Memphis Transitional Grant Area
Ryan White Part A
Needs Assessment FY2015

Part I

HIV/AIDS Epidemiological Profile

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Shelby County Health Department
HIV Disease and AIDS Surveillance Data

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

**AIDS (Stage 3 HIV infection):** persons with HIV disease who have one of the following:
- a CD4+ count less than 200 or
- CD4+ percentage less than 14% or
- one of the 27 AIDS-Defining Conditions

*HIV+ persons are reported to surveillance systems twice: once at initial diagnosis and again at AIDS diagnosis.*
27 AIDS-Defining Conditions

- Bacterial infections, multiple or recurrent*
- Candidiasis of bronchi, trachea, or lungs
- Candidiasis of esophagus†
- Cervical cancer, invasive§
- Coccidioidomycosis, disseminated or extrapulmonary
- Cryptococcosis, extrapulmonary
- Cryptosporidiosis, chronic intestinal (>1 month's duration)
- Cytomegalovirus disease (other than liver, spleen, or nodes), onset at age >1 month
- Cytomegalovirus retinitis (with loss of vision)†
- Encephalopathy, HIV related
- Herpes simplex: chronic ulcers (>1 month's duration) or bronchitis, pneumonitis, or esophagitis (onset at age >1 month)
- Histoplasmosis, disseminated or extrapulmonary
- Isosporiasis, chronic intestinal (>1 month's duration)

Source: [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5710a2.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5710a2.htm)
27 AIDS-Defining Conditions

- **Kaposi sarcoma**
- Lymphoid interstitial pneumonia or pulmonary lymphoid hyperplasia complex*
- Lymphoma, Burkitt (or equivalent term)
- Lymphoