Works	Dx/Link/Retain/ Viral Suppr
Substance Abuse Outpt	$135,632	$0	$495,477	$631,109	Meharry Nashville CARES	Link/Retain/ Viral Suppr
Mental Health	$262,678	$0	$491,419	$754,097	Meharry Mental Health Coop Nashville CARES	Link/Retain/ Viral Suppr
Psychosocial	$110,100	$0	$0	$110,100	Nashville CARES Street Works	Link/Retain/ Viral Suppr
EFA	$28,000	$0	$251,000	$279,000	Nashville CARES Street Works	Retain/ Viral Suppr
Linguistic	$5,000	$0	$0	$5,000	1st Response Ctr Nashville CARES Street Works	Link/Retain/ Viral Suppr
Food	$103,000	$25,368	$62,166	$190,534	Meharry Nashville CARES Street Works	Retain/ Viral Suppr
Transportation	$9,000	$0	$66,783	$75,783	Street Works	Link/Retain/ Viral Suppr
Housing	$99,000	$0	$1,002,448	$1,101,448	Avail to all prov.	Link/Retain/ Viral Suppr

C. Financial and Human Resource Inventory:

Referral	$25,600	$0	$65,472	$91,072	Vanderbilt	ART/Viral Suppr
Outreach	$90,000	$30,000	$0	$120,000	Oasis Ctr	Dx/Link/ Viral Suppr
Prevention	$0	$0	$2,449,563	$2,449,563	NA	Dx/Link/Viral Suppr
Other	$0	$0	$379,000	$379,000	NA	Retain/ Viral Suppr
Medicaid Medicare ACA Insurance Private Insur.	These insurances primarily pay for outpatient, medications, linguistics and behavioral health treatment. In a few cases, transportation to a medical appointment is reimbursed.					Dx/Retain/ Viral Suppr

NOTE: Includes Ryan White Parts A-F, HOPWA, HIV Prevention, CDC, SAMHSA, TDMHDD and other miscellaneous sources specific to HIV prevention and treatment. Does not include all of the additional funding from TDH rebate funds.
Source: Nashville TGA Grantee

Figure 17: 2016 Estimated HIV Funding in the Nashville TGA by Service Area



C. Financial and Human Resource Inventory:

Table 14: Federal and State Prevention and Care Funding, FY 2016* (Administered by TDH)

Funding Type	Funding Amount	Percent of Total	Nashville TGA
HIV Prevention			
PS 12-1201 (Cat A&B)	$5,422,383	11.0%	$1,052,859
PS 12-1210 (CAPUS)	$1,260,524	2.5%	$200,000
PS 15-1506 (PrEP)	$1,579,826	3.2%	
HIV Care			
ADAP	$21,188,318	43.0%	$9,502,629
State ADAP**	$7,000,000	14.2%	
Part B Base	$5,284,566	10.7%	$3,123,479
MAI	$200,662	0.4%	
State Part B**	$200,000	0.4%	
HOPWA			
Base Award	$4,938,497	10.0%	
SAMHSA			
Base Award	$2,161,810	4.4%	
Total Federal Funds	**$ 42,036,586**	**85.3%**	
Total State Funds	**$ 7,200,000**	**14.6%**	
Prevention and Care Total	**$ 49,236,586**	**100.0%**	

**Due to rounding, totals do not add up to 100%.*

***State funding*

Source: TDOH

C2: Resource Inventory

A resource inventory, documenting Ryan White and non-Ryan White funded services, was completed as part of the TGA's needs assessment process. A section of the survey asked providers questions related to their capacity to serve PLWH. Of the providers who responded, a majority were headquartered in Davidson County, followed by Rutherford and the remaining eight percent of the agencies had headquarters in other TGA counties. Key results related to provider capacity include the following:

- Most agencies indicated that they both served a larger population and had some people who were HIV-positive (27.4%) or did not know if any of their clients were HIV-positive but would serve them regardless (47.0%). Four percent (4%) served only persons with HIV disease.
- Every county in the TGA was served by at least 1 of the agencies that responded to the survey. Most agencies served people in Davidson County, followed by Rutherford, Sumner, Williamson and Cannon.

C. Financial and Human Resource Inventory:

- Ninety-four percent (94%) of the respondents noted that there was public transportation that ran near their organization. The other 6% of agencies said it depended on the location of the office, but at least one branch had access to public transportation.
- Over forty percent (41.7%) of the agencies indicated that their hours of operation are weekday hours, 13.7% said they have weekday evening hours (typically after 5 p.m.), and 6% said they were open on the weekend. Additionally, some programs (10%) noted they were open 24 hours a day. A majority of these respondents were residential facilities and also indicated they had several staff members who were also on call 24 hours a day.
- Half (50%) of agencies stated that their employees were trained in HIV disease, and of this population, only 25% indicated that they had staff trained in cultural competency related to HIV.
- A third (33.3%) of all agencies reported that less than 25% of their total staff was racial or ethnic minorities. Eighty-one percent (81%) of respondents had less than 10% of their staff as PLWH.
- The majority (58.8%) of agencies stated that they did not know the number of HIV-positive clients within their organization. Of those that knew, clients who were HIV-positive ranged from 1 to over 3000.
- Most services have no waiting list in regard to accessing services. Waiting lists of up to a month were most common for inpatient and outpatient substance abuse, mental health treatment/counseling, and utility payment. The services with the longest waiting lists were residential substance abuse treatment and transitional housing.
- A majority of service providers indicated that they targeted specific populations. The majority, 68.6%, indicated that they target poor/indigent/low income individuals; followed by 52.9% of the organizations that indicated that they target women. The third most frequent group that is targeted by service organizations are the homeless, closely followed by the substance abusers, veterans, and those with mental illness.
- A many agencies reported that their services were free (37.2%). The most widely accepted forms of payment operated on a sliding scale fee based on income and insurance reimbursement. The majority (54%) of all responding agencies indicated that they take walk-in appointments. Very few agencies had 24-hour coverage, and fewer still indicated that they provide home based services
- Only 37.2% of respondents indicated that they had not encountered any barriers to providing care and services to HIV+ persons. There was no real consensus on what barriers that were encountered, however. Eleven percent (11%) indicated client fear or hesitancy in revealing their HIV+ status was a barrier, 10% indicated that they didn't provide the services that HIV+ persons needed, and another 10% said that they staff at their organization didn't have the necessary training to engage or care for HIV+ persons. These three are the most common barriers, but nothing stood out as a particularly glaring barrier to accessing services or care in this survey.

NOTE: A more detailed "Resource Inventory" for the Nashville TGA has been completed by the Part A Grantee. This inventory lists all non-Ryan White funded entities that provide services that can be accessed by PLWH. Persons may contact the Part A Grantee for this list or can use the TN community service website to identify resources *http://tn211.mycommunitypt.com/*

C3: Workforce Capacity

Similar to the United States as a whole, the state and local communities face serious workforce capacity challenges to effectively treat people living with HIV disease. The demand for HIV and primary health care services, in particular, continue to increase as treating persons with HIV disease becomes more complicated and new cases arise. Exacerbating workforce demands are the many experienced health professionals retiring from practice while young providers choose medical fields outside of HIV and primary care. *(HRSA Care Action, April 2010).*

C. Financial and Human Resource Inventory:

The detailed workforce capacity report for Tennessee is developed by the Southeast AETC. In Tennessee, the AETC is located at Vanderbilt Medical Center, Comprehensive Care Clinic. *Appendix D* is the report from Vanderbilt.

Snapshot of Workforce Capacity from AETC Report:

Below are the trends for Tennessee found in the AETC report:

- The highest percentage of trainees come from HIV clinics (20%), followed by CBOs (13.2%), state and local health departments (12.4%), academic health centers (10.6%), and CHCs (10%). Organizational types that account for less than 1% of all trainees include Family Planning clinics, Indian Health Services, long-term nursing facilities, maternal/child clinics, sexually transmitted disease clinics, and military/VA clinics. Additionally, correctional facilities (1.3%) and private practice (1.6%) also remain hard to reach, as do hospital EDs to a lesser extent (4.7%). Many of these organizational types also were identified by regional partners as hard to reach organizations, and may require greater outreach efforts.
- Low volume providers provide less of all types of clinical services than intermediate or high volume providers. Intermediate volume providers provide more primary care, monitoring of HIV-specific labs, and HIV testing than high volume providers, while high volume providers are more likely to initiate ART, conduct adherence counseling, provide prophylaxis and treatment for opportunistic infections, manage treatment when drug resistance is present, care for co-morbid conditions, and provide clinical consultation.
- Identified organizations that have not been reached or only minimally reached by SE AETC state partners. The top five hardest-to-reach organizations and clinics were
    1. Private practices
    2. Hospitals and emergency departments
    3. Rural health clinics
    4. Correctional facilities
    5. Long-term nursing facilities.

Source: Vanderbilt AETC

C4: Coordination of Funding

Ryan White Grantees must coordinate planning with all other public funding for HIV/AIDS to: (1) ensure that Ryan White HIV/AIDS Program funds are the payer of last resort, (2) maximize the number and accessibility of services available, and (3) reduce any duplication. Other Federal and local sources, including other Ryan White HIV/AIDS Programs must be taken into consideration in planning for the continuum of HIV/AIDS care. Sources include but are not limited to: Medicaid, Medicare, Children's Health Insurance Program (CHIP), Veterans Affairs, Housing Opportunities for Persons With HIV/AIDS Programs, CDC Prevention, Services for Women and Children, local/state/federal public health programs, local/federal funds for Substance Abuse/Mental Health Treatment Services and Other Ryan White HIV/AIDS Program Funding (Parts B, C, D and F).

C. Financial and Human Resource Inventory:

Funders interact in the following ways to ensure coordination and continuity of HIV prevention, care and treatment in the TGA:

- *Medicare/Medicare Part D* – Part A medical providers are required to determine Medicare eligibility for patients. The RSR report from Ryan White medical providers indicates that 17.7% of PLWHA served have Medicare. Medicare alone does not provide sufficient health care, particularly for people living with HIV/AIDS who face the "prescription doughnut hole" because Tennessee's ADAP program does not cover Medicare Part D cost-sharing expenses (premiums, deductibles, co-pays). Therefore, providers continue to work with their clients to assure that they maximize their Medicare benefits, including Medicare Part D.
- *Medicaid/State Children's Health Insurance Program* – Tennessee has a statewide health and behavioral health managed care program (TennCare) that at this time has not expanded its coverage, although Tennessee leaders are looking at other ways to improve access to health insurance for residents. Ryan White providers continue to work with their clients to assure that they are enrolled in TennCare if eligible and maximize their TennCare benefits if enrolled.
- *Veterans Affairs* – The TGA contains two Veterans Hospitals who offer a range of services to vets who are HI positive. In 2012, there were a total of 253 Veterans in the TGA who were receiving their HIV medical care from the VA. Sixty-seven percent (67%) were living in the TGA (n = 170). As part of eligibility determination each person is asked if they are a veteran and those services are then accessed.
- *HOPWA* – The HOPWA grantee is a Metro government entity (Metro Development & Housing Agency – MDHA) and a member of the Planning Council. The Part A Grantee and MDHA work together and coordinate their respective activities to maximize effectiveness of housing services.
- *CDC Prevention* – The Grantee and the Tennessee Department of Health (the CDC grantee) have a working relationship and continue to increase collaboration. In addition, a division within the Grantee organization receives a portion of the state's CDC funding. Work is ongoing in order to bridge the gap between prevention, counseling, testing, referral and care services, particularly due to other CDC grants in the TGA region (rapid testing in hospital, clinic and jail settings and minority community).
- *Services for Women and Children* – The Grantee has several women and children programs (WIC supplemental food program, family planning) within its department and other women and children providers will be utilized to assure coordination of services and funding.
- *Local & Federal Funds for Substance Abuse* – The Grantee has relationships with state substance abuse authority and local behavioral health providers. Professionals from these entities serve on the TGA Planning Council and these relationships continue to be strengthened and utilized for planning purposes. There are a few providers within the TGA who currently receive HIV prevention funding directly from SAMHSA, coordination is stressed between these entities and two of these agencies are on the Planning Council.
- *Other State & Local Service Programs* – Other state and local funding sources are considered and involved during the allocation process (e.g., jail release programs, health care access programs, homeless services, Section 8). At the time of allocations and planning, the Council actively discusses how to complement rather than duplicate services.

C5: Needed Resources/Services & Plan to Secure

In order to successfully implement this plan, the resources and services that are <u>not</u> being provided but are needed include the following: 1) A centralized real-time data base which meets HIPAA requirements and is accessible by all Ryan White funded providers, including the support and expertise to maintain this type of database; 2) Full and ongoing collaboration of all key community stakeholders that are not currently at the table on a routine basis; 3) Integration of HIV planning body with other health planning bodies and community groups that are addressing issues related to socio-demographic conditions and changing the community context ; and 4) More services that based on proven best practices and are targeted to specific sub-populations.

C. Financial and Human Resource Inventory:

The plan to secure these resources is to continue current efforts such as working to address legal issues of data sharing, continuing to strengthen current centralized data base, continued identification of best practice models and sharing that information with contracted providers and continued identification and engagement with key stakeholders, particularly with existing planning bodies associated with other health and social issues.

D. ASSESSING NEEDS, GAPS AND BARRIER:

D1: Nashville TGA (Part A) Process for Identification of Need

The process to identify treatment needs in the Nashville TGA is the primary responsibility of the Planning Council's Needs Assessment Committee working in collaboration with the Grantee's Research Analyst. The Research Analyst assures that the committee is aware of the requirements and guidelines provided by HAB regarding the process. A three year needs assessment plan is designed by the committee and the Research Analyst and includes the specific plan, topics, steps, timeframe, methods, etc. to be used to collect information on needs of PLHW and people at higher risk for HIV. Typically, quantitative and qualitative information on needs is collected in the following ways:

- Client and provider surveys
- Town hall meetings
- Focus groups
- One-on-one interviews with clients
- Key informant interviews
- Review of HIV literature and research
- Review of client demographics, service utilization and outcome data

NOTE: Data is collected for the population as a whole but is also collected by sub-populations that are at high risk, disproportionately impacted, emerging populations and/or underserved.

After the information has been collected, analysis is completed by the Research Analyst. The results are presented and reviewed by the Needs Assessment Committee. A report is then prepared for the full Planning Council for their review, discussion and use.

D2: State Process for Identification of Need

A similar process is conducted by TDH. See *Appendix C* for details.

D3: Service Needs for Persons at Risk for HIV

In the Nashville TGA, the entity that is receives the funding and is responsible for HIV prevention is TDH. Therefore, see *Appendix C* for details.

D4: Service Needs for PLWH

Persons living with the disease have a variety of needs in order to stay healthy, particularly maintaining viral suppression. The most significant treatment needs for persons at risk for HIV and persons living with HIV disease are described in *Table 15*.

D. ASSESSING NEEDS, GAPS AND BARRIER:

Table 15: Treatment Needs for PLWH	Tennessee	Memphis TGA	Nashville TGA (1)
HIV medical care	*Information to be provided at a later date*	*Information to be provided at a later date*	1
Dental care			2
HIV medication			3
Help paying for insurance			4
Help finding services (MCM, CM)			5
Housing			6
Support groups (Psychosocial)			7
Physical therapy			8
Talking with someone HIV+ (peer support)			9
Counseling (mental health)			10
Counseling from dietician (nutrition therapy)			11
Nutritional supplements			12
Child care			13
Food			14
Drug/Alcohol treatment			15
Home HIV care			16
Education			17
Transportation for HIV care			18
Language interpretation			19
Hospice care			20
Pastoral/Clergy support			21
Help paying utilities			22

(1) Ranked in order of priority (#1 is the highest)

D5: Service Gaps for Persons at Risk for HIV

In the Nashville TGA, the entity that is receives the funding and is responsible for HIV prevention is TDH. Therefore, see *Appendix C* for details.

D6: Service Gaps for PLWH

In 2014, a service gaps survey was created by the Nashville TGA Research Analyst and the Part A Needs Assessment Committee in order to determine: 1) what services a consumer knows about, 2) what services a consumer might need, 3) what services a consumer is currently receiving, 4) whether or not those services are meeting the needs of the consumer, and 5) any barriers that may have been experienced when accessing services.

The most significant treatment gaps identified by PLHW are described in *Table 16*.

D. ASSESSING NEEDS, GAPS AND BARRIER:

Table 16: Top 10 Service Treatment for PLWH (not in order)	**Tennessee**	**Memphis TGA**	**Nashville TGA**
Peer services	*Information to be provided at a later date*	*Information to be provided at a later date*	✓
Mental health treatment			✓
Substance Abuse treatment			✓
Housing			✓
Transportation			✓
Dental care			✓
Food			✓
Pastoral care			✓
Nutritionist			✓
Child care			✓

D7: Prevention Barriers

In the Nashville TGA, the entity that is receives the funding and is responsible for HIV prevention is TDH. Therefore, see *Appendix C* for details.

D8: Treatment Barriers

In 2015, a service gaps survey was created by the Nashville TGA Research Analyst and the Part A Needs Assessment Committee in order to determine what might impact a person's ability to access care. Barriers were organized into six categories: Personal, Knowledge, Appointment, Financial, Staff and System.

The barriers identified by PLHW are described in *Table 17*.

Table 17: Service Barriers	**TN**	**Memphis TGA**	**Nashville TGA**
I was worried about other people finding out I have HIV/AIDS (personal)	*Information to be provided at a later date*	*Information to be provided at a later date*	37.6%
I was not ready to deal with my HIV/AIDS diagnosis (personal)			23.2%
I didn't know the location of the organization providing a service (knowledge)			16.8%
I didn't know what services I needed to deal with HIV/AIDS (knowledge)			17.6%
I did not know where to go or who to ask (knowledge)			20.4%
I did not know where to go or who to ask (knowledge)			20.4%
The hours they are open don't work for my schedule (appointment)			16.8%
I didn't have transportation to get to medical/support service appointments (appointment)			27.2%
I had to wait too long to get an appointment with my HIV doctor (appointment)			12.4%
I couldn't afford the service (financial)			20%
I didn't have insurance (financial)			23.2%
I couldn't qualify for services because of my income (financial)			19.2%
I had insurance but it didn't cover the cost of services I needed (financial)			20.4%

D. ASSESSING NEEDS, GAPS AND BARRIER:

The system of care was too confusing (system)			14.4%
I couldn't get referrals for services that I needed (system)			21.2%
Services weren't available when I tried to get them (system)			23.6%
Each place I called for help told me to call someone else (system)			20%
I can't qualify for services because of rules and regulations (system)			22%
No one was willing to answer questions or explain things to me (staff)			15.2%
The staff providing service was not helpful or polite (staff)			18.4%
I didn't feel like the provider really understood what I need (staff)			18.8%

Other significant barriers in the Nashville TGA include the following:

- Stigma & discrimination against sexual orientation, of HIV and of sexual behaviors, especially in communities of color.
- Additional stigma related to transgender population.
- If incarcerated, fear disclosure would endanger them.
- Hard to follow up with confirmatory tests or engagement in care due to transient behavior.
- For young adults, fear parents may find out if the person needs to access treatment.
- For certain sub-populations, limited testing sites that they feel comfortable with, or that meet their needs.
- Limited number of HIV outpatient providers, particularly related to serving persons facing socio-economic barriers.
- TN state laws regarding HIV transmission may inhibit some from testing.
- No Medicaid expansion.
- Small HIV providers have some limitations due to financial barriers that prevent building and maintaining strong administrative infrastructures.

E. DATA - ACCESS, SOURCES, AND SYSTEMS:

E1: Main Data Sources

The Grantee Office's main source of data includes the following:

1. US Census data that provides a count of persons living in Tennessee and the TGA, and also provides a compilation of economic, social and other data that helps to describe characteristics of the population.
2. eHARs, the Enhanced HIV/AIDS Reporting System, is a CDC developed confidential HIV surveillance database that collects and stores information about persons who have been diagnosed with HIV disease. The key data points used include demographic information about persons who are HIV positive, date of diagnosis, date and value of CD4 and viral load labs.
3. Ryan White Services Report (RSR) data which contains a wide range of client level data that provides demographic (e.g., income, housing status, insurance status), key clinical data (e.g., data and values of key laboratory tests) and service utilization data on each persons served by a Ryan White funded agency who is HIV positive (e.g., data of service, type of service). The data set also provides information on key HIV related outcomes. An additional component of the RSR includes data on the characteristics of the provider, including funding information. (Note: Some Part A providers use CAREWare to collect RSR data).
4. HIV testing data from the Tennessee Department of Health HIV/STD Program. General information about number of HIV tests completed and related procedures (e.g., number HIV positive, number of partners notified).
5. Medicaid, TennCare, data as available.
6. Information from surveys/focus groups/town hall meetings/interviews is also used as a source of data that complements information from the above data sources.
7. National databases are also used to provide information on high risk behaviors related to HIV disease or high risk behaviors related to HIV disease. Primary databases include the following: National Survey on Drug Use and Health, Treatment Episode Dataset, Youth Risk Behavior Surveillance System, Behavioral Risk Factor Surveillance System.
8. Other sources that are used as secondary sources of data include the American Community Survey, Kaiser State Health Facts, Bureau of Justice Statistics.

This data singularly or in combination is used to complete the needs assessment, the HIV Care Continuum, and a variety of other reports.

E2: Data Policies

The TGA region has many positive policies/practices related to data access that have allowed successful completion of data analysis and reporting for the needs assessment and the HIV Care Continuum. The main policies that facilitate completing the needs assessment and/or the HIV Care Continuum are:

- The federal RSR requirements specifying who must be reported in the RSR , what data elements must be reported, when data must be reported and standards for data completeness. This requirement is then passed down from the Grantee to the sub-recipient via contract language.
- Practices between Part B and Part A Recipient: a) sharing of ACA marketplace enrollment data; b) Part A Research Analyst access to the eHARS database and using the same two frozen datasets to complete reports; c) sharing of Ryan White eligibility database.
- State use of data tools to assure accuracy of eHARs database.
- State law requiring electronic reporting of labs into eHARs.
- Practice of collaborating with state and local researchers that has enriched access to data and analysis.

The TGA region has experienced a few understandable challenges related to data access. The main policies that either serve as barriers or ones that could be clarified/strengthened are:

E. DATA - ACCESS, SOURCES, AND SYSTEMS:

- Assistance/clarification needed in accessing HIV data contained in Medicare, VA, Medicaid, corrections, HOPWA, SAMHSA and assistance in best ways to develop agreements for confidential and secure exchange and sharing of data sharing.
- How Ryan White data is shared between the Part A, B, C and D Ryan White and CDC Grantees.
- How best to coordinate data access, analysis and reporting related to risk factors (e.g., coordination with federal substance abuse funds).
- Need data sharing agreements or business associate agreements between Part A & B sub-recipients in order to share key utilization and outcome data between providers, particularly between outpatient and non-outpatient providers. Assure compliance with HIPAA.
- Reporting consistency of public reports related to data and clarification of role between state and local Ryan White funders.
- Consideration for a real-time, web-based CAREWare database for all Ryan White providers.

NOTE: Recommendations noted in the IOM report Monitoring HIV Care in the United States, Indicators and Data Systems, are comprehensive and offer other helpful recommendations.

E3: Additional Data Needed

Additional data needed by the TGA region to further enhance analysis and reporting include the following:

- Data related to risk factors.
- Data from insurance payors (e.g., Medicare, Medicaid, and in particular - ACA marketplace insurers).
- Data related to employment status.
- Data related to HIV services provided at the VA.
- Data from correctional settings.

Improving and enhancing data access would allow the Part A Grantee and Planning Council to better answer critical questions related to client needs and outcomes, and would allow the use of QI methods to improve care and client outcomes. In particular, broad but relevant data would create a better picture of comprehensive medical and social needs of persons served and those at high risk of becoming infected.

F. Integrated HIV Prevention & Care Plan

F1: Integrated HIV Prevention and Care Plan

Ideally, the Integrated HIV Prevention and Care Plan development is a joint effort between state and local jurisdictions and their planning bodies that engages persons at higher risk for HIV infection, PLWH, service delivery providers, and other community stakeholders. A fully integrated plan sets forth the state and local jurisdictions' commitment to collaboration, efficiency, and innovation to achieve a more coordinated response to addressing HIV. In Tennessee, although the plan is not fully integrated, the plan has been "coordinated" between the Tennessee Department of Health (Ryan White Part B funding, CDC prevention funding) and the Ryan White Part A Grantees in Memphis and Nashville. The Nashville TGA also had full and active involvement between the Part A Grantee, the Nashville TGA Planning Council and a wide range of providers, consumers and other key community stakeholders in developing the plan.

The Nashville TGA work plan is included in *Appendix A*. The work plan includes the following components:

- Goals: a broad statement of purpose that describes the expected long-term effects of efforts consistent with the National HIV/AIDS Strategy and covering a period of 5 years.
- Objectives: measurable statements that describe results to be achieved.
- Strategies: the approach by which the objectives will be achieved.
- Activities: describing how the objectives will be achieved.

The Memphis TGA plan is included in *Appendix B* and the Tennessee state plan is included in *Appendix C*.

F2: Collaborations, Partnerships and Stakeholder Involvement

The Nashville TGA is thankful for the broad spectrum of stakeholders that contributed to this plan, whether by engagement in the needs assessment process, or by participating in the creation of the work plan incorporated into this document. The list of stakeholders and their contributions include, but are not limited to the following:

- Consumers – provided perspective from the client view.
- Part A Planning Council – provided information related to HIV planning and knowledge of the wide range of data from the needs assessment.
- Other HIV unding entities (Part B, CDC, HOPWA) – provided input on coordination of funding streams.
- HIV service providers – provided information about various aspects of the HIV service system.
- Other health and social service providers (e.g., mental health, substance abuse, youth) – provided information about various apects from their areas of expertise.
- FQHC – provided information from a primary care perpective and expertise related to vulnerable populations.
- TN Office of Minority Health – provided information on health disparities and ideas to address disparities.
- TN Commission on Aging – provided expertise on needs of older adults and resources to serve this population.

Although addditonal stakeholders have been involved in other activities, there is a need to assure ongoing involvement of the following stakeholders in order to continue to not only improve outcomes along the HIV Care Continuum, but to address the needs of specific sub-populations served or represented by these entities: corrections, insurance companies, other health planning bodies, faith leaders and more diverse consumer representative.

F. Integrated HIV Prevention & Care Plan

F3: Letter of Concurrence – Nashville TGA Planning Council

The letter of concurrence to the goals and objectives of the plan from the Co-Chairs of the Nashville TGA Planning Council is contained in *Appendix E*.

F4: PLWH and Community Engagement

The Nashville TGA, as a matter of course, seeks to have a planning body that is reflective of the epidemic in the jurisdiction. The Planning Council makes ongoing efforts through their Membership Committee to ensure that they are meeting reflectivity requirements set by HRSA. As the Planning Council was one of the primary participants in the creation of this plan, it is fair to say that there was reflective representation. However, to ensure that this plan tried to include the voices of hard to reach populations the needs assessment process this year included one on one interviews with high risk populations such as, Young Black MSM, Women, Transgender, older adults, Bisexuals and the unstably housed. These "voices" were included as part of our annual data summit and became part of the data that drives decision making in the TGA. Persons who participated in development of the work plan are similarly diverse.

As above, the PLWH members of the Planning Council are selected to maintain a reflective planning body. Beyond this membership, the "Community Connections Committee" of the Planning Council represents PLWH and engages with the PLWH community in order to seek engagement with, input and feedback on many aspects of the program's work. This also includes feeding information into the needs assessment process that informs this plan. It is also worth stating that at this time, the Executive Leadership of the Planning Council has strong PLWH involvement and this group was the primary creator of the format of this plan. We have mentioned some methods of engagement above and many of these are ongoing activities. Within the past year the Nashville TGA has also supported a Young Black MSM forum and focus groups with high risk populations. The Nashville TGA has been expending much effort on engagement with impacted communities. In order to continue with this engagement, the Nashville TGA has been trying to both clearly identify disparities that need to be addressed and also to utilize our continuum data to inform the community of current conditions. Using focus groups and more one on one interviews, we plan to gain further insights into possible solutions to weaknesses in the care continuum.

G. Monitoring and Improvement

G1: Monitoring and Improvement

Monitoring of this plan is critical in assisting the Part A Grantee and the Nashville TGA Planning Council with identifying ways to measure progress toward the goals and objectives, selecting strategies for collecting information and analyzing information to inform decision-making and improve HIV prevention and treatment efforts within the TGA. Most importantly, regular monitoring will provide opportunity to update and adapt the plan as the community and environment changes. This section sets out that process.

Process for Monitoring Implementation of the Plan Strategies & Activities

The Executive Committee of the Planning Council and Grantee staff will jointly assume responsibility for monitoring the progress in implementing the strategies, activities and data indicators of the Comprehensive Plan. Formal monitoring of the plan will occur three times a year. Specifically, this group will review by due date on whether the activities under each strategy have begun, and progress to date. If an activity has not begun, the workgroup will identify barriers to implementation and will make recommendations to the responsible party regarding other opportunities/steps/resources that may be available to initiate the activity. And, the workgroup will also review activities due in the next quarter to assure momentum is maintained and trouble-shoot as needed.

On an annual basis, this group will report back to the full Planning Council on the progress of the plan related to achievement of the strategies/activities. In addition, all stakeholders who were involved in developing the initial plan will be invited to attend this meeting to provide further input.

Process for Monitoring Achievement of Outcomes

The Research Analyst is responsible for collecting and analyzing achievement of outcomes for each goal (i.e. benchmarks for each goal). Surveillance (eHARS) and CAREWare data will be used as the primary source of data to monitor and measure outcomes.

On an annual basis, the Research Analyst will report back to the Executive Committee Planning on status of outcomes. The Executive Committee will report these findings to the full Planning Council.

Also on an annual basis, the Research Analyst and Quality Improvement Coordinator will lead discussion with the Standard of Care Committee on status of outcome achievement. If outcomes are not achieved, a QI process will be implemented to address this situation. If the outcome is achieved, a new benchmark may be set.

Process for Updating the Plan & Plan Improvement

During the review points, the group will update/modify/add/delete strategies and activities as needed to adapt to the current needs and environment. Annually, the Executive Committee will update the full Planning Council on any changes made.

H. Appendices:

APPENDIX

A. **Nashville Integrated HIV Prevention & Treatment Work Plan**

B. **Memphis TGA HIV Prevention & Treatment Plan**

C. **TDH Tennessee HIV Prevention & Treatment Plan**

D. **SE Regional AETC Needs Assessment**

E. **Letter of Concurrence**

Appendix A:

GOAL I: REDUCING NEW HIV INFECTIONS

BENCHMARKS:

- By September 30, 2021 increase the percentage of Tennesseans living with HIV who know their serostatus to at least 90%. *(TDH measure)*
- By September 30, 2021 lower the annual number of new HIV infections in the TGA by at least 25%.
- By September 30, 2021 reduce percentage of young Gay and bisexual men who have engaged in HIV-risk behaviors by 10%. *(TDH measure)*

KEY: *Responsible Parties:* ***PC*** *– Part A Planning Council/Committee;* ***PCC*** *– Part A Planning Council Co-Chairs;* ***AG*** *– Part A Grantee;* ***BG*** *– Part B Grantee;* ***PG-*** *Prevention Grantee;* ***TP*** *– Ryan White providers;* ***PP*** *– HIV Prevention providers;* ***TBD****-to be determined*

High Risk Populations- *see page x of Comprehensive Plan*

** Initial assignments, will be modified as needed. Each year, timeframes will be reviewed and dates for years 4&5 will be added.*

*** Initial assignments, will be modified as needed.*

OBJECTIVE A: Intensify HIV prevention efforts in communities where HIV is most heavily concentrated.

Maintain/Enhance Current Key Activities:

- Conducting targeted HIV testing in high-risk groups, including in clinical settings (corrections and emergency departments) *(TDH)*
- Conducting behavioral interventions for PLWH & with high risk HIV negative individuals *(TDH)*
- Distribute condoms (in tandem with social media) in communities at high risk for HIV infection *(TDH)*
- Conduct behavioral interventions with high-risk HIV negative individuals (3MV, MPowerment, VOICES/ VOCES, TWISTA for MSM & Transgender) *(TDH)*
- Continue funding opportunities for evidence-based community-level interventions targeting young MSM in communities with largest burden of disease. *(TDH)*
- Support grantees in their community-level behavioral interventions (MPowerment, Community Promise). *(TDH)*
- Sustain condom distribution for high risk populations. *(Local health depts.)*

STRATEGY	ACTIVITIES	TIME FRAME *	RESPONSIBLE PARTIES**	TARGET POP	DATA INDICATORS
1. By the end of 2021: Expand activities and social marketing and other mass education activities focused on raising HIV awareness and increasing HIV testing (e.g., HIP, HOP for HIV awareness,	a. Conduct social networking activities to promote testing and HIV education. (via prevention funding)	All years	PP	Target young black MSM's (15 – 34)	# of social network funded & activities per yr
	b. Conduct targeted outreach in clubs/ colleges/churches.	All years	PP		# of outreach funded & activities per yr
	c. Conduct targeted outreach via known "hook-up" apps / sites (i.e. Grinder, parks)	All years	PP		# of outreach funded & activities per yr

Appendix A:

Testing Makes Us Stronger, Greater than AIDS).	d. Identify structural interventions, such as policy & population based efforts, that minimize barriers to, and normalize HIV testing for high risk populations and increase access to information about HIV disease prevention and treatment and request assistance from TDH prevention . Inform key policy makers.	CY2018	PC/AG/BG/PG		List of interventions
2. By the end of 2021: Increase collaboration between non-ASO's and ASO's in order strengthen HIV prevention efforts.	a. HIV planning bodies host forums for discussion with key stakeholders regarding trending issues, challenges and identify solutions.	All years	PC	High risk popul.	# of forums hosted per yr.
	b. Hold regular meetings between Part A & Part B Grantees and planning bodies' leadership to identify ways to support each other's prevention efforts.	All years	AG/BG		# of meetings held per yr.
	c. Encourage AETC to increase prevention focused training and education and to broaden their audience to non-ASO's.	All years	PC		N/A
3. By the end of 2021: Inform key policy makers and collaborate with partners serving high risk populations to increase HIV knowledge, increase access to HIV TESTING and PrEP.	a. Identify key TGA partners. *(also TDH activity)*	CY2018	PC/AG/BG/PG	High risk popul.	List of partners created.
	b. Host meeting with key partners to create new learnings and dialogue.	CY2018	PC		N/A
	c. Educate key public officials on governmental policies that create barriers to full implementation of HIV prevention activities.	CY2019	PC		N/A
4 TDH Strategy(ies)	a. Work with Vanderbilt AMP study to increase participation in vaccine trial. b. Expand DIS role to include referral to PrEP for high risk populations.	SEE *APPENDIX C*			

Appendix A:

GOAL I: Reducing New HIV Infections

OBJECTIVE B: Expand efforts to prevent HIV infection using a combination of effective, evidence-based approaches.

Maintain/Enhance Current Key Activities:

- Implementation of 4th Generation HIV Testing *(TDH)*
- Conducting high quality testing via Partner Services to all named cases of known HIV positive patients *(TDH)*
- Conduct behavioral interventions for PLWHA (Healthy Relationships, CRCS, CLEAR) *(TDH)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Inform and educate local medical providers and medical community of PrEP, resources and testing sites.	a. Request AETC develop a PrEP education package and request ASOs to develop a package on HIV testing resources.	CY2017	PC	CDC identified popul.	N/A
	b. Work with ASO's to develop plan to distribute package to medical community.	CY2017	AG		# of places distributed
	c. Distribute to medical providers.	CY2017	PC/AG		# of medical providers who received packet
2. By the end of 2021: Actively pursue opportunities to enhance education on local HIV research & evaluation, new grant activities and clinical trial networks as appropriate.	a. Request representative of local research, evaluation, clinical trials and grant recipients to present overview of current work to the Planning Council.	CY2018	PC	All popul.	# of presentations/yr
	b. Request AETC and/or Part A Grantee to host training for MCM to educate them on new learnings so they can share with consumers, including voluntary participation in clinical trials as appropriate.	CY2018	PC/AG/BG/PG		# of trainings/yr
	c. Request of the Part A and Part B Grantees to form a work group to develop an annual training for using scientific expertise to provide best practice recommendations for HIV prevention and treatment.	CY2018	PC/AG/BG/PG		N/A
3. By the end of 2021: Increase access to information on PrEP and HIV testing to PLWH and high risk populations.	a. Using multiple methods, provide PrEP & HIV testing information to identified populations.	CY2017	PC	CDC identified popul.	N/A

Appendix A:

4. TDH Strategy(ies)	a. Ensure integrated HIV/STD testing is implemented in all Tennessee health departments. b. Collaborate with TB screening programs to expand HIV testing. c. Employ PrEP navigators in both health department and community-based settings-MSM & Transgender. d. Expand number of providers prescribing PrEP across Tennessee through academic detailing and provider practice liaisons.	SEE *APPENDIX C*

Appendix A:

GOAL I: Reducing New HIV Infections

OBJECTIVE C: Educate all Middle Tennesseans with easily accessible, scientifically accurate information about HIV risks, prevention and transmission. Increase knowledge and skills of health professionals including HIV providers.

Current Key Activities to Continue to Support:

- Conduct training and capacity-building with HIV prevention providers *(TDH)*
- Distribute HIV prevention materials from CDC health communication campaigns *(TDH)*
- Support MSM Task Force to execute regionally-specific high impact prevention campaigns *(TDH)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Address HIV stigma and discrimination.	**See Goal 3**				
2. By the end of 2021: Explore ways to enhance comprehensive sexual health education for young persons that addresses HIV risk factors.	a. Identity current practices in TGA schools.	CY2019	AG	Young persons	Inventory of practices
	b. Initiate a meeting with MPHD to discuss comprehensive sexual health education in schools.	CY2019	PCC		N/A
	c. Identify and develop next steps based on meeting.	CY2019	TBD		Next steps document.
3. By the end of 2021: Provide education to general public, high risk populations and key service providers about HIV and other effective prevention efforts.	a. Create a strategic distribution plan, including identification of specific type of material to be shared, which helps to normalized HIV as part of broader health discussion.	CY2019	PCC	All popul.	N/A
	b. Disseminate information via distribution plan.	CY2019	TBD		N/A
4. TDH Strategy(ies)	a. Conduct trainings for staff on how to identify STD clients at high risk of subsequent HIV infection	SEE APPENDIX X			

Appendix A:

GOAL II: INCREASING ACCESS TO CARE AND IMPROVING HEALTH OUTCOMES FOR PERSONS LIVING WITH HIV

BENCHMARKS:

- By September 30, 2021, increase the percentage of newly HIV diagnosed persons in the TGA linked to HIV medical care within one month of their diagnosis to at least 85%.
- By September 30, 2021, increase the percentage of persons in the TGA with diagnosed HIV infection who are retained in HIV medical care to at least 90%.
- By September 30, 2021, increase the percentage of Part A Ryan White clients who are in continuous care (2 medical visits within 12 months) in HIV medical care to at least 80%.
- By September 30, 2021, increase the percentage of Part A Ryan White clients who are virally suppressed to at least 85%.
- By September 30, 2021, increase the percentage of Part A Ryan White clients who have permanent housing to 86%.

OBJECTIVE A: Establish seamless systems to link people to care immediately after diagnosis and support retention in care to achieve viral suppression that can maximize the benefits of early treatment and reduce transmission risk.

Current Key Activities to Continue to Support:

- Maintain, expand as needed, Part A EIS services, including innovative models (e.g., jail EIS, local health department-ASO collaboration, EIS at local health department).
- Maintain Part Points of Entry relationships with Part A EIS providers.
- Maintain, expand as needed, Part A MCM services, including innovative models of care (e.g., MCM located at FQHC).
- Maintain state correction navigators. *(TDH)*
- Maintain specialty housing medical case manager to support skills needed to maintain stable housing. *(Part A & TDH)*
- Continue measurement along the HIV Care Continuum to measure progress against TGA benchmarks.
- Continue QI activities to measure client outcomes and develop QI projects to improve outcomes, including collaborative provider projects.

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Harmonize data and open sharing of data to all relative providers to enhance health outcomes.	a. Request the local health department to finalize a data sharing agreement.	CY2017	PC/AG	All popul.	N/A
	b. Encourage the local health department to work with individual providers to provide key outcome data, particularly Continuum of Care, for clients served. *(also TDH Activity)*	CY2019	PC/AG/BG/PG		N/A
	c. Get research involved in order to look at the data, create reports and use it to improve services.	All years	PC		TBD
	d. Expand data collection efforts (e.g., conduct client interviews) or reporting, in order to better identify barriers, risks and needs of populations at high risk on not achieving key outcomes (e.g., link, retention, viral suppression, medication adherence).	CY2017	AG		N/A

Appendix A:

	e. Revise tool for collecting data on why people do not enter or drop out of care and implement with Part A providers. Implement focus group to gain consumer driven perspective.	CY2017	AG/TP/PP	Lost to care population	# of focus groups implemented
2. By the end of 2021: Assure immediate access: Increase provider's ability to assure immediate access to HIV treatment.	a. Identify knowledgeable and experienced relevant providers to provide expertise, successful models of treatment, and tools to other providers to improve care.	CY2019	AG	All popul.	List of relevant providers
	b. Look into accessing medications immediately and for the uninsured.	CY2017	AG	The uninsured	N/A
	c. Establish a time table for providers in order to provide optimal care: eligibility, payer, and clinic hours.	CY2020	AG	All popul.	Time table created
3. By the end of 2021: Improve LINKAGE TO CARE and identify and remove structural barriers to HIV primary care within 30 days.	a. Complete detailed data analysis, including QI activity, to determine most significant characteristic and factors that impact linkage to care.	CY2017	AG	Newly Dx, High risk popl. , lost to care	N/A
	b. Gather information from outpatient and non-outpatient providers to Identify barriers to assuring care within 30 days.	CY2017	AG		N/A
	c. Create workflow for optimal access to treatment. Modify standards of care to require access to outpatient care within 30 days for specified high risk persons.	CY2018	AG/PC		Workflow created and SOC modified
	d. Fund two positions that specifically identify new diagnosed and help them set up access to a health navigator, medical case manager, etc.	CY2018	PC		# of positions funded
	e. Implement annual meetings between local HIV testers, DIS and EIS staff to strengthen collaboration and identify areas for improvement.	All years	AG		# of annual meetings
	f. Implement quarterly conference calls with Part B to strengthen collaboration between Part A & B linkage activities. *(also TDH Activity)*	All years	AG/BG/PG		# of conference calls
	g. Evaluate results to measure impact/change of new strategies and modify as needed.	CY2019	AG		N/A
4. By the end of 2021: Enhance service models for the highest risk populations (i.e., <u>not virally suppressed, poor retention, lost to</u>	a. Complete detailed data analysis, including QI activity, to determine most significant characteristic and factors that impact viral suppression, retention/engagement in care and medication adherence.	CY2017	AG	Not virally suppressed, not retained, drop out, poor adherence	N/A
	b. Review results and make recommendations for new service strategies to address retention in care barriers and needs. Target available funding for best practice initiatives Consider: • Increasing the number of "specialized" medical case managers *(also TDH*	CY2017	AG		# of recommendations made

Appendix A:

care/drop out, poor adherence to medications) and target available funding for these services.	*Activity)*; • Increasing the number of peer staff (e.g., navigators, psychosocial support, medical case managers, EIS); • Utilize community health worker model.				
	c. Create a mechanism to utilize data (data to care) to identify persons with poor outcomes and use to inform service delivery. *(also TDH Activity)*	CY2018	AG/PC		Mechanism created
	d. Increase collaboration with other housing resources and increase housing funds.	CY2018	PC	The unstably housed	N/A
	e. Review and revise standards of care as needed based on findings.	All years	AG		Revised SOC
	f. Evaluate results to measure impact/change of new strategies and modify as needed.	All years	AG		Evaluation conducted
5. TDH Strategy(ies)	a. All TDH funded testers receive notification every 30 days for clients not linked to care. b. Enhance linkage to care by positioning additional EIS staff focused on regions with lowest linkage rates focused on linkage rates ≤ 70%. c. Increase number of medical case managers targeting newly diagnosed individual to promote linkage to care. d. Collaborate with Part F AETC to train/support private providers in enhanced comprehensive care. e. Fund peer navigators to enhance retention. f. Provide training on benefits management to Ryan White clients to increase capacity in navigating changing healthcare landscape. g. Work with SAMHSA-funded mental health and substance abuse providers to identify and re-engage known HIV+ clients not currently receiving HIV care.	SEE APPENDIX X			

Appendix A:

GOAL II: Increasing Access to Care and Improving Health Outcomes for Persons Living with HIV

OBJECTIVE B: Take deliberate steps to increase capacity of systems as well as the number and diversity of available providers of clinical care and related services for PLWH .

Current Key Activities to Continue to Support:

- Continue to promote recruiting and hiring of diverse staff to enhance cultural competence in HIV testing and care sites *(Part A & TDH)*
- Continue focus and train providers on standards of care that focus on use of readiness assessment, motivational interviewing, health literacy, adherence and self-management.
- Continue to provide, or arrange, quality training for Ryan White providers. *(Part A & TDH)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Ensure coordination of all HIV and non-HIV community resources to assure access to services that encompass and meet the array of client needs (e.g., substance abuse, women, etc.).	a. Collect state and local health departments list of providers and what they provide to recipients in order to assess what is available and where.	CY2017	AG	All popul.	Assessment of gathered information
	b. Create comprehensive list of organizations and what they provide (resource audit) in order to identify gaps in service.	CY2017	AG		List created
	c. Modify Standards of Care to require providers to develop standards regarding formal referral and/or partnerships with entities serving and/or representing high risk populations.	CY2019	PC	High risk popul.	Modified SOC
2. By the end of 2021: Go out into the community to provide information and education on the Ryan White program and its services to key stakeholders.	a. Identify stakeholders (including private physicians) and key points of contact.	CY2017	PC/AG	All popul	List of stakeholders and points of contact
	b. Develop a cross-training educational plan to between HIV and non-HIV service providers.	CY2019	PC/AG		Plan created
3. By the end of 2021: Have peers, both provider-to-provider and client-to client, give suggestions for enhancing the system of care, including	a. Identify and compile both sets of peers as points of contact for each other.	CY2018	AG/PC	Al popul.	# of peer relationships established
	b. Compile a set of activities where they can provide feedback on the system. For example, create focus groups, research studios, survey assessments.	CY2018	AG/PC		TBD
	c. Compile a report on the findings, including recommendations.	CY2019	AG/PC		N/A

Appendix A:

broadening the provider network.	d. Review recommendations and implement as feasible (e.g., contracting, RFP, directives).	CY2019	AG/PC		# of recommendations implemented
	e. Increase new doors of entry for HIV outpatient and other services either through collaborations or additions of new providers, including non-ASO entities. *(also TDH Activity)*	All years	AG		# of new doors of entry
	f. Assure annual provision of effective cultural competency training for all providers that focuses on barriers and techniques to improve care along each step of the HIV Care Continuum.	All years	AG		N/A
5. TDH Strategy(ies)	a. Conduct comprehensive lectures, presentations, and intersessions on the National HIV/AIDS Strategy, impact of HIV/AIDS on disparate populations, governmental public health's role in addressing HIV/AIDS, ways to achieve an AIDS-free generation, and careers in public health to medical school students and public health students. b. Train HIV providers to evaluate and treat HCV. c. Train HIV providers and MCMs to identify mental health and substance abuse co-morbidities jeopardizing access to HCV treatment and/or sustained care.	SEE APPENDIX X			

Appendix A:

GOAL II: Increasing Access to Care and Improving Health Outcomes for Persons Living with HIV

OBJECTIVE C: Support comprehensive, coordinated patient-centered care for PLHW, including addressing HIV-related co-occurring conditions and challenges in meeting basic needs, such as housing.

Current Key Activities to Continue to Support:

- Continue to fund ARTAS programs, including ARTAS training, across the state. *(TDH)*
- Provide TA and capacity-building for linkage to care providers through collaboration between Part A, B and F (AETC).
- Augment HDAP Formulary and Medical Services Fee Schedule to cover HCV diagnostics and treatment. *(TDH)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Increase access to HIV primary care by creating new alternate delivery modes (e.g., providing primary care in a community organization).	a. Engage the community in identifying what the needed non-conventional method is.	CY2018	AG/PC	All popul., including lost to care	N/A
	b. Meet with HIV providers to share community recommendations for optimizing delivery methods. Identify barriers, opportunities and identify methods that could be implemented.	CY2019	AG		N/A
	c. (For new methods) Create messaging campaign in order to educate PLWH on new types of delivery methods.	CY2019	PC		Campaign created
2. By the end of 2021: Expand non-office based & alternative sites for medical case management.	a. Coordinate and augment currently delivered case management to include primary care and other services sites.	CY2017	AG	All popul., including lost to care	N/A
	b. Partner to provide HIV services in discrete ways to clients who already receive non-office based/alternative case management. Create a plan to provide more comprehensive non-office based case managements.	CY2018	AG		Plan created
	c. Recruit other workers not in HIV who are providing non-office based/alternative case management to deliver HIV care services.	All Years	AG		# of consumers receiving case management from alternative sites
3. By the end of 2021: Utilize PLWH to provide recommendations for an optimized system	a. Conduct focus groups with PLHW to solicit input on ideas for ways to improve the system of care.	CY2018	AG	All popul.	# of focus groups
	b. Draft a report with recommendations.	CY2018	AG		Report created
	c. Convene with informants to finalize recommendations for the planning council.	CY2019	AG		N/A

Appendix A:

of care.	d. Review recommendations and implement as feasible (e.g., contracting, RFP, directives).	CY2019	PC		# of recommendations implemented
5. TDH Strategy(ies)	a. Expand patient navigation (including peer navigators) programs to enhance linkage and retention efforts. b. Augment HDAP Formulary and Medical Services Fee Schedule to cover mental health and substance abuse treatment.	SEE APPENDIX X			

Appendix A:

GOAL III: REDUCING HIV-RELATED DISPARITIES AND HEALTH INEQUITIES

BENCHMARKS:

- By September 30, 2021 increase the proportion of HIV-diagnosed gay and bisexual men with undetectable viral loads by 20% .
- By September 30, 2021 increase the proportion of HIV-diagnosed non-Hispanic Blacks with undetectable viral loads by 20% .
- By September 30, 2021 increase the proportion of HIV-diagnosed Latinos with undetectable viral loads by 20% .

OBJECTIVE A: Reduce HIV related disparities in communities at high risk of HIV infection.

Current Key Activities to Continue to Support:

- Continue measurement along the HIV Care Continuum to measure progress against TGA benchmarks for targeted populations, including detailed breakdowns within each population.

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Strengthen promotion of normalization of HIV testing	a. Meet with TDH to learn about HIV testing activities in the TGA, including areas of strength and opportunities for improvement (e.g., testing sites supported by TDH, opt-out testing policies, successful campaigns in other TN communities).	CY2017	AG	All popul, especially those who do not know their status	N/A
	b. Identify activities that can be supported by Ryan White Part A.	CY2018	PC/AG/PG		N/A
	c. Implement activities identified in activity b.	CY2019	PC/AG/PG		N/A
2. By the end of 2021: Increase culturally competent/specific outreach within/to high risk communities.	a. Engage high risk/hard to reach populations (specifically MSM, Young people of color, transgender individuals, and women) in focus groups to identify specific barriers to care impacted by culturally based stigmas .	CY2018	AG/PG	Transgender/YPOC/ MSM	# of focus groups
	b. Develop/identify outreach initiatives guided by not only information gathered from the focus groups, but also participants from the focus groups, to specifically target transgender, young people of color, and MSMs.	CY2018	PC	Transgender/YPOC/ MSM	# of outreach initiatives created
	c. As funds are available, fund best practice outreach initiatives identified above to specifically target communities, complete w/tracking tools for data collection.	CY2018	PC	Transgender/YPOC/ MSM	N/A
3. By the end of 2021: Enhance the understanding of how	a. In coordination with TDH, assess current terrain of HIV care in prisons and jail facilities. Prioritize areas of need unearthed during assessment of correctional facilities, and propose strategies for improvement.	CY2018	AG/PC	Incarcerated population	N/A

Appendix A:

the correctional system manages HIV testing/care/and discharge planning.	b. Develop recommendation s to strengthen the utilization and capacity of medical case managers or other HIV staff to support HIV positive incarcerated persons through the discharge process .	CY2019	AG/PC	Incarcerated population	# of recommendations
	c. As funds are available, fund best practice services for persons newly released from correctional settings, complete w/tracking tools for data collection.	All Years	TP	Incarcerated population	% of incarcerated persons linked to care
4. By the end of 2021: Initiate Meaningful Action Plan to Address Disparities.	a. Analyze and use data to document disparities in the HIV Care Continuum.	All Years	AG	Transgender/YPOC/ MSM, Non-permanently housed, young persons	Report created
	b. Convene identified community members to further inform etiology (origins) of disparities. "The right people at the table." Present the data in a way that enhances understanding and encourages informed mobilization (i.e., develop a meaningful action for change).	CY2018	AG/PC		Meeting convened
	c. Provide data to individual providers and use for QI activities.	All Years	AG/TP		Provider reports
	d. As funds are available, fund best practice services for populations specifically identified having poor outcomes in the HIV Care Continuum.	All Years	AG		N/A

Appendix A:

GOAL III: Reducing HIV-Related Disparities and Health Inequities

OBJECTIVE B: Adopt structural approaches to reduce HIV infections and improve health outcomes in high-risk communities.

Current Key Activities to Continue to Support:

- NA

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Reduce infection within MSM community.	a. Increase promotion and use of PrEP. *See Goal 1, Objective B.*				
	b. Develop partnerships with local schools and community agencies to promote sexual health education to youth while concurrently reducing stigma. *See Goal 1, Objective C.*				
	c. Meet with TDH to learn about HIV prevention activities in the TGA, including areas of strength and opportunities for improvement and identify ways that Part A can support their efforts.	CY2017	PC	All popul.	
2. By the end of 2021: Increase engagement and educate faith-based communities on HIV prevention and treatment.	a. Identify faith based organizations in the TGA who are receptive to promoting HIV education, awareness, and prevention.	CY2019	PC/AG	Focus on m minority popul.	
	b. Provide evidence based approaches to "training the trainer" and educational materials,	CY2020	AG		
	c. Provide ongoing support, coaching, and capacity building to trainers and educators.	CY2020	AG		
3. By the end of 2021: Increase HIV literacy among non-HIV primary care providers.	a. Identify non-HIV primary care and dental providers/sites that serve high risk populations. Promote the use of culturally and linguistically appropriate services to help providers strengthen their ability to engage clients in open dialogue around issues such as HIV.	CY2018	PC/AG	High risk popul.	
	b. Encourage AETC to engage these providers in ongoing trainings related to HIV prevention and treatment.	CY2018	PCC		
	c. Include these providers in relevant Ryan White Part A Planning Council and Grantee activities as a way to increase knowledge (e.g., provider trainings, PC committees, invite to meetings).	Ongoing	PC/AG		

Appendix A:

GOAL III: Reducing HIV-Related Disparities and Health Inequities

OBJECTIVE C: Reduce stigma and eliminate discrimination associated with HIV status.

Current Key Activities to Continue to Support:

- Support of MSM and Transgender Task Forces local media campaigns to reduce stigma of HIV testing & PrEP. *(TDH activity)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Engage business leaders, civil organizations, and private and public figures in HIV prevention and stigma reduction.	a. Identify opportunities for HIV community to talk with business leaders, civic organizations, and private and public figures. • Civic organizations- try to get one HIV related agenda item on their docket per year, Private figures, Public figures, Business owners-educate business executives and promote open dialogue between employees and employers	CY2019	AG/PC	All popul.	N/A
	b. Identify ways to frame HIV information that is tailored to each audience. Disseminate relevant information to receptive audiences.	CY2019	AG/PC		N/A
	c. Identify ways to frame HIV information for business leaders that includes information about human resource practices that support a PLWH's ability to manage their HIV disease. Disseminate relevant information to receptive audiences.	CY2019	AG/PC		N/A
2. By the end of 2021: Engage gatekeepers and utilize cultural hotspots to promote HIV education, prevention, and treatment.	a. Identify gatekeepers of high risk communities and hard to reach communities . Encourage and assist gatekeepers in identifying and utilizing cultural hotspots (e.g. barbershops; nail salons, etc.) to promote HIV education, prevention and treatment.	CY2018	AG/PC	High risk popul.	# of gatekeepers identified
	b. Educate gatekeepers on HIV 101, referrals to care, and client support.	CY2018	AG/PC		N/A
	c. Provide ongoing support to gatekeepers to keep them engaged in the process.	CY2018	TP		N/A
3. By the end of 2021: Utilize social media and marketing campaigns to dismantle stigma.	a. Investigate marketing techniques that have proven to be successful in identifying sources of stigma.	CY2019	AG/PC	All popul.	N/A
	b. Stratify and prioritize sources of stigma to be addressed.	CY2019	AG/PC		N/A
	c. Develop campaigns to address prioritized stigma.	CY2019	AG/PC		N/A
5. TDH Strategy(ies)	a. Implement cultural-competency assessment programs to ensure culturally-competency services within metro-STD clinics.	SEE APPENDIX X			

Appendix A:

GOAL IV: ACHIEVING A MORE COORDINATED STATE AND LOCAL RESPONSE TO THE HIV EPIDEMIC

OBJECTIVE A: Increase the coordination of HIV programs across state and local governments.

Current Key Activities to Continue to Support:

- Part B membership on the Part A Planning Council.
- Medicaid (TennCare) membership on the Part A Planning Council.

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Strengthen/Enhance collaboration between local HIV planning bodies (CHAPP and Nashville Regional HIV Planning Council).	a. Conduct meeting of TDOH and MPHD planning staff to identify potential points of collaboration and areas where collaboration is not reasonable.	CY2017	AG/BG/PG	All popul.	N/A
	b. Conduct routine meetings/communication between TDOH and MPHD planning body staff	All Years	AG/BG/PG		# of meetings
	c. Conduct routine meetings/communication between Part A and B planning body leadership.	All Years	AG/BG/PG		# of meetings
	d. Implement at least one annual joint activity and at least one joint training.	All Years	AG/BG/PG		N/A
	e. Request HRSA/CDC technical assistance to help move toward one HIV prevention and treatment plan.	CY2017	AG		N/A
2. By the end of 2021: Strengthen/Enhance collaboration between major HIV funding sources (Part A, Part B, TDOH prevention, TennCare, ACA).	a. Hold meeting of TDOH and MPHD program directors to identify potential points of collaboration, including separate plan for TennCare and ACA, and areas where collaboration is not reasonable.	CY2018	AG/BG/PG	All popul.	N/A
	b. Develop a written plan for collaboration, including specific activities and timeframes.	CY2018	AG/BG/PG		Written plan created
	c. Schedule routine meetings/communication between TDOH and MPHD program directors and others as appropriate.	CY2018	AG/BG/PG		# of meetings
3. By the end of 2021: Strengthen/Enhance collaboration and reciprocal relationship between key service	a. Identify current and potential partners.	CY2019	AG/BG/PG	All popul.	# of partners identified
	b. Conduct interviews/focus groups to clarify needs of partners and ways to engage.	CY2019	AG/BG/PG		# of focus groups

Appendix A:

stakeholders and community leaders (e.g., ASOs, CBOs, relevant local and state government agencies, faith based, housing, employment).	c. Develop a written plan for collaboration, including specific activities and timeframes.	CY2019	AG/BG/PG		Written plan created
	d. Create and document a variety of opportunities for engagement of partners through social media, educational events, one-no-one interactions, etc.	CY2019	AG/BG/PG		N/A
	e. Implement x of opportunities per year (based on plan in number 3).	CY2020	AG/BG/PG		TBD
	f. Sponsor regular community round table for community stakeholders and leaders to build relationships and awareness of community need and available services.	CY2020	AG/BG/PG		# of round tables sponsored
	g. Continue to enhance focus on recruiting diverse and strategic community stakeholders for the Part A Planning Council, Committees and/or work groups.	All Years	PC		N/A

GOAL IV: Achieving a More Coordinated State and Local Response to the HIV Epidemic

OBJECTIVE B: Develop improved mechanisms to monitor and report on progress toward achieving local goals.

Current Key Activities to Continue to Support:

- Coordination between Part A & B Quality Management activities.

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Identify key indicators of successful collaboration.	a. Research literature on best practices for effective collaboration.	CY2017	AG	N/A	N/A
	b. Define indicators for local community and inform partners.	CY2017	AG/BG/PG	N/A	TBD
2. By the end of 2021: Develop/identify evaluation tool and implement.	a. Develop tool (may use existing model and modify for local use).	CY2018	AG	N/A	Tool developed
	b. Using local tool, assess current baseline for coordination of state and local response to HIV Epidemic. (Year 1 Funders, Year 2 Planning Bodies, Years 3 Service Providers, etc.).	CY2018	AG/BG/PG	N/A	N/A
	c. Implement as indicated to assess status.	CY2019	AG/BG/PG	N/A	N/A

Appendix A:

3. By the end of 2021: Utilize evaluation results to inform partners on status (success, weakness and action needed to strengthen collaborations) and use data to implement changes for the better.	a. Identity successes and celebrate	CY2019	AG/BG/PG	N/A	N/A
	b. Identify areas that need improvement and develop a plan to address.	CY2020	AG/BG/PG	N/A	N/A
4. By the end of 2021: Ideally, develop a TN fully integrated HIV prevention and treatment comprehensive plan.	a. Meet with TDH and the Memphis TGA to discuss opportunities and challenges for developing a statewide integrated plan.	CY2018	AGs/BG/PC	N/A	N/A
	b. Request technical assistance from HRSA/HAB/CDC to assist with identifying opportunities, challenges and mechanisms for developing a statewide integrated plan. Develop a plan to address this strategy.	CY2018	AG	N/A	TA request
	c. Implement the plan.	CY2018	AGs/BG/PC	N/A	Plan

NOTE: As the work plan element has been developed by community input, you may notice areas where strategies and activities may be repeated under different goals and objectives. We have kept these overlapping activities in the plan to honor the intent of the community.

Appendix B: Memphis TGA HIV Prevention & Treatment Plan

Appendix C: TDH Tennessee HIV Prevention & Treatment Plan

Appendix D: Southeast Regional AETC Needs Assessment

Appendix E: Letter of Concurrence

Memphis TGA Integrated HIV Prevention and Care Plan

With information from the Mississippi Department of Health, Arkansas Department of Health, Tennessee Department of Health and Nashville TGA included where available at the time of submission, September 30, 2016

FY 2017-2021

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5. **Tennessee Department of Health State of Tennessee HIV Prevention & Treatment Plan**
6. **Arkansas Integrated HIV Prevention Care Plan** *(to be added at a later date, not available at time of submission)*
7. **The 2016 Southeast Regional AIDS Education and Training Center (SE AETC) Needs Assessment**

Introduction

HIV disease is a chronic health care condition that affects many residents of Tennessee, Arkansas, and Mississippi and impacts the health of the entire community. Although there have been many medical advances in the last several years and this disease is now a manageable chronic disease, HIV disease remains a serious public health concern.

Specific to Tennessee, Arkansas, and Mississippi, there is an additional layer of concern as southern states. As noted in the *Southern AIDS Coalition* 2012 report, the southern United States continues to face great challenges. The South has the most people living with HIV and AIDS, the greatest poverty, the highest rates of sexually transmitted infections (STIs), the greatest number of persons without health insurance, the least access to health care, the highest mortality rates, and the fastest growing epidemic in the nation. These statistics are fueled by a number of underlying factors including stigma, discrimination, racial and ethnic disparities, aggressive homophobia, and poor social determinants (*Sothern AIDS Coalition, 2012 Update*).

This plan is the Memphis Transitional Grant Area's (TGA) community driven effort to address these challenges and not only assure a high quality of life for persons living with the disease, but also strives to eliminate new HIV infections. The Memphis TGA encompasses eight counties from three states (Tri-State Area): Shelby, Tipton and Fayette counties in Tennessee; Desoto, Marshall, Tate, and Tunica counties in Mississippi; and Crittenden County in Arkansas.

Overview of Requirements of This Plan

The Ryan White HIV/AIDS Treatment Modernization Act of 2006 specifies that recipient of Ryan White Part A funds, Shelby County Division of Community Services and the Ryan White Part A Planning Group, are jointly responsible for developing a comprehensive plan for the organization and delivery of HIV services in their local community.

As specified in Section 2602(b)(4)(D) the plan must include discrete goals and a timetable. In addition, the plan must:

- Develop a strategy to identify and address the needs of those who know their HIV status and are not in care as well as the needs of those who are currently in the care system and inform/enable them to utilize services;
- Address disparities in HIV care, access, and services among affected subpopulations and historically underserved communities;
- Be compatible with the Statewide Coordinated Statement of Need for HIV/AIDS;
- Develop a strategy to coordinate services with HIV prevention programs and for the prevention and treatment of substance abuse; and
- Establish and support an HIV continuum of care that coordinates resources among other federal and local programs.

Additional guidance from HRSA/HAB (Health Resources Services Administration/HIV/AIDS Bureau) requires that the program continue earlier legislations' focus on planning, with a greater emphasis on quality management, oversight and accountability. HRSA/HAB guidance also states that comprehensive

planning includes initiatives that maintain and improve the system of care and be responsive to the changing epidemic. In addition to the requirements specified above, the plan is to reflect a system that:

- Ensures the availability and quality of all core medical services;
- Includes a discussion of clinical quality measures; and
- Includes strategies for the prevention and treatment of substance abuse.

Lastly, a new initiative this year under the Centers for Disease Control and Prevention (CDC) and HRSA, offered guidance and encouragement for Ryan White Part A and B Grantees and the CDC state grantees to develop an Integrated HIV Prevention and Care Plan, including the Statewide Coordinated Statement of Need (SCSN). Their intent is to streamline the work of health department staff and HIV planning groups and promote collaboration and coordination in the use of data. An integrated plan is seen as a vehicle to develop a coordinated approach to addressing the HIV epidemic at the state and local levels.

In order to meet the integrated HIV prevention and care plan guidance, the Memphis TGA, the Tennessee Department of Health HIV/STD Section (TDH) and the Nashville TGA administrative staff consulted with their planning bodies and met to attempt to coordinate their comprehensive plans as much as possible this year. Whenever possible, information from the three entities is included in the plan. In the future, this group will work together to continue efforts to develop a single coordinated plan.

Key Influencers of This Plan

1. National HIV/AIDS Strategy (NHAS) And The HIV Continuum Of Care

Two national documents set the tone and framework for this plan:

- National HIV AIDS Strategy
  https://www.aids.gov/federal-resources/national-hiv-aids-strategy/overview/
- HIV Continuum of Care (aka Cascade of Care, HIV Treatment Cascade)
  https://www.aids.gov/federal-resources/policies/care-continuum/

The National HIV/AIDS Strategy is a five-year plan that details principles, priorities, and actions to guide our collective national response to the HIV epidemic. The NHAS' vision is to be a place where new HIV infections are rare and when they do occur, every person, regardless of age, gender, race/ethnicity, sexual orientation, gender identity, or socio-economic circumstance, will have unfettered access to high quality, life-extending care, free from stigma and discrimination. The strategy reflects many of the approaches that HRSA and CDC believe will make the greatest difference in reducing HIV, such as intensifying prevention for individuals with HIV and those at highest risk of becoming infected with HIV, and targeting resources to the interventions and areas where we can have the greatest impact. The strategy was released in 2010, updated in 2015 and stresses the following points:

- There is still an active HIV epidemic and it remains a major health issue in the United States.
- Most people can live long, healthy lives with HIV if they are diagnosed and get treatment.
- For a variety of reasons, certain populations bear a disproportionate burden of HIV.
- People across the nation deserve access to tools and education to prevent HIV transmission.
- Every person diagnosed with HIV deserves immediate access to treatment and care that is non-stigmatizing, competent and responsive to the needs of the diverse population impacted by HIV.
- Using the HIV Care Continuum to measure and achieve outcomes, particularly in communities disproportionately impacted by HIV, is a critical means of assuring services are having a positive impact on individuals and the community as a whole.

The HIV Care Continuum is a model that outlines the sequential steps or stages of HIV medical care that people living with HIV go through from initial diagnosis to achieving the goal of viral suppression (a very low level of HIV in the body), and shows the proportion of individuals living with HIV who are engaged at each stage. The specific stages of the continuum are: 1) the number of people with HIV disease; 2) the percentage of persons diagnosed with HIV disease who are linked to HIV medical care; 3) the percentage of persons who receive routine HIV medical care; 4) the percentage of persons in HIV medical care who receive HIV medications; and 5) the percentage of persons who are virally suppressed.

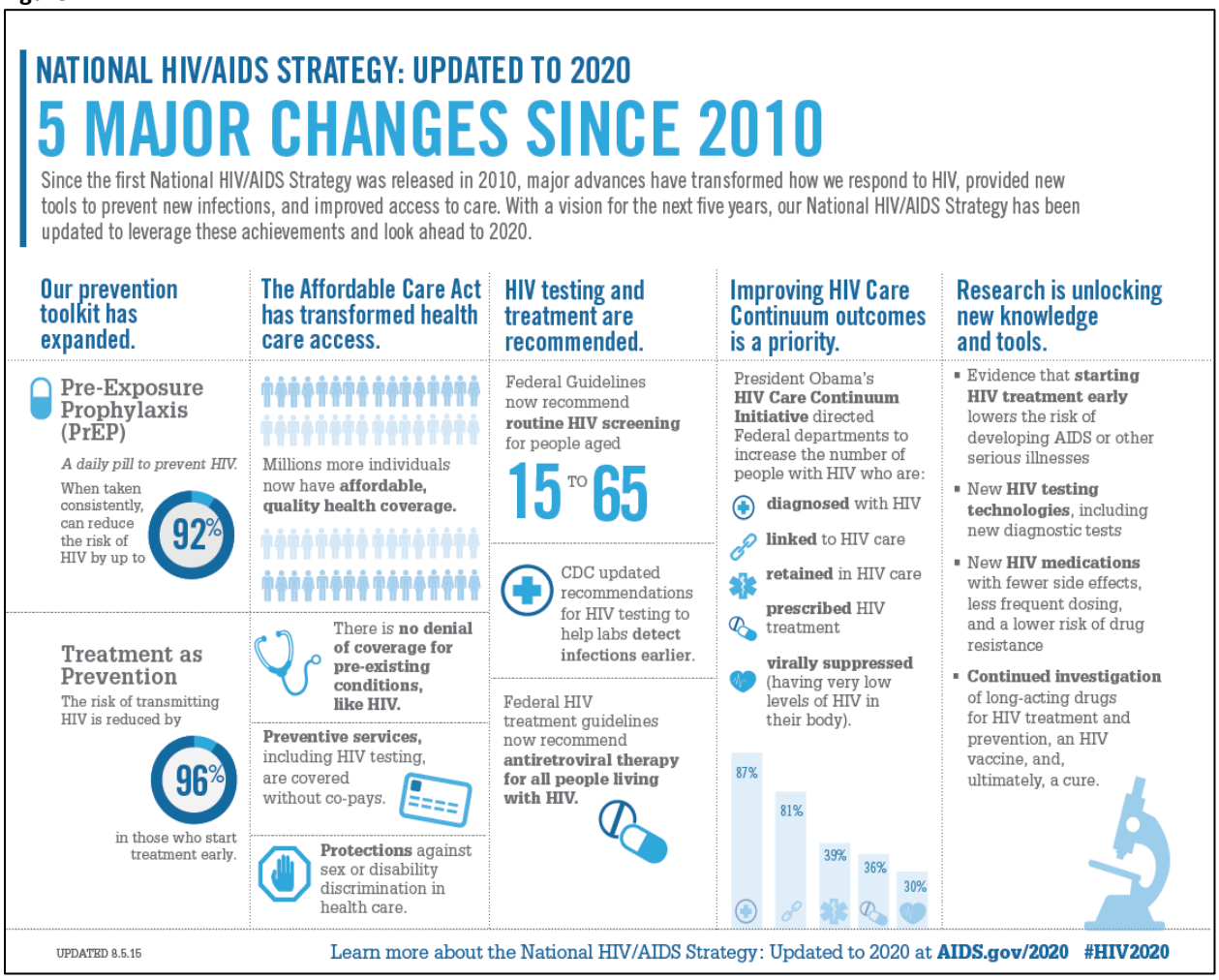
2. Advances in the HIV Field: Impact on HIV Care

In the recent years, there have been several key national initiatives/activities that have changed the landscape of the HIV epidemic and support the ability of communities across the United States to achieve the NHAS' vision. These initiatives/activities are critical elements to be considered as local communities develop their individualized plans for eliminating new HIV infections and assuring a quality life for those persons living with HIV disease. *See Figure 1.*

- Implementation of the **Affordable Care Act**, which increases access to health care for persons living with HIV disease has been a critical factor. As more PLWH in Tennessee gain access to marketplace insurance they not only gain access to insurance to cover their overall medical needs, there is less need for the Ryan White program to pay for HIV outpatient care. Ideally, Ryan White funds no longer needed for HIV outpatient care will be directed to other key core and support services that support a person's ability to engage in HIV medical care and achieve viral suppression.
- Although **Medicaid expansion** has not yet occurred in Tennessee or Mississippi, it is another key activity that if enacted, will change the landscape of healthcare in these two states with an impact similar to enrollment in ACA insurance. In addition, Mississippi has no Insurance Assistance Program (IAP). However, **Medicaid expansion** has occurred in Arkansas.
- The **START trial** which demonstrated that **early initiation of HIV medications** for HIV not only benefits a person with the disease, but has a preventative benefit by reducing the risk of onward transmission to others by 96%. This evidence highlights the critical need for newly diagnosed persons to quickly link to HIV medical care and receive information to make an informed choice about initiation of antiretroviral medication. The study has found that earlier receipt of antiretroviral significantly improves health outcomes by reducing the risk of a combination of serious AIDS-related illness, serious non-AIDS-related illness and death by more than half compared to deferring treatment.
- Introduction of **PrEP** (pre-exposure prophylaxis) that reduces the risk of HIV infection by taking daily medication.
- CDC guidance for the adoption of **new HIV testing technologies** that enhance the ability to diagnose HIV soon after infection – a time when HIV is most likely to be transmitted to others.

  (Adapted from NHAS 2020)

Figure 1



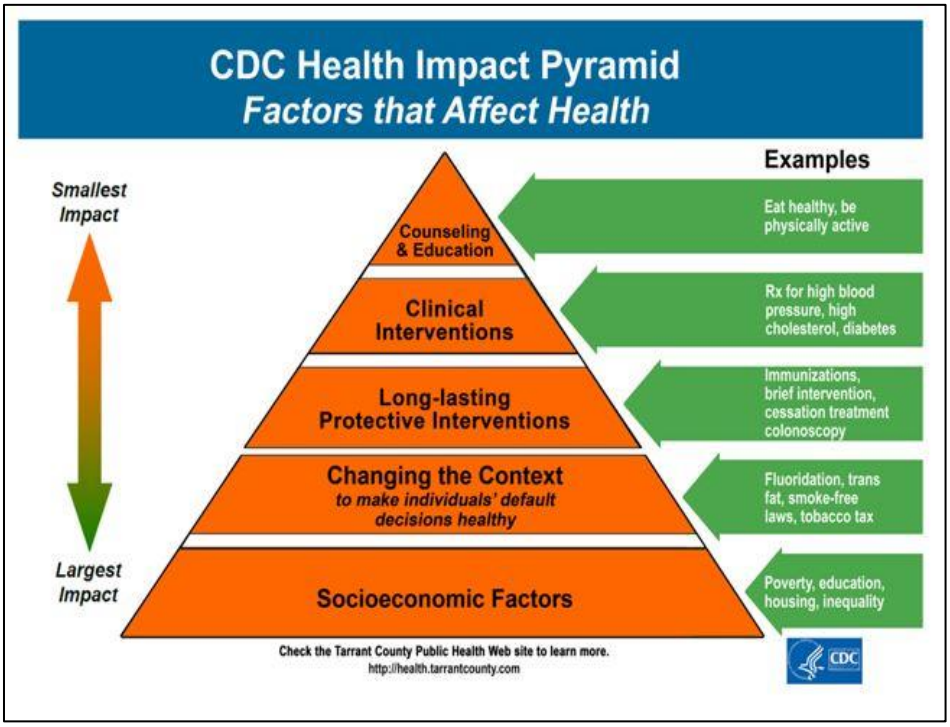
3. Health Impact Pyramid: Impact on HIV Care

HIV disease as both a chronic health condition and a public health concern, necessitate the use of a model developed by CDC which defines the range of needed health interventions, but also describes interventions with the greatest potential impact for sustaining health of individuals and communities. The strength of this model is that it addresses socioeconomic determinants of health that are many of the barriers faced by PLWH that often limit achievement of health outcomes. In addition, the model requires the involvement of a diverse representation of stakeholders, which not only provides opportunity for community based solutions but may also address concerns related to stigma of HIV disease.

Overview of the Health Impact Pyramid (*Figure 2*): At the base of this pyramid, interventions with the greatest potential impact are efforts to address socioeconomic determinants of health. In ascending order are interventions that change the context to make individuals' default decisions healthy, clinical interventions that require limited contact but confer long-term protection, ongoing direct clinical care, and health education and counseling. Interventions focusing on lower levels of

the pyramid tend to be more effective because they reach broader segments of society and require less individual effort. Implementing interventions at each of the levels can achieve the maximum possible sustained public health benefit. (*Adapted from: AmJ Public Health. 2010;100:590–595. doi:10. 2105/AJPH.2009.185652*)

Figure 2: Health Impact Pyramid



The model is an important tool for the Memphis TGA Planning Group's work related to health planning and resource allocation. Use of the model can help the council answer the following questions:

- Why people do or do not engage in certain health behaviors (e.g., poverty, education)?
- What strategies will have the greatest impact on reaching the right audience?
- What strategies will have long-lasting impact on improving the health of the community?

Memphis TGA Process in Developing This Plan

The 2015 Needs Assessment, commissioned by the Memphis TGA Ryan White Planning Group (H-CAP), (1) described key characteristics of PLWH in the Memphis TGA and populations disproportionately affected by HIV; (2) provided an overview of current services offered through the Ryan White Part A program and highlight the potential implications of policy and funding shifts for the provision of those services; (3) summarized trends in linkage to and retention in HIV primary care and described the need for and utilization of supportive services that can facilitate linkage to and retention in HIV primary care; and (4) discussed Ryan White Part A clients' experiences with service provision and perceptions of quality of care and highlighted barriers to and facilitators of care for PLWH in the Memphis TGA.

This Plan is based upon data and findings from the 2015 Needs Assessment (including information

gathered from community forums, consumer surveys, provider surveys) and from the discussion of the Priorities Committee. This plan strives to balance service needs with available resources. The primary purpose of this plan is to serve as a five-year guide for informing the H-CAP. With the information provided in the plan, the Planning Group can make better and informed decisions about services for Persons Living with HIV (PLWH) as they work to develop and maintain a comprehensive continuum of care that improves the health outcomes and lives of PLWH as well as addressing the HIV prevention needs of the TGA. Once the plan is being implemented, the Planning Group will monitor the plan on an on-going b**a**sis to assure achievement of the plan's goals and objectives.

Memphis Transitional Grant Area

Part A of the Ryan White HIV/AIDS Treatment Extension Act of 2007 provides assistance to Eligible Metropolitan Areas (EMAs) and Transitional Grant Areas (TGAs)—locales that are most severely affected by the HIV/AIDS epidemic. These critical funds allow eligible program areas to develop and enhance access to a comprehensive continuum of high quality, community based care for low-income persons living with HIV/AIDS (PLWHA). The Memphis Transitional Grant Area (TGA) strives to maintain a comprehensive continuum of care with prioritized core medical services and health – related support services that allow PLWH to obtain optimal medical treatment for HIV (the human immunodeficiency virus) infection.

Located in the Mid-South, the Memphis TGA encompasses eight counties from three states (Tri-State Area): Shelby, Tipton, and Fayette counties in Tennessee; Desoto, Marshall, Tate, and Tunica counties in Mississippi referred to be as Northern Mississippi Counties; and Crittenden County in Arkansas. These counties ranged in population from 10,000 to 937,000 persons in 2014. The largest proportion of the Memphis TGA population reside in Shelby County (70.5%), followed by DeSoto County in Mississippi (12.5%) and Crittenden County in Arkansas (3.8%) **(Map A-1).** Approximately half of the TGA population is White (45%) and half of them are Black/African American (44%), and 5% are Hispanic **(Table A-1**).

HIV/AIDS in the Memphis TGA

According to the Centers for Disease Control and Prevention, 2014 (Volume 26), the Memphis Metropolitan Statistical Area (MSA) ranks 6th in the nation among all metropolitan statistical areas for the rate of new HIV cases and ranked 2nd for the rate of newly diagnosed AIDS cases. In Tennessee, Shelby County ranks 1st among all counties for the rate of newly diagnosed HIV cases, first in the state for the *number* of new people diagnosed with HIV/AIDS as well as for the number of PLWHA in 2014. Almost 40% of PLWHA in Tennessee are living in Shelby County.

As of 2015, 86% of PLWHA in the Memphis TGA resided in Shelby County. Of the 7,212 People Living with HIV and AIDS (PLWH/A), 82% were African Americans, 13% were non-Hispanic Whites, 2% were Hispanic/Latinos, and 3% are Other/Not Identified Race/Ethnic groups.

In 2015, 314 new cases of HIV/AIDS were diagnosed in the Memphis TGA. Males and Blacks/African-

Americans had the highest rates of new infection. Men who have Sex with Men (MSM) and heterosexual contact accounted for the majority of attributed risk among new cases. The majority of new infection burdens were on adolescents and young adults aged 15-34 years old. Overall, the rates of new HIV cases in the Memphis TGA are declining, while the rates of new AIDS cases are on the rise. Also in 2015, half of the 7,212 PLWHA in the Memphis TGA had progressed to AIDS. Trends among PLWHA mirror those among the newly-diagnosed: men and Blacks/African-Americans had the highest rates and MSM and heterosexual contact accounted for the majority of attributed risk.

The mortality rate associated with HIV/AIDS in the Memphis TGA has remained relatively stable. Most recent estimates place the rate of HIV/AIDS deaths at 10.5 per 100,000 cases, or 139 deaths in 2015. Rates of death among PLWHA were highest among men, Blacks/African-Americans, MSM, and heterosexual contacts. The proportion of mortality shifted from the younger age group to older age group between 2011 and 2015. This is likely due to the improvement of HIV care measures in the Memphis TGA.

The Continuum of HIV Care shows the Memphis TGA can still improve for each of the sequential stages of care. Ryan White Part A clients show a higher proportion retained in care, prescribed ART, and viral load suppression compared to those of all persons living with HIV infection in the Memphis TGA. In 2015, among all persons living with HIV, including those unaware of their HIV+ status in Memphis TGA, almost half of the infected individuals (46%) did not achieve viral load suppression.

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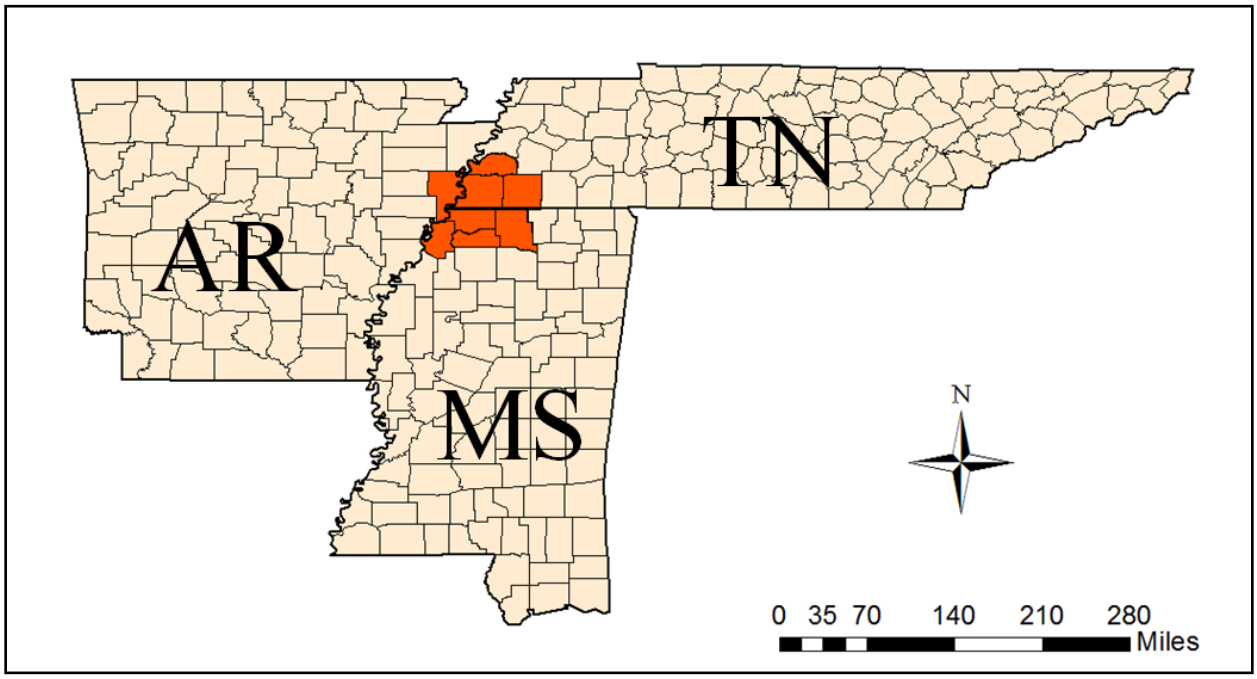
A. Socio-Demographic Characteristics

A1. Geographic Location of the Memphis TGA

Located in the Mid-South, the Memphis Transitional Grant Area (TGA) encompasses eight counties from three states (Tri-State Area): Shelby, Tipton, and Fayette counties in Tennessee referred to be as West Tennessee counties; Desoto, Marshall, Tate, and Tunica counties in Mississippi referred to be as Northern Mississippi Counties; and Crittenden County in Arkansas. The orange shaded region represents the current geographical location of the Memphis TGA in the Tri-State Area **(Map A-1)**. The Memphis Metropolitan Statistical Area (MMSA), which mirrors the boundaries of the Memphis Transitional Grant Area, is populated by more than 1.3 million people with 4,578 square miles of land area[1].

Map A-1: Geographical Location of the Memphis TGA

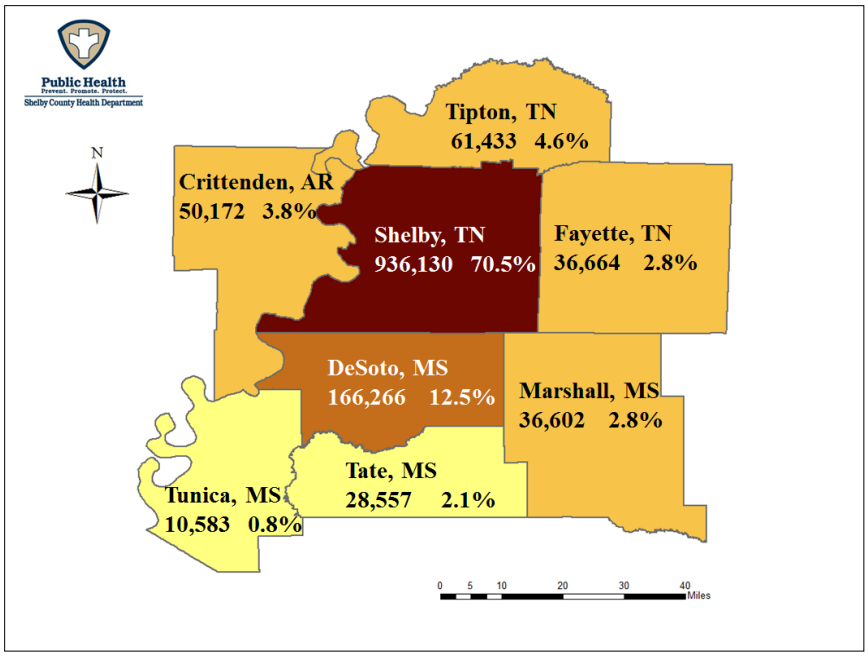


Data Source: ArcGIS; U.S. Census Bureau, 2011-2013 3-Years American Community Survey

A2. County Populations

In the Memphis TGA, the eight counties ranged in population from 10,000 to 938,000 persons in 2015. The largest proportion of the Memphis TGA population reside in Shelby County (70.5%), followed by DeSoto County in Mississippi (12.5%) and Crittenden County in Arkansas (3.8%) **(Map A-2)**. Approximately half of the TGA population are Non-Hispanic Whites (45%) and half of them are Black/African Americans (46%), and 5% are Hispanic/Latinos **(Table A-1)**. Although Shelby County occupies only 16.7% of land area in the TGA **(Map A-2)**, the largest proportion (70%) of the Memphis TGA population reside in Shelby County.

Map A-2. Memphis TGA County Populations, 2014



Data Source: U.S. Census Bureau, 2010-2014 5-Year American Community Survey.

According to the U.S. Census Bureau, the total population in the TGA has increased over the past 10 years by almost 35%. While some counties have remained relatively stable in growth, others have shown significant increases. DeSoto County, MS has increased in population by 50% over the past decade, while Fayette County, TN has increased by 33%. Crittenden County, AR population has remained unchanged, and Shelby County, TN has increased by approximately 3%[1].

A3. Race and Ethnicity

The 2014 American Community Survey estimates 45% of Memphis TGA residents are Non-Hispanic Whites, 46% are Non-Hispanic Black/African American, and 5% are Hispanic/Latinos (**Table A-1).** Approximately 4% of the remaining TGA population is comprised of other races, including Asians (1.8%), American Indian/Alaskan Natives (0.2%) and persons reporting two or more races (1.1%).

The racial/ethnic distribution of Memphis TGA residents varies by county **(Table A-1).** Over half of Shelby County, TN residents are Non-Hispanic Black/African American (52.3%), while almost 6% are Hispanic/Latinos. The majority of residents are Non-Hispanic Whites in the rural counties of Fayette, Tipton and Tate in TN, while Tunica County, MS is predominantly Non-Hispanic Black African Americans. The proportion of Non-Hispanic Whites and Black/African Americans residents in Crittenden County in Arkansas is more evenly distributed. DeSoto County in Mississippi is primarily comprised of Non-Hispanic White residents (69%), but the second largest Hispanic population is also located in this county (5%).

Table A-1: Memphis TGA Population by Race/Ethnicity, 2014

	White, Not-Hispanic		Black or African American alone		Hispanic or Latino (of any race)		Others	
	N	%	N	%	N	%	N	%
Total	**602,976**	**45.4%**	**608,930**	**45.8%**	**68,057**	**5.1%**	**48,478**	**3.6%**
Crittenden	22,413	44.7%	25,645	51.1%	1,094	2.2%	1,020	2.0%
DeSoto	114,442	68.8%	38,200	23.0%	8,250	5.0%	5,374	3.2%
Marshall	17,761	48.5%	17,232	47.0%	1,209	3.3%	434	1.2%
Tate	18,702	65.5%	8,746	30.6%	681	2.4%	428	1.5%
Tunica	2,278	21.5%	7,953	75.1%	139	1.3%	213	2.0%
Fayette	26,365	68.2%	10,713	27.7%	932	2.4%	654	1.7%
Shelby	354,076	37.8%	489,400	52.3%	54,305	5.8%	38,349	4.1%
Tipton	46,939	76.4%	11,041	18.0%	1,447	2.4%	2,006	3.3%

Data Source: U.S. Census Bureau, 2010-2014 5-Year American Community Survey.

A4. Sex and Age

The American Community Survey (ACS) 2010-2014 five - year estimate shows that 48% of Memphis TGA residents (637,455) were male and 52% were female (690,986). The age distribution for males and females in the Memphis TGA is similar. However, a greater proportion of females (12.6%) were aged 65 and older compared to males (9.8%). This shows that average life span of the female population is relatively longer (3%) than male population. More than one-third (36%) of the population is less than 25 years of age (**Table A-2).** The median age was 35 years.

Table A-2: Memphis TGA Population by Sex and Age, 2014

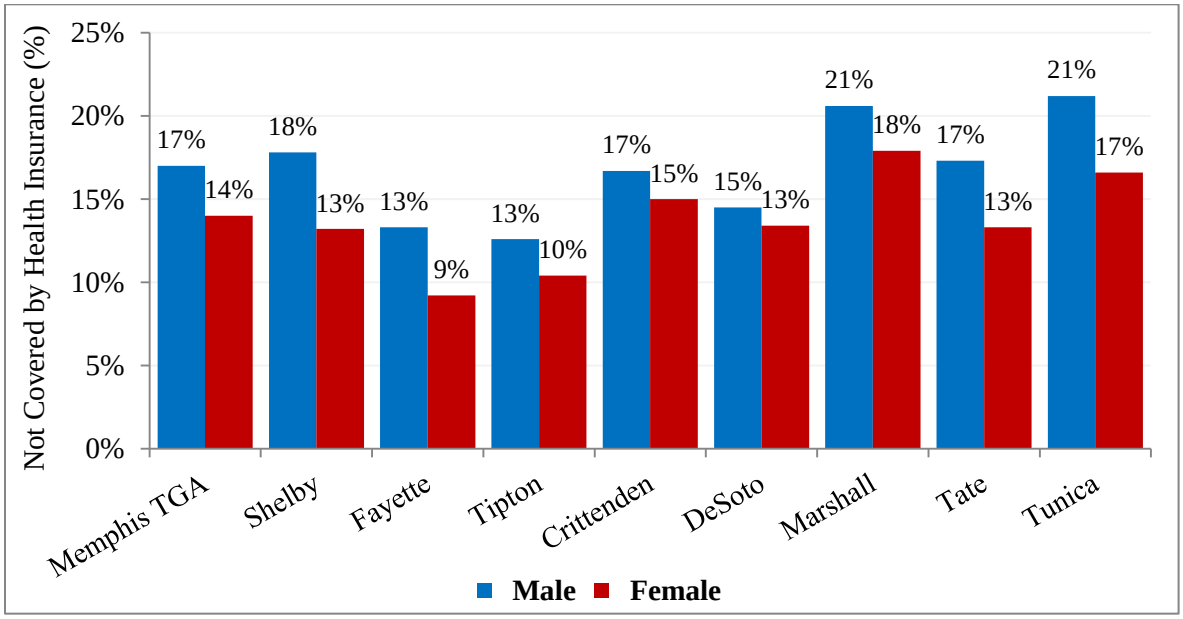
	Male		Female		Total	
	N	%	N	%	N	%
Total	**637,455**	**48.0%**	**690,986**	**52.0%**	**1,328,441**	**100%**
Age Group						
0 to 9 years	94,733	14.9%	91,940	13.3%	186,662	14.1%
10 to 14 years	50,165	7.9%	48,495	7.0%	98,815	7.4%
15 to 24 years	95,998	15.1%	95,242	13.8%	191,265	14.4%
25 to 34 years	87,737	13.8%	94,466	13.7%	181,803	13.7%
35 to 44 years	84,799	13.3%	91,756	13.3%	176,213	13.3%
45 to 54 years	87,447	13.7%	97,363	14.1%	184,218	13.9%
55 to 64 years	74,400	11.7%	85,352	12.4%	159,771	12.0%
65 + years	62,618	9.8%	86,998	12.6%	148,884	11.2%

Data Source: U.S. Census Bureau, 2010-2014 5-Year American Community Survey.

A5. Health Insurance

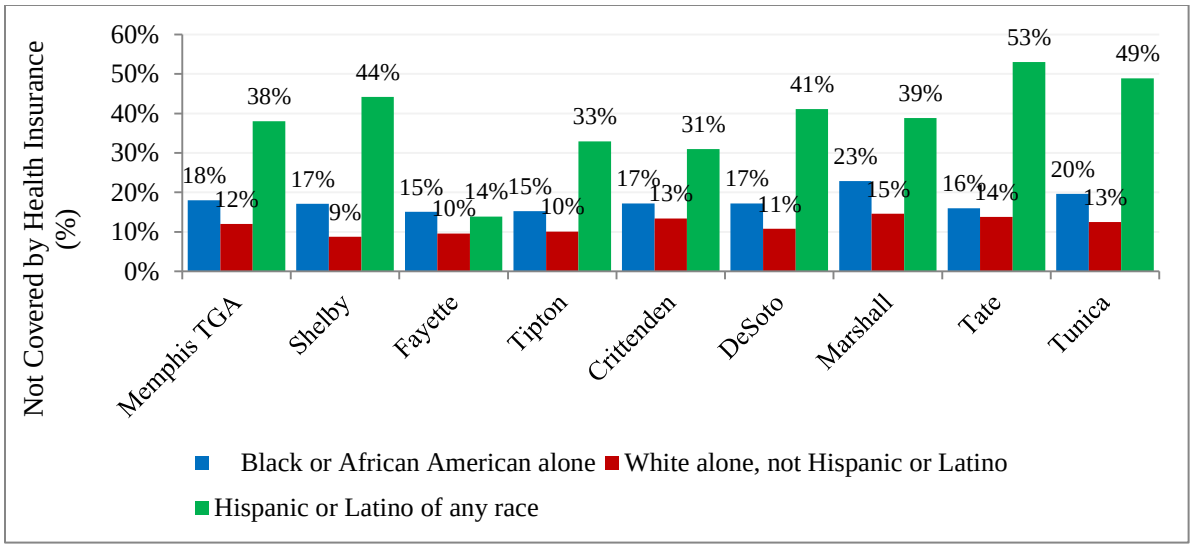
More males (17%) were uninsured as compared to females (14%) among the residents of Memphis TGA in 2014. The largest percentages of uninsured males and females were among the residents of Tunica County in north Mississippi **(Figure A-1)**. Minorities also represent higher percentages of persons not covered by health insurance, 18% of Black/African Americans and 38% of Hispanics were not covered as compared to 12% of Non-Hispanic Whites in the Memphis TGA **(Figure A-2)**.

Figure A- 1: Memphis TGA Residents Not Covered by Health Insurance by Sex, 2014



Data Source: U.S. Census Bureau, 2010-2014 5-Year American Community Survey.

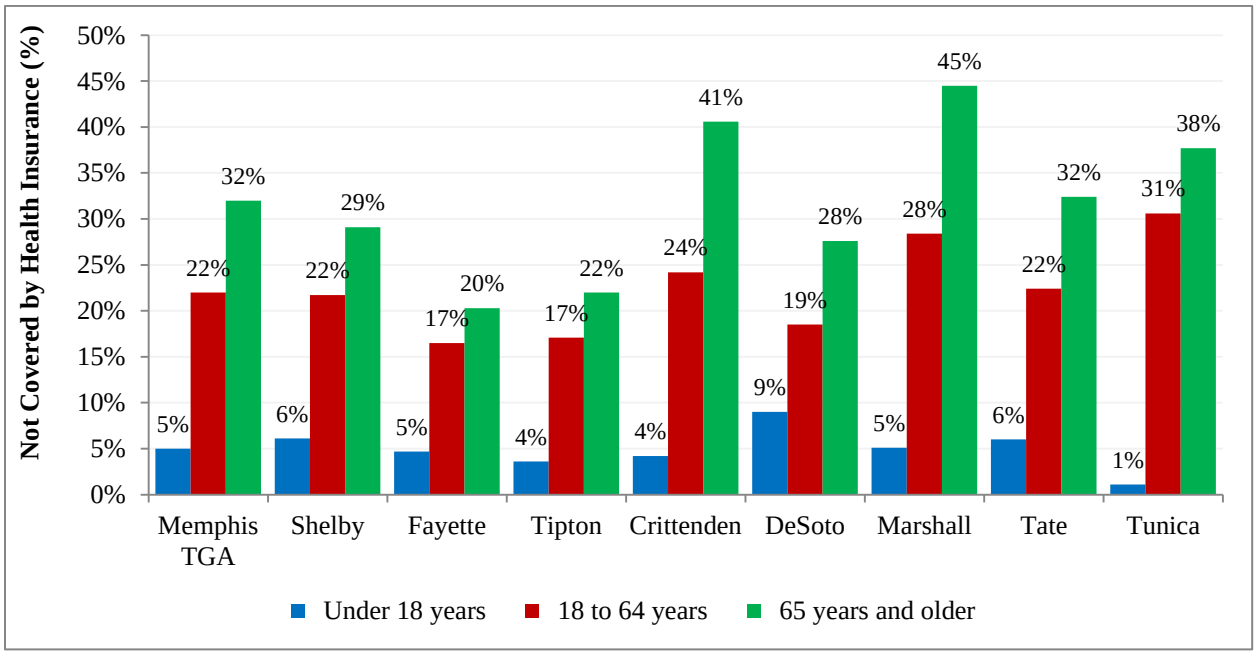
Figure A- 2: Memphis TGA Residents Not Covered by Health Insurance by Race/Ethnicity, 2014



Data Source: U.S. Census Bureau, 2010-2014 5-Year American Community Survey.

In the end of 2014, 22% of all adults aged 18-64 years in the Memphis TGA did not have health insurance coverage, while 5% of children and adolescents and less than 32% of adults aged 65 years and older did not have health insurance. More than 33% of adults aged 18 to 64 years are not covered by health insurance in Marshall County, MS; Crittenden County, AR (24%); and Shelby County. TN (22%). The largest percentage of children and adolescents not covered by insurance are reported in DeSoto, MS (9.0%), followed by Shelby, TN (6%) and Tate County, MS (6%).

Figure A- 3: Memphis TGA Residents Not Covered by Health Insurance by Age Group, 2014



Data Source: U.S. Census Bureau, 2010-2014 5-Year American Community Survey.

A6. Educational Attainment

In the Memphis TGA, approximately 14% of persons aged 25+ years old have not achieved a high school diploma (**Table A-3**). A larger percentage of adult females have attained a high school graduate degree or higher (87.5%) than males (84.5%). Approximately 26.4% of all Memphis TGA residents have obtained a bachelor's degree or higher.

Table A-3: Educational Attainment among Memphis TGA Residents Aged 25+ Years by Sex, 2014

	Total	Male	Female
Education Attainment	851,877	396,139	455,738
Less than high school graduate	13.9%	15.5%	12.5%
High school graduate (includes equivalency)	29.0%	30.4%	27.7%
Some college, associate's degree	30.8%	28.5%	32.7%
Bachelor's degree or higher	26.4%	25.6%	27.0%

Data Source: U.S. Census Bureau, 2010-2014 5-Year American Community Survey.

A7. Poverty Level

Approximately 19% of all residents in the Memphis TGA are living below the poverty level (**Table A-4**). Children and adolescents are disproportionately impacted by poverty; approximately 29% of all residents under the age of 18 years are living in poverty.

Twenty-one percent (21%) of all Memphis TGA females are living below the poverty level, as compared to 18% of males. Minorities are also largely impacted by high rates of poverty; almost 29% of Black/African American residents. In Shelby County, TN 36% of Hispanic/Latino residents are living below the poverty level.

Table A-4: Memphis TGA Residents Below the Poverty Level by Selected Demographics, 2014

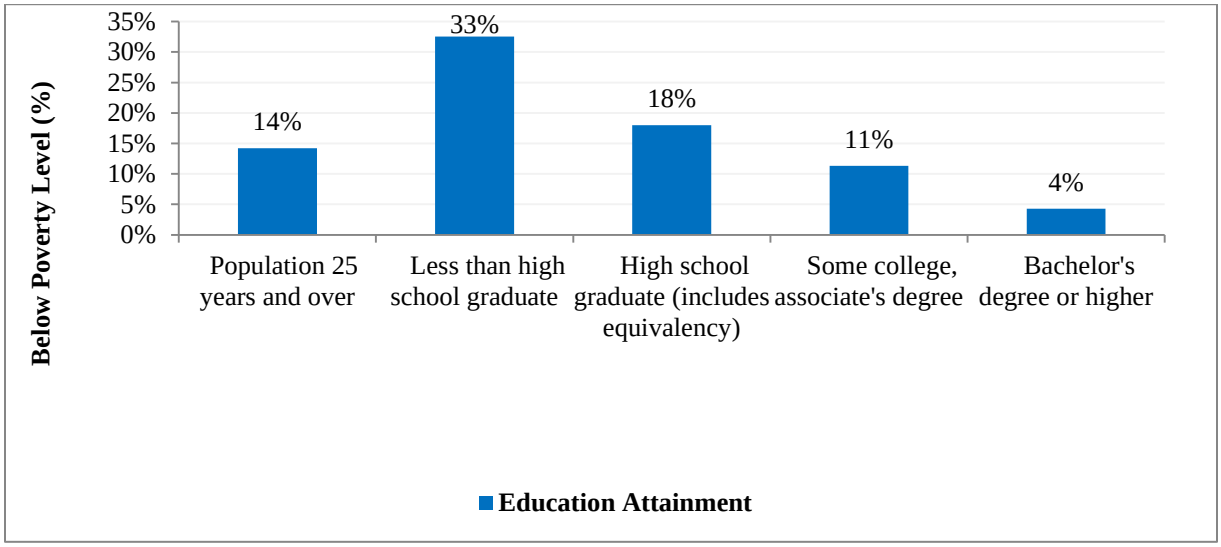
	Population Poverty Status is determined	# of People Below Poverty	% of People Below Poverty
Total	**1,303,121**	**252,486**	**19%**
Age			
Under 18 years	340,538	98,949	**29%**
Related children under 18 years	338,851	97,382	29%
18 to 64 years	817,007	137,789	17%
65 years and over	145,576	15,748	11%
Sex			
Male	621,773	109,712	18%
Female	681,348	142,774	**21%**
Race/Ethnicity			
White alone, not Hispanic or Latino	593,956	49,442	8%
Black or African American	596,718	172,467	**29%**
Hispanic or Latino origin (of any	67,057	23,883	**36%**
Others	45,390	6,694	15%

Data Source: U.S. Census Bureau, 2010-2014 5-Year American Community Survey.

A8. Effects of Education Attainment on Poverty level

As educational attainment increases, the percentage of poverty decreases. Among the TGA residents aged 25 years and older, one third of them (33%) are living in below the poverty level who did not graduate high school compared with 4% living in below the poverty level who earned Bachelor's or higher degree (**Figure A-4**).

Figure A-4: Memphis TGA Residents Below the Poverty Level Among the Population 25 years and Over by Educational Status, 2014



Data Source: U.S. Census Bureau, 2010-2014 5-Year American Community Survey.

B. Scope of the HIV/AIDS Epidemic in the Memphis TGA

B1. Introduction

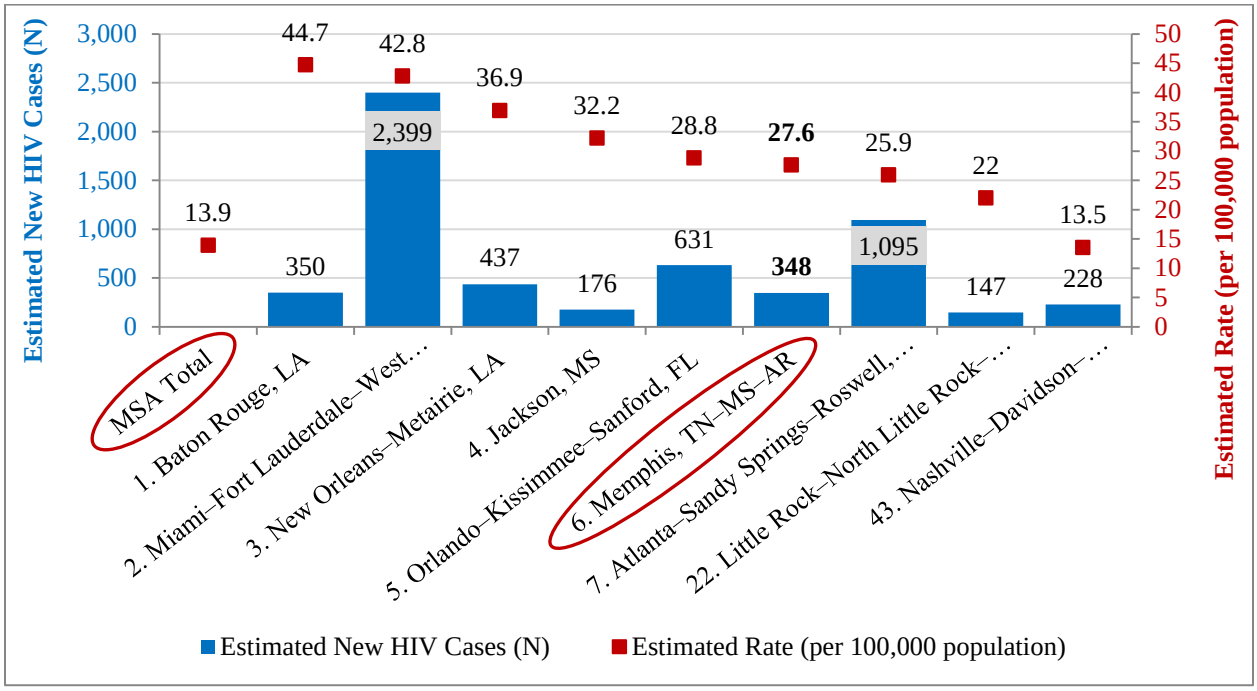
Health Resources Services Administration (HRSA) requires Ryan White programs to compile an epidemiological profile that describes HIV/AIDS incidence, prevalence, trends and population changes. The HIV/AIDS epidemic has affected people of all gender, age and racial/ethnic groups in the Memphis TGA. This effect, however, has not been the same for all groups. The Shelby County Health Department Epidemiology Section was consulted to collect data from several sources to create an overall Memphis TGA epidemiological profile presented.

All epidemiological data presented in this section were exported from the TN Enhanced HIV/AIDS Reporting System (eHARS) and Ryan White CAREWare System and requested from the Shelby County Health Department, the Tennessee Department of Health, the Mississippi Department of Health and the Arkansas Department of Health. Data were drawn from the U.S. Census[1], the 2012 Memphis TGA Ryan White HIV/AIDS Comprehensive Care Needs Assessment[2], the 2011 Ryan White Housing Needs Assessment[3], 2015 Ryan White Data Reports, locally published studies, and other sources as referenced.

Please note that due to the ongoing limitation of availability and reliability of data from the Mississippi and Arkansas Departments of Health, a number of the sections in this plan only relay information from the three West Tennessee counties (Shelby, Fayette and Tipton). While this information was requested multiple times from the Mississippi and Arkansas Departments of Health, it was not received in time to be included in the submission of this Plan.

While the number of new infections in the nation has remained relatively stable, newly diagnosed cases in the Memphis TGA have shown overall decline in the past five years (**Figure B-6**); however, the TGA incidence rate remains above the national figures. According to the Centers for Disease Control and Prevention (CDC) 2014 HIV Surveillance Report, the Memphis TGA ranked 6th in the nation for the rate of new HIV infections (**Figure B-1**) among the metropolitan statistical areas (MSAs) of residence in the United States in 2014[4].

Figure B-1: Rates and Ranks of New HIV Infection by Metropolitan Statistical Area, United States, 2014



Data Source: Centers for Disease Control and Prevention. HIV Surveillance Report, 2014; vol. 26.

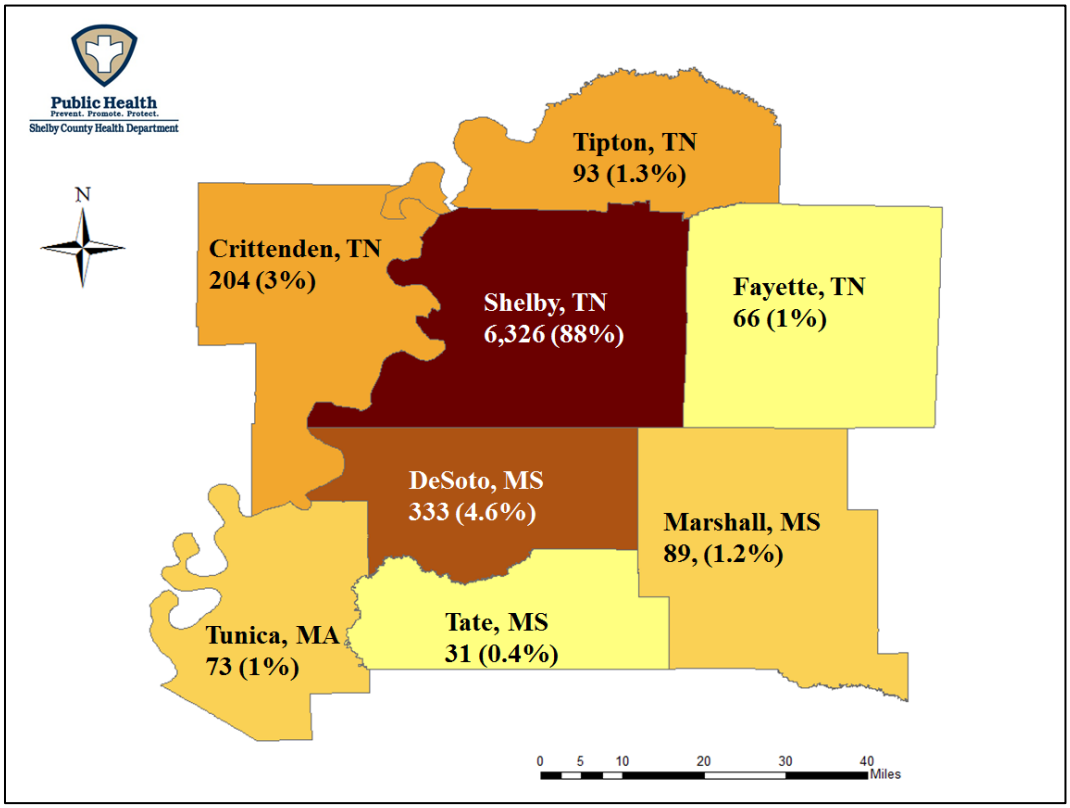
The estimated new HIV infection rate (27.6 per 100,000 population) in the Memphis MSA was more than two times higher than the estimated new HIV infection rate (13.9 per 100,000) population among all MSAs in the United States in 2014.

The estimated HIV and AIDS prevalence rate in the Memphis MSA respectively (543.5 and 250.3 per 100,000 population) were approximately two times greater than the estimated HIV prevalence rate and 1.5 times greater than the AIDS prevalence rate in the United States MSA (297.6 and 164.7 per 100,000 population) respectively in 2014[4].

B2. HIV and AIDS Prevalence (PLWHA) in the Memphis TGA as of 2015

As new HIV disease cases are being diagnosed each year and anti-retroviral treatment has become increasingly available, the prevalence of persons living with HIV/AIDS in the Memphis TGA continues to rise. As detailed in **Map B-1**, a total of 7,212 individuals were estimated to be living with HIV disease at the end of 2015. Shelby County accounts for the largest number of persons living with HIV/AIDS among the TGAs in Tennessee, and approximately 88% of all PLWHA in the Memphis TGA reside in Shelby County. DeSoto County in Mississippi accounts for the second largest PLWHA population (4.6%) followed by Crittenden County, Arkansas (2.8%).

Map B-1: People Living With HIV/AIDS by Counties in the Memphis TGA, 2015

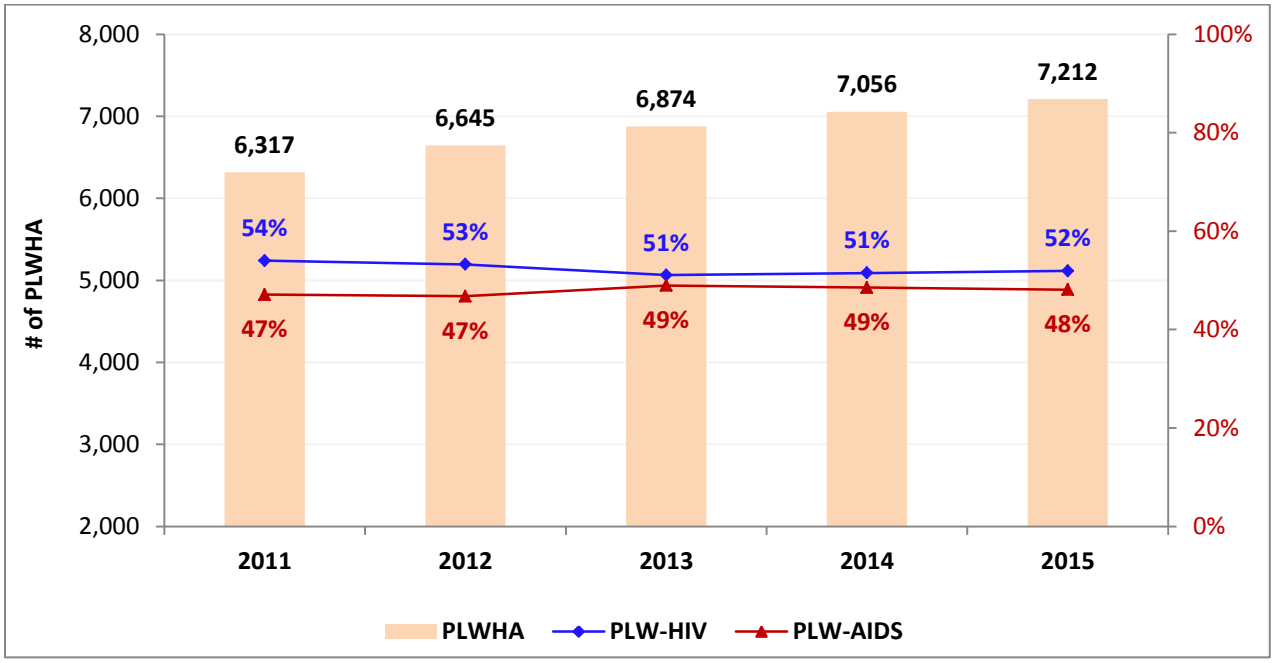


Source: Shelby County Health Department, Epidemiology Section (2) Mississippi Department of Health, STD/HIV Office (3) Arkansas Department of Health, HIV/AIDS Registry Section.

Of the 7,212 individuals estimated to be living with HIV disease at the end of 2015, 48% (n=3,565) of these individuals were classified as AIDS (**Figure B-2**).

- The overall percentage of persons living with HIV infection stage 3 (AIDS) has gradually increased from 47% in 2011 to 49% in 2013 then decreased to 48%. This is due to the effective care, treatment, and lower number of deaths among the PLWHA than new HIV cases each year.
- The overall percentages of people living with HIV not AIDS steadily decreased from 54% in 2011 to 52% in 2015. This decrease is partly due to overall decreasing of HIV incidence in Memphis TGA; 399 new cases in 2011 to 314 new case in 2015 **(Table B-7).**

Figure B-2: Trends of Persons Living with HIV/AIDS in the Memphis TGA, 2011– 2015



*Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR; *: Preliminary data subject to change*

Almost 68% of people living with HIV or AIDS in the Memphis TGA are male. The majority is Non-Hispanic Black (82%), followed by Non-Hispanic White (13%) and 2% Hispanic/Latino. Almost 48% of persons living with HIV or AIDS were 45 years of age and older at the end of 2014. Fifty two percent (52%) of all females living with HIV or AIDS are within the child-bearing range of 13 to 44 years of age (**Table B-1**).

Forty two percent (42%) of all PLWHA account their risk exposure to Men who have Sex with Men (MSM) contact, 32% to heterosexual contact, 19% have an unidentified risk transmission exposure, 3% to intravenous drug use (IDU), 2% MSM/IDU, and 2% through blood transfusion and perinatal exposure. A higher percentage of females living with HIV or AIDS are non-Hispanic Black (87%) compared to males (80%). The vast majority of HIV-infected women have heterosexual risk (70%), IDU (4%) and 23% have an unidentified risk exposure.

Among males, 61% of the cases are attributed to the risk category MSM, followed by heterosexual risk (15%), MSM/IDU (2%), IDU (3%), and 18% have an unidentified exposure. Cases associated with the No Identified Risk (NIR)/Other risk category could indicate two things: that these were newer cases which have not yet had a full surveillance investigation, or that these were older cases that are lost to follow-up with no risk established. However, the CDC believes that unidentified risk among women may be assigned because no sexual partners who were known to be HIV-infected or high-risk for HIV could be identified. For males, it is also likely that some percent of those individuals with unidentified risk do not report MSM contact due to stigma.

Table B-1: Prevalence of HIV or AIDS, Demographic Characteristics by Sex, Memphis TGA, as of 2015

Demographic Groups/ Characteristics	Male		Female		Total	
	N	%	N	%	N	%
Total	4,918	68%	2,294	32%	7,212	100%
Race/Ethnicity						
White, not Hispanic	722	15%	185	8%	907	13%
Black, not Hispanic	3,925	80%	2,001	**87%**	5,926	82%
Hispanic	132	3%	44	2%	176	2%
Other Race, not Hispanic	139	3%	64	3%	203	3%
Current Age Group as of 2015 (years)						
0 - 14 years	19	0%	36	2%	55	1%
15 - 19 years	43	1%	30	1%	73	1%
20 - 24 years	296	6%	70	3%	366	5%
25 - 34 years	1,079	22%	422	18%	1,501	21%
35 - 44 years	1,078	22%	692	30%	1,770	25%
45 - 54 years	1,402	29%	627	27%	2,029	28%
55+ years	1,001	20%	417	18%	1,418	20%
Exposure Category						
MSM	3,016	61%	0	0%	3,016	42%
Heterosexuals	735	15%	1,600	70%	2,335	32%
Injection drug users	129	3%	103	4%	232	3%
MSM & IDU	111	2%	0	0%	111	2%
Other/hemophilia/blood transfusion	60	1%	71	3%	131	2%
Risk not reported or identified	867	18%	520	23%	1,387	19%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

B3. Persons Living With HIV/AIDS in Shelby County, Tennessee

Eighty eight percent (80%) of all persons living with HIV or AIDS in the Memphis TGA reside within Shelby County **(Map B-1)**. As such, demographic frequencies are similar to those previously discussed in the TGA demographic section of persons living with HIV/AIDS. The majority of the PLWHA population in Shelby County was males (68%). Among males, 81% are Non-Hispanic Black, 50% are above age 45, and 61% reported MSM contact as a risk exposure. Among females, 89% are Non-Hispanic Black, 52% are between the child-bearing ages of 15-44 years, and 71% reported heterosexual contact as a risk exposure. The percentage of undetermined risk exposure among all males and females living in Shelby County is 19% at the end of 2015.

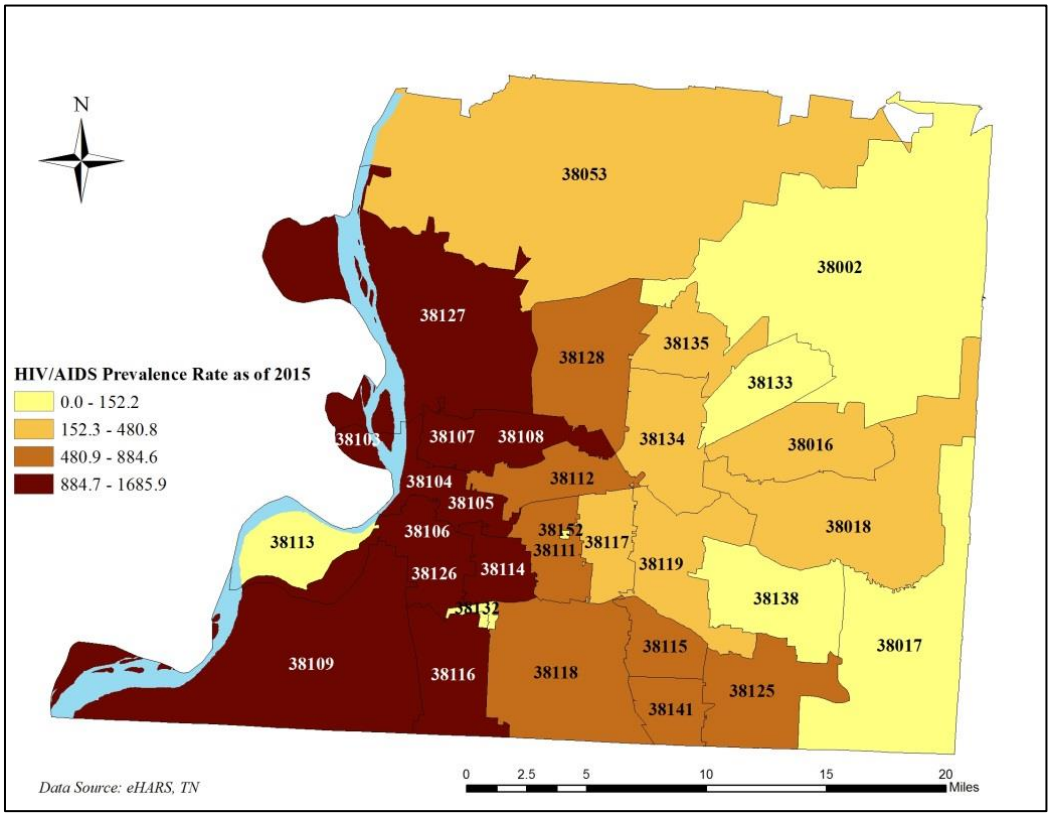
Table B-2: Persons Living with HIV/AIDS by Geographic Residence and Demographics/Risk Exposure Category, Shelby County, 2015

	Male		Female		Total	
	N	%	N	%	N	%
Total	4,321	68%	2,005	32%	**6,326**	100%
Race/Ethnicity						
White, Not Hispanic	577	13%	121	6%	698	11%
Black, Not Hispanic	3,504	81%	1,787	**89%**	5,291	84%
Hispanic, All Races	118	3%	39	2%	157	2%
Other, Not Hispanic	122	3%	58	3%	180	3%
Current Age Group as of 2015						
0 to 14	18	0%	33	2%	51	1%
15 to 19	34	1%	19	1%	53	1%
20 to 24	243	6%	57	3%	300	5%
25 to 34	940	22%	347	17%	1,287	20%
35 to 44	933	22%	623	31%	1,556	25%
45 to 54	1,242	29%	547	27%	1,789	28%
55+	911	21%	379	19%	1,290	20%
Risk/Exposure						
Male Sex with Male	2,638	**61%**	NA	NA	2,638	42%
Heterosexual Contact	675	16%	1,433	**71%**	2,108	33%
MSM/IDU	87	2%	NA	NA	87	1%
IDU	110	3%	78	4%	188	3%
Perinatal Exposure	38	1%	60	3%	98	2%
Hemophilia/blood transfusion	16	0%	6	0%	22	0%
Not Identified	757	18%	428	21%	1,185	19%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN.

Map B-3 displays the majority of persons living with diagnosed HIV infection are concentrated in north west and south west part of Shelby County where Memphis city area limits; zip codes within the North Memphis, Whitehaven, Westwood and the downtown areas report the highest burden with rates of (885-1685 per 100,000 persons). The rates of persons living with diagnosed HIV infection in these zip code areas are 3-5 times higher than that of MSAs total (293 per 100,000 persons) in the nation.

Map B-3: Rates (per 100,000 persons) of PLWHA in Shelby County, Tennessee, as of 2015



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

B4. Persons Living with HIV/AIDS in Fayette and Tipton Counties, Tennessee

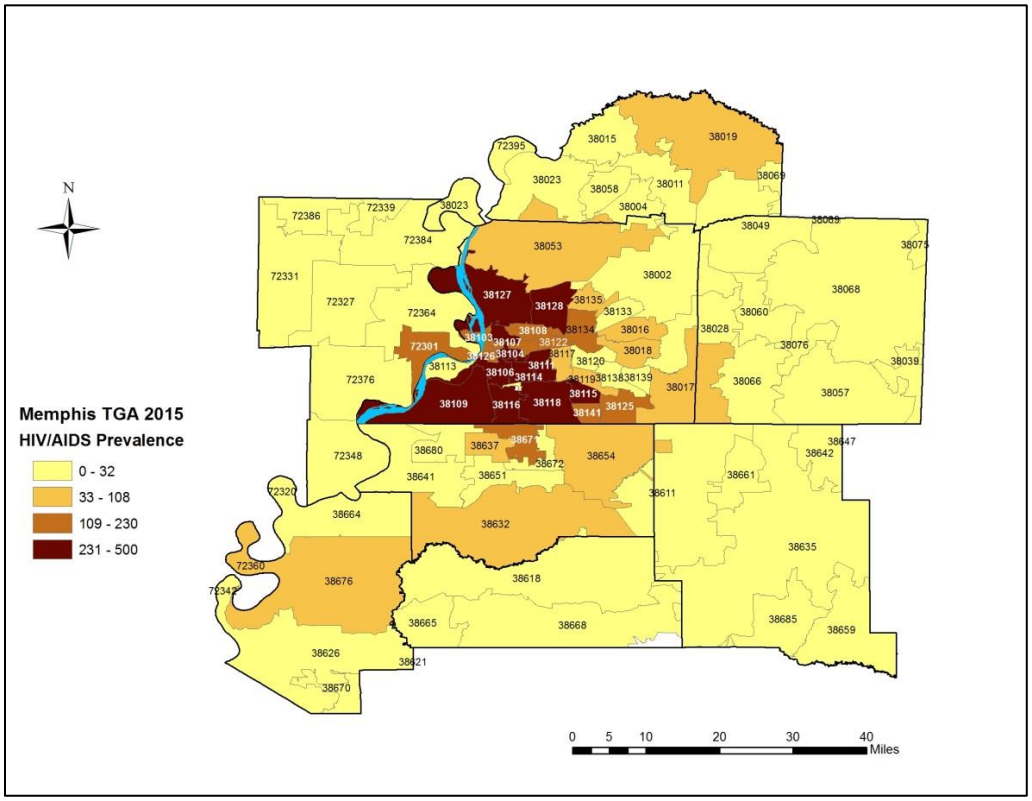
At the end of 2015, 159 individuals were reported to be currently living with HIV or AIDS in Fayette and Tipton Counties, which comprises 2% of PLWHA in Memphis TGA **(Table B-3)**. Approximately 70% of these individuals were male. Additionally, 32% of all persons living with HIV or AIDS in Fayette and Tipton counties were Non-Hispanic White and 62% were Non-Hispanic Black, which also differs from the proportion of PLWH in Memphis TGA (13% and 82%, respectively). Reported risk exposure is similar to the overall TGA distribution: 42% reported MSM contact, 31% heterosexual contact and 15% had undetermined risk. The number of persons living with HIV/AIDS in Fayette and Tipton were spread across all age groups: 20-24 years (5%), 25-34 years (18%), 35-44 years (24%), 45-54 years (29%), and 55+ years (21%).

B5. Persons Living with HIV/AIDS in Northern Mississippi

Approximately 7% (n=523) of all persons living with HIV/AIDS in the Memphis TGA were residing in the four Northern Mississippi counties at the end of 2015 **(Table B-3)**. The majority reside within DeSoto County (n=333), followed by Marshall County (n=89), Tunica County (n=73) and Tate County (n=31) **(Map B-1)**. The zip code, 38671, in DeSoto County has the highest concentration of PLWHA (109 – 230 cases) among those four counties in Mississippi. **(Map B-2)**. Approximately 69% of the Northern Mississippi PLWHA population was male, and 31% were female, which mirrors the overall TGA PLWHA

population distribution **(Table B-2)**. The majority are Non-Hispanic Black (70%) followed by Non-Hispanic White (25%), and 2% are Hispanic. As similarly reported in the Memphis TGA, 46% attribute MSM contact as a risk exposure, 4% attribute IDU, and 3% both MSM and IDU. A smaller percentage of heterosexual contact is reported (19%) as compared to the Memphis TGA, but this is likely due to a larger number of cases that have undetermined risk (28%). The number of persons living with HIV/AIDS in Northern Mississippi is spread across all age groups: 20-24 years (6%), 25-34 years (21%), 35-44 years (24%), 45-54 years (31%), and 55+ years (17%).

Map B-2: Persons Living with HIV/AIDS by Zip Code, Memphis TGA, 2015



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

B6. Persons Living with HIV/AIDS in Crittenden County, Arkansas

At the end of 2015, 204 individuals were reported to be living with HIV or AIDS in Crittenden County, Arkansas, which accounts for approximately 3% of the entire Memphis TGA PLWHA population **(Map B-1)**. Crittenden County has the largest percentage of females living with HIV disease in the Memphis TGA; 38% of all PLHWA were female and 62% were male **(Table B-3)**. Approximately 83% were non-Hispanic Black and 13% are non-Hispanic White. The highest percentage of heterosexual contact (39%) and IDU (11%) is reported in Crittenden County, while MSM contact (35%) and undetermined risk (14%) are the lowest in the Memphis TGA. The number of persons living with HIV/AIDS in Crittenden County is spread across all age groups: 20-24 years (13%), 25-34 years (36%), 35-44 years (24%), 45-54 years (16%), and 55+ years (3%). **Map B-2** shows that the highest number of PLWHA is concentrated on the zip code area 72301, which is the border area of the West Memphis.

Table B-3: Persons Living with HIV/AIDS by Geographic Residence and Demographics/Risk Exposure Category, Memphis TGA, 2015

Demographic Groups/ Characteristics	North MS 4 Co.		Crittenden, AR*		Fayette & Tipton		Shelby		TGA Total	
	N	%	N	%	N	%	N	%	N	%
Total	**523**	**7%**	**204**	**3%**	**159**	**2%**	**6,326**	**88%**	**7,212**	**100%**
Gender/Sex										
Male	359	69%	127	62%	111	70%	4,321	68%	4,918	68%
Female	164	31%	77	38%	48	30%	2,005	32%	2,294	32%
Race/Ethnicity										
White, Not Hispanic	131	25%	27	13%	51	32%	698	11%	907	13%
Black, Not Hispanic	367	70%	170	83%	98	62%	5,291	84%	5,926	82%
Hispanic, All Races	10	2%	7	3%	2	1%	157	2%	176	2%
Other, Not Hispanic	15	3%	0	0%	8	5%	180	3%	203	3%
Current Age Group as of 2015 (years)										
0 to 14	0	0%	0	0%	4	3%	51	1%	55	1%
15 to 19	4	1%	16	8%	0	0%	53	1%	73	1%
20 to 24	31	6%	27	13%	8	5%	300	5%	366	5%
25 to 34	112	21%	73	36%	29	18%	1,287	20%	1,501	21%
35 to 44	127	24%	49	24%	38	24%	1,556	25%	1,770	25%
45 to 54	162	31%	32	16%	46	29%	1,789	28%	2,029	28%
55+	87	17%	7	3%	34	21%	1,290	20%	1,418	20%
Risk/Exposure										
Male Sex with Male	239	46%	72	35%	67	42%	2,638	42%	3,016	42%
Heterosexual Contact	99	19%	79	39%	49	31%	2,108	33%	2,335	32%
IDU	19	4%	19	9%	6	4%	188	3%	232	3%
MSM/IDU	14	3%	5	2%	5	3%	87	1%	111	2%
Hemophilia/blood transfusion/Other	3	1%	0	0%	8	5%	120	2%	131	2%
No Identified	149	28%	29	14%	24	15%	1,185	19%	1,387	19%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

B7. AIDS Prevalence

As of 2015, 69% of people living with AIDS (stage-3 HIV infections) in the Memphis TGA were male. The majority was Non-Hispanic Blacks (77%), followed by Non-Hispanic Whites (12%) and 3% Hispanic/Latino (**Table B-4**).

Forty two percent (42%) of all persons living with AIDS account their risk exposure to MSM contact, 31% to heterosexual contact, and 20% have an unidentified risk transmission exposure. A higher percentage of females living with AIDS are Non-Hispanic Black (87%) compared to Non-Hispanic Black males (77%). The vast majority of HIV-infected women have heterosexual risk (70%), IDU (6%) and 20% have an unidentified risk exposure. Among males, 63% of the cases are attributed to MSM, followed by heterosexual risk (15%), MSM/IDU (3%), IDU (3%), and 15% have an unidentified exposure.

Table B-4: Prevalence of AIDS, Demographic Characteristics by Sex, Memphis TGA, as of 2015

	Male (69%)		Female (31%)		Total	
	N	%	N	%	N	%
Total	2,388	70%	1,045	30%	3,433	100%
Race/Ethnicity						
White, not Hispanic	365	15%	66	6%	431	13%
Black, not Hispanic	1,853	78%	922	88%	2,775	**81%**
Hispanic	73	3%	20	2%	93	3%
Other Race	97	4%	37	4%	134	4%
Current Age (as of 2015)						
0 - 14 years	2	0%	3	0%	5	0%
15 - 19 years	10	0%	9	1%	19	1%
20 - 24 years	93	4%	34	3%	127	4%
25 - 34 years	349	15%	154	15%	503	15%
35 - 44 years	531	22%	327	31%	858	25%
45 - 54 years	805	34%	315	30%	1,120	33%
55+ years	598	25%	203	19%	801	23%
Risk/Exposure Category						
Men who have sex with men	1,486	**62%**	NA	NA	1,486	43%
Heterosexuals	371	16%	750	72%	1,121	33%
Injection drug users (IDU)	74	3%	65	6%	139	4%
MSM&IDU	73	3%	NA	NA	73	2%
hemophilia/blood transfusion	26	1%	20	2%	46	1%
Risk not identified	358	15%	210	20%	568	17%

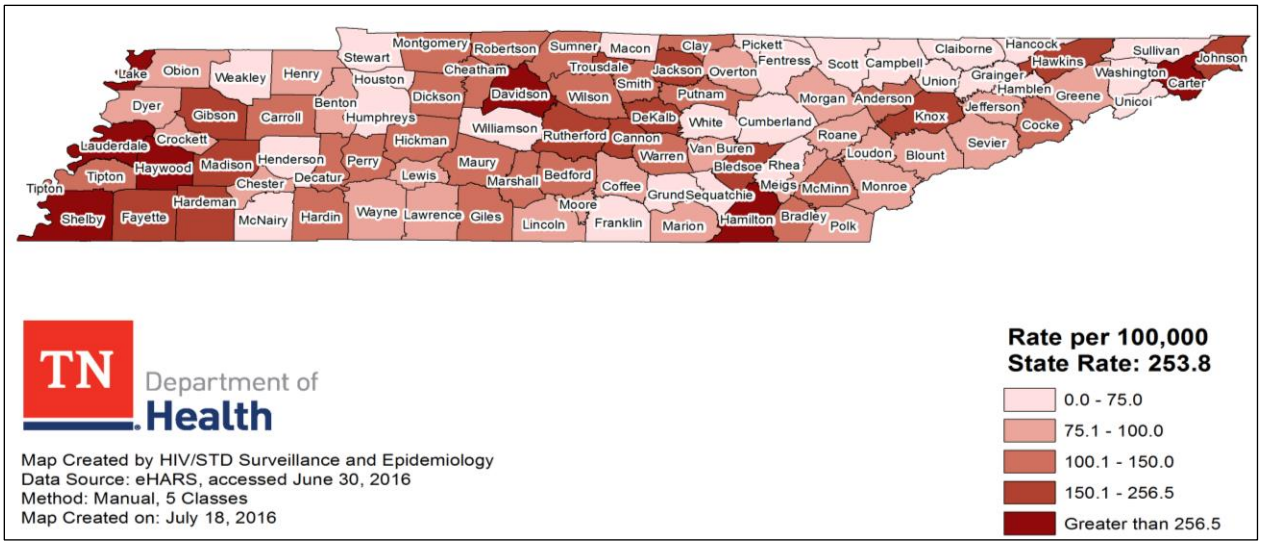
Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

Snapshot of Tennessee Prevalence Data:

- Of the 16,754 persons living with HIV at the end of 2015 in the State of Tennessee, 73.6 % were male.
- The rate of those living with HIV disease was 3.0 times as high among males compared to females.
- Blacks/African Americans represented the largest proportion of living HIV disease cases (56.6%) and had a rate that was 7.1 times as high as the rate among whites.
- Among males, the rate of living cases among blacks/African Americans was 6.0 times as high as among whites.
- Among females, the rate of living cases among blacks/African Americans was 13.5 times as high as among whites.
- Blacks/African Americans represent the largest proportion of transgender persons living with HIV disease (63.8%).
- The greatest proportion of living HIV disease cases were persons 45-54 years of age (32.4%)

Source: TDOH 2015 HIV Epidemiological Profile

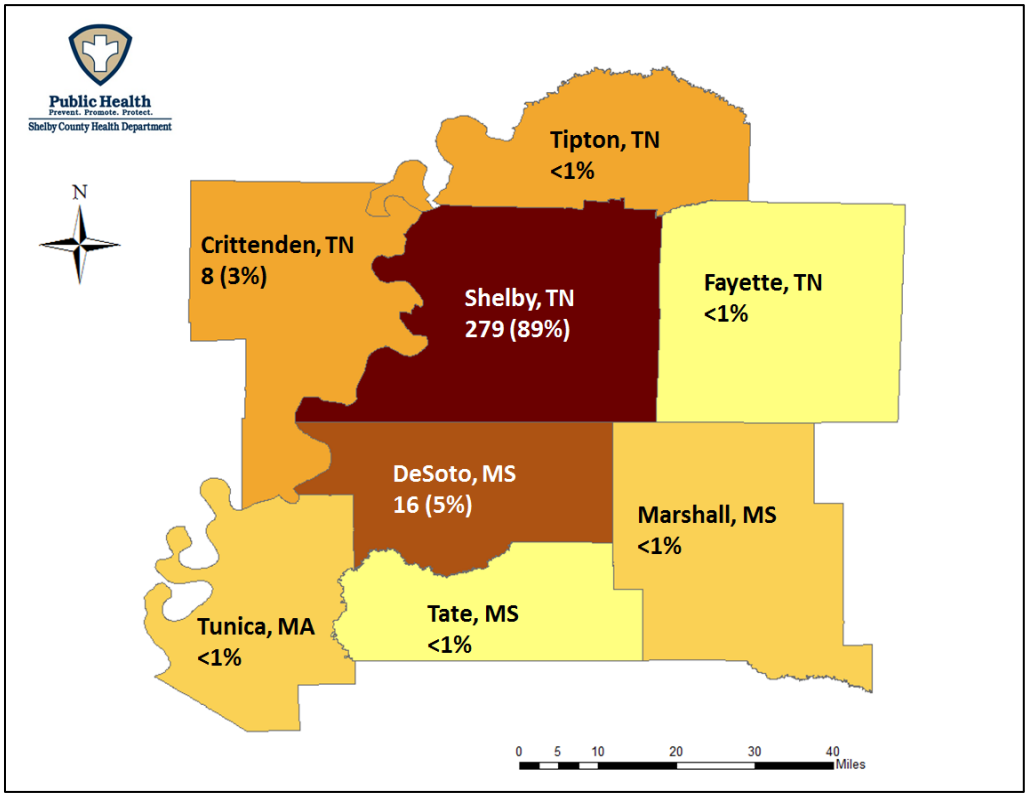
Map B-3 Prevalence Rates in Tennessee for 2015



B8. HIV Disease Incidence in the Memphis TGA

Incidence is a term commonly used in epidemiology to refer to newly diagnosed cases. Incidence may be defined over a period of time that the new cases were diagnosed. For the purposes of this report, incidence reflects cases diagnosed 2011 throughout 2015, and newly diagnosed AIDS (Stage-3 HIV infection) cases include both previously diagnosed HIV cases that have progressed to AIDS as well as newly identified AIDS cases that have not been previously identified as HIV positive.

Map B-4: HIV Disease Incidence in the Memphis TGA by County, 2015



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR

In 2015, there were 314 newly diagnosed HIV disease cases in the Memphis TGA. Among all newly diagnosed HIV cases, 89% (n=278) were diagnosed among Shelby County residents, while 5% were among DeSoto County residents, 3% among Crittenden County residents, and less than five cases were reported in each of the remaining West Tennessee and Northern Mississippi counties (**Map B-4)**.

Overall, the estimated numbers of new HIV infections have been decreasing from 425 in 2012 to 314 in 2015 in the Memphis TGA. The new HIV diagnosis (n=314) represents a 21% decrease in 2015 compared to the new HIV cases (n=399) in 2011 **(Table B-4)**. The number of new HIV disease cases diagnosed among DeSoto, Crittenden, and Fayette county residents have remained relatively stable over the past three years.

Table B-4: Newly Diagnosed HIV Disease Cases by County, Memphis TGA, 2011-2015

	2011	2012	2013	2014	2015*
Memphis TGA	**399**	**425**	**344**	**339**	**314***
Shelby, TN	352	383	299	288	279
DeSoto, MS	17	20	17	23	16
Crittenden, AR	8	5	9	8	8*
Fayette, TN	7	13	7	10	<5*

*Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, A. *: Preliminary data subject to change*
***: Tipton County, TN and Marshall, Tate, and Tunica Counties, MS routinely report less than five cases and are not listed but are included in the overall Memphis TGA total. Case counts of less than five have been suppressed for statistical reliability and confidentiality guidelines. Additional cells greater than five may be suppressed to prohibit back-calculation. Data is considered provisional and subject to change.*

Table B-5 shows the characteristics of persons diagnosed with HIV between 2011 and 2015. The majority were male, Non-Hispanic Blacks, age 15-34 years and MSM. Race/ethnicity distributions were fairly similar year to year from 2011 to 2015, but data for recent years suggest small increases in proportions of Non-Hispanic Blacks. The proportion of new diagnoses among persons aged 45-54 years decreased by 7%. However, the new HIV diagnosis among adolescents and the young adults age 15-34 were increased from 49% in 2011 to 63% in 2015. The majority of new cases (50%) were infected through male sex with male (MSM) exposure in 2014. Proportions of diagnoses among heterosexual contact, the second largest transmission category, remained relatively stable with 38% since 2011. Unidentified risk/exposure decreased from 16% in 2011 to 11% in 2014. This is due to the improvement of documentation of the risk exposure among the new HIV infections. However, the preliminary data in 2015 shows increased proportion of unidentified risk (28%).

Table B-5: Proportions of new HIV Cases by demographic characteristics, Memphis TGA, 2011-2015

	Year of Initial HIV Diagnosis				
	2011	**2012**	**2013**	**2014**	**2015**
Total	**399**	**425**	**344**	**3,39**	**314***
Gender					
Male	69%	70%	74%	74%	79%
Female	29%	28%	23%	26%	21%
Race/Ethnicity					
White, not Hispanic	9%	13%	10%	12%	10%
Black, not Hispanic	80%	78%	78%	81%	86%
Hispanic	3%	3%	3%	3%	4%
Other Race/ Not Specified	6%	5%	6%	4%	0%
Age at Diagnosis (Years)					
0 - 14 years	1%	<1%	<1%	1%	<1%
15 - 19 years	7%	8%	6%	9%	5%
20 - 24 years	21%	22%	25%	24%	26%
25 - 34 years	21%	27%	28%	27%	32%
35 - 44 years	21%	16%	15%	18%	16%
45 - 54 years	20%	14%	16%	13%	13%
55+ years	7%	12%	8%	9%	8%
Exposure Category					

Men who have sex with men (MSM)	42%	44%	54%	50%	43%
Heterosexuals	38%	36%	29%	38%	25%
Injection drug users (IDU)	<1%	<1%	1%	<1%	0%
MSM & IDU	<1%	0%	<1%	0%	3%
Hemophilia/blood transfusion/Perinatal Exposure	1%	<1%	<1%	1%	<1%
Risk not identified	16%	18%	13%	11%	28%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

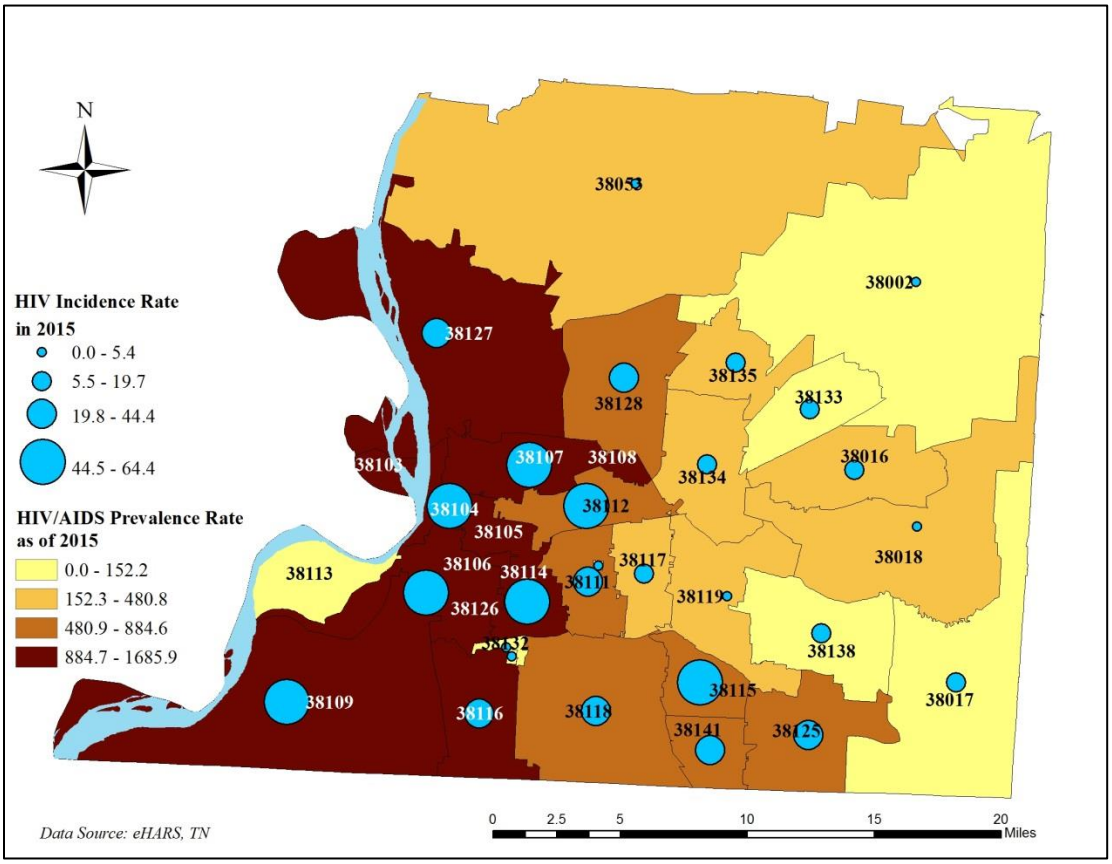
The overall rate in HIV disease incidence decreased between 2011 and 2015 (30.04 to 23.64 per 100,000 persons) in the Memphis TGA. In comparing five years of trend data, a 21% decrease of HIV disease rate was observed between 2011 and 2015 (**Table B-6**). This decrease occurred among both males and females; however, females reported larger reductions in HIV disease incidence than males. New HIV diagnoses rates among Hispanics/Latinos showed a decrease by 17% and 16% among Non-Hispanic Blacks and Non–Hispanic Whites respectively. **Table B-6** shows that the rate of new infection (19.1) among the Hispanics was almost four times of the new infection rate among the Non-Hispanic Whites. The largest reductions in incidence were observed among persons aged 0-14 years (-60%), 15-19 years (-46%), and 45-54 years (-49%). While an overall percent increase by 21% in incidence rates was observed in youth and adolescents aged 25-34 years during 2011-2015. This trend shows that new HIV infections shifted from the adult age group (35-54 years) to young adults aged 25-34 years old in the Memphis TGA.

Table B-6: New HIV Disease Case Rates by Demographics, Memphis TGA, 2011-2015

	2011		2012		2013		2014		2015*		2011-2015
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	% Change
Total	**399**	**30.0**	**425**	**32.0**	**344**	**25.9**	**339**	**25.5**	**314**	**23.6**	**-21%**
Gender											
Male	277	43.5	299	46.9	255	40.0	251	39.4	247	38.7	-11%
Female	114	16.5	121	17.5	80	11.6	88	12.7	67	9.7	**-41%**
Race/Ethnicity											
White, not Hispanic	36	6.0	56	9.3	34	5.6	42	7.0	30	5.0	-17%
Black, not Hispanic	321	52.7	331	54.4	269	44.2	273	44.8	270	44.3	-16%
Hispanic	11	16.2	13	19.1	10	14.7	11	16.2	13	19.1	18%
Other Race	23	47.4	20	41.3	22	45.4	13	26.8	1	2.1	-96%
Age at Diagnosis (Years)											
0 - 14	5	1.8	1	0.4	1	0.4	4	1.4	2	0.7	**-60%**
15 - 19	28	29.0	34	35.2	20	20.7	29	30.0	15	15.5	-46%
20 - 24	83	87.8	93	98.4	87	92.1	81	85.7	81	85.7	-2%
25 - 34	84	46.2	115	63.2	97	53.3	91	50.0	102	56.1	**21%**
35 - 44	83	47.1	66	37.5	50	28.4	61	34.6	49	27.8	-41%
45 - 54	80	43.3	59	32.0	54	29.2	43	23.3	41	22.2	-49%
55+	28	9.1	52	16.8	26	8.4	30	9.7	24	7.8	-14%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR; 2010-2014 ACS Survey 5-Year;
**preliminary data, subject to change*

Map B-4: Rates (per100,000 population) of HIV/AIDS Prevalence and Incidence, Shelby County, 2015



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN.

Rates of new HIV cases and rates of persons living with diagnosed HIV infection was shown by zip code in Shelby County in 2014 **(Map B-4)**. The darkest shaded area represents the highest rates of PLWHA, and the largest blue circle shows the highest rates of HIV infection. In the map, the darkest shaded area has largest blue circle. The positive correlation between the rates of HIV/AIDS prevalence and the rates of HIV incidences clearly indicates that these zip code areas should be highly prioritized in terms of resource allocation for HIV testing, care and treatments.

As outlined in **Map B-3**, among the eight counties in the Memphis TGA, the highest burden of new HIV cases (90%) were on the three counties (Shelby, Fayette, and Tipton) in the West Tennessee. Thirty years of HIV data of these three counties in the West Tennessee are well documented in Enhanced HIV/AIDS Reporting System (eHARS) and are readily available. **Figure B-3** shows the three year rolling average of HIV, AIDS, and Death incidence in the west Tennessee three counties between 1985 and 2015. As shown in **Figure B-4**, HIV disease epidemic in the West Tennessee can be described by three sequential phases.

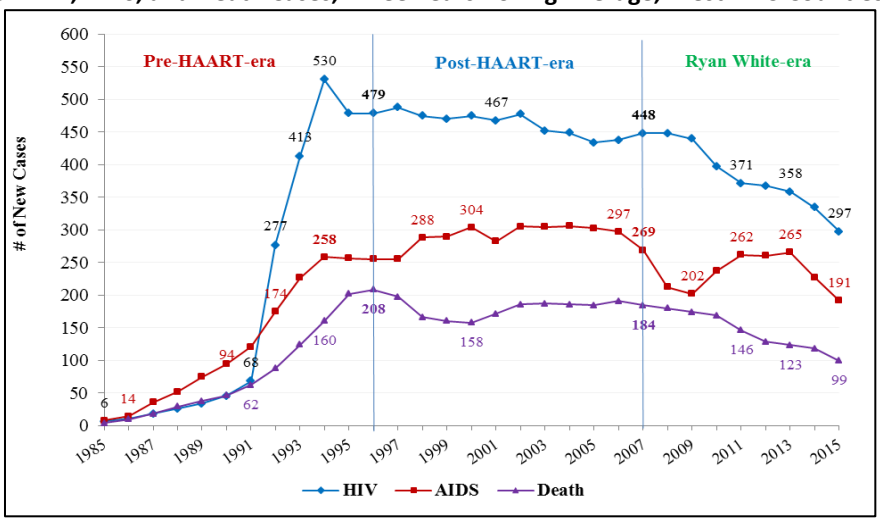
The first phase is also called pre-HAART-era, which is before the advent of HAART (highly active antiretroviral therapy) in 1996. During the first fifteen years of the HIV/AIDS pandemic in the pre-HAART

era (1981-1996), new HIV cases sharply increased and reached its peak from six cases in 1985 to 530 cases in 1994. Newly diagnosed AIDS cases and Death cases among HIV infected individuals also reached 255 and 208 cases, respectively in 1996. The second phase of the HIV disease epidemic started with introduction of the highly active antiretroviral therapy (HAART) in 1996. The second phase lasted for 10 years until the approval of Ryan White Part A funding by Health Resources and Services Administration (HRSA). This phase also called the Post-HAART-era.

During the second phase of HIV epidemic (1996 – 2007), despite the availability of antiretroviral drugs to limit the epidemic and prolong the lives of those infected, the number of newly infected individuals continued to rise alarmingly. In the West Tennessee three counties, the incidence of HIV slightly decreased and remained fairly static at approximately 462 new cases. Newly diagnosed AIDS cases showed a slight increase and remained approximately 288 cases. Deaths remained a relatively static average at 180 cases each year.

The third phase of the HIV epidemic, as the Ryan White-era began in 2007 onwards with the approval of Part A funding for Shelby County, Tennessee. Then followed the legislation called the Ryan White HIV/AIDS Treatment Extension Act of 2009 (Public Law 111-87, October 30, 2009)[5]. During the Ryan White-era, the HIV disease epidemic has been more limited and better controlled with the assistance of our Ryan White HIV/AIDS program by providing primary medical care and essential support services to those who do not have sufficient financial resources to cope with the disease in West Tennessee. New HIV cases and deaths decreased approximately more than 150 cases and 85 cases respectively between 2007 and 2015. However, newly identified AIDS cases decreased to 202 cases in 2009 and gradually increased to 265 cases in 2013. This increase is partly due to increasing awareness of the persons living with HV who did not know their HIV status. These achievements of limiting and controlling the HIV epidemic in the West Tennessee notably underscore the success of the Memphis HIV/AIDS program.

Figure B-3: New HIV, AIDS, and Death Cases, Three Years Rolling Average, West TN 3 Counties, 1985 – 2015



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN.

Table B-7: 2015 Demographics of PLWH

Gender	TN	Memphis TGA	Nashville TGA
Male	12,334	4,918	4,064
Female	4,362	2,294	1,154
Race/Ethnicity			
Black/African American	9,476	5,926	2,475
White	6,109	907	2,269
Hispanic	758	176	324
Asian	70		
Other	341	203	123
Age			
<15	94	55	30
15-24	733	439	219
25-34	2,824	1,501	804
35-44	3,780	1,770	1,194
45-54	5,427	2,029	1,802
55-64	3,043	1,418	923
65+	853		246
Transmission Category			
Heterosexual		2,335	945
IDU		232	511
MSM		3,016	2,759
MSM/IDU		111	188
Perinatal		131	36
Other/Unknown Risk		1,387	779
Socio Economic s			
FPL			
Below 100%	66.40%		
100-138%	11.40%		
139-200%	9.70%		
201-250%	5.20%		
251-400%	6.30%		
401-500%	0.30%		
> 500%	0.70%		
Health Insurance Status			
Private-Employer	14.80%		
Private-Individual	3.60%		
Medicare	15.50%		
TennCare	16.80%		
VA	0.80%		
Indian Health	0.10%		
No insurance	43.70%		
Other plan	4.70%		
Housing Status			
Stable Permanent	81.30%		
Temporary	13.80%		
Unstable	4.90%		

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR

B9. AIDS Incidence in the Memphis TGA

While HIV disease surveillance data represents trends in HIV transmission, AIDS surveillance data reflects differences in access to testing and treatment. According to the Centers for Disease Control and Prevention (CDC) 2014 HIV Surveillance report, the Memphis Metropolitan Statistical Area (MSA) new AIDS diagnoses rate was 2nd among all MSAs **(Figure B-2)**. In the Memphis TGA, new AIDS cases decreased from 332 cases in 2013 to 113 cases in 2015. The West TN three counties (Shelby, Fayette, and Tipton) account for 90% of new AIDS diagnosis among all Memphis TGA counties **(Table B-8).** Preliminary data reflects a decrease in 2015 among newly diagnosed AIDS cases; however, this number is provisional and will likely increase.

Table B-8: New AIDS Diagnoses by Region in Memphis TGA, 2011 – 2015

	2011		2012		2013		2014		2015*	
	N	%	N	%	N	%	N	%	N	%
Memphis TGA Total	280		244		332		161		133	
West TN 3 Counties	251	90%	227	93%	318	96%	136	84%	120	90%
North MS & Crittenden County	29	10%	17	7%	14	4%	25	16%	13	10%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

**: preliminary data, subject to change*

In comparing five years of trend data, a 53% decrease of new AIDS disease rate was observed between 2011 and 2015 (**Table B-8**). This decrease occurred among both males and females; however, females reported slightly larger reductions in AIDS disease incidence than males. AIDS incidence rates among males (14.6 per 100,000) are over twice female rates (5.8 per 100,000) in the Memphis TGA. Blacks represent the majority of new AIDS cases; the AIDS incidence rate among Non-Hispanic Black individuals (18.9 per 100,000) was more than 10 times that of Non-Hispanic Whites (1.8 per 100,000). AIDS incidence rates decreased among all age groups. Persons aged 45-54 years reported to be the highest number of newly diagnosed AIDS case in 2011. However, this proportion of incidence rate was shifted to the younger age group 25-34 years old. Over the past five years between 2011 and 2015, least amount of AIDS incidence rate (-38%) reduction was observed among the age group 25-34 years old.

Table B-9: Rates of Newly Diagnosed AIDS Cases (per 100,000 persons) by Demographic Characteristics, Memphis TGA, 2011 – 2015

	2011		2012		2013		2014		2015*		2011-2015
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	% Change
Total	**280**	**21.1**	**244**	**18.4**	**332**	**25.0**	**161**	**12.1**	**133**	**10.0**	**-53%**
Gender											
Male	193	30.3	154	24.2	226	35.5	115	18.0	93	14.6	-52%
Female	87	12.6	90	13.0	106	15.3	46	6.7	40	5.8	-54%
Race/Ethnicity											
White, not Hispanic	19	3.2	26	4.3	26	4.3	15	2.5	11	1.8	-42%
Black, not Hispanic	241	39.6	207	34.0	225	37.0	135	22.2	115	18.9	-52%
Hispanic	10	14.7	6	8.8	12	17.6	4	5.9	7	10.3	-30%
Other Race	10	20.6	5	10.3	69	142.3	7	14.4	0	0.0	-100%
Age at Diagnosis (Years)											
0 - 14	0	0.0	0	0.0	3	1.1	1	0.4	1	0.4	NA
15 - 19	7	7.2	1	1.0	44	45.5	3	3.1	1	1.0	**-86%**
20 - 24	26	27.5	17	18.0	101	106.9	13	13.8	10	10.6	-62%
25 - 34	69	37.9	68	37.4	56	30.8	47	25.8	43	23.6	-38%
35 - 44	66	37.5	75	42.6	58	32.9	45	25.5	34	19.3	-48%
45 - 54	72	39.0	57	30.9	46	24.9	30	16.2	32	17.3	-56%
55+	40	12.9	26	8.4	24	7.8	22	7.1	12	3.9	-70%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR; 2010-2014 ACS Survey 5-Year;

**: preliminary data, subject to change*

Table B-10: Demographics for persons newly diagnosed in 2015 with HIV Disease

	TN	AR*	MS*	Memphis TGA	Nashville TGA
Gender					
Male	455	254	378	247	174
Female	119	76	109	67	36
Race/Ethnicity					
Black/African American	357	180	380	270	121
White	180	116	81	30	72
Hispanic	31	20	14	13	12
Asian	8	4			
Other	4	10	12	1	5
Race/Ethnicity - Males					
Black/African American	284				
White	136				
Hispanic	27				
Asian	4				
Other	4				
Race/Ethnicity - Females					
Black/African American	68				
White	43				
Hispanic	4				
Asian	4				
Other	0				
Age					
<15	8	2		2	0
15-24	169	82		96	44
25-34	209	100		102	73
35-44	90	58		49	51
45-54	71	61		41	31
55-64	28	19		24	7
65+	5	8			4
Transmission Category					
Heterosexual	146	39		79	24
IDU	35	17		10	5
MSM	381	165		135	128
MSM/IDU	15	9		0	2
Perinatal	5	1		2	0

Snapshot of Tennessee Incidence Data:

- Of the 711 persons newly diagnosed in TN with HIV disease in 2015, 18.4% were classified as stage 3 (AIDS) cases by the end of 2015.
- In TN, males represented the largest proportion of persons newly diagnosed with HIV disease (78.9%). The rate of new HIV disease diagnoses was 4.1 times as high among males compared to females.
- In TN, a greater proportion of the newly diagnosed cases occurred among blacks/African Americans compared to living cases (59.4% and 33.1% respectively). The rate of new HIV disease cases was 8.3 times as high among blacks/African Americans compared to whites.
- In TN, the greatest proportion of newly diagnosed cases occurred among persons 25-34 years of age (34.6%). The rate of new HIV disease diagnoses was greatest among persons 25-34 years of age at the end of 2014 (28.2 per 100,000)

Source: TDOH 2015 HIV Epidemiological Profile

B11. Late HIV Diagnosis

Late HIV Diagnosis is one of the system level indicators for Department of Health and Human Services (HHS) – funded HIV programs and services of the HIV/AIDS Bureau. Late HIV diagnosis defined as: Number of persons with a diagnosis of Stage 3 HIV infection (AIDS) within 3 months of diagnosis of HIV infection in the 12-month measurement period. The West Tennessee three counties (Shelby, Fayette, and Tipton) in the Memphis TGA accounted for 90 % of new AIDS diagnoses in 2015 (**Table B-7**). *Due to the limitation of Late HIV diagnosis data availability from the north Mississippi four counties and Crittenden County in Arkansas, Late HIV diagnosis in the Memphis TGA can be described by using the west Tennessee three counties data.*

The Proportion of Late HIV Diagnosis decreased from 27% in 2013 to 12% in 2015. Among the 282 newly diagnosed HIV cases in 2015, 34 of them were diagnosed as stage 3 HIV infection (AIDS) within the three months of HIV diagnosis in 2015 (**Table B-11**). The majority of the Late HIV Diagnosed cases were males (88%), Non- Hispanic Blacks (79%), older adults aged 45-54 years old (35%), and MSM contacts (50%) **(Figure B-4)**.

While the Late HIV incidence rate indicates that new cases are not being identified as early as possible, comparing to 2013 data, 55% reduction of late HIV diagnoses shows the successful implementation of EIIHA program in the West Tennessee three counties in 2015.

Table B-11: Late HIV Diagnoses in the West Tennessee Three Counties of Memphis TGA, 2011 – 2015**

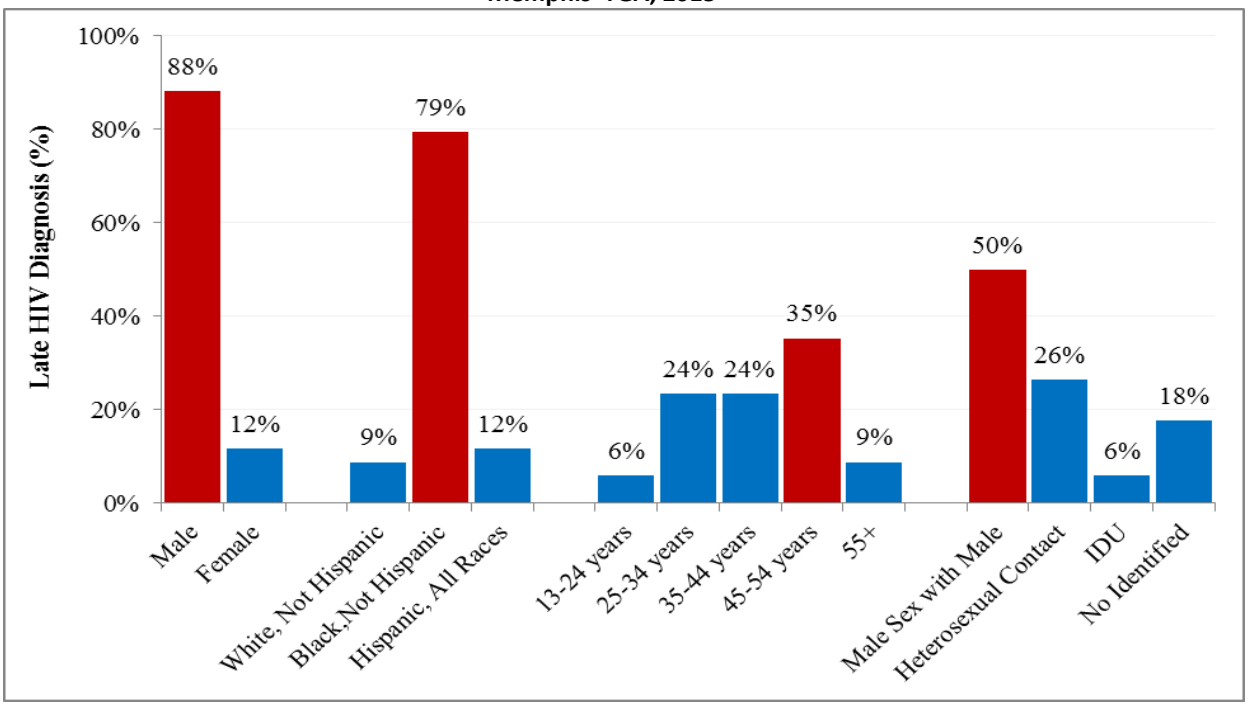
	Year of Initial HIV Diagnoses				
	2011	**2012**	**2013**	**2014**	**2015***
Total New HIV Diagnoses	369	393	313	296	282
Late HIV Diagnoses (N)	73	72	85	49	34
Late HIV Diagnoses (%)	20%	18%	27%	17%	12%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;

**: preliminary data, subject to change.*

***: Data was requested from ADH and MDH but was not received at the time of this submission.*

Figure B-4: Demographic Characteristics of Late HIV Cases in the West Tennessee Three Counties of Memphis TGA, 2015*,**



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;

**: preliminary data, subject to change.*

***: Data was requested from ADH and MDH but was not received at the time of this submission.*

B.12 HIV Mortality

The mortality data in persons with HIV infection **(Table B-10)** shows an average 126 deaths occurred in the Memphis TGA between 2010 and 2014. During this period of time the proportion of deaths among the HIV infected persons was stable by gender, racial/ethnic groups, and risk exposure category. The majority of deaths occurred among the males and not Hispanic Blacks. In comparing the five year data between 2010 and 2014, the proportion of deaths among the younger age group decreased, the higher proportion of deaths occurred among the older age group. The older age group 45+ years old accounted for 25% deaths in 2010, the same age group accounted for 41% of deaths in 2014. Although the number of death among the PLWHA did not significantly changed between 2010 and 2014, the proportion of death shifted from younger age groups to older age groups. This success of increasing life span of PLWHA may be due to the improvement of HIV prevention and care measures. It is important to note that **Table B-10** does not reflect all deaths caused by HIV disease.

Table B-10: HIV Mortality by Demographic Characteristics, West TN Three Counties of Memphis TGA, 2010 – 2014**

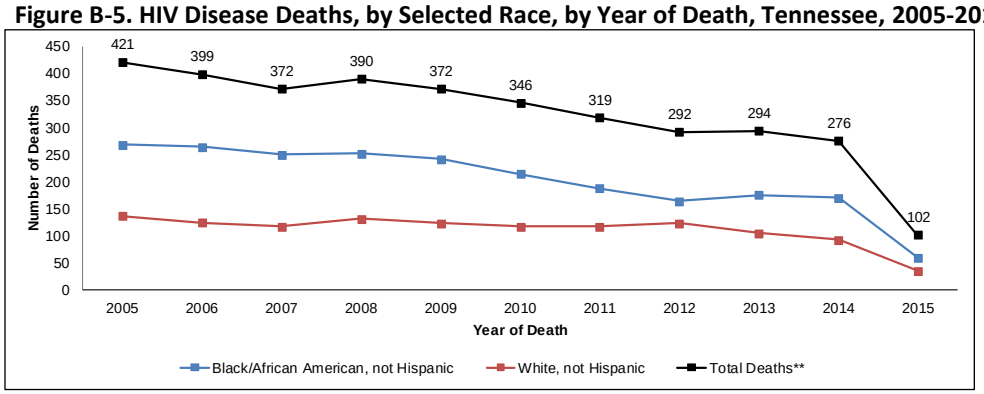
	2010		2011		2012		2013		2014	
	N	%	N	%	N	%	N	%	N	%
Total	152	100%	122	100%	111	100%	136	100%	108	100%
Gender/Sex										
Male	99	65%	83	68%	74	67%	96	71%	64	59%
Female	53	35%	39	32%	37	33%	40	29%	44	41%
Race/Ethnicity										
White, Not Hispanic	19	13%	14	11%	7	6%	18	13%	8	7%
Black, Not Hispanic	129	85%	105	86%	102	92%	116	85%	98	91%
Hispanic, All Races	3	2%	2	2%	0	0%	0	0%	1	1%
Other, Not Hispanic	1	1%	1	1%	2	2%	2	1%	1	1%
Age at Death										
15 to 19	4	3%	1	1%	1	1%	1	1%	2	2%
20 to 24	19	13%	18	15%	14	13%	12	9%	11	10%
25 to 34	43	28%	30	25%	32	29%	35	26%	22	20%
35 to 44	49	32%	36	30%	34	31%	35	26%	29	27%
45 to 54	27	18%	27	22%	26	23%	38	28%	29	27%
55+	10	7%	11	9%	4	4%	15	11%	15	14%
Risk/Exposure										
Male Sex with Male	55	36%	30	25%	29	26%	43	32%	23	21%
Heterosexual Contact	62	41%	51	42%	43	39%	46	34%	52	48%
MSM/IDU	3	2%	1	1%	3	3%	4	3%	2	2%
IDU	7	5%	8	7%	8	7%	9	7%	4	4%
Other Risk	0	0%	1	1%	0	0%	0	0%	0	0%
No Identified	25	16%	31	25%	28	25%	34	25%	27	25%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

***: Data was requested from ADH and MDH but was not received at the time of this submission.*

In Tennessee since 2010, the total number of deaths for persons living with HIV disease from any cause, has decreased from 346 to 102 deaths (***Figure B-5*****).** Although this overall trend is positive, the disparity for Blacks/African Americans compared to White/Caucasians, still exists.

Figure B-5. HIV Disease Deaths, by Selected Race, by Year of Death, Tennessee, 2005-2015



Source: TDH, 2015 Epi Profile

Nationally, CDC completes an estimate of the "probability of survival" for >3 years (36 months) for persons with diagnosed HIV infection and for persons whose infection had ever been classified as stage 3 (AIDS).

- HIV: In the US in 2009 of 43 states, 38 of those states had at least 9 of 10 persons survived after a diagnosis of HIV infection, including Tennessee. In Tennessee, the likelihood of survival from 2004 to 2009 has increased by 5.6%.
- AIDS: In the US in 2009, 34 out of 39 states had at least 8 of 10 persons survived after a stage 3 (AIDS) classification diagnosis, including Tennessee. In Tennessee, the likelihood of survival from 2004 to 2009 has increased by 13.3%.

Source: Nashville TGA 2015 Needs Assessment

In reviewing "deaths due to HIV", there is a noted difference between rates for the state and the largest counties of the state's two TGAs (Memphis and Nashville) as noted in *Table 4*. Both TGA's have a higher rate than the state, and Shelby County's rate is roughly three times higher than the state.

Table 4: 2014 Mortality Numbers & Rates (HIV Cause of Death)

	Mortality Rate	# of Deaths
TN	2.52	165
Davidson Co.	3.74	25
Shelby Co.	7.35	69

C. HIV-Related Co-Morbidities and Social Factors

C1. Sexually Transmitted Infections

Sexually transmitted infections (STIs) are known to increase the risk of both transmitting and acquiring HIV. According to the Centers for Disease Control and Prevention, the Memphis Metropolitan Statistical Area (MSA) ranked first in the country among the 50 largest MSAs in 2014 for Chlamydia and Gonorrhea infection[6]; the impacts of these extraordinarily high rates of STIs increase the risk of HIV infection within the Memphis TGA.

Table C-1: STD Incidence Rates (per 100,000 persons) in Memphis MSA and U.S. MSA total, 2010 – 2014

		2010	2011	2012	2013	2014
		Rate	Rate	Rate	Rate	Rate
Chlamydia	Memphis, TN-MS-AR	942.5	878.3	949.8	802.2	786.6
	U.S. MSA TOTAL	450.9	479.2	474.2	462.7	474.6
Gonorrhea	Memphis, TN-MS-AR	309	288.7	335.2	230	195.6
	U.S. MSA TOTAL	113.7	116.4	120	118.1	122.8
Primary and Secondary Syphilis	Memphis, TN-MS-AR	12.5	9	8.2	7.8	7
	U.S. MSA TOTAL	6.3	6.3	7.1	7.8	8.7
Early Latent Syphilis	Memphis, TN-MS-AR	19.4	13.5	14	14	10.7
	U.S. MSA TOTAL	6.1	5.9	6.7	7.7	8.7
Late and Late Latent Syphilis	Memphis, TN-MS-AR	24.6	20.9	21.7	21.1	17.6
	U.S. MSA TOTAL	8.1	8.4	8.9	9.7	10.3

Data Source: Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance 2014. Atlanta: U.S. Department of Health and Human Services; http://www.cdc.gov/std/stats14/surv-2014-print.pdf

C2. Chlamydia

According to the 2010 CDC Sexually Transmitted Disease Treatment Guidelines, sexually active PLWHA should be screened annually for Chlamydia, as infection is often asymptomatic and unlikely to be recognized unless testing occurs[7]. Chlamydia incidence rates in the Memphis TGA steadily decreased from 949.8 in 2012 to 786.6 (per 100,000 persons) in 2014 **(Table C-1)**. However, the incidence rate of chlamydia still remained almost twice the incidence rate of national MSAs during 2011-2015. Chlamydia incidence rate in Shelby County residents was higher than that of Memphis MSA, and almost two times higher than that of Tennessee and the national MSAs total average rate in 2014.

Table C-1: Chlamydia Incidence Rates (per 100,000 persons) of Reported Cases in Memphis, TN-MS-AR and U.S. MSA, 2011 - 2015

Regions	2011		2012		2013		2014		2015	
	CT*	GC*	CT	GC	CT	GC	CT	GC	CT	GC
	Rate		Rate		Rate		Rate		Rate	
Shelby County	1,046.0	361.1	1,060.0	392.9	908.3	268.7	865.8	231.2	867.4	275.8
Memphis, TN-MS-AR	878.3	288.7	949.8	335.2	802.2	230	786.6	195.6	NA	NA
MSAs Total	479.2	116.4	474.2	120	462.7	118.1	474.6	122.8	NA	NA
Tennessee	285.3	119.7	309.8	140.9	295.7	113.5	474	110.8	479	129

*Data Source: PRISM TN; http://www.cdc.gov/std/stats14/surv-2014-print.pdf; *: CT=Chlamydia; GC=Gonorrhea*

The main burden of Chlamydia and Gonorrhea infections are on adolescents and young adults in the Memphis TGA. Chlamydia rates (3,903.8 per 100,000 persons) among Shelby County adolescents age 15-19 years old are approximately two times rates of those in Tennessee and U.S. totals in 2014 **(Table C-2**). There were 136 co-morbid cases of HIV/Chlamydia reported in Shelby County during 2014, with 8,122 total cases of chlamydia reported in the general population **(Table 3-4**). In 2014, the Chlamydia rate among PLWHA (2,160 per 100,000 persons) was almost 2.5 times the rate reported in the general population (864.6 per 100,000 persons).

Table C-2: Chlamydia and Gonorrhea Rates among Adolescents ages 15-19 Years, Shelby County and Tennessee, and National, 2014

Diseases	15-19 years old					
	US Total		Tennessee		Shelby County	
Chlamydia	381,717	1,804.0	9,002	2,114.2	2,679	3,903.8
Gonorrhea	68,468	323.6	1,565	367.6	610	888.9

Data Source: PRISM, TN. http://www.cdc.gov/std/stats14/surv-2014-print.pdf

C3. Gonorrhea

In addition to annual Chlamydia screening, CDC guidelines also recommend annual screening for Gonorrhea among sexually active PLWHA[7]. Gonorrhea rates in the Memphis MSA have declined since 2012, but remained two times the National MSA rate in 2014 (**Table C1)**. Gonorrhea rates (888.9 per 100,000 persons) among Shelby County adolescents age 15-19 years old are almost three times those of U.S. total adolescents of the same age (**Table C-2)**. The Gonorrhea rate identified in 2014 among the PLWHA population (1,636 per 100,000 persons) is over three times the rate reported among the total TGA population (231.2 per 100,000 persons) for Shelby County (**Table C-4)**.

The Memphis TGA has the highest reported sexually transmitted infection rates in the U.S. For all the nationally notifiable STIs, Chlamydia and Gonorrhea rates in the Memphis TGA are double or more than

double the average national rate among the general population. Although the largest fractions of those cases are diagnosed in 15-24 year old patients, rates remain high in all population groups in the Memphis TGA when compared with national rates.

C4. Syphilis

Syphilis remains a significant problem in the South and in urban areas of the United States. Increases in cases among MSM have occurred and have been characterized by high rates of HIV co-infection and high-risk sexual behaviors nationally[8]. **Table C-1** shows that while U.S. MSAs total early and late latent syphilis rates were increasing, Memphis MSA Syphilis rates were decreasing trend between 2010 and 2014. Following a peak of 12.5 per 100,000 persons in 2010 in Memphis MSA, the Primary and Secondary (P&S) Syphilis rate declined by 44% to 7.0 per 100,000 persons in 2014. Late Latent Syphilis rates decreased by 28% during this time period, but remained more than 1.5 times higher than that of national rates. This trend of decreasing rate of all Syphilis incidences indicates the improvement of prevention and treatment measures in the Memphis TGA.

Table C-3: Syphilis Rates (per 100,000 persons) of Reported in Memphis TN-MS-AR and U.S. MSA, 2010 - 2014

Diseases	Regions	2010	2011	2012	2013	2014
		Rate	Rate	Rate	Rate	Rate
Primary and Secondary Syphilis	Memphis, TN-MS-AR	12.5	9	8.2	7.8	7.0
	U.S. MSA TOTAL	6.3	6.3	7.1	7.8	8.7
Early Latent Syphilis	Memphis, TN-MS-AR	19.4	13.5	14	14	10.7
	U.S. MSA TOTAL	6.1	5.9	6.7	7.7	8.7
Late and Late Latent Syphilis	Memphis, TN-MS-AR	24.6	20.9	21.7	21.1	17.6
	U.S. MSA TOTAL	8.1	8.4	8.9	9.7	10.3

Data Source: PRISM, TN. http://www.cdc.gov/std/stats14/surv-2014-print.pdf

In 2015, there were 47 co-morbid cases of HIV/P&S Syphilis reported in Shelby County, with 106 total cases in the general population (**Table C-4**). The rate among PLWHA (743 per 100,000) was 66 times the rate reported in the general population (11.3 per 100,000). P&S syphilis may be easily treatable with antibiotics; however, treatment for HIV/syphilis co-infection may be more difficult and costly. Patients with HIV may have atypical antibody response to treatment, resulting in the need for repeated testing and follow-up.

Table C-4: STD Co-Morbidities Reported Among Persons Living with HIV Disease and the General Population, Shelby County TN, 2015

	Among the General population		Among the PLWHA	
	N	Rates (per 100,000 persons)	N	Rates (per 100,000 persons)
Tuberculosis (TB)	49	5.2	4	63.2
P&S Syphilis	106	11.3	47	743
Gonorrhea	2,582	275.2	102	1612.4
Chlamydia	8,122	865.8	132	2086.6

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; NEDSS, TN; PRISM, TN.

As outlined in **Table C-4**, the high level of co-infection rate of STDs among PLWHA shows that there is ongoing sexual risk-taking among the HIV infected MSM in Shelby County. The higher concentration of HIV/P&S Syphilis co-infection occurred in the higher HIV incidence and prevalence zip code areas (38103 - 38105, 38107, 38126, 38115) in downtown and south Memphis, and the lower level of concentration of HIV/STD co-infection occurred further from the highly concentrated HIV incidence and prevalence zip code areas **(Map C-1)**. This finding is of special concern because STDs facilitate HIV transmission.

Among the PLWHA in Memphis TGA, STI infection rates are double or more than double the rates of those infections in the HIV-negative population. The evidence is overwhelming that STI and HIV co-infection has a tremendous adverse impact on our PLWHA clients and also demonstrates the need for a combination of increased transmission risk-reduction education and viral load suppression for PLWHA clients and citizens living in the TGA. Together these strategies can help slow the transmission of HIV in the community. These strategies are important for all PLWHA in the Memphis TGA, but young black MSM should particularly continue to receive outreach intended to mitigate transmission risk because that sub-population seems to be the current focus of HIV transmission based on the available epidemiologic data.

C5. Tuberculosis (TB)

Among persons infected with latent tuberculosis (TB) infection, HIV is the strongest risk factor for progressing to active TB disease. Over a lifetime, only 10 percent of people with latent TB infection who have normal immune systems will progress to develop active disease[9]. Untreated latent TB infection can quickly progress to TB disease in people living with HIV since the immune system is already weakened. And without treatment, TB disease can progress from sickness to death. TB is also one of the AIDS-Defining Conditions. Thus, TB screening for PLWHA is particularly important. According to CDC, direct costs (in 2010 U.S. dollars) average from $17,000 to treat drug-susceptible TB to $430,000 to treat the most drug-resistant form of the disease (XDR TB).

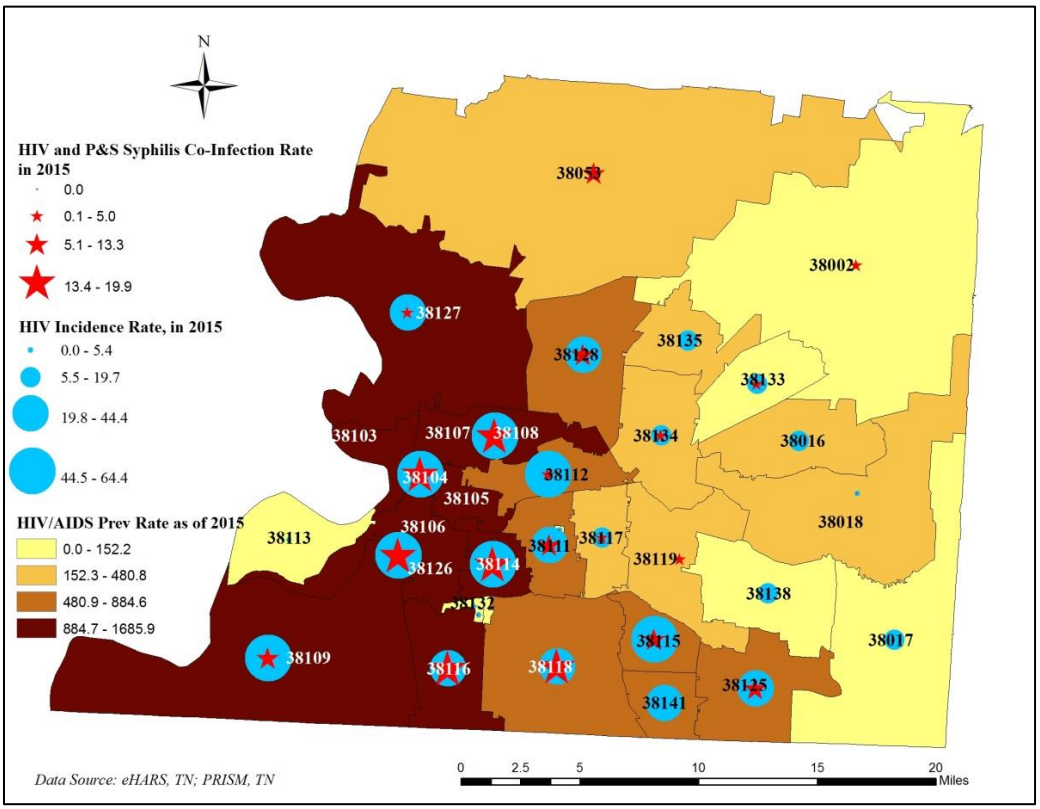
Table C-5: Tuberculosis Cases and Rates in Shelby County and Memphis MSA, 2014

Regions	Number of Cases	Rate (per 100,000 persons)
Shelby County	52	**5.5**
Memphis, TN-MS-AR	60	4.5
Tennessee	151	**2.3**
MSAs Total	7,553	3.5
US Total	9,421	**3.0**

Data Source: The National Electronic Disease Surveillance System (NEDSS);
http://www.cdc.gov/tb/statistics/reports/2014/pdfs/tb-surveillance-2014-report_updated.pdf

In 2014, 60 new TB cases were diagnosed in the Memphis Metropolitan Statistical Area (MSA). In the Memphis MSA, TB incidence rate (4.5 per 100,000 persons) was higher than that of total MSAs in the nation (3.5 per 100,000 persons); and almost two times higher than the rate of Tennessee (2.3 per 100,000 persons). TB incidence rate in Shelby County (5.5 per 100,000 persons) was more than 1.5 times the rate of total MSAs in the Nation **(Table C-5)**. In 2015, newly reported tuberculosis case rate (63.2 per 100,000 persons) among the PLWHA was more than 12 times the rate (5.2 per 100,000 persons) reported in the general population in Shelby County **(Table C-4)**.

Map C-1: Rates (per 100,000) of HIV/AIDS Prevalence, Incidence, and Co-Infected P&S Syphilis, Shelby County, 2015



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; NEDSS, TN; PRISM, TN.

D. Indicators of HIV Risk among Disproportionately Impacted Populations

TGA Key Indicators for HIV Risk:

HIV is primarily spread by having participated in high-risk behavior or sharing syringes and other injection equipment with someone who is infected with HIV. In addition, substance use can contribute to these risks indirectly because alcohol and other drugs can lower people's inhibitions and increase risk factors for HIV transmission. Also, having another STI can increase risk of contracting HIV disease. *Table D1* provides a quick review of a few key data points related to risk.

Table D-1: HIV Risk Factor Data

	US	TN	AR	MS	Davidson County	Memphis TN
Youth Risk Behavior Survey 2013 : Did not use a condom	40.9%	41.4%	44.9%	49.0%	Not reported	32.5%
		YRBS 2013				
Youth Risk Behavior Survey 2015 : Ever injected any illegal drug	2.4%	4.7%	4.2%	2.5%	Not reported	3.5%
		YRBS 2013				
Youth Risk Behavior Survey 2015: Had at least 1 drink of alcohol on at least 1 day during the last 30 days.	32.8%	28.4%	27.6%	31.5%	Not reported	23.4%
		YRBS 2013				
Youth Risk Behavior Survey 2015: Used marijuana 1 or more times during the last 30 days.	21.7%	21.4%	19.0%	21.6%	Not reported	26.9%
		YRBS 2013				
Adult Risk Behavior Survey 2013: Ever been tested for HIV		43.5%			54.3%	50.4%
Adult Risk Behavior Survey 2012: Participated in high-risk behavior in the past year.		4.2%			4.1%	4.4%
NSDUH Survey 2012: Any illicit drug use in the past year. (adults)	14.70	14.50			18.10	
NSDUH Survey 2012: Binge alcohol use in the past month. (adults)	23.20	18.10			20.10	

◆ See the Tennessee Department of Health Plan for more information about indicators of risk for HIV infection.

Certain populations are at greater risk of becoming infected or living with HIV disease. ***Table D2*** notes the populations that are at high-risk and must be at the forefront of community efforts in planning and service provision.

Table D2: High Risk Populations

	TN	AR	MS	Memphis TGA	Nashville TGA
Young persons, age 15-24	√	√	√	√	√
Incarcerated	√	√	√	√	√
MSMs	√	√	√	√	√
Homeless/Unstably housed	√	√	√	√	√
Persons with substance abuse diagnosis, particularly injection drug users	√	√	√	√	√
Persons with a mental health diagnosis	√	√	√	√	√

Snapshot of Tennessee Data:

- Of 711 cases diagnosed from January 1 to December 31, 2015, 18.1% did not have a reported risk as of June 30, 2016. Surveillance activities have been implemented to resolve cases reported with unknown risk information.
- The majority of living cases are attributed to MSM (48.4%), with cases attributed to heterosexual contact representing the second greatest proportion (26.0%).
- There are differences in the distribution of exposure categories among living cases by race/ethnicity. Among whites, 64% of living cases are attributed to MSM, compared to 39% among blacks/African Americans. In contrast, heterosexual contact represents the exposure category for 34% of living black/African American cases, but only 14% of living white cases.

Source: TDOH 2015 HIV Epidemiological Profile

The epidemic continues to disproportionately impact several populations within the Memphis TGA, including Non-Hispanic Black males who have sex with males (MSM), youth and young adults between the ages of 15-34, Non-Hispanic Black women of child-bearing age, Hispanics, those formerly incarcerated PLWHA and those who are homeless.

D1. Black/African American MSMs

HIV testing data shows that the highest number of tests (n=19,589, 85%) were conducted for the Non-Hispanic Blacks at the Shelby County Health Department in 2015. Among the other race/ethnic groups, Non-Hispanic Blacks show highest test positivity **(Table D-6)**. Although the numbers of newly diagnosed HIV cases have decreased 16% from 309 cases to 261 cases among the Non-Hispanic Blacks between 2011 and 2015, the proportion of new HIV cases of the Non-Hispanic Blacks among the other race/ethnicity did not show significant decrease (**Table D-5)**. As outlined in **Table D-1** Non- Hispanic Blacks accounted for 86% of all newly diagnosed HIV disease cases in the West Tennessee three counties

in 2015. Male-to-male sexual contact represents the largest portion of cases (59%) among the Non-Hispanic Black males. In addition, 86% of newly diagnosed AIDS cases were among the Non-Hispanic Blacks in the Memphis TGA, in 2015 **(Table D-8)**.

Table D-1: Newly Diagnosed HIV Cases among the Black Males in the West Tennessee Three Counties of Memphis TGA, 2015*'**

	In West TN		Male		Black		Black Males	
Total	**282**	**100%**	**220**	**78%**	**243**	**86%**	**191**	**68%**
Gender/Sex								
Male	220	78%	220	100%	191	79%	191	100%
Female	62	22%	NA	NA	52	21%	NA	NA
Race/Ethnicity								
White, Not Hispanic	26	9%	20	9%	NA	NA	NA	NA
Black, Not Hispanic	243	86%	191	87%	NA	NA	NA	NA
Hispanic, All Races	12	4%	9	4%	NA	NA	NA	NA
Other, Not Hispanic	1	0%	0	0%	NA	NA	NA	NA
Age at Diagnosis								
0 to 14	2	1%	1	0%	2	1%	1	1%
15 to 19	12	4%	10	5%	11	5%	9	5%
20 to 24	71	25%	62	28%	69	28%	60	31%
25 to 34	92	33%	74	34%	82	34%	69	36%
35 to 44	45	16%	29	13%	34	14%	21	11%
45 to 54	38	13%	29	13%	30	12%	23	12%
55+	22	8%	15	7%	15	6%	8	4%
Risk/Exposure								
Male Sex with Male	124	44%	124	56%	113	47%	113	59%
Heterosexual Contact	77	27%	40	18%	64	26%	35	18%
IDU	10	4%	5	2%	7	3%	3	2%
Perinatal Exposure	2	1%	1	0%	2	1%	1	1%
No Identified	69	24%	50	23%	57	23%	39	20%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;

**: preliminary data subject to change*

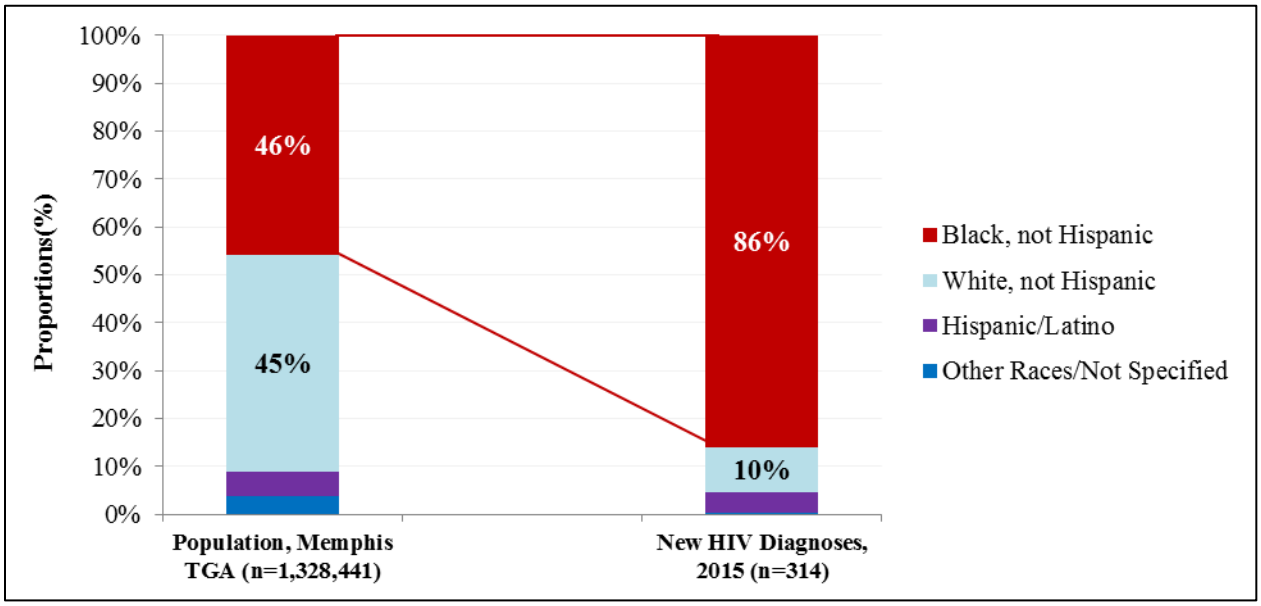
***: Data was requested from ADH and MDH but was not received at the time of this submission.*

A large percentage of newly diagnosed cases (28%) have unidentified risk/exposure, which causes limitations in fully understanding the incidence of infection among males attributed to MSM or heterosexual contact in 2014 (**Table D-5)**. The high percentage of cases for which no transmission category was identified may be due in part to under-reporting of male-to-male sexual activity because of stigma. In addition, unidentified risk exposure may be assigned among heterosexuals if no HIV-infected or high-risk partners could be identified. The disproportionally impact of HIV/AID on Non-Hispanic Blacks is shown in **Figure D-1**. Non-Hispanic Blacks comprised 46% of the Memphis TGA population, they accounted for 86% of newly diagnosed HIV cases, while 10% of newly diagnosed cases were attributed to Non-Hispanic White counterparts.

Unmet need analyses and mortality rates furthermore suggest Non-Hispanic Black men are at an

increased risk for poor health outcomes. The 2015 unmet need analysis reported that 71% of individuals out of care were males, and approximately 82% were Non-Hispanic Blacks **(Table D-3).** The 2012 Ryan White Comprehensive Needs Assessment found that stigma among males may contribute to challenges to serving this population. Males were significantly more likely than females to report perceived HIV-related stigma; nearly 60% of those who sometimes/often thought their HIV diagnosis was punishment for things done in the past were men. Historically in the Black community there has been denial of MSM activity, significant stigma and profound lack of acceptance of MSM behavior. Many Black MSM do not identify as homosexual, making it particularly difficult to reach and serve this population. Others are socially and economically marginalized due to race, poverty, criminal history, mental illness, substance abuse and other factors. These issues create an additional layer of barriers to engage them in care. Also, it is believed that many Black MSM engage in heterosexual activity as well, thus fueling transmission of HIV to women. Given these factors, there is likely a significant service gap for Black MSM.

Figure D-1 Proportions of Population and Newly Diagnosed HIV Cases, Memphis TGA, 2015



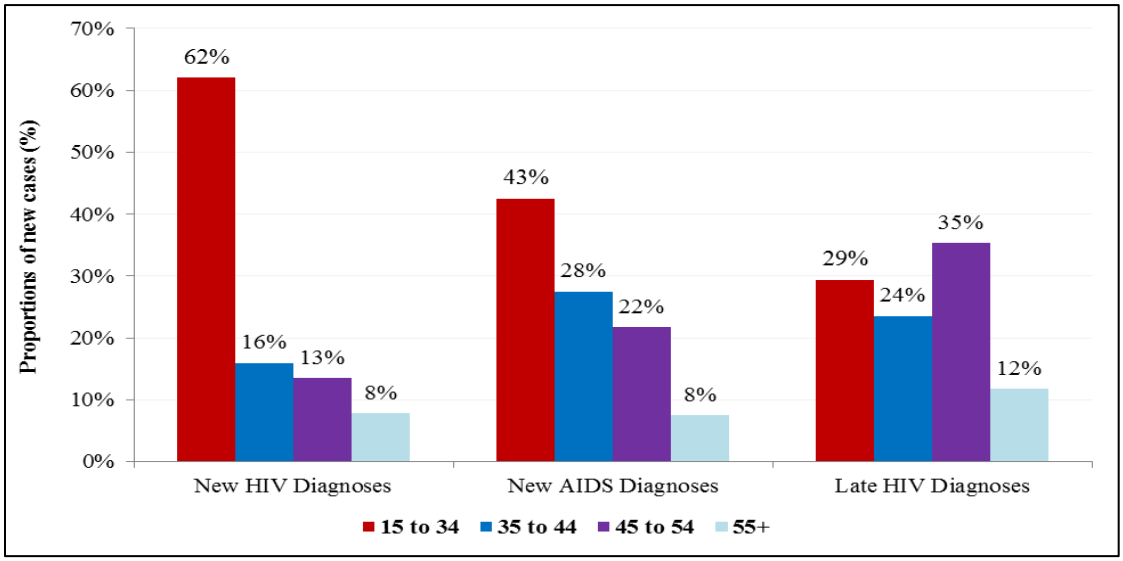
Data Source: U.S. Census Bureau, 2011-2014 5-Year American Community Survey; Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

D2. Adolescents and Young Adults Aged 15-34

The entire spectrum of HIV disease epidemic is shifting to adolescents and young adults in the Memphis TGA. Adolescents and young adults aged 15-34 years old accounted for 63% of new HIV cases in 2015 **(Table D-5)**. This disproportionate impact of new HIV infection was more notably expressed among the Black males in the same age group (72%) in West TN counties **(Table D-1)**. As outlined in the 2015 AIDS incidence data **(Table D-8),** the age group 15-34 years old accounts for 41% (n=54) new AIDS diagnosis in the Memphis TGA. Looking more closely to the West Tennessee three counties, 62% of newly HIV cases, 43% of newly AIDS cases, and 29% of late HIV cases were diagnosed among the age group 15 – 34 years old **(Figure D-2)**.

Unmet Need data demonstrates that higher proportions (47%) of the persons not receiving medical care were in the age-group 25-44 years old **(Table D-3)** in the West Tennessee Counties, in 2015. The HIV testing data shows the highest HIV testing positivity (5.2%) among the adolescents and youth aged 15-34 years old in the West Tennessee counties in 2015 **(Table D-6)**. According to the CDC HIV Surveillance report 2014, newly diagnosed HIV rates among the age group 15-19 years old and 20-24 years were almost three times higher in the Memphis TGA compared to that of among the same age group in the United States in 2014 **(Figure D-3)**.

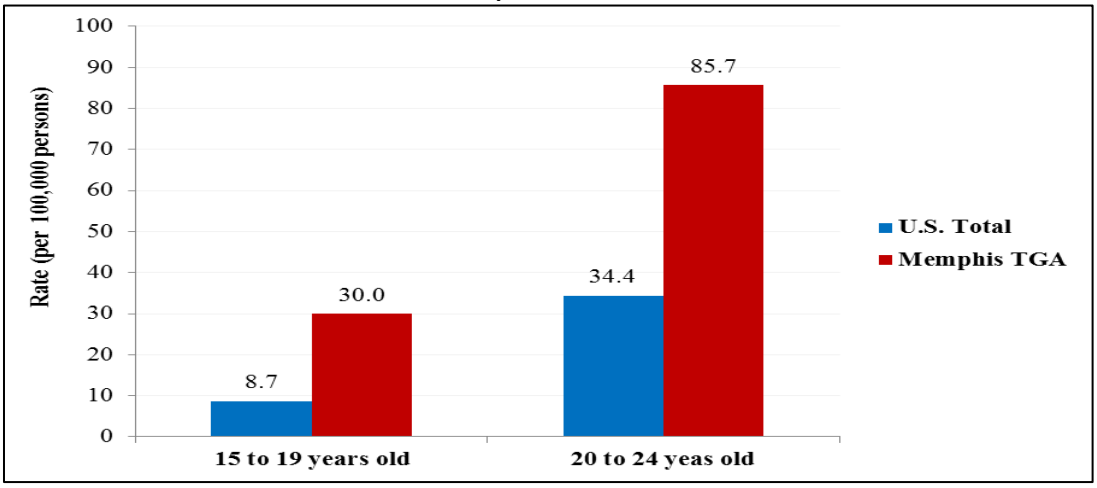
Figure D-2 New HIV, New AIDS, and Late HIV Diagnosis by Age Group, West Tennessee Three Counties of Memphis TGA, 2015**



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;

***: Data was requested from ADH and MDH but was not received at the time of this submission.*

Figure D-3: Rates of Newly Diagnosed HIV Case (per 100,000 persons) by Age Group in United States and Memphis TGA, 2014



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; CDC (2014) HIV Surveillance Report, 2014.
http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-us.pdf

The Youth Risk Behavioral Surveillance (YRBS) conducted in Memphis TN in 2013 reported that approximately 59.7% of respondents who had ever had sex, 15.2% were had sexual intercourse before age 13 years old which is almost four times of national average (3.9%), 38.2% were currently sexually active, 22.8% had four or more sexual partners, and 32.5% did not use a condom at last sexual intercourse. Compared to the National average, higher percentage of high school students have had condom use and HIV testing in Memphis TN **(Table D-2)**.

Table D-2: Sexual Health Responses from the Youth Risk Behavior Survey among 9-12th Graders in Memphis and the Nation, 2013 and 2015

	Memphis, TN 2013	United States 2015
had sexual intercourse before age 13 years	15.2 (13.0 - 17.6)	3.9 (3.2 - 4.8)
ever sexual intercourse	59.7 (55.4 - 63.8)	41.2 (37.5 - 45.0)
current sexual activity	38.2 (34.3 - 42.3)	30.1 (27.4 - 32.9)
multiple sex partners	22.8 (20.2 - 25.7)	11.5 (9.9 - 13.3)
did not use a condom at last sexual intercourse	32.5 (30.4 - 45.2)	48.0 (44.8 - 51.1)
were never tested for HIV	72.9 (70.4 - 75.4)	89.8 (88.2 - 91.3)

Source: http://www.cdc.gov/healthyyouth/data/yrbs/results.htm

In the 2012 Memphis TGA Ryan White Comprehensive Needs Assessment, young adults were significantly more likely to report engaging in risky sexual behaviors; among those 18-24 years, 29% reported having sex while drunk or high and 42% also reported having a prior STD diagnosis.

Youth and young adults face unique challenges in accessing care and other needed services. In a 2010 Needs Assessment report developed by the Tennessee Ryan White Part B Planning Group, youth identified several barriers to HIV care including incarceration, substance abuse, fear, and anxiety associated with HIV-related stigma. Eighty-one percent of the twenty-seven youth interviewed at St. Jude Children's Research Hospital felt depressed, worthless or hopeless in the past year. Unstable housing also contributed to 22% of youth having no place to stay at least once in the past year. Another 26% reported experiences with domestic violence. While many youth stated challenges in accessing care, some respondents who had interruption in treatment in the past five years noted favorable factors that facilitated their return back into care. These factors included outreach workers assisting with care, follow-ups from medical case managers, and direct help after jail/prison release.

The reports shows the need to develop new, collaborative, cross-institutional, coordinated care strategies capable of addressing the structural complexity of adherence barriers and unmet care and supportive service needs of HIV-infected youth. The report also suggested developing collaborative efforts to address the adherence barriers associated with incarceration, frequent substance use, unstable housing, access to food pantry and the need for support groups and psychosocial services that address the problem of HIV-related stigma.

D3. Black/African American Women of Child-Bearing Age

In Memphis TGA, 87% of women living with HIV/AIDS are Non-Hispanic Black, and 52% are between the child-bearing ages of 15-44 years according to 2015 data **(Table D-1)**. In the West Tennessee three counties, among the newly diagnosed female HIV cases, Non-Hispanic Black females account for 84% of new HIV cases, and 60% were infected through heterosexual contact in 2014 **(Table D-3)**. While the incidence of HIV disease has decreased significantly among women over the past five years, this population is of particular interest not only due to the health and well-being of women within the Memphis TGA, but also in the prevention of perinatal transmission.

Table D-3: Newly diagnosed HIV Cases Among Black Females in the West Tennessee Three Counties of the Memphis TGA, 2015*,**

	In West TN		Female		Black		Black Females	
Total	**282**	**100%**	**62**	**22%**	**243**	**86%**	**52**	**18%**
Gender/Sex								
Male	220	78%	NA	NA	191	79%	NA	NA
Female	62	22%	62	100%	52	21%	52	100%
Race/Ethnicity								
White, Not Hispanic	26	9%	6	10%	NA	NA	NA	NA
Black, Not Hispanic	243	86%	52	**84%**	NA	NA	NA	NA
Hispanic, All Races	12	4%	3	5%	NA	NA	NA	NA
Other, Not Hispanic	1	0%	1	2%	NA	NA	NA	NA
Age at Diagnosis								
0 to 14	2	1%	1	2%	2	1%	1	2%
15 to 19	12	4%	2	3%	11	5%	2	4%
20 to 24	71	25%	9	15%	69	28%	9	17%
25 to 34	92	33%	18	29%	82	34%	13	25%
35 to 44	45	16%	16	26%	34	14%	13	25%
45 to 54	38	13%	9	15%	30	12%	7	13%
55+	22	8%	7	11%	15	6%	7	13%
Risk/Exposure								
Male Sex with Male	124	44%	NA	NA	113	47%	NA	NA
Heterosexual Contact	77	27%	37	60%	64	26%	29	56%
IDU	10	4%	5	8%	7	3%	4	8%
Perinatal Exposure	2	1%	1	2%	2	1%	1	2%
No Identified	69	24%	19	31%	57	23%	18	35%

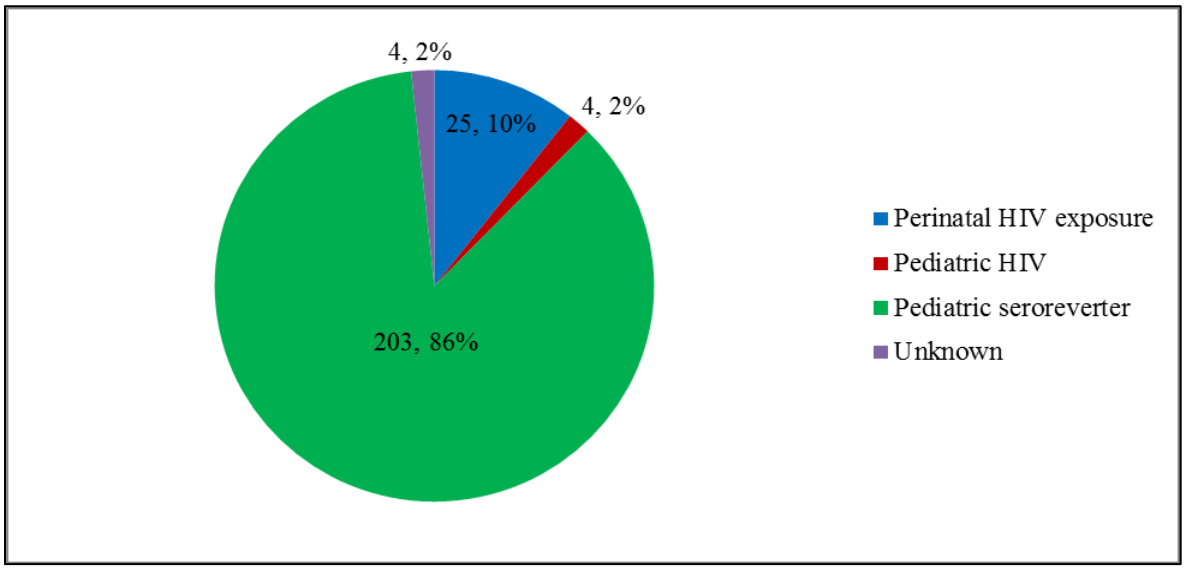
Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;

**: preliminary data subject to change*

***: Data was requested from ADH and MDH but was not received at the time of this submission.*

D4. Perinatal transmission of HIV

Figure D-4: Babies born with HIV infected mothers by Diagnosed Status, West Tennessee Three Counties of the Memphis TGA, 2009 – 2013*

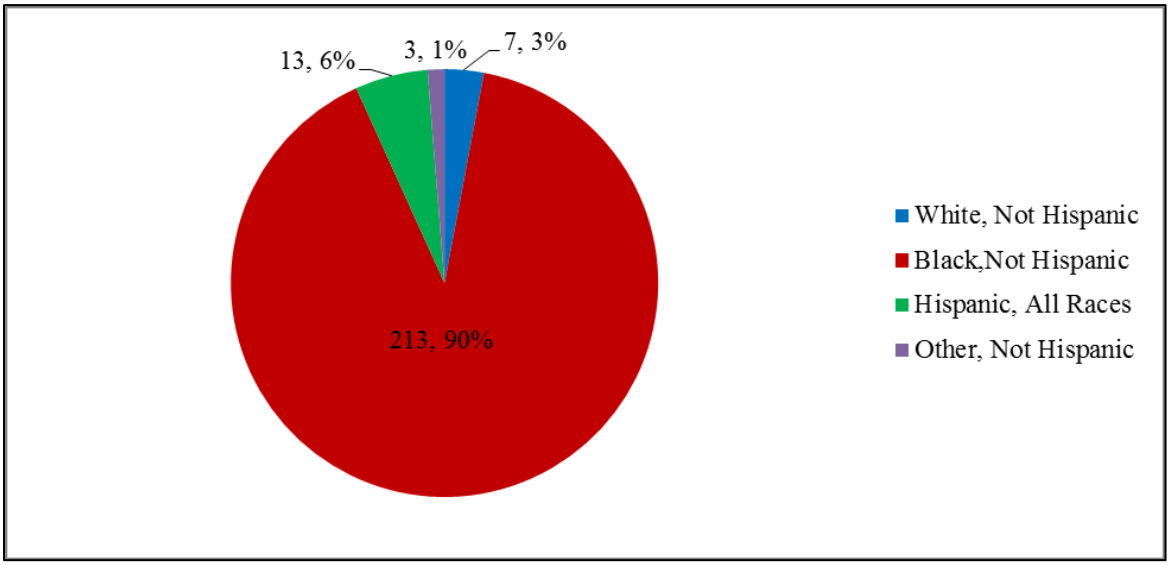


Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;

**: Data was requested from ADH and MDH but was not received at the time of this submission.*

HIV transmission from mother to child during pregnancy, labor and delivery, or breastfeeding is known as perinatal transmission and is the most common route of HIV infection in children. When HIV is diagnosed before or during pregnancy, perinatal transmission can be reduced to less than 1% if appropriate medical treatment is given, the virus becomes undetectable, and breastfeeding is avoided. According to the TN eHARS data, 236 babies were born to HIV infected mothers in the West Tennessee three counties in five years between 2009 and 2013; 86% (n=166) babies were diagnosed as pediatric seroreverters, 10% babies were in pediatric HIV exposure status, and 2% of them were diagnosed as pediatric HIV **(Figure D-4)**. Of these, 90% (n=213) babies were born from the HIV infected Non-Hispanic Black mothers **(Figure D-5)**. During these five years, the number of babies born to HIV infected mothers decreased from 52 cases in 2011 to 41 cases in 2013, the proportion of pediatric seroreverters decreased from 92% to 76%. **(Figure D-6)**.

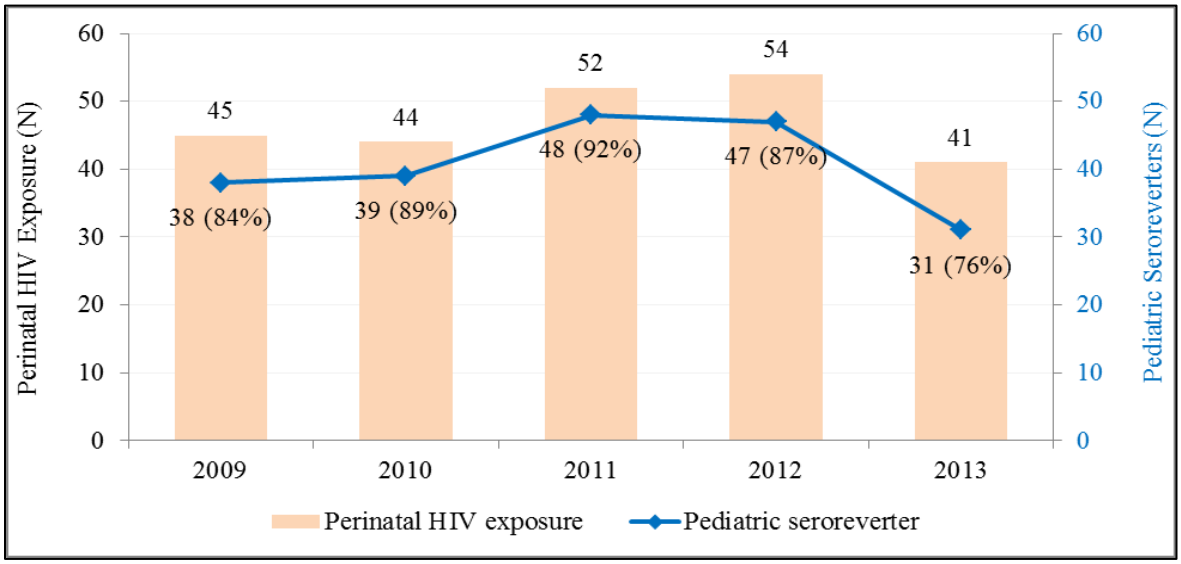
Figure D-5: Babies born with HIV infected mothers by Race/Ethnicity, West Tennessee Three Counties of the Memphis TGA, 2009 – 2013*



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN

**: Data was requested from ADH and MDH but was not received at the time of this submission.*

Figure D-6: Trends of Perinatal HIV infection, West Tennessee Three Counties of the Memphis TGA, 2009 – 2013*

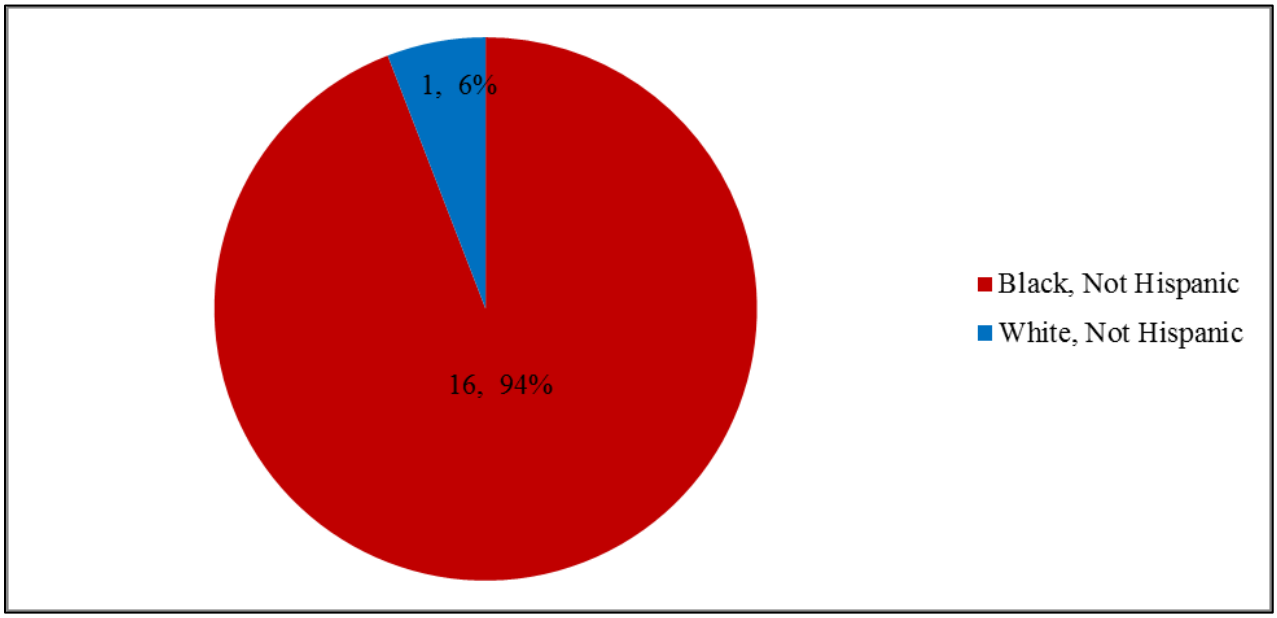


Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN

**: Data was requested from ADH and MDH but was not received at the time of this submission.*

According to the STD surveillance conducted by CDC in 2014, rates of congenital syphilis in Tennessee have continually decreased from 15.8 in 2009 to 2.5 in 2013. Between 2011 and 2015, 17 congenital syphilis cases were diagnosed among the West Tennessee three counties infants; 94% of these births occurred among infants born to Black mothers **(Figure D-6)**.

Figure D-7: Cumulative Congenital Syphilis Cases by Race/Ethnicity, the West Tennessee Counties, 2011 – 2015



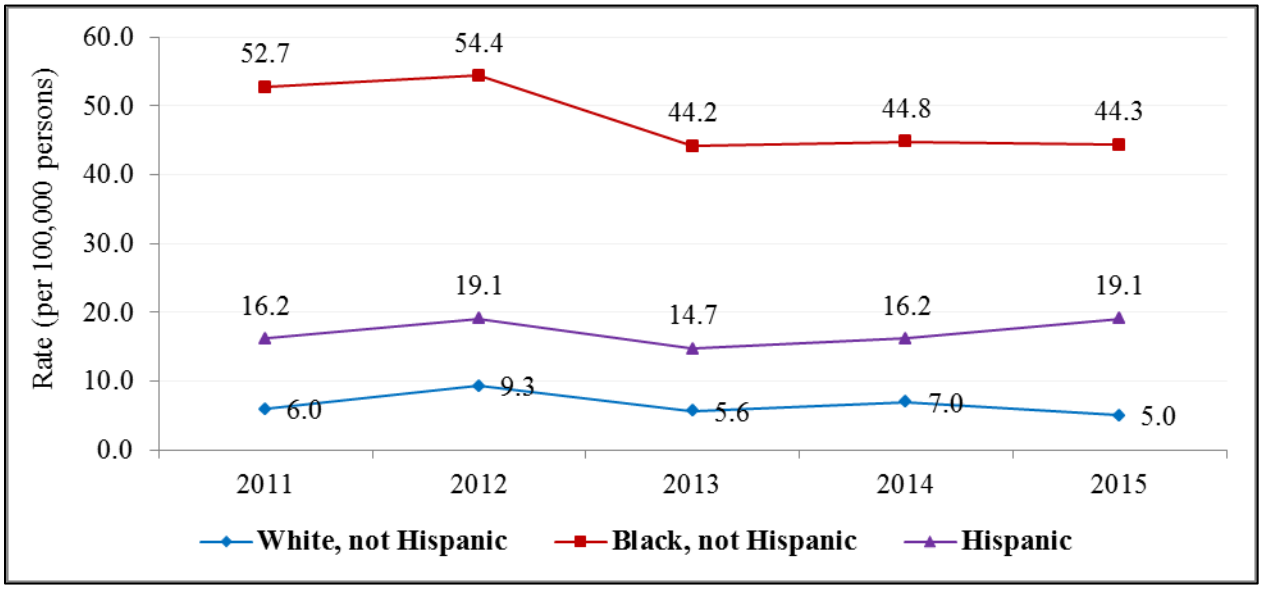
Data Source: PRISM, TN;

The Unmet Need data **(Table 6-3)** shows Non-Hispanic Black women of child-bearing age account for 53% of clients with all unmet need females, and the main modes of HIV transmission (65%) was Heterosexual for those not receiving medical care during 2015 in the West Tennessee three counties. Factors that impede access of Black women to the HIV service delivery system include poverty, lack of health insurance, social stigma associated with HIV, lack of transportation, childcare burdens, and other psychosocial factors that may affect an individual's ability to access or remain in care. Engaging women in care when they are struggling to meet the basic necessities of life, while raising children, is a significant challenge.

D5. Hispanics

In 2015, Hispanics accounted for 2% (n=176) of all PLWHA in the Memphis TGA **(Table B-1)**. While this is a relatively small number, the rate of newly diagnosed HIV cases among Hispanics in Memphis TGA was increasing trend from 14.7 (per 100,000 persons) in 2013 to 19.1 (per 100,000 persons) in 2015, while the rate of newly diagnosed HIV cases decreasing. The new HIV case rate among the Hispanic/Latinos was almost four times higher than that of Non-Hispanic Whites **(Figure D-7)**. Additionally, HIV testing data from publicly funded test sites reports that Hispanics are underrepresented among those receiving testing. Of the 23,075 tests conducted at the Shelby County Health Department during 2015, 270 (2.2%) were administered among the Hispanic population, although Hispanics represent approximately 5% of the Memphis TGA population.

Figure D-8: Rates of Newly diagnosed HIV by Race/Ethnicity, in the Memphis TGA, 2011 – 2015



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; MS, AR.

D6. Hepatitis Infection

The CDC reports that one-quarter of HIV-infected persons are also infected with Hepatitis C (HCV) and an estimated 50% to 90% of persons infected with HIV through injection drug use (IDU) are also infected with HCV. HCV co-infection increases the risk of severe side effects from HIV medications, and co-infection can accelerate the rate at which HCV-related liver disease progression and non–AIDS cause of death in HIV infected individuals[9].

In Tennessee, positive labs indicative of Hepatitis A, B, and C are reportable to the health department for further classification into acute or chronic disease. There were 62 acute Hepatitis A, B, and E cases, but no acute Hepatitis C cases reported in the West Tennessee three counties in 2015 (NEDSS). HIV/Hepatitis co-morbidity does not seem to be a major problem for newly diagnosed HIV disease clients in the Memphis TGA recently, but it remains an important risk factor for previously diagnosed patients and may re-emerge as a significant transmission risk factor in the future.

The Memphis TGA prevalence data indicates that 5% (n=343) PLWHA report injection drug use (IDU) or men who have sex with men and inject drugs (MSM/IDU) as a risk exposure category (**Table B-2**); however, there was 3.2% (n=10) newly diagnosed HIV disease case in 2015 attributed to IDU or MSM/IDU.

D7. Homelessness

Stable housing is essential for successful treatment of HIV/AIDS[10]. A research finding by the Centers for Disease Control and Prevention (CDC) shows that housing status is a stronger predictor of HIV health outcomes than individual characteristics such as gender, race, age, drug and alcohol use, mental health

issues and receipt of social services[11]. The high prevalence of homelessness and persons experiencing unstable housing conditions significantly increases the cost and complexity of HIV care. This study have also reported that homeless and unstably housed PLWHA who improved their housing status reduced risk –behaviors by half, while those whose housing status worsened were four times as likely to increase risks through activities such as sex exchange[12].

In January 2014, The National Alliance to End Homelessness reported that from 2012 to 2014, overall homelessness in Memphis-Shelby County decreased by 21% and chronic homelessness among individuals decreased by 39%[13]. The National Alliance to End Homelessness also estimates that every year approximately 3.4% of homeless individuals are infected with HIV disease in U.S; However, in Memphis TGA, 6% (264) of Ryan White clients were documented to be non-permanently housed in 2015 (CAREWare, TN).

E. HIV Care Continuum

The goals of the National HIV/AIDS Strategy are reducing new HIV infections, improving health outcomes among persons living with HIV, and reducing HIV-related disparities. The President issued an executive order in July 2013 establishing the HIV Care Continuum Initiative[14] to help people who are infected with HIV get diagnosed, linked to care, and treated for HIV.

The HIV care continuum is a model that outlines the sequential steps or stages of HIV medical care that people living with HIV go through from initial diagnosis to achieving the goal of viral suppression, and shows the proportion of individuals living with HIV who are engaged at each stage. The stages of HIV Care Continuum include Diagnosed, Linked to Care, Retained in Care, Prescribed ART, and Virally Suppressed.

For the 2015 Memphis TGA HIV Continuum of Care, three datasets were used to calculate the number of people at each stage of care. The Electronic HIV/AIDS Reporting System (eHARS) provided prevalence and lab information; Tennessee AIDS Drug Assistance Program (ADAP) and the Memphis TGA CAREWare database provided usage of antiretroviral therapy; CAREWare database also provided additional lab information for the Ryan White Part A clients in Crittenden Arkansas, and the four counties which are Marshall, Tate, DeSoto, and Tunica in Mississippi. As outlined in **Map B-1**, PLWHA in the three counties in the West Tennessee account for 90% of PLWHA in the Memphis TGA, and 90% of new HIV cases were diagnosed in these three counties in 2015 **(Map B-3)**. Due to the limitation of accessibility of the eHARS data for the counties of Mississippi and Arkansas, the stages of HIV continuum of care were calculated for the Shelby, Tipton, and Fayette counties based on the Tennessee eHARS data, Tennessee ADAP, and the antiretroviral therapy in the TGA CAREWare database. Since 90% of the PLWHA reside and 90% of new HIV cases diagnosed in the West Tennessee three counties in the Memphis TGA, the percentage measures the stages of HIV care continuum reflect the stages of HIV care continuum in the Memphis TGA.

Different research studies present the stages of the HIV care continuum in different ways. The definitions of each stage and calculation methods vary. The Memphis TGA has constructed the HIV Care Continuum using the same approaches that the CDC currently has been using, the HIV prevalence-based continuum and the HIV diagnosed-based continuum[15]. These two approaches are used for different purposes, but both are essential to monitor the nation's progress and identify key HIV prevention and care needs. The major difference between the two approaches is that they have different denominators. That is, they measure progress among different groups of people living with HIV:

E1. Definitions of Each Stage of HIV Care Continuum

- **Prevalence-Based HIV Care Continuum**

Estimated HIV Infection: Estimated HIV infection is calculated by adding the number of persons living with HIV/AIDS to the persons unaware of their HIV infection status. This estimation is based on the latest CDC data of 86% of diagnosed and 14% of unaware of their HIV infection status.

HIV-Diagnosed: Known/reported cases and percentages of people living with HIV/AIDS in the EMA/TGA, regardless of AIDS (stage 3 HIV infection) status. This number only includes the cumulative number of persons reported to the surveillance system through the end of a given year, minus the cumulative number of persons who were reported as having died.

Linkage to Care: Determined by using lab values in Tennessee eHARS database for the three counties which are Shelby, Tipton, and Fayette. If a person had a CD4 or viral load test within 90 days of his/her initial HIV diagnosis he/she was considered to have been linked to HIV medical care. This is not a measure of whether or not a person is linked into the HIV system of care, meaning he/she could have received a medical or support service; it is solely a measure of whether or not a person was linked into the HIV medical system within three months. *Data remains available for the four counties in Mississippi and one county in Arkansas.*

Retained in Care: The 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. *Data remains available for the four counties in Mississippi and one county in Arkansas.*
Prescribed Antiretroviral Therapy (ART): The percentage of people receiving medical care and who have a documented ART prescription in their medical records in the observed year. *Data remains available for the four counties in Mississippi and one county in Arkansas.*

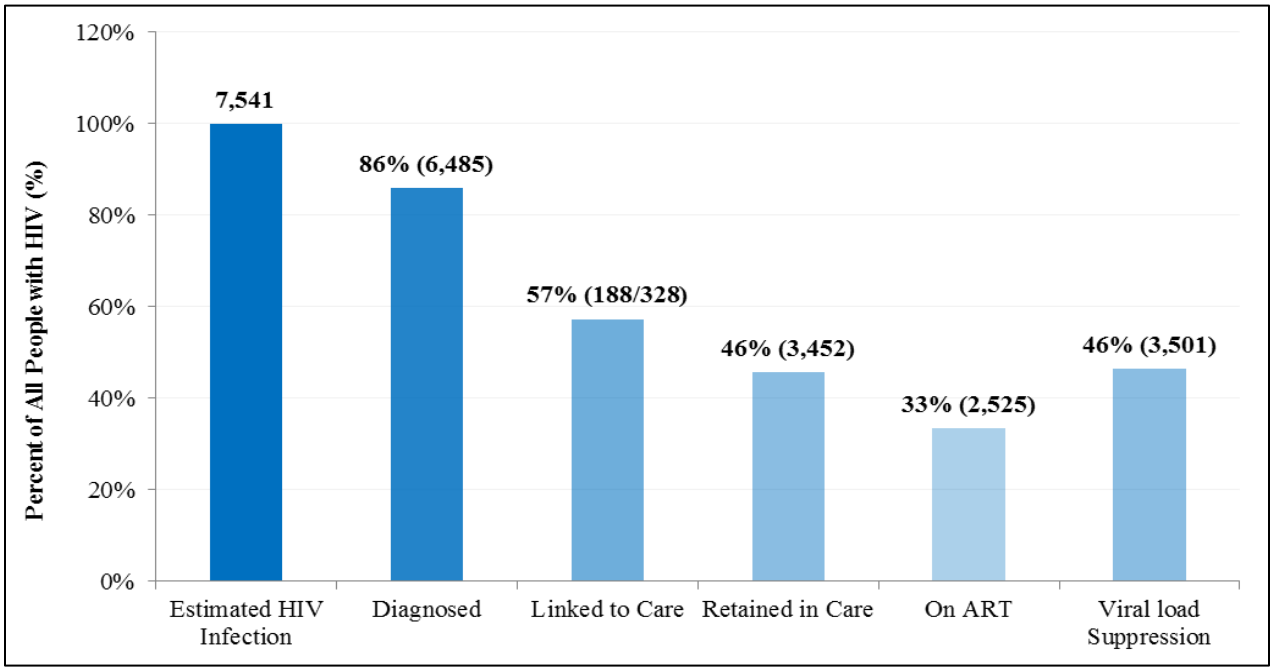
Viral Load Suppression: Calculated using the viral load laboratory test results recorded in eHARS. Percentage of individuals whose most recent HIV viral load within the observed year was less than 200 copies/ml. *Data remains available for the four counties in Mississippi and one county in Arkansas.*

The CDC estimates that 14% of people infected with HIV in the State of Tennessee were unaware of their infection in 2012. In applying this statistical model to the number of PLWHA in the West Tennessee three counties at the end of 2015, we estimate that 1,057 individuals were HIV-infected but unaware of their status. In other words, one in seven persons infected with HIV are unaware of their HIV status in Tennessee. At the end of 2015, with this calculation method, total persons living with HIV disease in the West Tennessee three counties including persons unaware of their HIV status are estimated to be 8,386. This estimate is calculated using the Estimated Back Calculation (EBC) methodology below:

- National Proportion Undiagnosed (14%)=***P***
- *Number of individuals diagnosed with HIV and living as of December 31, 2014* ***=N***
- ***P ÷ (1 - P) x N*** = **14% ÷ (1 – 14%) x 6,485** *(diagnosed living with HIV/AIDS)* = **1,057 *(unaware)***
- *Total number of persons living with HIV disease=6,485+1,055=**7,541**.*

In the HIV Care Continuum, people living with HIV are dropping off at every subsequent stage in the continuum. Of the 7,541 people living with HIV in 2015, 45% were engaged in HIV medical care, 33% were prescribed ART, and 45% had achieved viral suppression **(Figure E-1)**.

Figure E-1: Prevalence-Based HIV Care Continuum in the West Tennessee Three Counties of the Memphis TGA, 2015*



Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; CAREWare, ADAP, TN

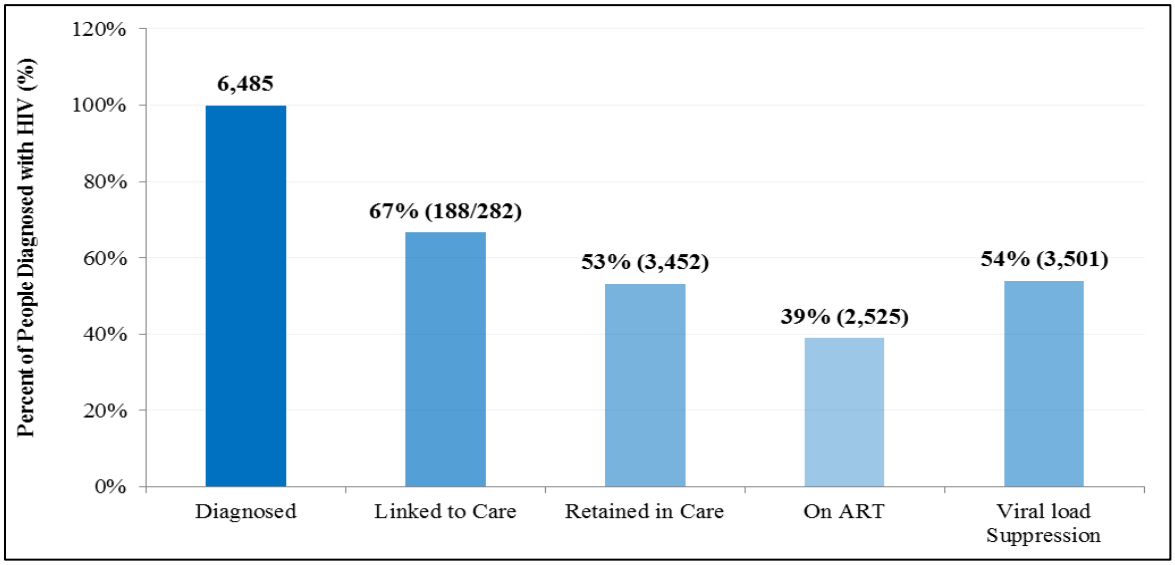
**: Data was requested from ADH and MDH but was not received at the time of this submission.*

The greatest gaps were among the diagnosed (86%) to linkage to care (57%) and retention in care (45%). One challenge in calculating the continuum of care remains that we can best document ART prescription status for Ryan White Part A clients, but 40% of PLWHA in the West Tennessee three counties are not Ryan White clients. Those infected who receive their care privately can be documented to achieve viral suppression, but not all data about their medical care is available. We are able to observe however that 45% of all people with HIV in the West Tennessee three counties did not have their HIV infection under control. Although the percentage of viral load suppression (45%) among the people living with HIV in the West Tennessee three counties in 2015 is higher than the National average of viral load suppression (25%) in 2012, more than half of the people infected with HIV (55%) are at risk to be continuously transmitting HIV to others.

- **Diagnosed-based HIV Care Continuum**

In the West Tennessee three counties, there were 6,485 people currently living and diagnosed with HIV as of 2015. Of the 282 people newly diagnosed with HIV, 67% (n=188) people were linked to care within the three months of HIV diagnoses in 2015. Among the 6,485 PLWH, 53% (n=3,452) PLWH were retained in to care; 39% (n=2,525) of them have documented Antiretroviral Therapy (ART) prescription; 54% (n=3,501) of them achieved viral load suppression. Although the HIV Care Continuum points to the need for progress across all phases of HIV health care delivery, the marked decrease between linkage to care and retention in care indicates that these are critical intervention points for scaling up ART coverage and maximizing public health and clinical benefits[17].

Figure E-2: Diagnosed-based HIV Care Continuum in the West TN Three Counties of the Memphis TGA, 2015*



Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; CAREWare, ADAP, TN

**: Data was requested from ADH and MDH but was not received at the time of this submission.*

E2. Health Disparities Identified Based on HIV Care Continuum

Of the 2,984 persons living with HIV who were not virally suppressed, the majority were males (69%), non-Hispanic Blacks (83%), adults currently aged 15-34 years old (29%), and MSM (40%) as described in **Table E-1**; 97% of those did not achieve viral load suppression currently resided in Shelby County Tennessee, 42% of them were living with AIDS **(Table E-2)**.

Table: E-1: Demographic Characteristics of PLWH Who Did Not Achieve Viral Load Suppression in the West Tennessee Three Counties in the Memphis TGA in 2015*

	Not Suppressed Virally	
	N	**%**
All	**2,984**	**100%**
Gender/Sex		
Female	921	31%
Male	2,063	69%
Race/Ethnicity		
White, Not Hispanic	364	12%
Black, Not Hispanic	2,463	**83%**
Hispanic, All Races	83	3%
Other, Not Hispanic	74	2%
Current Age Group as of 2015		
0 to 14	32	1%
15 to 19	34	1%
20 to 24	152	5%
25 to 34	672	23%
35 to 44	779	26%
45 to 54	770	26%
55+	545	18%
Risk/Exposure		
Male Sex with Male	1,187	40%
Heterosexual Contact	958	32%
MSM/IDU	46	2%
IDU	103	3%
Perinatal Exposure	59	2%
Hemophilia/blood transfusion	11	0%
No Identified	620	21%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;

**: Data was requested from ADH and MDH but was not received at the time of this submission.*

Table: E-2: PLWH Who Did Not Achieve Viral Load Suppression by County in the West Tennessee Three Counties of the Memphis TGA, in 2015*

County	PLWH, non- AIDS, as of 2015		PLWA, as of 2015		PLWH, as of 2015	
	N	**%**	**N**	**%**	**N**	**%**
Total	**1,721**	**58%**	**1,263**	**42%**	**2,984**	**100%**
Fayette Co. TN	17	1%	15	1%	32	1%
Shelby Co. TN	1,686	98%	1,222	97%	2,908	97%
Tipton Co. TN	18	1%	26	2%	44	1%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;

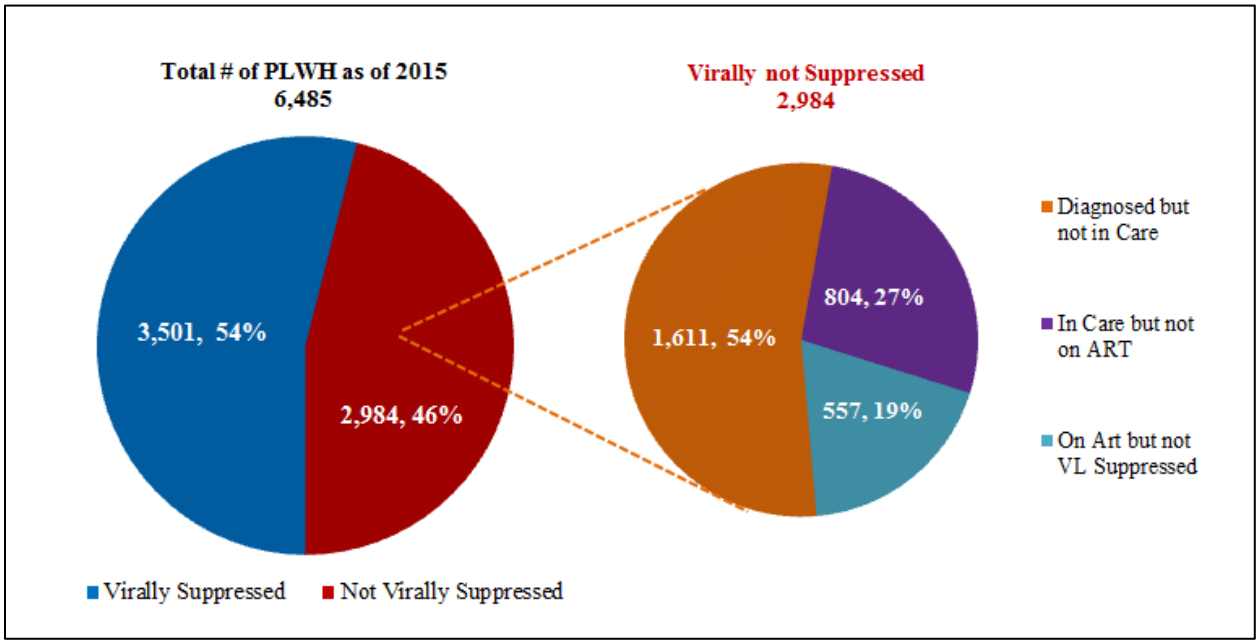
**: Data was requested from ADH and MDH but was not received at the time of this submission.*

The further analysis of the 46% PLWH who were not virally suppressed in 2015 depicted in **Figure E-3** shows that among those 2,984 who did NOT have their virus under control:

- 54% (n=1,611) had been diagnosed, but were not engaged in regular HIV care
- 27% (n=804) were in HIV care, but were not prescribed ART
- 19% (n=557) were on ART, but not virally suppressed.

Among the people who did not achieved viral load suppression, the largest gap is between HIV diagnoses and retention in care (54%), followed by the persons who retained in care but not on antiretroviral therapy (27%). The HIV Care Continuum graph **(Figure E-2)** also shows the biggest gap between the HIV diagnoses and the Retain in Care and highlights importance of the Retention in Care for successfully achieving the viral suppression among the PLWH.

Figure E-3: Characteristics of PLWH not Virally Suppressed, West Tennessee Three Counties in the Memphis TGA 2015*



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;

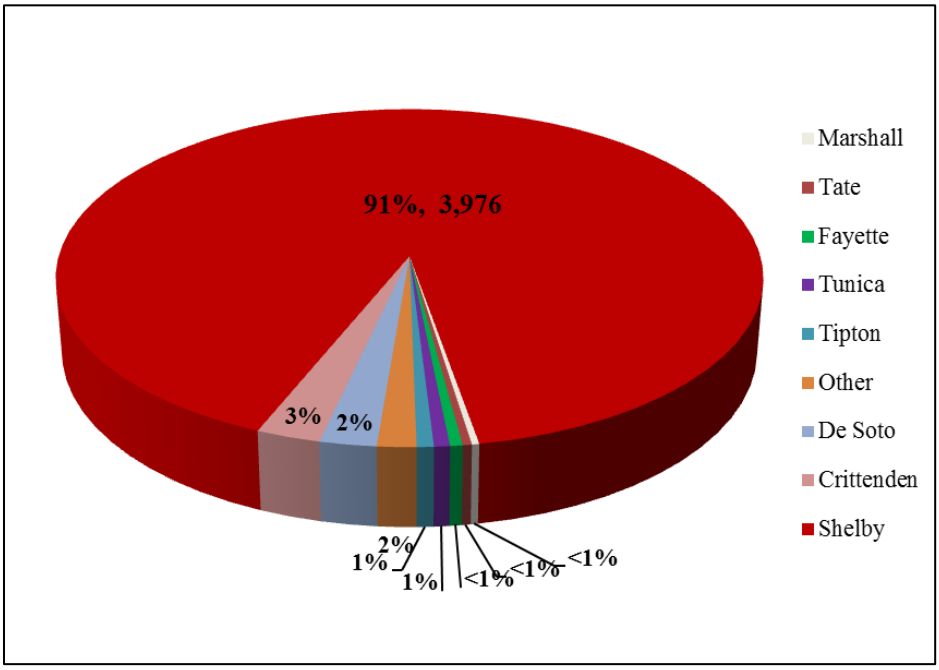
**: Data was requested from ADH and MDH but was not received at the time of this submission.*

E3. Memphis TGA Ryan White HIV/AIDS Program Clients

Memphis TGA Ryan White Part A program grantees have been required to report client-level data covering demographics, services and clinical information annually to the Health Resources and Services Administration (HRSA) since 2009. In 2015, Memphis TGA Ryan White Part A HIV/AIDS program served a total 4,369 clients. Of these, 3,976 (91%) clients resided in Shelby County, Tennessee, followed by Crittenden County in Arkansas (3%) and DeSoto County in Mississippi (2%). Rest of the clients (4%) resided in other counties in the Memphis TGA. **(Figure E-3)**.

Of all Ryan White Memphis TGA clients, there were 66% males, 33% females, and 1% (n=36) transgender (including male-to-female and female-to-male) **(Table E-3)**. Age group 25-44 years old accounted for 48% of the Ryan White clients, followed by age group 45-64 years old (45%), 13-24 years (7%), 65+ years (3%). The racial/ethnic groups represented most commonly include black (88%), white (8%), Hispanic/Latino (2%), and 2% for all other racial/ethnic groups.

Figure E-3: Ryan White HIV/AIDS Program Clients by County, Memphis TGA, 2015



Data Source: CAREWare, Memphis TGA

Table E-3: Ryan White HIV/AIDS Program Clients, Memphis TGA, 2015

	Ryan White Clients, CY 2015	
	N	**%**
Total	4,369	100%
Gender		
Female	1,463	33%
Male	2,870	66%
Transgender	36	1%
Current Age as of 2015		
0 - 12 years	14	0.3%
13 - 24	289	7%
25 - 44	2,115	48%
45 - 64	1,828	42%
65+	123	3%
Race/Ethnicity		
White (non-Hispanic)	368	8%
Black or African-American	3,827	**88%**
Hispanic	91	2%
Other	83	2%

Data Source: CAREWare, Memphis TGA

E4. Ryan White HIV/AIDS Program Client Clinical Outcomes – West Tennessee

The following section provides Viral Load Suppression and Retention in Care information on all Ryan White HIV/AIDS Program Clients who are in clinical care in West Tennessee three counties in 2015. Health Resources and Services Administration (HRSA) , HIV/AIDS Bureau (HAB) outlined following definitions for clinical outcomes for the Ryan White HIV/AIDS program clients[18].

Viral Load Suppression is the percentage of HIV positive clients who had at least one Outpatient/Ambulatory Medical Care (OAMC) visit and had at least one viral load reported whose last viral load was <200 copies.

- The Denominator for Viral Load Suppression is the total number of clients who had at least one OAMC visit and had at least one viral load reported.

Retention in Care is the percentage of HIV-positive clients who had at least two outpatient ambulatory medical visits at least 90 days apart and one visit prior to September of the reporting year.

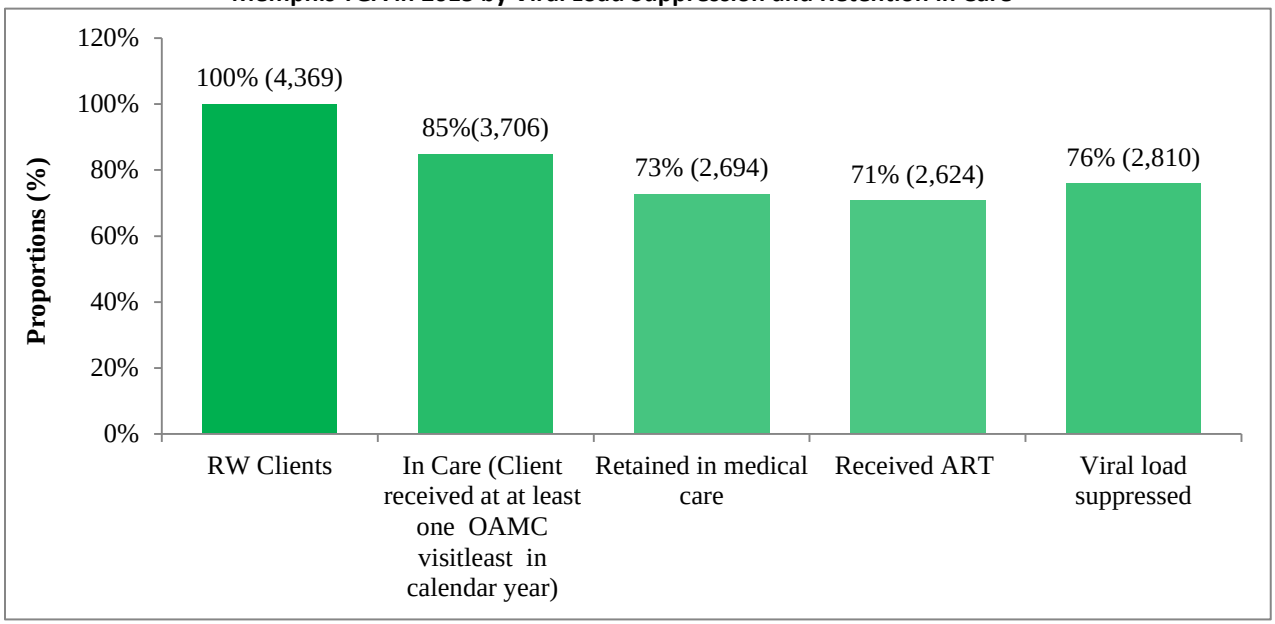
- The Denominator for Retention in Care is the total number of clients with an OAMC visit before September 1st.

Antiretroviral Therapy (ART) Among Persons in HIV Medical Care is Percentage of clients with an HIV diagnosis who were prescribed ART.

- The Denominator for ART is the total number of clients who had at least one OAMC visit and had at least one ART prescription.

This information is only collected on clients receiving an OAMC service, and not on all clients receiving RWHAP services.

Figure E-4: Ryan White HIV/AIDS Program Client Clinical Outcomes in the West Tennessee Three Counties in the Memphis TGA in 2015 by Viral Load Suppression and Retention in Care*



Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;
**: Data was requested from ADH and MDH but was not received at the time of this submission.*

During the calendar year 2015, of all 4,369 Ryan White (RW) Part A served clients, 85% clients received at least on Outpatient/Ambulatory Medical Care (OAMC) visit, medical care visit (either medical care or case management services) in the 12-months measurement **(Figure E-4)**. Of the 3,706 (85%) HIV+ individuals who received RW-funded medical care, and had visit dates available, 2,694 (73%) clients were retained in medical care (at least 2 medical care visits at least 90 days apart), 2,624 (73%) were prescribed Antiretroviral Therapy (ART), and 2,810 (76%) had viral load <200 copies/ml at the most recent test.

The relationship of engagement of care and achieved viral load suppression among the Ryan White Part A clients is shown in **Table E-4**. Men are less likely to be diagnosed, linked, or retained in care compared with women. The transgender clients (37%) are two times less likely retained in care compared to the male (72%) and females (74%); and also only 68% of them achieved viral load suppression. Among all age groups, adults aged 25-44 years old (69%) are least retained in care or to be virally suppressed. This may be because young people have been infected more recently and had less time to be tested or linked to care compared with older adults. The older age group 65+ years old achieved the highest percentage of retained in care (84%) and virally suppressed (91%). This finding highlights the importance of long term engagement of care and treatment in order to achieve a higher level of viral load suppression. Whites (non-Hispanic) are least likely to retain to care (69%). Blacks/African-Americans are the least likely to achieve viral load suppression (75%) whereas Hispanics/Latinos were achieved the highest percentage of viral load suppression (84%).

Table E-4: Ryan White HIV/AIDS Program Clients in the West Tennessee Three Counties in the Memphis TGA in 2015, Demographic Characteristics by Viral Load Suppression and Retention in Care*

Retention in Care	Retained in Care	VL Suppression
Total	73%	76%
Gender		
Female	74%	76%
Male	72%	76%
Transgender Male to Female	37%	68%
Current Age as of 2015		
13 - 24	73%	73%
25 - 44	69%	70%
45 - 64	76%	82%
65+	84%	91%
Race/Ethnicity		
Black or African-American (non-Hispanic)	73%	75%
Hispanic/Latino	74%	86%
More than one race	76%	74%
White (non-Hispanic)	69%	79%

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN., CAREWare, ADAP, TN
**: Data was requested from ADH and MDH but was not received at the time of this submission.*

The proportion of retention, ART prescription, and viral load suppression among the RW Part A served clients are high compared to the proportion of those all PLWHA in the Memphis TGA. This achievement highlights the successfully implementation of the Ryan White Treatment ACT. Both methods of calculating the Continuum of Care in the Memphis TGA have demonstrated room for improvement. These improvements will help to achieve the goals of the National HIV/AIDS Strategy and improve individual and public health.

Table 12: TN Continuum of Care Update

Regression, Ryan White, Effect Modifier

	Linked to Care		Engaged in Medical Care		Achieved Viral Suppression	
	PR	95% CI	PR	95% CI	PR	95% CI
Age Category						
<15 years	1.20	(0.95, 1.52)	1.21	(0.99, 1.47)	1.07	(0.85, 1.34)
15-24 years	**0.85**	(0.76, 0.94)	1.06	(0.99, 1.14)	**0.87**	(0.79, 0.95)
25-34 years	**0.86**	(0.79, 0.95)	**0.93**	(0.89, 0.98)	**0.91**	(0.87, 0.95)
35-44 years	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
45-54 years	0.97	(0.88, 1.07)	**1.15**	(1.11, 1.19)	**1.17**	(1.13, 1.21)
>54 years	1.09	(0.98, 1.21)	**1.24**	(1.19, 1.29)	**1.25**	(1.21, 1.31)
Sex						
Male	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Female	**1.14**	(1.02, 1.27)	**1.06**	(1.02, 1.11)	**1.05**	(1.01, 1.10)
Race/Ethnicity						
White (NH)	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Black (NH)	**0.85**	(0.76, 0.97)	**0.94**	(0.90, 0.99)	**0.83**	(0.79, 0.87)
Hispanic	1.13	(0.92, 1.38)	**0.65**	(0.55, 0.75)	**0.61**	(0.53, 0.71)
Other	**1.21**	(1.01, 1.44)	**1.39**	(1.25, 1.54)	**1.14**	(1.01, 1.29)
Ryan White-by-Race Interaction						
RW vs. No RW (White)	**1.13**	(1.03, 1.26)	**1.49**	(1.42, 1.56)	**1.42**	(1.37, 1.48)
RW vs. No RW (Black)	**1.28**	(1.16, 1.41)	**1.57**	(1.51, 1.62)	**1.57**	(1.51, 1.63)
RW vs. No RW (Hisp.)	1.08	(0.86, 1.37)	**2.61**	(2.22, 3.07)	**2.31**	(1.96, 2.71)
RW vs. No RW (Oth.)	1.01	(0.82, 1.24)	**1.18**	(1.04, 1.34)	**1.32**	(1.14, 1.53)

*Estimates also adjusted by HIV transmission risk category and county/TGA of residence

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F. Unmet Need Estimate and Assessment

F1. Process for Updating Unmet Need

In the Memphis TGA, there are a significant number of individuals who are aware of their HIV-positive status but are not receiving HIV-related primary health care. Unmet Need for HIV primary medical care in the Memphis TGA is defined as no evidence of any of the following three components during calendar year in 2015:

1. Viral load testing;
2. or CD4 count;
3. or Provision of antiretroviral therapy (ARV).

The Epidemiology Section at the Shelby County Health Department was consulted to collect and analyze data for the unmet need framework, which includes data sources containing the three components listed above to describe the percentage of PLWHA who are not receiving HIV primary medical care. Tennessee Department of Health policy requires laboratories to report all tests indicative of HIV infection, but this regulation did not specifically mandate reporting of CD4 and viral load labs until 2012. Mississippi and Arkansas legislation does not mandate reporting of CD4 and viral load tests, but any reported labs are documented. Among the Memphis TGA Ryan White client population, all CD4 and viral load labs are documented in CAREWare, the electronic medical record system maintained by the Memphis TGA Program. In addition, all persons receiving services from the AIDS Drug Assistance Program (ADAP) or the Insurance Assistance Program (IAP) from Tennessee Ryan white Part B are included in the framework. These data sources are matched using identifiable information (last name, first name, date of birth) with the state surveillance registry to classify individuals as “in care” or “out of care.”

Additionally, persons receiving care through state Medicaid may not be included in the framework data sources listed above. To account for this, the total number of PLWHA submitting pharmacy claims for antiretroviral therapy to Arkansas, Mississippi and Tennessee Medicaid programs are subtracted from the framework. Since identifiable data was not available to directly match to the state surveillance registry, this method likely contributes to duplication and possibly over-estimates the number of persons in care.

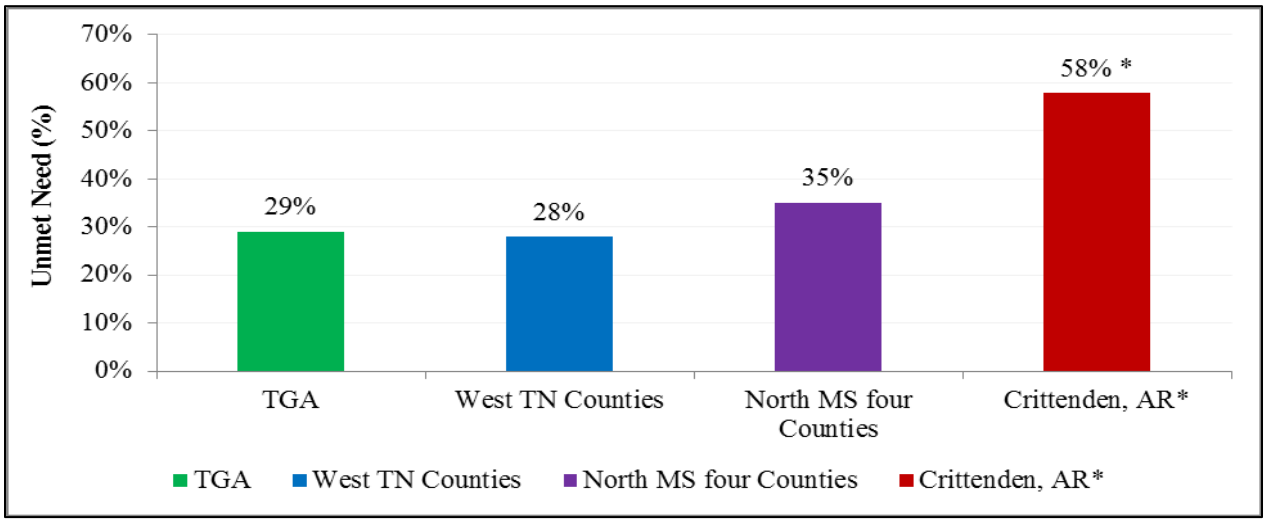
In addition to the limitation described above, it is important to note an additional limitation with the unmet need framework methodology in the Memphis TGA. Data sources used for some of the variables in the unmet need framework may not include persons covered outside of the Ryan White or Medicaid systems of care. Viral loads and CD4 counts for all patients are reportable, however.

F2. Unmet Need Trends Between 2011 - 2015

Disease status for PLWHA enrolled in Tennessee, Mississippi and Arkansas Medicaid programs is not available, so a stratified breakdown in the total percentage of persons with HIV disease (not AIDS) or

AIDS who are out-of-care is only available for data collected from other sources. As shown in **Figure F-1**, among the 7,212 PLWHA in the Memphis TGA, it is estimated that 29% of all PLWHA did not receive primary medical care in the Memphis TGA in 2015. The Unmet Need percentages in the West Tennessee three counties were the lowest (28%) and followed by the north MS four counties (35%) in 2015. Of the PLWHA in Crittenden County AR, 58% of them were estimated to be out of medical care in 2014. Overall 29% of PLWHA were out of medical care and 85% of those resided in Shelby County, TN **(Figure F-1)**.

Figure F-1: Unmet Need Among the PLWHA in the Memphis TGA, in 2015



Data Source: Tennessee Department of Health, Mississippi State Department of Health, Arkansas Department of Health; (eHARS, ADAP/IAP); Ryan White Memphis TGA Part A Program (CAREWare);

**: 2014 unmet need data from Crittenden County AR.*

Table F-1: Residency of PLWHA Out of Medical Care by County, Memphis TGA, 2015

	PLWHA		Unmet Need		
	N	**Proportion (%)**	**N**	**Unmet Need (%)**	**Proportion (%)**
Memphis TGA	**7,212**	**100%**	**2,105**	**29%**	100%
West TN Counties	6,485	90%	1,794	28%	85%
North MS Counties	523	7%	193	37%	9%
Crittenden, AR*	204	3%	118	58%	6%

Data Source: Tennessee Department of Health, Mississippi State Department of Health, Arkansas Department of Health; (eHARS, ADAP/IAP); Ryan White Memphis TGA Part A Program (CAREWare);

**: 2014 unmet need data from Crittenden County AR.*

The Unmet Need Framework is used by the Planning Group to prioritize and allocate funding for services. This data is presented to the Planning Group during the Priority Setting and Resource Allocation process. In addition, the Grantee provides monthly updates to the Planning Council with service utilization and client survey data. The Grantee and the Planning Council consider all the available data from these reports in prioritizing and allocating funding for services, and in developing the system of care. As outlined in **Table F-2**, of those 7,212 PLWHA, 71% (n=5,107) individuals received specified HIV

primary medical care during the 12 – month of period in 2015 in Memphis TGA. However, during the same time period total number of 2,105 (29%) persons living with diagnosed HIV infection did not have any evidence of receiving any types of medical care.

Table F-2: Unmet Need Framework in the Memphis TGA, in 2015

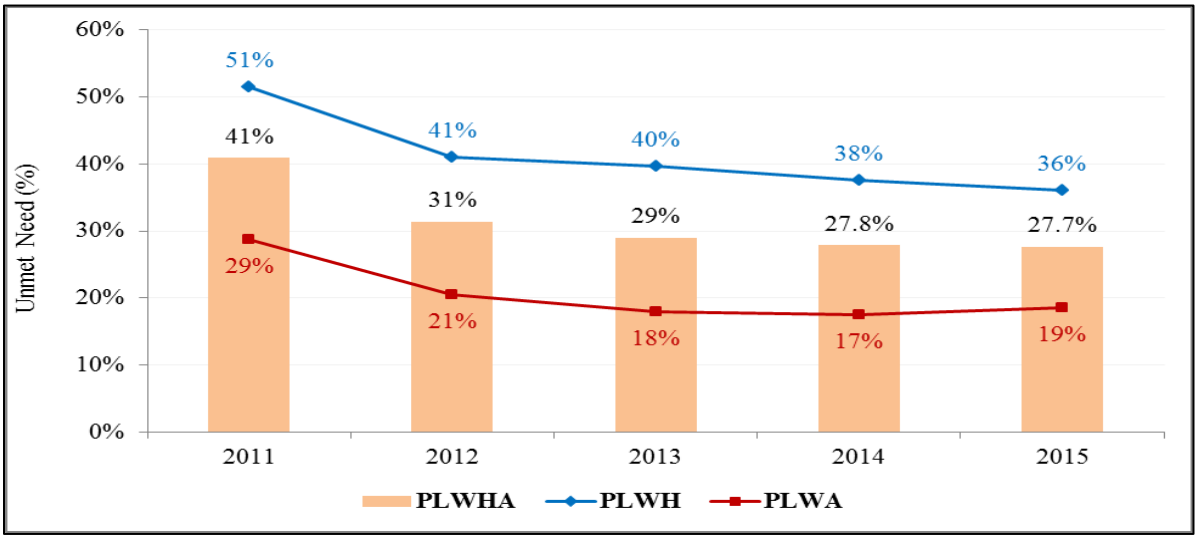
	Input Population Sizes	Value	Percent (%)	Data Source(s)
Row A	Number of persons living with AIDS (PLWA), for the period as of 12/31/2014	3,433		TN Enhanced HIV/AIDS Reporting System (eHARS)
Row B	Number of persons living with HIV (PLWH)/non-AIDS/aware, for the period as of 12/31/2014	3,779		TN Enhanced HIV/AIDS Reporting System (eHARS)
Row C	Total number of HIV+/aware for the period as of 12/31/2014	7,212		TN Enhanced HIV/AIDS Reporting System (eHARS)
	Care Patterns	Value		Data Source(s)
Row D	Total number of HIV+/aware who received the specified HIV primary medical care during the 12-month period [1/1 /2014 – 12/31/2014]	5,107	**71%**	TN Enhanced HIV/AIDS Reporting System (eHARS), Ryan White Care Ware, HDAP, IAP Database
	Calculated Results	Value		Calculation
Row E	Total HIV+/aware not receiving the specified HIV primary medical care (quantified estimate of unmet need)	2,105	**29%**	Percent: E/C

(1) Shelby County Health Department, Epidemiology Section.
(2) Mississippi Department of Health, STD/HIV Office.
(3) Arkansas Department of Health, HIV/AIDS Registry Section. The HIV/AIDS Registry Section is fully funded by a Cooperative Agreement with the Centers for Disease Control and Prevention (CDC).

F3. Trends Associated with Unmet Need Data

The West Tennessee three counties (Shelby, Fayette, and Tipton) account for 90% of the total PLWHA in Memphis TGA in 2015. Due to the limitations of availability and reliability of data from the north Mississippi four counties and Crittenden County in Arkansas, the trends of Unmet Need are analyzed with the data from the West Tennessee three counties. The Unmet need assessments in the Memphis TGA began in calendar year 2007, which was included in the first Memphis TGA FY2009 grant. The Unmet Need percentage among the PLWHA in the West TN has steadily and continually decreased from 41% in 2011 to 27.7% in 2015. This decline is reflected in both Persons Living with AIDS (PLWA) and Persons Living with HIV not AIDS (PLWH) from 51% and 29% in 2011 to 36% and 19%; and higher number of PLWA (81%) received medical care compare to the PLWH (64%) in 2015 (**Figure F-2)**. This is likely attributable to the Ryan White Part A medical and supportive services implemented over the past six years. In addition, the policy change to include mandatory reporting of all CD4 and Viral Load tests in the state of Tennessee provided additional data sources to improve estimates of unmet need beginning in 2012.

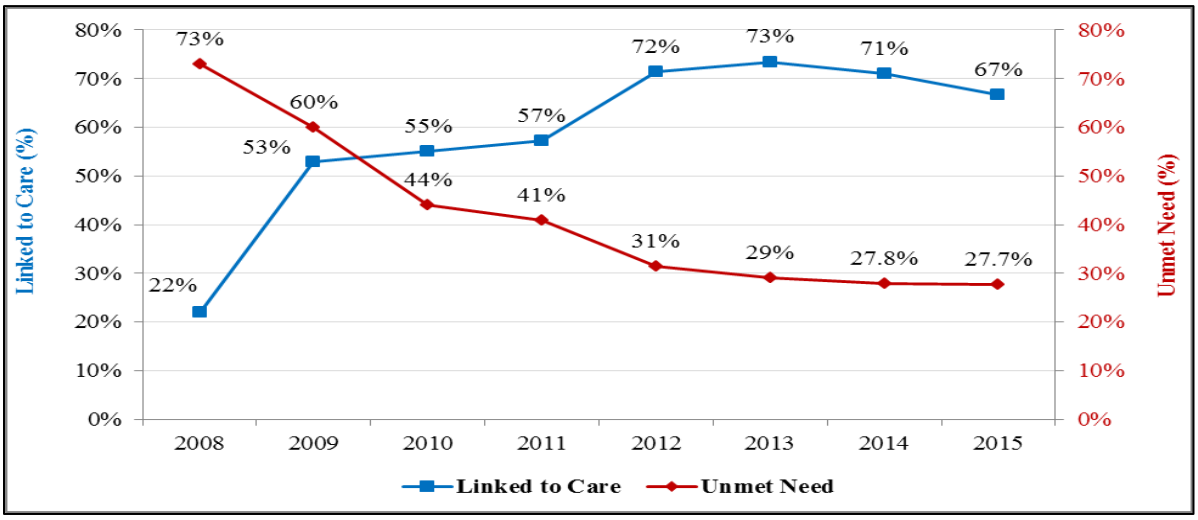
Figure F-2: Unmet Need Among the PLWHA, West Tennessee Three Counties in the Memphis TGA, 2011 – 2015*



Data Source: Tennessee Department of Health; (eHARS, ADAP/IAP); Ryan White Memphis TGA Part A Program (CAREWare);
**: Data was requested from ADH and MDH but was not received at the time of this submission.*

While efforts have been made to increase linkage and outreach services, the number of PLWHA out of medical care are significantly decreasing. This inverse correlation between linkage to care and Unmet Need among the PLWHA in the West TN shows the Unmet Need decrease results from the linkage to care increase; highlights the importance of interviewing and referring clients for partner and prevention services **(Figure F-3**). With the continual increase of Linkage to Care from 22% in 2008 to 67% in 2015, the percentage of Unmet Need decreased from 73% in 2008 to 27.7% in 2015. As a result of this decrease of Unmet Need, HIV incidence rate decreased approximately 21% from 30 (per 100,000 persons) in 2011 to 23.6 (per 100,000 persons) in 2015 in Memphis TGA **(Table F-6)**. In addition, AIDS incidence rate decreased 53% from 21.1 (per 100,000 persons) in 2013 to 10.0 in 2015 **(Table F-8)**. The Increase of linkage to care and reduction of Unmet Need are the testament to successful prevention and care measures.

Figure F-3: Linkage to Care and Unmet Need in the West Tennessee Three Counties in the Memphis TGA, 2008-2015*



Data Source: Tennessee Department of Health; (eHARS, ADAP/IAP); Ryan White Memphis TGA Part A Program (CAREWare);
**: Data was requested from ADH and MDH but was not received at the time of this submission.*

F4. Demographics and Location of PLWHA Not In Care

The Unmet Need trends of PLWHA between 2011 and 2012 in Shelby County TN are reflected on the zip code level geographic map shown in the **Map F-1 to Map F-4**. The zip code level map of Unmet Need was created based on the number of persons out of medical care among the PLWHA in Shelby County using ArcGIS 10.2. The data for the 2011 Unmet Need map classified by quantiles, and this quantile measurement is used for the 2012 to 2014 Unmet Need map in order to show the trend of the Unmet Need by Zip Code level. The darkest shaded area represents the highest concentration of the individuals out of medical care.

Figure 4-2 shows that while the Unmet Need equals 40%, five zip code areas (38103 – 38105, 38106 – 38126) represented Unmet Need highest concentrated areas (more than 198 persons /zip code) and six zip code areas (38107-38108, 38112-38122, 38109, 38116, and 38115) represented Unmet Need second highest concentrated areas (132-198 persons/zip code) in 2011 in Shelby county. In 2014, the Unmet Need decreased to 27% and the five darkest shaded areas (198+ persons/zip code) that were shown in 2011 disappeared and reduced to Unmet Need second highest concentrated areas; the second highest concentrated areas changed to Unmet Need lesser concentrated areas (67 – 132 persons/zip code). The zip code level Unmet Need map also shows the correlation between the area of higher percentage of Unmet and the area of higher rates of HIV incidence and prevalence **(Map B-4)**.

F5. PLWHA Underrepresented in the Memphis TGA Ryan White HIV/AIDS System of Care

Demographics such as sex, race, and age were analyzed among persons with unmet need **(Table F-3)**. Eighty-two percent of those not receiving primary medical care were Non-Hispanic Blacks, followed by

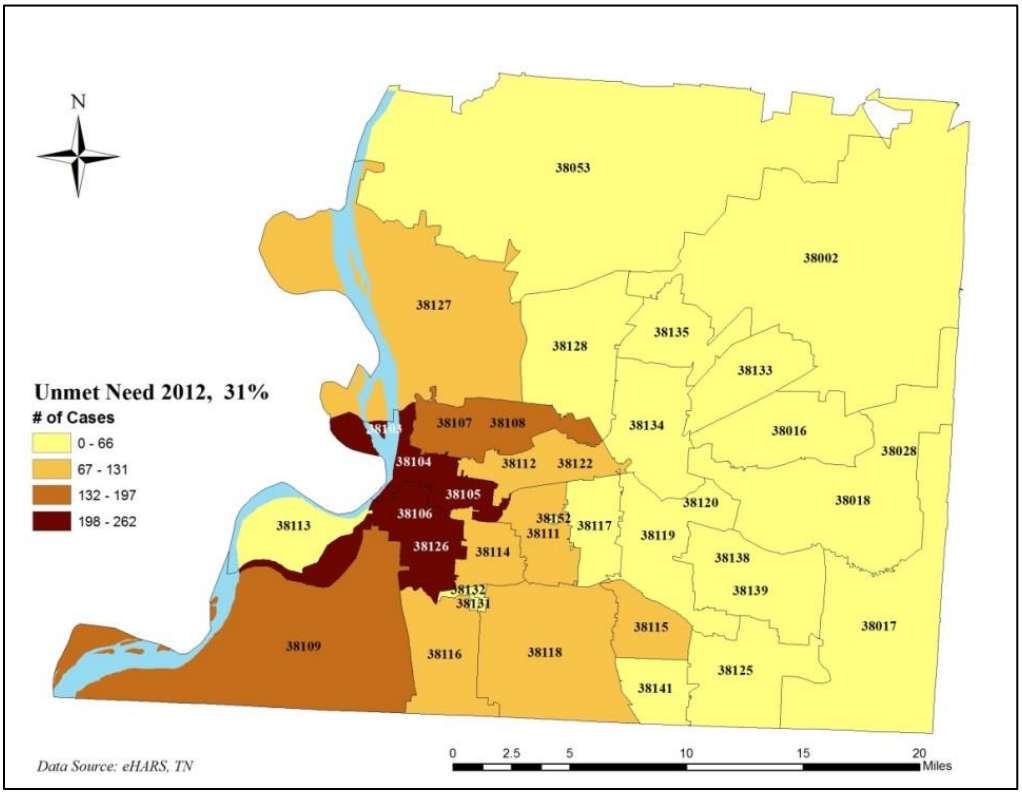
14% Non-Hispanic Whites, and 4% of Hispanics in Shelby County TN in 2015. The majority (71%) of persons identified as out of care were male. Persons aged 25-44 accounted for 44% of persons not receiving primary medical care, followed by persons aged 45-64 years (49%). The reported transmission risk categories for those not in care were MSM (38%), heterosexual activity (30%); and 24% of the out-of-care individuals have unidentified risk. Among the Non-Hispanic Blacks males, 20-44 year old age group accounts for 62%, and MSM accounts for 50% of those out of medical care; Among the Non-Hispanic Black females, the child bearing age group (15-44 year old) accounts for 53%, and Heterosexual contact accounts for 65% of those Non-Hispanic Black females out of medical care, respectively.

Table F-3: Number of cases and percentages among the PLWHA out of Medical Care by Demographic Characteristics, West Tennessee Three Counties in the Memphis TGA, 2015*

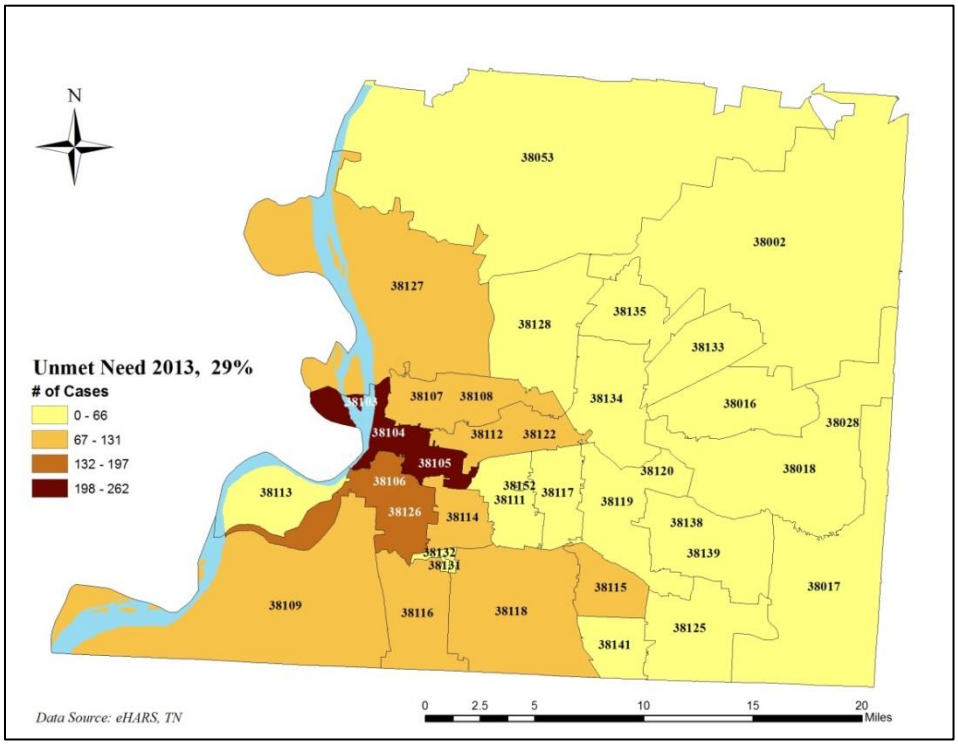
	Total		Black Male		Black Female	
	N	**%**	**N**	**%**	**N**	**%**
Total	**1,791**	**100%**	**1,010**	**56%**	**458**	**26%**
Gender/Sex						
Male	1,267	71%	NA	NA	NA	NA
Female	524	29%	NA	NA	NA	NA
Race/Ethnicity						
White, Not Hispanic	245	14%				
Black, Not Hispanic	1,468	**82%**				
Hispanic, All Races	61	3%				
Other, Not Hispanic	17	1%				
Current Age Group as of 2015						
0 to 9	13	1%	9	1%	11	2%
15 to 19	19	1%	13	1%	4	1%
20 to 24	59	3%	51	5%	5	1%
25 to 34	365	20%	240	24%	81	18%
35 to 44	436	24%	235	**23%**	152	**33%**
45 to 54	507	28%	274	**27%**	127	**28%**
55 +	382	21%	188	19%	78	17%
Risk/Exposure				0%		0%
Male Sex with Male	675	**38%**	508	**50%**	NA	NA
Heterosexual Contact	535	30%	178	18%	299	**65%**
MSM/IDU	33	2%	17	2%	NA	NA
IDU	85	5%	36	4%	23	5%
Other, Not Hispanic	39	2%	16	2%	16	3%
No Identified	424	24%	255	25%	120	26%

Data Sources: TN Enhanced HIV/AIDS Reporting System (eHARS), Ryan White Care Ware, HDAP, IAP Database
**: Data was requested from ADH and MDH but was not received at the time of this submission.*

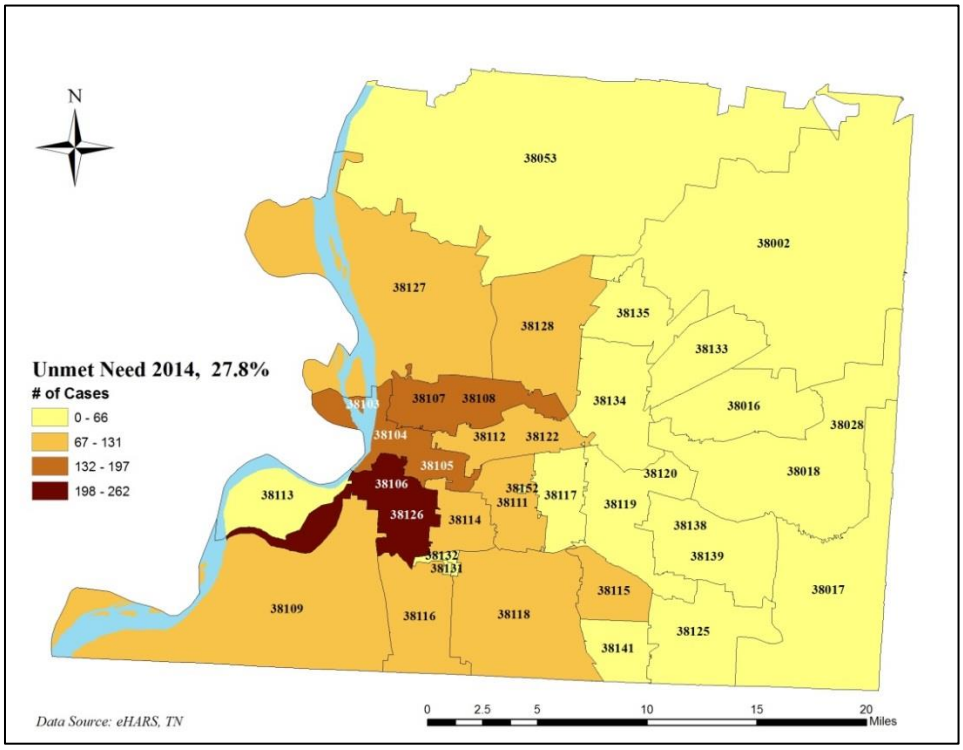
Map F-1 Estimated Number of PLWH Out of Care by Zip Code, Shelby County, 2012



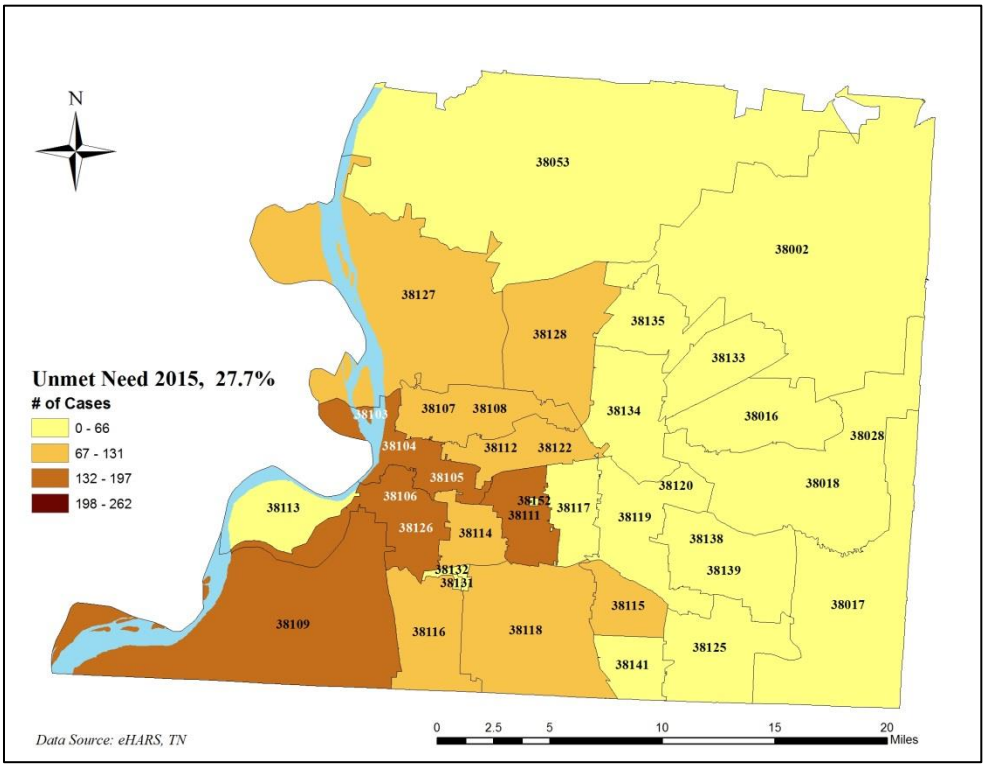
Map F-2 Estimated Number of PLWH Out of Care by Zip Code, Shelby County, 2013



Map F-3 Estimated Number of PLWH Out of Care by Zip Code, Shelby County, 2014



Map F-4 Estimated Number of PLWH Out of Care by Zip Code, Shelby County, 2015



Sources: TN Enhanced HIV/AIDS Reporting System (eHARS), Ryan White CAREWare, HDAP, IAP Database.

F6. Early Identification of Individuals with HIV/AIDS (EIIHA)

The early identification of individuals with HIV/AIDS (EIIHA) has proven to be a life-saving component in the continuum of care of people living with the disease. Counseling, testing, informing and referring of newly diagnosed, past diagnosed and undiagnosed individuals to appropriate services and medical care are vital steps in EIIHA. One of the priorities of the Ryan White HIV/AIDS Program Part A is to continue the inclusion of the EIIHA strategy in the Memphis TGA Integrated Plan. The goals of this initiative are to increase: 1) the number of individuals who are aware of their HIV status, 2) the number of HIV positive individuals who are in medical care, and 3) the number of HIV negative individuals referred to services that contribute to keeping them HIV negative. This outreach services include services to both HIV infected persons who know their status and are not in care and HIV-infected persons who are unaware of their status and are not in care. Since 2006, the Centers for Disease Control and Prevention (CDC) has recommended routine screening of HIV for everyone ages 13–64 as part of regular medical care[20].

F7. HIV Testing

Examining data about HIV testing can help identify potential gaps in surveillance systems, which only represent persons who have been tested for HIV. The EIIHA data for Crittenden County in Arkansas and Marshall, Tate, Tunica, and Desoto counties in Mississippi were not available by demographic characteristics during the development of this plan. Each health department has separate systems for capturing data, as well as ways of separating the data that do not necessarily match the boundaries of the TGA. The program is continuing to work with the Arkansas and Mississippi Departments of Health to design systems to capture necessary information for the counties within the Memphis TGA. A negative HIV test result is not a reportable event in Tennessee; thus, routinely collected HIV testing utilization data is only available from sites funded by the Tennessee Department of Health Counseling and Testing.

As outlined in **Table F-4**, a total of 43,357 tests were conducted and 691 HIV infected persons (including previously identified HIV infected) were identified with 1.6% test positivity among the expanded HIV testing sites in Memphis TGA in 2015. Of the total tests, the majority of tests 37,764 (87%) were administrated in the West Tennessee three counties, and 659 HIV positive individuals identified with 1.7% HIV test positivity. The high percentage of HIV test positivity data recommends Memphis TGA to increase the number of tests and testing sites in all those eight counties to identify more individuals unaware of their HIV+ status.

Table F-4: HIV tests conducted by counties in the Memphis TGA, 2015**

	# of HIV Test Conducted (N)	# of Positive Tests (N)	Test Positivity (%)
Total	43,357	691	1.6%
West TN three Counties	37,764 (87%)	659	1.7%
North MS four Counties	4,266 (10%)	31	0.7%
Crittenden, AR*	1,327 (3%)	8	0.6%

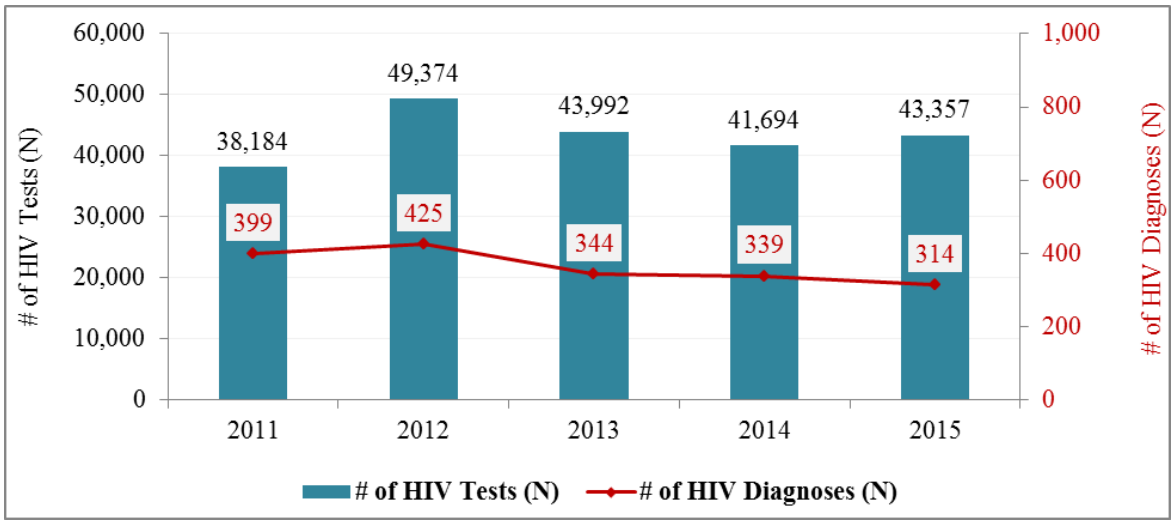
Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; Tennessee Department of Health; Arkansas Department of Health; Mississippi Department of Health

**: preliminary data subject to change*

***: Data was requested from ADH and MDH but was not received at the time of this submission.*

Figure F-4 shows the positive correlation between the number of tests conducted and the number of newly diagnosed HIV cases in the Memphis TGA 2011 - 2015. During this five year period, the highest number of tests (n=49,374) and the highest number of new HIV individuals (n=429) were identified in 2012. With reduction of number of HIV tests since 2012, newly identified HIV infected individuals have decreased from 429 cases in 2012 to 314 cases in 2015. This decrease was partly due to the decrement of the number of HIV tests conducted from 49,374 to 34,707 in the Memphis TGA.

Figure F-4 Number of Tests and New HIV Diagnosis, Memphis TGA, 2011 – 2015



Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; Tennessee Department of Health; Arkansas Department of Health; Mississippi Department of Health

**: preliminary data, subject to change*

F8. Testing at Publicly Funded Counseling and Testing Sites in West Tennessee Counties

Public HIV testing sites were funded by the Tennessee Counseling and Testing Program in West Tennessee Counties during 2015. These sites include the local health department sites, public hospitals and clinics, and community-based organizations (CBOs) which includes Planned Parenthood, Friends For Life Corporation, PEAS (Partnership to End AIDS Status), Le Bonheur Outreach, Children Family Services, and the Memphis Gay Lesbian Community Center.

In 2015, total 37,764 tests were conducted in West Tennessee Counties; 659 tests were positive with 1.7% positivity, and 217 new HIV cases were diagnosed **(Table F-5)**. Among the publicly funded test sites, the health department sites administered the highest number of tests (n=24,215) and reported the highest number of people living with HIV were identified.

Table F-5: HIV Tests at Publicly Funded Test Sites in West Tennessee Three Counties in the Memphis TGA, 2015*

Test Sites	# of tests (N)	# of positives (N)	Test Positivity (%)
Health Departments	24,215	449	1.9%
Community Based Organizations (CBOs)	3,961	138	3.5%
Hospitals	9,588	72	0.8%
Total	**37,764**	**659**	**1.7%**

Sources: Patient Tracking Billing Management Information System (PTBMIS), TN department of Health.

In 2015, total of 23,075 HIV tests were conducted in Shelby County Health Department testing site with 2.8% test positivity. Of the total tests, the proportion of males were 63%, not-Hispanic Blacks were 85%, and 65% tests were conducted among the age group 15-34 years old **(Table F-6)**. Although only 24% of tests were conducted among the age group 35 years and older, the test positivity were 10.3%, which was two times the test positivity of the younger age group less than 35 years old. The higher test positivity shows us to concentrate the HIV testing among the age group 35+ years old. Publicly funded HIV test sites aim to target the most at-risk populations; thus, demographic characteristics of those tested in publicly funded sites will not match that of the Memphis TGA population.

Table F-6: HIV Tests Conducted by Demographic Characteristics, Shelby County Health Department, in 2015

Demographics	# of Tests (N)	Test Proportions (%)	# of Positive Cases (N)	Test Positivity (%)
Total	**23,075**	**100%**	**639**	**2.8%**
Sex				
Female	8,514	37%	164	1.9%
Male	14,561	63%	475	3.3%
Race/Ethnicity				
White, not Hispanic	2,723	12%	33	1.2%
Black, not Hispanic	19,589	85%	590	3.0%
Hispanic/Latino	270	1%	6	2.2%
Other	493	2%	10	2.0%
Current Age as of 2015				
0 to 14	105	0%	0	0.0%
15 to 19	1,677	7%	9	0.5%
20 to 24	5,381	23%	118	2.2%
25 to 34	8,117	35%	245	3.0%
35 to 44	3,909	17%	115	2.9%
45 to 54	2,441	11%	110	4.5%
55+	1,445	6%	42	2.9%

Data sources: Patient Tracking Billing Management Information System (PTBMIS)

F9. Estimated Number of Unaware

The Centers for Disease Control and Prevention (CDC) developed a statistical model[21], the "extended back calculation method," to estimate those unaware of their HIV-positive status. This model is based on the 2006 Serologic Testing Algorithm for Recent HIV Seroconversion (known as STARHS) that examines historical trends in HIV infections in the United States from 1977-2006[17]. The extended back calculation method can be applied to the Memphis TGA epidemiologic data; however, the model is based on a national proportion and thus not specific to the Memphis TGA jurisdiction. CDC estimates that 14 percent of people infected with HIV in the United States are unaware of their infection. In applying this statistical model to the number of PLWHA in the Memphis TGA at the end of 2015, we estimate that 1,174 individuals were HIV-positive but unaware of their status. In other words, 1 in 7 persons infected with HIV were unaware of their HIV status. At the end of 2015, with this calculation method, total persons living with HIV disease in Memphis TGA including persons unaware of their HIV status are estimated to be 8,386. This estimate is calculated using the Estimated Back Calculation (EBC) methodology below:

- National Proportion Undiagnosed (14%)=***P***
- *Number of individuals diagnosed with HIV and living as of December 31, 2014* ***=N***
- ***P ÷ (1 - P) x N*** = **14% ÷ (1 – 14%) x 7,212***(diagnosed living HIV/AIDS)* = **1,174 *(unaware)***
- *Total number of persons living with HIV disease=7,212+1,174=**8,386**.*

In 2015, total 43,357 tests were conducted among sites receiving expanded HIV testing funding in the Memphis TGA **(Table F-7)**. Of the total tests, 1.6% (n=691) were positive, and 217 of those were identified as new HIV infections and 474 of them were previously positive cases. Of the 217 new infections, 190 (88%) cases were successfully linked to medical care.

Table F-7: Newly diagnosed positive HIV test events, Memphis TGA, in 2015

New Test Events	TGA
Total Number of test events	**43,357**
Test Positivity	1.6%
Number of newly diagnosed positive test events	217
Number of newly diagnosed positive test events with client linked to HIV medical care	147
Number of newly diagnosed confirmed positive test events	190
Number of newly diagnosed confirmed positive test events with client interviewed for partner services	145
Number of newly diagnosed confirmed positive test events with client referred to prevention services	183
Total number of newly diagnosed confirmed positive test events who received CD4 cell count and viral load testing	137
Previous Test Events	
Number of previously diagnosed positive test events	474
Number of previously diagnosed positive test events with client re-engaged in HIV medical care	391
Number of previously diagnosed confirmed positive test events	469

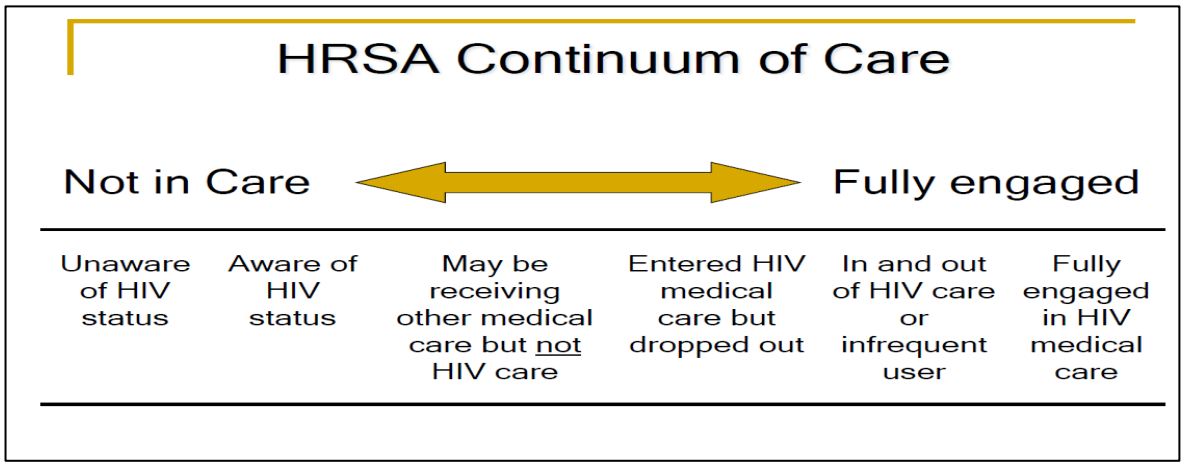
Number of previously diagnosed confirmed positive test events with client interviewed for Partner Services	47
Number of previously diagnosed confirmed positive test events with client referred to prevention services	450
Number of previously diagnosed confirmed positive test events linked to and accessed CD4 cell count and viral load testing	391

Data Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; Tennessee Department of Health; Arkansas Department of Health; Mississippi Department of Health

The continuum of engagement in care for persons living with HIV/AIDS ranges from those who are unaware of their HIV-positive status to those who are fully engaged in HIV primary medical care (**Figure F-5**). Several different evaluation measures are used to estimate those unaware of their HIV-positive status, those not receiving primary medical care, and the level of retention among those who are in-care. According to the CDC recommendation for improving the health of persons with HIV and reducing the number of new HIV depend on increasing access to HIV medical care and eliminating disparities in the quality of care received.

In the United States, the challenge of late diagnosis of HIV infection poses obstacles to HIV prevention efforts, which contributes to the spread of HIV by those who do not know they are infected[19]. In the continuum of engagement in care, individuals unaware of their HIV-positive status are located at the left of the spectrum, as they have not been tested after initial infection, or they never received their positive test results.

Figure F-5: The Continuum of Engagement in Care for Persons Living with HIV/AIDS



Source: Cheever. Clin Infect Dis 20017;44;1500-1502

In applying this statistical model to the number of PLWHA in the Memphis TGA at the end of 2015, we estimate that 1,174 (14%) individuals are HIV-positive, but unaware of their status. Measuring the time between initial HIV disease diagnoses and AIDS diagnoses can also provide insight around those who are unaware of their HIV-positive status. A significant number of persons do not undergo testing for HIV

until they become immunosuppressed. In a study involving over 4,000 persons diagnosed with AIDS from 16 states, the CDC found that 45% of these individuals received an initial HIV diagnosis within one year of their AIDS diagnosis. Given the history of HIV infection, this suggests that many of these individuals were probably unaware of their HIV positive status 5–10 years before diagnosis[22].

G. Financial and Human Resource Inventory

G1. Financial Inventory

This section provides an inventory of the financial and service delivery provider resources available in the TGA to meet the HIV prevention and treatment needs of the population, including identified gaps in resources. This section also provides information on workforce capacity and how it impacts the HIV prevention and treatment service delivery system. *Table G-1* and *Figure G-2* provide information about funding sources for HIV treatment services in the TGA by service area, agencies that provide the service and the relationship of the service to the HIV Care Continuum.

Table G-1 2016 Estimated HIV Funding in the Memphis TGA by Service Area

	PART A	***MAI***	***Part B***	***TOTAL***	**Agencies**	**Continuum Steps Impacted**
Outpatient	$1,420,400	$23,6457	$0.00	$1,656,857	ASCC,CCHS,EAFHC, MHC, Resurrection Health, St. Jude	Link/Retain/ ART/Viral Suppr
Local Pharm	$110,750	$0.00	$0.00	$110,750	ASCC, CCHS, EAFHC	ART/Viral Suppr
Health Insurance Premium Assistance	$224,547	$0.00	$0.00	$224,547	FFL	Link/Retain/ ART/Viral Suppr
Medical Case Management	$1,416,546	$0.00	$0.00	$1,416,546	ASCC,CCHS,EAFHC, MHC, Resurrection Health, St. Jude, LeBonheur, FFL, SCHD,	Link/Retain/ Viral Suppr
Oral Health	$611,500	$0.00	$1,627,000	$2,238,500	CCHS, EAFHC, FFL, MMD	Link/Retain/ Viral Suppr
EIS	$124,100	$281,600	$117,104	$522,804	ASCC, CCHS, EAFHC, FFL, MHC, SCHD	Dx/Link/Retain/ Viral Suppr
Substance Abuse Treatment	$73,000	$0.00	$0.00	$73,000	CAAP, Merci, Serenity	Link/Retain/ Viral Suppr
Mental Health	$111,000	$0.00	$0.00	$111,000	ASCC, St. Jude, Serenity, TCOTS	Link/Retain/ Viral Suppr
Psychosocial Support	$155,000	$0.00	$0.00	$155,00	St. Jude, TCOTS	Link/Retain/ Viral Suppr
EFA	$263,300	$0.00	$0.00	$263,300	ASCC, EAFHC, FFL, SHSM	Retain/ Viral Suppr
Linguistic	$0.00	$0	$0	$0.00	NA	Link/Retain/ Viral Suppr
Food Bank	$418,000	$0.00	$0.00	$418,000	ASCC, CCHS, EAFHC, FFL, SHSM	Retain/ Viral Suppr

Medical Transportation	$96,800	$0.00	$0.00	$96,800	ASCC, CCHS, CSA, MHC, EAFHC, FFL, SCHD, SHSM	Link/Retain/ Viral Suppr
Housing	$0.00	$0.00	$0.00	$0.00	Hope House	Link/Retain/ Viral Suppr
Medical Nutrition Therapy	$90,000	$0.00	$0.00	$90,000	ASCC	ART/Viral Suppr
Outreach	$82,000	$68,649	$0	$150,649	LeBonheur, FFL, MGLCC	Dx/Link/ Viral Suppr
Home Health Care	$0.00	$0.00	$0.00	$0.00	NA	Dx/Link/Viral Suppr
Home and Community-based Health	$0.00	$0.00	$0.00	$0.00	NA	Retain/ Viral Suppr
Medicaid Medicare ACA Insurance Private Insur.	These insurances primarily pay for outpatient, medications, linguistics and behavioral health treatment. In a few cases, transportation to a medical appointment is reimbursed.					Dx/Retain/ Viral Suppr

G2: Resource Inventory

A detailed 'Resource Inventory' for the Memphis TGA has been completed by the Part A Grantee. This inventory lists all non-Ryan White funded entities that provide services that can be accessed by PLWH. Persons may contact the Part A Grantee for this list or access it on the web at **www.hivmemphis.org**.

G3: Workforce Capacity

Similar to the United States as a whole, the state and local communities face serious workforce capacity challenges to effectively treat people living with HIV disease. The demand for HIV and primary health care services, in particular, continue to increase as treating persons with HIV disease becomes more complicated and new cases arise. Exacerbating workforce demands are the many experienced health professionals retiring from practice while young providers choose medical fields outside of HIV and primary care. *(HRSA Care Action, April 2010).* The detailed workforce capacity report for Tennessee is developed by the Southeast AETC. In Tennessee, the AETC is located at Vanderbilt Medical Center, Comprehensive Care Clinic. *Appendix D* is the report from Vanderbilt.

Snapshot of Tennessee Workforce Capacity from AETC Report:

Below are the trends for Tennessee found in the AETC report:

- The highest percentage of trainees come from HIV clinics (20%), followed by CBOs (13.2%), state and local health departments (12.4%), academic health centers (10.6%), and CHCs (10%). Organizational types that account for less than 1% of all trainees include Family Planning clinics, Indian Health Services, long-term nursing facilities, maternal/child clinics, sexually transmitted disease clinics, and military/VA clinics. Additionally, correctional facilities (1.3%) and private practice (1.6%) also remain hard to reach, as do hospital EDs to a lesser extent (4.7%). Many of these organizational types also were identified by regional partners as hard to reach organizations, and may require greater outreach efforts.
- Low volume providers provide less of all types of clinical services than intermediate or high volume providers. Intermediate volume providers provide more primary care, monitoring of HIV-specific labs, and HIV testing than high volume providers, while high volume providers are more likely to initiate ART, conduct adherence counseling, provide prophylaxis and treatment for opportunistic infections, manage treatment when drug resistance is present, care for co-morbid conditions, and provide clinical consultation.
- Identified organizations that have not been reached or only minimally reached by SE AETC state partners. The top five hardest-to-reach organizations and clinics were
    1. Private practices
    2. Hospitals and emergency departments
    3. Rural health clinics
    4. Correctional facilities
    5. Long-term nursing facilities.

Source: Vanderbilt AETC

G4: Coordination of Funding

Ryan White Grantees must coordinate planning with all other public funding for HIV/AIDS to: (1) ensure that Ryan White HIV/AIDS Program funds are the payer of last resort, (2) maximize the number and accessibility of services available, and (3) reduce any duplication. Other Federal and local sources, including other Ryan White HIV/AIDS Programs must be taken into consideration in planning for the continuum of HIV/AIDS care. Sources include but are not limited to: Medicaid, Medicare, Children's Health Insurance Program (CHIP), Veterans Affairs, Housing Opportunities for Persons With HIV/AIDS Programs, CDC Prevention, Services for Women and Children, local/state/federal public health programs, local/federal funds for Substance Abuse/Mental Health Treatment Services and Other Ryan White HIV/AIDS Program Funding (Parts B, C, D and F).

Funders interact in the following ways to ensure coordination and continuity of HIV prevention, care and treatment in the TGA:

- *Medicare/Medicare Part D* – Part A medical providers are required to determine Medicare eligibility for patients. The RSR report from Ryan White medical providers indicates that 17.7% of PLWHA served have Medicare. Medicare alone does not provide sufficient health care, particularly for people living with HIV/AIDS who face the "prescription doughnut hole" because Tennessee's ADAP program does not cover Medicare Part D cost-sharing expenses (premiums, deductibles, co-pays). Therefore, providers continue to work with their clients to assure that they maximize their Medicare benefits, including Medicare Part D.
- *Medicaid/State Children's Health Insurance Program* – Tennessee has a statewide health and

behavioral health managed care program (TennCare) that at this time has not expanded its coverage, although Tennessee leaders are looking at other ways to improve access to health insurance for residents. Ryan White providers continue to work with their clients to assure that they are enrolled in TennCare if eligible and maximize their TennCare benefits if enrolled.

- *Veterans Affairs* – The Memphis TGA contains one Veterans Hospital that offers a range of services to vets who are HIV positive. In 2013, there were a total of 282 Veterans in Arkansas, 405 Veterans in Mississippi and 691Veterans in Tennessee. As part of eligibility determination each person is asked if they are a veteran and those services are then accessed.
- *HOPWA* – The HOPWA grantee is a City of Memphis entity (Division of Housing and Community Development - HCD) and a member of the Planning Group. The Part A Grantee and HCD work together and coordinate their respective activities to maximize effectiveness of housing services.
- *CDC Prevention* – The Grantee and the Tennessee Department of Health (the CDC grantee) have a working relationship and continue to increase collaboration. In addition, the Grantee receives a portion of the state's CDC funding for Shelby, Tipton and Fayette counties in Tennessee. Work is ongoing in order to bridge the gap between prevention, counseling, testing, referral and care services, particularly due to other CDC grants in the TGA region (rapid testing in hospital, clinic and jail settings and minority community).
- *Services for Women and Children* – The Grantee has several women and children programs (WIC supplemental food program, family planning) within the Shelby County Health Department and other women and children providers will be utilized to assure coordination of services and funding.
- *Local & Federal Funds for Substance Abuse* – The Grantee has relationships with state substance abuse authority and local behavioral health providers. Professionals from these entities serve on the TGA Planning Council and these relationships continue to be strengthened and utilized for planning purposes. There are a few providers within the TGA who currently receive HIV prevention funding directly from SAMHSA, coordination is stressed between these entities and two of these agencies are on the Planning Group.
- *Other State & Local Service Programs* – Other state and local funding sources are considered and involved during the allocation process (e.g., jail release programs, health care access programs, homeless services, Section 8). At the time of allocations and planning, the Council actively discusses how to complement rather than duplicate services.

G5: Needed Resources/Services & Plan to Secure

In order to successfully implement this plan, the resources and services that are <u>not</u> being provided but are needed include the following:

1. Full and ongoing collaboration of all key community stakeholders that are not currently at the table on a routine basis such as the VA, HOPWA, and State Medicaid Agency In FY14, Team HIV CARE AND PREVENTION faced several challenges in meeting specific membership categories needed to maintain reflectiveness within the TGA. The categories State Medicaid Agency, HOPWA, and Veterans Health

Administration posed the greatest challenge for membership representation. In order to overcome this challenge, HIV CARE AND PREVENTION members along with Team HIV CARE AND PREVENTION manager worked to form relationships with the local HOPWA grantee, Veteran Administration Medical Center, and the Tennessee Medicaid agency. Though obtaining representation on Team HIV CARE AND PREVENTION from both HOPWA and VA was successful during FY14, maintaining representation continues to be a challenge. The Community Partnership Committee, as well as members of HIV CARE AND PREVENTION, continues to seek opportunities for more representation and participation from these membership categories.

2. Though PLWHA representation within Team HIV CARE AND PREVENTION was maintained throughout FY14, PLWHA attendance to meetings continued to be a challenge. Reasons for lack of participation varied, however many were challenged with logistical details. Team HIV CARE AND PREVENTION support staff took additional steps to have meeting calendars (printed copies, email copies, on the website and mailed when requested) available for PLWHAs. Support staff also initiated phone calls and text messages to PLWHA requesting meeting reminders. In an effort to increase participation of PLWHA, the grantee collaborated with a local PLWHA advocacy group to share monthly Ryan White program reports. The grantee attends the advocacy group monthly meetings to serve as a resource to the group and recruit potential HIV CARE AND PREVENTION members. In addition, Team HIV CARE AND PREVENTION, manager began to participate in the grantee's monthly PLWHA input meetings to inform attendees of open positions within HIV CARE AND PREVENTION and increase understanding of HIV CARE AND PREVENTION duties (i.e. Priorities Setting, Resource Allocation, Needs Assessment, etc.)

3. As a tri-jurisdictional area covering the states of Tennessee, Arkansas and Mississippi states, Team HIV CARE AND PREVENTION was challenged with addressing service needs of PLWHA in the rural counties, specifically in Mississippi. Team HIV CARE AND PREVENTION continued to provide the grantee with directives to secure Ryan White services providers in these areas to ensure PLWHA access to both medical and supportive services. The grantee continues its efforts to implement service delivery options by working with the State of Mississippi and the MS ATEC to identify potential providers in Tate, Tunica, and Desoto counties. Once providers are identified, MS AETC has agreed to provide capacity building to support new providers.

H. Assessing Needs, Gaps and Barriers

H1: Memphis TGA (Part A) Process for Identification of Need

The process to identify treatment needs in the Memphis TGA is the primary responsibility of the Priorities and Comprehensive Planning Committee working in collaboration with the Grantee's office, volunteers and Health care organizations in the TGA. The Priorities and Comprehensive Planning Committee Leaders assures that the committee is aware of the requirements and guidelines provided by the Federal Health Resources Service Administration (HRSA) and the Memphis Ryan White Part A Program Office in compliance with Ryan White HIV/AIDS Treatment Extension Act of 2009 regarding the process. The 2015 Comprehensive Needs Assessment by the Memphis TGA Memphis Ryan White Program was designed by the committee and includes the specific plan, topics, steps, timeframe, methods, etc. to be used to collect information on needs of PLHW and people at higher risk for HIV. Typically, quantitative and qualitative information on needs is collected in the following ways:

- Client and provider surveys
- Town hall meetings
- Focus groups
- One-on-one interviews with clients
- Key informant interviews
- Review of HIV literature and research
- Review of client demographics, service utilization and outcome data

NOTE: Data is collected for the population as a whole but is also collected by sub-populations that are at high risk, disproportionately impacted, emerging populations and/or underserved.

After the information has been collected, analysis is completed by the GRANTEE'S HIV CARE AND PREVENTION MANAGER. The results are presented and reviewed by the Evaluation & Assessment Committee. A report is then prepared for the full Planning Group for their review, discussion and use. The plan is available to the public at www.hivmemphis.org.

H2: State Process for Identification of Need

A similar process is conducted by the Tennessee Department of Health. See *Appendix 5* for details.

H3: Service Needs for Persons at Risk for HIV

HIV Prevention funds ($449,000) are received by the Ryan White Part A program from the Tennessee Department of Health to ensure the provision of HIV prevention activities in the three West Tennessee counties of the Memphis TGA. These funds are awarded to organizations to support high impact HIV preventions that support behavioral, structural and public health interventions. This funding has remained at flat funding for the past 10 years. Mississippi provides no prevention funds in the four counties of Mississippi that make up a portion of the Memphis TGA. Arkansas provides no funding for

prevention interventions, but does support HIV testing in the one county included in the Memphis TGA.

H4: Service Needs for PLWH

Persons living with the disease have a variety of needs in order to stay healthy, particularly maintaining viral suppression. The most significant treatment needs for persons at risk for HIV and persons living with HIV disease in the Memphis TGA are described in **Table H-1**. These are compared with the Nashville TGA along with the State. Those categories that do not match the Memphis TGA are indicated in the Nashville needs with a dash (-).

Table H1: Treatment Needs for PLWH	Arkansas	Mississippi	Tennessee	Memphis TGA	Nashville TGA
Outpatient/Ambulatory Health Services	*Information to be provided at a later date*	*Information to be provided at a later date*	*Information to be provided at a later date*	1	1
Medical Case Management				2	-
Early Intervention Services				3	-
AIDS Drug Assistance Program				4	3
Health Insurance Premium/Cost Shrg Asst.				5	4
Oral Health Care				6	2
AIDS Pharmaceutical Assistance (local)				7	-
Medical Nutritional Therapy				8	12
Food Bank/Home Delivered Meals				9	-
Mental Health Services				10	10
Housing Services				11	-
Psychosocial Support Services				12	7
Emergency Financial Assistance				13	-
Substance Abuse Services - Outpatient				14	15
Medical Transportation Services				15	18
Case Management (non-Med)				16	5
Outreach Services				17	-
Health Education / Risk Reduction				18	-
Home & Community Based Health Services				19	-
Rehabilitation Services				20	8
Home Health Care				21	16
Substance Abuse Services- Residential				22	-

Ranked in order of priority (#1 is the highest)

H5: Service Gaps for Persons at Risk for HIV

In the Memphis TGA, the entity that receives the funding and is responsible for HIV prevention is Tennessee Department of Health. Therefore, see *Appendix 5* for details.

H6: Service Gaps for PLWH

In 2014, a service gaps survey was created by the Nashville TGA Research Analyst and the Part A Needs Assessment Committee in order to determine: 1) what services a consumer knows about, 2) what

services a consumer might need, 3) what services a consumer is currently receiving, 4) whether or not those services are meeting the needs of the consumer, and 5) any barriers that may have been experienced when accessing services. The most significant treatment gaps identified by PLHW are described in **Table H-2**.

Table H2: Top 10 Service Treatment for PLWH	**Arkansas**	**Mississippi**	**Tennessee**	**Memphis TGA**	**Nashville TGA**
Peer services	*Information to be provided at a later date*	*Information to be provided at a later date*	*Information to be provided at a later date*	✓	✓
Mental health treatment				✓	✓
Substance Abuse treatment				✓	✓
Housing				✓	✓
Transportation				✓	✓
Dental care				✓	✓
Food				✓	✓
Pastoral care				✓	✓
Nutritionist				✓	✓
Child care				✓	✓

H7: Prevention Barriers

The barriers to HIV Prevention funding in the Memphis TGA are relative to the fact that there are three states included in the Memphis TGA. This increases the difficulty in the coordination and implementation of an HIV Prevention plan that encompasses the eight counties of the TGA.

H8: Treatment Barriers FROM THE 2015 NEEDS ASSESSMENT

In 2015, a service gaps survey was created by the Memphis TGA Research Analyst and the Part A Needs Assessment Committee in order to determine what might impact a person's ability to access care. Barriers were organized into six categories: Personal, Knowledge, Appointment, Financial, Staff and System. The barriers identified by PLHW are described in **Table H-3**.

Table H3: Service Barriers	**Arkansas**	**Mississippi**	**Tennessee**	**Memphis TGA**	**Nashville TGA**
This doesn't apply to me. I got the services I needed during the past 12 months	*Information to be provided at a later date*	*Information to be provided at a later date*	*Information to be provided at a later date*	60.3%	
I couldn't get transportation				19.7%	
I didn't know where to get the services				10.5%	
Other (please specify)				8.6&	
I couldn't pay for services.				7.8%	
I didn't want people to know that I have HIV				7.1%	
I was depressed				6.9%	
I was homeless				5.7%	
I didn't feel sick				4.8%	
I don't feel the provider location protects my confidentiality				3.6%	
I was too busy Taking care of my partner, family, and/or children				3.1%	
I couldn't get time off work				2.4%	

I couldn't get an appointment				2.1%	
I had a bad experience with staff at the provider's office				1.9%	
I couldn't get childcare				1.2%	

Other significant barriers in the Memphis TGA include the following:

- Stigma & discrimination against sexual orientation, of HIV and of sexual behaviors, especially in communities of color.
- Additional stigma related to transgender population.
- If incarcerated, fear disclosure would endanger them.
- Hard to follow up with confirmatory tests or engagement in care due to transient behavior.
- For young adults, fear parents may find out if the person needs to access treatment.
- For certain sub-populations, limited testing sites that they feel comfortable with, or that meet their needs.
- Limited number of HIV outpatient providers, particularly related to serving persons facing socio-economic barriers.
- TN state laws regarding HIV transmission may inhibit some from testing.
- No Medicaid expansion.
- Small HIV providers have some limitations due to financial barriers that prevent building and maintaining strong administrative infrastructures.

I. DATA – ACCESS, SOURCES AND SYSTEMS

I1: Main Data Sources

The Grantee Office's main source of data includes the following:

1. US Census data that provides a count of persons living in Tennessee and the TGA, and also provides a compilation of economic, social and other data that helps to describe characteristics of the population.
2. eHARs, the Enhanced HIV/AIDS Reporting System, is a CDC developed confidential HIV surveillance database that collects and stores information about persons who have been diagnosed with HIV disease. The key data points used include demographic information about persons who are HIV positive, date of diagnosis, date and value of CD4 and viral load labs.
3. Ryan White Services Report (RSR) data which contains a wide range of client level data that provides demographic (e.g., income, housing status, insurance status), key clinical data (e.g., data and values of key laboratory tests) and service utilization data on each persons served by a Ryan White funded agency who is HIV positive (e.g., data of service, type of service). The data set also provides information on key HIV related outcomes. An additional component of the RSR includes data on the characteristics of the provider, including funding information. (Note: Some Part A providers use CAREWare to collect RSR data).
4. HIV testing data from the Tennessee Department of Health HIV/STD Program. General information about number of HIV tests completed and related procedures (e.g., number HIV positive, number of partners notified).
5. Medicaid, TennCare, data as available.
6. Information from surveys/focus groups/town hall meetings/interviews is also used as a source of data that complements information from the above data sources.
7. National databases are also used to provide information on high risk behaviors related to HIV disease or high risk behaviors related to HIV disease. Primary databases include the following: National Survey on Drug Use and Health, Treatment Episode Dataset, Youth Risk Behavior Surveillance System, Behavioral Risk Factor Surveillance System.
8. Other sources that are used as secondary sources of data include the American Community Survey, Kaiser State Health Facts, Bureau of Justice Statistics.

This data singularly or in combination is used to complete the needs assessment, the HIV Care Continuum, and a variety of other reports.

I2: Data Policies

The TGA region has many positive policies/practices related to data access that have allowed successful completion of data analysis and reporting for the needs assessment and the HIV Care Continuum. The main policies that facilitate completing the needs assessment and/or the HIV Care Continuum are:

- The federal RSR requirements specifying who must be reported in the RSR, what data elements must be reported, when data must be reported and standards for data completeness. This

requirement is then passed down from the Grantee to the sub-recipient via contract language.

- Practices between Part B and Part A Recipient: a) sharing of ACA marketplace enrollment data; b) Part A Research Analyst access to the eHARS database and using the same two frozen datasets to complete reports; c) sharing of Ryan White eligibility database.
- State use of data tools to assure accuracy of eHARs database.
- State law requiring electronic reporting of labs into eHARs.
- Practice of collaborating with state and local researchers that has enriched access to data and analysis.

The TGA region has experienced a few understandable challenges related to data access. The main policies that either serve as barriers or ones that could be clarified/strengthened are:

- Assistance/clarification needed in accessing HIV data contained in Medicare, VA, Medicaid, corrections, HOPWA, SAMHSA and assistance in best ways to develop agreements for confidential and secure exchange and sharing of data sharing.
- How Ryan White data is shared between the Part A, B, C and D Ryan White and CDC Grantees.
- How best to coordinate data access, analysis and reporting related to risk factors (e.g., coordination with federal substance abuse funds).
- Clarification and guidance on working across state parts for Ryan White data sharing.
- Reporting consistency of public reports related to data and clarification of role between state and local Ryan White funders.
- Clear policies allowing sharing of eHARS data for clients from other states with Ryan White grant recipients who serve clients over those multiple states.
- Design and implementation of a nationwide, standard, real-time, web-accessible database for all Ryan White recipients with clear federal policies permitting and mandating import of standards compliant data (labs and medications especially) into the database from various data sources from across the nation. This should be developed in tandem with a system to securely query the data by the recipients and monitor performance of sub recipient providers.

NOTE: Recommendations noted in the IOM report Monitoring HIV Care in the United States, Indicators and Data Systems, are comprehensive and offer other helpful recommendations.

I3: Additional Data Needed

Additional data needed by the TGA region to further enhance analysis and reporting include the following:

- Data related to risk factors.
- Data from insurance payors (e.g., Medicare, Medicaid, and in particular - ACA marketplace insurers).
- Data related to employment status.
- Data related to HIV services provided at the VA.
- Data from correctional settings.

Improving and enhancing data access would allow the Part A Grantee and Planning Council to better answer critical questions related to client needs and outcomes, and would allow the use of QI methods to improve care and client outcomes. In particular, broad but relevant data would create a better picture of comprehensive medical and social needs of persons served and those at high risk of becoming infected.

J. Integrated HIV Prevention and Care Plan

Ideally, the Integrated HIV Prevention and Care Plan development is a joint effort between state and local jurisdictions and their planning bodies that engages persons at higher risk for HIV infection, PLWH, service delivery providers, and other community stakeholders. A fully integrated plan sets forth the state and local jurisdictions' commitment to collaboration, efficiency, and innovation to achieve a more coordinated response to addressing HIV. In Tennessee, although the plan is not fully integrated, the plan has been "coordinated" between the Tennessee Department of Health (Ryan White Part B funding, CDC prevention funding) and the Ryan White Part A Grantees in Memphis and Nashville. The Memphis TGA also had full and active involvement between the Part A Grantee, the Memphis TGA Planning Group and a wide range of providers, consumers and other key community stakeholders in developing the plan.

The Memphis TGA work plan is included in *Appendix A*. The work plan includes the following components:

- Goals: a broad statement of purpose that describes the expected long-term effects of efforts consistent with the National HIV/AIDS Strategy and covering a period of 5 years.
- Objectives: measurable statements that describe results to be achieved.
- Strategies: the approach by which the objectives will be achieved.
- Activities: describing how the objectives will be achieved.

The Nashville TGA plan is included in *Appendix 4* and the Tennessee State plan is included in *Appendix 5*.

K. Collaborations, Partnerships and Stakeholder Involvement

The MemphisTGA is thankful for the broad spectrum of stakeholders that contributed to this plan, whether by engagement in the needs assessment process, or by participating in the creation of the work plan incorporated into this document. The list of stakeholders and their contributions include, but are not limited to the following:

- Consumers – provided perspective from the client view.
- Part A Planning Group – provided information related to HIV planning and knowledge of the wide range of data from the needs assessment.
- Other HIV unding entities (Part B, CDC, HOPWA) – provided input on coordination of funding streams.
- HIV service providers – provided information about various aspects of the HIV service system.
- Other health and social service providers (e.g., mental health, substance abuse, youth) – provided information about various apects from their areas of expertise.
- FQHC – provided information from a primary care perpective and expertise related to vulnerable populations.
- TN Office of Minority Health – provided information on health disparities and ideas to address disparities.
- TN Commission on Aging – provided expertise on needs of older adults and resources to serve this population.

Although addditonal stakeholders have been involved in other activities, there is a need to assure ongoing involvement of the following stakeholders in order to continue to not only improve outcomes along the HIV Care Continuum, but to address the needs of specific sub-populations served or represented by these entities: corrections, insurance companies, other health planning bodies, faith leaders and more diverse consumer representative.

K1: Letter of Concurrence – Memphis TGA Planning Group

The letter of concurrence to the goals and objectives of the plan from the Co-Charis of the Memphis TGA Planning Group is contained in *Appendix 1*.

K2: PLWH and Community Engagement

The Memphis TGA, as a matter of course, seeks to have a planning body that is reflective of the epidemic in the jurisdiction. The Planning Group makes ongoing efforts through their Membership Committee to ensure that they are meeting reflectivity requirements set by HRSA. As the Planning Group was one of the primary participants in the creation of this plan, it is fair to say that there was reflective representation. However, to ensure that this plan tried to include the voices of hard to reach populations the needs assessment process this year included one on one interviews with high risk

populations such as, Young Black MSM, Women, Transgender, older adults, Bisexuals and the unstably housed. These "voices" were included as part of our annual data summit and became part of the data that drives decision making in the TGA. Persons who participated in development of the work plan are similarly diverse.

As above, the PLWH members of the Planning Group are selected to maintain a reflective planning body. Beyond this membership, the "Community Connections Committee" of the Planning Group represents PLWH and engages with the PLWH community in order to seek engagement with, input and feedback on many aspects of the program's work. This also includes feeding information into the needs assessment process that informs this plan. It is also worth stating that at this time, the Executive Leadership of the Planning Group has strong PLWH involvement and this group was the primary creator of the format of this plan. We have mentioned some methods of engagement above and many of these are ongoing activities.

Within the past year the Memphis TGA has also supported a Young Black MSM forum and focus groups with high risk populations. The Memphis TGA has been expending much effort on engagement with impacted communities. In order to continue with this engagement, the Memphis TGA has been trying to both clearly identify disparities that need to be addressed and also to utilize our continuum data to inform the community of current conditions. Using focus groups and more one on one interviews, we plan to gain further insights into possible solutions to weaknesses in the care continuum.

L. MONITORING AND IMPROVEMENT

Monitoring of this plan is critical in assisting the Part A Grantee and the Memphis TGA Planning Group with identifying ways to measure progress toward the goals and objectives, selecting strategies for collecting information and analyzing information to inform decision-making and improve HIV prevention and treatment efforts within the TGA. Most importantly, regular monitoring will provide opportunity to update and adapt the plan as the community and environment changes. This section sets out that process.

L1. Process for Monitoring Implementation of the Plan Strategies & Activities

The Executive Committee of the Planning Group and Grantee staff will jointly assume responsibility for monitoring the progress in implementing the strategies, activities and data indicators of the Comprehensive Plan. Formal monitoring of the plan will occur three times a year. Specifically, this group will review by due date on whether the activities under each strategy have begun, and progress to date. If an activity has not begun, the workgroup will identify barriers to implementation and will make recommendations to the responsible party regarding other opportunities/steps/resources that may be available to initiate the activity. And, the workgroup will also review activities due in the next quarter to assure momentum is maintained and trouble-shoot as needed.

On an annual basis, this group will report back to the full Planning Group on the progress of the plan related to achievement of the strategies/activities. In addition, all stakeholders who were involved in developing the initial plan will be invited to attend this meeting to provide further input.

L2. Process for Monitoring Achievement of Outcomes

The Planning Group Manager is responsible for collecting and analyzing achievement of outcomes for each goal (i.e. benchmarks for each goal). Surveillance (eHARS) and CAREWare data will be used as the primary source of data to monitor and measure outcomes.

On an annual basis, the Planning Group Manager will report back to the Executive Committee Planning on status of outcomes. The Executive Committee will report these findings to the full Planning Council.

Also on an annual basis, the Planning Group Manager and Quality Management Coordinator will lead discussion with the Standard of Care Committee on status of outcome achievement. If outcomes are not achieved, a QI process will be implemented to address this situation. If the outcome is achieved, a new benchmark may be set.

L3. Process for Updating the Plan & Plan Improvement

During the review points, the Planning Group will update/modify/add/delete strategies and activities as needed to adapt to the current needs and environment. Annually, the Executive Committee will update the full Planning Group on any changes made.

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M. APPENDICES

APPENDIX

1. **Letter of Concurrence**
2. **Memphis Integrated HIV Prevention & Treatment Work Plan**
3. **Mississippi State Integrated HIV Prevention & Treatment Plan**
4. **Nashville TGA Integrated HIV Prevention & Treatment Plan**
5. **Tennessee Integrated HIV Prevention & Treatment Plan**
6. **Arkansas Integrated HIV Prevention & Treatment Plan**
7. **The 2016 Southeast Regional AIDS Education and Training Center (SE AETC) Needs Assessment**

APPENDIX 2 - Memphis Integrated HIV Prevention and Treatment Work Plan

GOAL I: REDUCING NEW HIV INFECTIONS

BENCHMARKS:

- By September 30, 2021 increase the percentage of Tennesseans living with HIV who know their serostatus to at least 90%. *(TDH measure)*
- By September 30, 2021 lower the annual number of new HIV infections in the TGA by at least 25%.
- By September 30, 2021 reduce percentage of young Gay and bisexual men who have engaged in HIV-risk behaviors by 10%. *(TDH measure)*

KEY: *Responsible Parties:* ***PC*** *– Part A Planning Council/Committee;* ***PCC*** *– Part A Planning Council Co-Chairs;* ***AG*** *– Part A Grantee;* ***BG*** *– Part B Grantee;* ***PG****- Prevention Grantee;* ***TP*** *– Ryan White providers;* ***PP*** *– HIV Prevention providers;* ***TBD****-to be determined*
** Initial assignments, will be modified as needed. Each year, timeframes will be reviewed and dates for years 4&5 will be added.*
*** Initial assignments, will be modified as needed.*

OBJECTIVE A: Intensify HIV prevention efforts in communities where HIV is most heavily concentrated.

Maintain/Enhance Current Key Activities:

- Conducting targeted HIV testing in high-risk groups, including in clinical settings (corrections and emergency departments) *(TDH)*
- Conducting behavioral interventions for PLWH & with high risk HIV negative individuals *(TDH)*
- Distribute condoms (in tandem with social media) in communities at high risk for HIV infection *(TDH)*
- Conduct behavioral interventions with high-risk HIV negative individuals (3MV, MPowerment, VOICES/ VOCES, TWISTA for MSM & Transgender) *(TDH)*
- Continue funding opportunities for evidence-based community-level interventions targeting young MSM in communities with largest burden of disease. *(TDH)*
- Support grantees in their community-level behavioral interventions (MPowerment, Community Promise). *(TDH)*
- Sustain condom distribution for high risk populations. *(Local health depts.)*

STRATEGY	ACTIVITIES	TIME FRAME *	RESPONSIBLE PARTIES**	TARGET POP	DATA INDICATORS
1. By the end of 2021: Expand activities and social marketing and other mass education activities focused on raising HIV awareness and increasing HIV testing (e.g., HIP, HOP for HIV awareness, Testing Makes Us Stronger, Greater than AIDS).	a. Conduct social networking activities to promote testing and HIV education. (via prevention funding)	All years	PP	Target young black MSM's (15 – 34)	# of social network funded & activities per yr
	b. Conduct targeted outreach in clubs/ colleges/churches.	All years	PP		# of outreach funded & activities per yr
	c. Conduct targeted outreach via known "hook-up" apps / sites (i.e. Grinder, parks)	All years	PP		# of outreach funded & activities per yr
	d. Identify structural interventions, such as policy & population based efforts, that minimize barriers to, and normalize HIV testing for high risk populations and increase access to information about HIV disease prevention and treatment and request assistance from TDH prevention . Inform key policy makers.	CY2018	PC/AG/BG/PG		List of interventions

2. By the end of 2021: Increase collaboration between non-ASO's and ASO's in order strengthen HIV prevention efforts.	a. HIV planning bodies host forums for discussion with key stakeholders regarding trending issues, challenges and identify solutions.	All years	PC	High risk popul.	# of forums hosted per yr.
	b. Hold regular meetings between Part A & Part B Grantees and planning bodies' leadership to identify ways to support each other's prevention efforts.	All years	AG/BG		# of meetings held per yr.
	c. Encourage AETC to increase prevention focused training and education and to broaden their audience to non-ASO's.	All years	PC		N/A
3. By the end of 2021: Inform key policy makers and collaborate with partners serving high risk populations to increase HIV knowledge, increase access to HIV TESTING and PrEP.	a. Identify key TGA partners. *(also TDH activity)*	CY2018	PC/AG/BG/PG	High risk popul.	List of partners created.
	b. Host meeting with key partners to create new learning and dialogue.	CY2018	PC		N/A
	c. Educate key public officials on governmental policies that create barriers to full implementation of HIV prevention activities.	CY2019	PC		N/A
4 TDH Strategy(ies)	a. Work with Vanderbilt AMP study to increase participation in vaccine trial. b. Expand DIS role to include referral to PrEP for high risk populations.	SEE *APPENDIX 5*			

GOAL I: Reducing New HIV Infections

OBJECTIVE B: Expand efforts to prevent HIV infection using a combination of effective, evidence-based approaches.

Maintain/Enhance Current Key Activities:

- Implementation of 4th Generation HIV Testing *(TDH)*
- Conducting high quality testing via Partner Services to all named cases of known HIV positive patients *(TDH)*
- Conduct behavioral interventions for PLWHA (Healthy Relationships, CRCS, CLEAR) *(TDH)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Inform and educate local medical providers and medical community of PrEP, resources and testing sites.	a. Request AETC develop a PrEP education package and request ASOs to develop a package on HIV testing resources.	CY2017	PC	CDC identified popul.	N/A
	b. Work with ASO's to develop plan to distribute package to medical community.	CY2017	AG		# of places distributed
	c. Distribute to medical providers.	CY2017	PC/AG		# of medical providers who received packet

2. By the end of 2021: Actively pursue opportunities to enhance education on local HIV research & evaluation, new grant activities and clinical trial networks as appropriate.	a. Request representative of local research, evaluation, clinical trials and grant recipients to present overview of current work to the Planning Council.	CY2018	PC	All popul.	# of presentations/yr
	b. Request AETC and/or Part A Grantee to host training for MCM to educate them on new learning so they can share with consumers, including voluntary participation in clinical trials as appropriate.	CY2018	PC/AG/BG/PG		# of trainings/yr
	c. Request of the Part A and Part B Grantees to form a work group to develop an annual training for using scientific expertise to provide best practice recommendations for HIV prevention and treatment.	CY2018	PC/AG/BG/PG		N/A
3. By the end of 2021: Increase access to information on PrEP and HIV testing to PLWH and high risk populations.	a. Using multiple methods, provide PrEP & HIV testing information to identified populations.	CY2017	PC	CDC identified popul.	N/A
4. TDH Strategy(ies)	a. Ensure integrated HIV/STD testing is implemented in all Tennessee health departments. b. Collaborate with TB screening programs to expand HIV testing. c. Employ PrEP navigators in both health department and community-based settings-MSM & Transgender. d. Expand number of providers prescribing PrEP across Tennessee through academic detailing and provider practice liaisons.	SEE *APPENDIX 5*			

GOAL I: Reducing New HIV Infections

OBJECTIVE C: Educate all citizens in Memphis TGA with easily accessible, scientifically accurate information about HIV risks, prevention and transmission. Increase knowledge and skills of health professionals including HIV providers.

Current Key Activities to Continue to Support:

- Conduct training and capacity-building with HIV prevention providers *(TDH)*
- Distribute HIV prevention materials from CDC health communication campaigns *(TDH)*
- Support MSM Task Force to execute regionally-specific high impact prevention campaigns *(TDH)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Address HIV stigma and discrimination.	**See Goal 3**				
2. By the end of 2021: Explore ways to enhance	a. Identity current practices in TGA schools.	CY2019	AG	Young persons	Inventory of practices

comprehensive sexual health education for young persons that addresses HIV risk factors.	b. Initiate a meeting with Memphis TGA health departments to discuss comprehensive sexual health education in schools.	CY2019	PCC		N/A
	c. Identify and develop next steps based on meeting.	CY2019	TBD		Next steps document.
3. By the end of 2021: Provide education to general public, high risk populations and key service providers about HIV and other effective prevention efforts.	a. Create a strategic distribution plan, including identification of specific type of material to be shared, which helps to normalized HIV as part of broader health discussion.	CY2019	PCC	All popul.	N/A
	b. Disseminate information via distribution plan.	CY2019	TBD		N/A
4. TDH Strategy(ies)	a. Conduct trainings for staff on how to identify STD clients at high risk of subsequent HIV infection	SEE APPENDIX 5			

GOAL II: INCREASING ACCESS TO CARE AND IMPROVING HEALTH OUTCOMES FOR PERSONS LIVING WITH HIV

BENCHMARKS:

- By September 30, 2021, increase the percentage of newly HIV diagnosed persons in the TGA linked to HIV medical care within one month of their diagnosis to at least 85%.
- By September 30, 2021, increase the percentage of persons in the TGA with diagnosed HIV infection who are retained in HIV medical care to at least 90%.
- By September 30, 2021, increase the percentage of Part A Ryan White clients who are in continuous care (2 medical visits within 12 months) in HIV medical care to at least 80%.
- By September 30, 2021, increase the percentage of Part A Ryan White clients who are virally suppressed to at least 85%.
- By September 30, 2021, increase the percentage of Part A Ryan White clients who have permanent housing to 86%.

OBJECTIVE A: Establish seamless systems to link people to care immediately after diagnosis and support retention in care to achieve viral suppression that can maximize the benefits of early treatment and reduce transmission risk.

Current Key Activities to Continue to Support:

- Maintain, expand as needed, Part A EIS services, including innovative models (e.g., jail EIS, local health departments-ASO collaboration, EIS at TGA health departments).
- Maintain Part Points of Entry relationships with Part A EIS providers.
- Maintain, expand as needed, Part A MCM services, including innovative models of care (e.g., MCM located at FQHC).
- Maintain state correction navigators. *(TDH)*
- Maintain specialty housing medical case manager to support skills needed to maintain stable housing. *(Part A & TDH)*
- Continue measurement along the HIV Care Continuum to measure progress against TGA benchmarks.
- Continue QI activities to measure client outcomes and develop QI projects to improve outcomes, including collaborative provider projects.

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Harmonize data and open sharing of data to all relative providers to enhance health outcomes.	a. Request the Memphis TGA health departments to finalize a data sharing agreement.	CY2017	PC/AG	All popul.	N/A
	b. Encourage the local health department to work with individual providers to provide key outcome data, particularly Continuum of Care, for clients served. *(also TDH Activity)*	CY2019	PC/AG/BG/PG		N/A
	c. Get research involved in order to look at the data, create reports and use it to improve services.	All years	PC		TBD
	d. Expand data collection efforts (e.g., conduct client interviews) or reporting, in order to better identify barriers, risks and needs of populations at high risk on not achieving key outcomes (e.g., link, retention, viral suppression, medication adherence).	CY2017	AG		N/A
	e. Revise tool for collecting data on why people do not enter or drop out of care and implement with Part A providers. Implement focus group to gain consumer driven perspective.	CY2017	AG/TP/PP	Lost to care population	# of focus groups implemented
2. By the end of 2021: Assure immediate access: Increase provider's ability to assure immediate access to HIV treatment.	a. Identify knowledgeable and experienced relevant providers to provide expertise, successful models of treatment, and tools to other providers to improve care.	CY2019	AG	All popul.	List of relevant providers
	b. Look into accessing medications immediately and for the uninsured.	CY2017	AG	The uninsured	N/A
	c. Establish a time table for providers in order to provide optimal care: eligibility, payer, and clinic hours.	CY2020	AG	All popul.	Time table created
3. By the end of 2021: Improve LINKAGE TO CARE and identify and remove structural barriers to HIV primary care within 30 days.	a. Complete detailed data analysis, including QI activity, to determine most significant characteristic and factors that impact linkage to care.	CY2017	AG	Newly Dx, High risk popl. , lost to care	N/A
	b. Gather information from outpatient and non-outpatient providers to Identify barriers to assuring care within 30 days.	CY2017	AG		N/A
	c. Create workflow for optimal access to treatment. Modify standards of care to require access to outpatient care within 30 days for specified high risk persons.	CY2018	AG/PC		Workflow created and SOC modified
	d. Fund two positions that specifically identify new diagnosed and help them set up access to a health navigator, medical case manager, etc.	CY2018	PC		# of positions funded
	e. Implement annual meetings between local HIV testers, DIS and EIS staff to strengthen collaboration and identify areas for improvement.	All years	AG		# of annual meetings

	f. Implement quarterly conference calls with Part B to strengthen collaboration between Part A & B linkage activities. *(also TDH Activity)*	All years	AG/BG/PG		# of conference calls
	g. Evaluate results to measure impact/change of new strategies and modify as needed.	CY2019	AG		N/A
4. By the end of 2021: Enhance service models for the highest risk populations (i.e., <u>not virally suppressed, poor retention, lost to care/drop out, poor adherence to medications</u>) and target available funding for these services.	a. Complete detailed data analysis, including QI activity, to determine most significant characteristic and factors that impact viral suppression, retention/engagement in care and medication adherence.	CY2017	AG	Not virally suppressed, not retained, drop out, poor adherence	N/A
	b. Review results and make recommendations for new service strategies to address retention in care barriers and needs. Target available funding for best practice initiatives Consider: • Increasing the number of "specialized" medical case managers *(also TDH Activity)*; • Increasing the number of peer staff (e.g., navigators, psychosocial support, medical case managers, EIS); • Utilize community health worker model.	CY2017	AG		# of recommendations made
	c. Create a mechanism to utilize data (data to care) to identify persons with poor outcomes and use to inform service delivery. *(also TDH Activity)*	CY2018	AG/PC		Mechanism created
	d. Increase collaboration with other housing resources and increase housing funds.	CY2018	PC	The unstably housed	N/A
	e. Review and revise standards of care as needed based on findings.	All years	AG		Revised SOC
	f. Evaluate results to measure impact/change of new strategies and modify as needed.	All years	AG		Evaluation conducted
5. TDH Strategy(ies)	a. All TDH funded testers receive notification every 30 days for clients <u>not</u> linked to care. b. Enhance linkage to care by positioning additional EIS staff focused on regions with lowest linkage rates focused on linkage rates <u><</u> 70%. c. Increase number of medical case managers targeting newly diagnosed individual to promote linkage to care. d. Collaborate with Part F AETC to train/support private providers in enhanced comprehensive care. e. Fund peer navigators to enhance retention. f. Provide training on benefits management to Ryan White clients to increase capacity in navigating changing healthcare landscape. g. Work with SAMHSA-funded mental health and substance abuse providers to identify and re-engage known HIV+ clients not currently receiving HIV care.	SEE APPENDIX 5			

GOAL II: Increasing Access to Care and Improving Health Outcomes for Persons Living with HIV

OBJECTIVE B: Take deliberate steps to increase capacity of systems as well as the number and diversity of available providers of clinical care and related services for PLWH .

Current Key Activities to Continue to Support:

- Continue to promote recruiting and hiring of diverse staff to enhance cultural competence in HIV testing and care sites *(Part A & TDH)*
- Continue focus and train providers on standards of care that focus on use of readiness assessment, motivational interviewing, health literacy, adherence and self-management.
- Continue to provide, or arrange, quality training for Ryan White providers. *(Part A & TDH)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Ensure coordination of all HIV and non-HIV community resources to assure access to services that encompass and meet the array of client needs (e.g., substance abuse, women, etc.).	a. Collect state and local health departments list of providers and what they provide to recipients in order to assess what is available and where.	CY2017	AG	All popul.	Assessment of gathered information
	b. Create comprehensive list of organizations and what they provide (resource audit) in order to identify gaps in service.	CY2017	AG		List created
	c. Modify Standards of Care to require providers to develop standards regarding formal referral and/or partnerships with entities serving and/or representing high risk populations.	CY2019	PC	High risk popul.	Modified SOC
2. By the end of 2021: Go out into the community to provide information and education on the Ryan White program and its services to key stakeholders.	a. Identify stakeholders (including private physicians) and key points of contact.	CY2017	PC/AG	All popul	List of stakeholders and points of contact
	b. Develop a cross-training educational plan between HIV and non-HIV service providers.	CY2019	PC/AG		Plan created
3. By the end of 2021: Have peers, both provider-to-provider and client-to client, give suggestions for enhancing the system of care, including broadening the provider network.	a. Identify and compile both sets of peers as points of contact for each other.	CY2018	AG/PC	Al popul.	# of peer relationships established
	b. Compile a set of activities where they can provide feedback on the system. For example, create focus groups, research studios, survey assessments.	CY2018	AG/PC		TBD
	c. Compile a report on the findings, including recommendations.	CY2019	AG/PC		N/A
	d. Review recommendations and implement as feasible (e.g., contracting, RFP, directives).	CY2019	AG/PC		# of recommendations implemented

	e. Increase new doors of entry for HIV outpatient and other services either through collaborations or additions of new providers, including non-ASO entities. *(also TDH Activity)*	All years	AG		# of new doors of entry
	f. Assure annual provision of effective cultural competency training for all providers that focuses on barriers and techniques to improve care along each step of the HIV Care Continuum.	All years	AG		N/A
5. TDH Strategy(ies)	a. Conduct comprehensive lectures, presentations, and intersessions on the National HIV/AIDS Strategy, impact of HIV/AIDS on disparate populations, governmental public health's role in addressing HIV/AIDS, ways to achieve an AIDS-free generation, and careers in public health to medical school students and public health students. b. Train HIV providers to evaluate and treat HCV. c. Train HIV providers and MCMs to identify mental health and substance abuse co-morbidities jeopardizing access to HCV treatment and/or sustained care.	SEE APPENDIX 5			

GOAL II: Increasing Access to Care and Improving Health Outcomes for Persons Living with HIV

OBJECTIVE C: Support comprehensive, coordinated patient-centered care for PLHW, including addressing HIV-related co-occurring conditions and challenges in meeting basic needs, such as housing.

Current Key Activities to Continue to Support:

- Continue to fund ARTAS programs, including ARTAS training, across the state. *(TDH)*
- Provide TA and capacity-building for linkage to care providers through collaboration between Part A, B and F (AETC).
- Augment HDAP Formulary and Medical Services Fee Schedule to cover HCV diagnostics and treatment. *(TDH)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Increase access to HIV primary care by creating new alternate delivery modes (e.g., providing primary care in a community organization).	a. Engage the community in identifying what the needed non-conventional method is.	CY2018	AG/PC	All popul., including lost to care	N/A
	b. Meet with HIV providers to share community recommendations for optimizing delivery methods. Identify barriers, opportunities and identify methods that could be implemented.	CY2019	AG		N/A
	c. (For new methods) Create messaging campaign in order to educate PLWH on new types of delivery methods.	CY2019	PC		Campaign created
2. By the end of 2021: Expand non-office based & alternative sites for medical case management.	a. Coordinate and augment currently delivered case management to include primary care and other services sites.	CY2017	AG	All popul., including lost to care	N/A
	b. Partner to provide HIV services in discrete ways to clients who already receive non-office based/alternative case management. Create a plan to provide more comprehensive non-office based case managements.	CY2018	AG		Plan created
	c. Recruit other workers not in HIV who are providing non-office based/alternative case management to deliver HIV care services.	All Years	AG		# of consumers receiving case management from alternative sites
3. By the end of 2021: Utilize PLWH to provide recommendations for an optimized system of care.	a. Conduct focus groups with PLHW to solicit input on ideas for ways to improve the system of care.	CY2018	AG	All popul.	# of focus groups
	b. Draft a report with recommendations.	CY2018	AG		Report created
	c. Convene with informants to finalize recommendations for the planning council.	CY2019	AG		N/A
	d. Review recommendations and implement as feasible (e.g., contracting, RFP, directives).	CY2019	PC		# of recommendations implemented

5. TDH Strategy(ies)	a. Expand patient navigation (including peer navigators) programs to enhance linkage and retention efforts. b. Augment HDAP Formulary and Medical Services Fee Schedule to cover mental health and substance abuse treatment.	SEE APPENDIX 5

GOAL III: REDUCING HIV-RELATED DISPARITIES AND HEALTH INEQUITIES

BENCHMARKS:

- By September 30, 2021 increase the proportion of HIV-diagnosed gay and bisexual men with undetectable viral loads by 20% .
- By September 30, 2021 increase the proportion of HIV-diagnosed non-Hispanic Blacks with undetectable viral loads by 20% .
- By September 30, 2021 increase the proportion of HIV-diagnosed Latinos with undetectable viral loads by 20% .

OBJECTIVE A: Reduce HIV related disparities in communities at high risk of HIV infection.

Current Key Activities to Continue to Support:

- Continue measurement along the HIV Care Continuum to measure progress against TGA benchmarks for targeted populations, including detailed breakdowns within each population.

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Strengthen promotion of normalization of HIV testing	a. Meet with TDH to learn about HIV testing activities in the TGA, including areas of strength and opportunities for improvement (e.g., testing sites supported by TDH, opt-out testing policies, successful campaigns in other TN communities).	CY2017	AG	All populations, especially those who do not know their status	N/A
	b. Identify activities that can be supported by Ryan White Part A.	CY2018	PC/AG/PG		N/A
	c. Implement activities identified in activity b.	CY2019	PC/AG/PG		N/A
2. By the end of 2021: Increase culturally competent/specific outreach within/to high risk communities.	a. Engage high risk/hard to reach populations (specifically MSM, Young people of color, transgender individuals, and women) in focus groups to identify specific barriers to care impacted by culturally based stigmas .	CY2018	AG/PG	Transgender/ YPOC/ MSM	# of focus groups
	b. Develop/identify outreach initiatives guided by not only information gathered from the focus groups, but also participants from the focus groups, to specifically target transgender, young people of color, and MSMs.	CY2018	PC	Transgender/ YPOC/ MSM	# of outreach initiatives created
	c. As funds are available, fund best practice outreach initiatives identified above to specifically target communities, complete w/tracking tools for data collection.	CY2018	PC	Transgender/ YPOC/ MSM	N/A
3. By the end of 2021: Enhance the understanding of how	a. In coordination with TDH, assess current terrain of HIV care in prisons and jail facilities. Prioritize areas of need unearthed during assessment of correctional facilities, and propose strategies for improvement.	CY2018	AG/PC	Incarcerated population	N/A

the correctional system manages HIV testing/care/and discharge planning.	b. Develop recommendation s to strengthen the utilization and capacity of medical case managers or other HIV staff to support HIV positive incarcerated persons through the discharge process.	CY2019	AG/PC	Incarcerated population	# of recommendation s
	c. As funds are available, fund best practice services for persons newly released from correctional settings, complete w/tracking tools for data collection.	All Years	TP	Incarcerated population	% of incarcerated persons linked to care
4. By the end of 2021: Initiate Meaningful Action Plan to Address Disparities.	a. Analyze and use data to document disparities in the HIV Care Continuum.	All Years	AG	Transgender/ YPOC/ MSM, Non-permanently housed, young persons	Report created
	b. Convene identified community members to further inform etiology (origins) of disparities. "The right people at the table." Present the data in a way that enhances understanding and encourages informed mobilization (i.e., develop a meaningful action for change).	CY2018	AG/PC		Meeting convened
	c. Provide data to individual providers and use for QI activities.	All Years	AG/TP		Provider reports
	d. As funds are available, fund best practice services for populations specifically identified having poor outcomes in the HIV Care Continuum.	All Years	AG		N/A

GOAL III: Reducing HIV-Related Disparities and Health Inequities

OBJECTIVE B: Adopt structural approaches to reduce HIV infections and improve health outcomes in high-risk communities.

Current Key Activities to Continue to Support:

- NA

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Reduce infection within MSM community.	a. Increase promotion and use of PrEP. *See Goal 1, Objective B.*				
	b. Develop partnerships with local schools and community agencies to promote sexual health education to youth while concurrently reducing stigma. *See Goal 1, Objective C.*				
	c. Meet with TDH to learn about HIV prevention activities in the TGA, including areas of strength and opportunities for improvement and identify ways that Part A can support their efforts.	CY2017	PC	All populations.	
2. By the end of 2021: Increase engagement and educate faith-	a. Identify faith based organizations in the TGA who are receptive to promoting HIV education, awareness, and prevention.	CY2019	PC/AG	Focus on minority populations.	

based communities on HIV prevention and treatment.	b. Provide evidence based approaches to "training the trainer" and educational materials,	CY2020	AG		
	c. Provide ongoing support, coaching, and capacity building to trainers and educators.	CY2020	AG		
3. By the end of 2021: Increase HIV literacy among non-HIV primary care providers.	a. Identify non-HIV primary care and dental providers/sites that serve high risk populations. Promote the use of culturally and linguistically appropriate services to help providers strengthen their ability to engage clients in open dialogue around issues such as HIV.	CY2018	PC/AG	High risk populations.	
	b. Encourage AETC to engage these providers in ongoing trainings related to HIV prevention and treatment.	CY2018	PCC		
	c. Include these providers in relevant Ryan White Part A Planning Group and Grantee activities as a way to increase knowledge (e.g., provider trainings, PC committees, invite to meetings).	Ongoing	PC/AG		

GOAL III: Reducing HIV-Related Disparities and Health Inequities

OBJECTIVE C: Reduce stigma and eliminate discrimination associated with HIV status.

Current Key Activities to Continue to Support:

- Support of MSM and Transgender Task Forces local media campaigns to reduce stigma of HIV testing & PrEP. *(TDH activity)*

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Engage business leaders, civil organizations, and private and public figures in HIV prevention and stigma reduction.	a. Identify opportunities for HIV community to talk with business leaders, civic organizations, and private and public figures. • Civic organizations- try to get one HIV related agenda item on their docket per year, Private figures, Public figures, Business owners-educate business executives and promote open dialogue between employees and employers	CY2019	AG/PC	All populations	N/A
	b. Identify ways to frame HIV information that is tailored to each audience. Disseminate relevant information to receptive audiences.	CY2019	AG/PC		N/A
	c. Identify ways to frame HIV information for business leaders that includes information about human resource practices that support a PLWH's ability to manage their HIV disease. Disseminate relevant information to receptive audiences.	CY2019	AG/PC		N/A

2. By the end of 2021: Engage gatekeepers and utilize cultural hotspots to promote HIV education, prevention, and treatment.	a. Identify gatekeepers of high risk communities and hard to reach communities. Encourage and assist gatekeepers in identifying and utilizing cultural hotspots (e.g. barbershops; nail salons, etc.) to promote HIV education, prevention and treatment.	CY2018	AG/PC	High risk populations	# of gatekeepers identified
	b. Educate gatekeepers on HIV 101, referrals to care, and client support.	CY2018	AG/PC		N/A
	c. Provide ongoing support to gatekeepers to keep them engaged in the process.	CY2018	TP		N/A
3. By the end of 2021: Utilize social media and marketing campaigns to dismantle stigma.	a. Investigate marketing techniques that have proven to be successful in identifying sources of stigma.	CY2019	AG/PC	All populations	N/A
	b. Stratify and prioritize sources of stigma to be addressed.	CY2019	AG/PC		N/A
	c. Develop campaigns to address prioritized stigma.	CY2019	AG/PC		N/A
5. TDH Strategy(ies)	a. Implement cultural-competency assessment programs to ensure culturally-competency services within metro-STD clinics.	SEE APPENDIX 5			

GOAL IV: ACHIEVING A MORE COORDINATED STATE AND LOCAL RESPONSE TO THE HIV EPIDEMIC

OBJECTIVE A: Increase the coordination of HIV programs across state and local governments.

Current Key Activities to Continue to Support:

- Part B membership on the Part A Planning Council.
- Medicaid (TennCare) membership on the Part A Planning Council.

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS
1. By the end of 2021: Strengthen/Enhance collaboration between local HIV planning bodies (CHAPP and Nashville Regional HIV Planning Council).	a. Conduct meeting of TDOH and MPHD planning staff to identify potential points of collaboration and areas where collaboration is not reasonable.	CY2017	AG/BG/PG	All populations.	N/A
	b. Conduct routine meetings/communication between TDOH and MPHD planning body staff	All Years	AG/BG/PG		# of meetings
	c. Conduct routine meetings/communication between Part A and B planning body leadership.	All Years	AG/BG/PG		# of meetings
	d. Implement at least one annual joint activity and at least one joint training.	All Years	AG/BG/PG		N/A
	e. Request HRSA/CDC technical assistance to help move toward one HIV prevention and treatment plan.	CY2017	AG		N/A

2. By the end of 2021: Strengthen/Enhance collaboration between major HIV funding sources (Part A, Part B, TDOH prevention, TennCare, ACA).	a. Hold meeting of TDOH and MPHD program directors to identify potential points of collaboration, including separate plan for TennCare and ACA, and areas where collaboration is not reasonable.	CY2018	AG/BG/PG	All populations.	N/A
	b. Develop a written plan for collaboration, including specific activities and timeframes.	CY2018	AG/BG/PG		Written plan created
	c. Schedule routine meetings/communication between TDOH and MPHD program directors and others as appropriate.	CY2018	AG/BG/PG		# of meetings
3. By the end of 2021: Strengthen/Enhance collaboration and reciprocal relationship between key service stakeholders and community leaders (e.g., ASOs, CBOs, relevant local and state government agencies, faith based, housing, employment).	a. Identify current and potential partners.	CY2019	AG/BG/PG	All populations.	# of partners identified
	b. Conduct interviews/focus groups to clarify needs of partners and ways to engage.	CY2019	AG/BG/PG		# of focus groups
	c. Develop a written plan for collaboration, including specific activities and timeframes.	CY2019	AG/BG/PG		Written plan created
	d. Create and document a variety of opportunities for engagement of partners through social media, educational events, one-no-one interactions, etc.	CY2019	AG/BG/PG		N/A
	e. Implement x of opportunities per year (based on plan in number 3).	CY2020	AG/BG/PG		TBD
	f. Sponsor regular community round table for community stakeholders and leaders to build relationships and awareness of community need and available services.	CY2020	AG/BG/PG		# of round tables sponsored
	g. Continue to enhance focus on recruiting diverse and strategic community stakeholders for the Part A Planning Council, Committees and/or work groups.	All Years	PC		N/A

GOAL IV: Achieving a More Coordinated State and Local Response to the HIV Epidemic

OBJECTIVE B: Develop improved mechanisms to monitor and report on progress toward achieving local goals.

Current Key Activities to Continue to Support:

- Coordination between Part A & B Quality Management activities.

STRATEGY	ACTIVITIES	TIME FRAME	RESPONSIBLE PARTIES	TARGET POP	DATA INDICATORS

1. By the end of 2021: Identify key indicators of successful collaboration.	a. Research literature on best practices for effective collaboration.	CY2017	AG	N/A	N/A
	b. Define indicators for local community and inform partners.	CY2017	AG/BG/PG	N/A	TBD
2. By the end of 2021: Develop/identify evaluation tool and implement.	a. Develop tool (may use existing model and modify for local use).	CY2018	AG	N/A	Tool developed
	b. Using local tool, assess current baseline for coordination of state and local response to HIV Epidemic. (Year 1 Funders, Year 2 Planning Bodies, Years 3 Service Providers, etc.).	CY2018	AG/BG/PG	N/A	N/A
	c. Implement as indicated to assess status.	CY2019	AG/BG/PG	N/A	N/A
3. By the end of 2021: Utilize evaluation results to inform partners on status (success, weakness and action needed to strengthen collaborations) and use data to implement changes for the better.	a. Identity successes and celebrate	CY2019	AG/BG/PG	N/A	N/A
	b. Identify areas that need improvement and develop a plan to address.	CY2020	AG/BG/PG	N/A	N/A
4. By the end of 2021: Ideally, develop a TN fully integrated HIV prevention and treatment comprehensive plan.	a. Meet with TDH and the Memphis TGA to discuss opportunities and challenges for developing a statewide integrated plan.	CY2018	AGs/BG/PC	N/A	N/A
	b. Request technical assistance from HRSA/HAB/CDC to assist with identifying opportunities, challenges and mechanisms for developing a statewide integrated plan. Develop a plan to address this strategy.	CY2018	AG	N/A	TA request
	c. Implement the plan.	CY2018	AGs/BG/PC	N/A	Plan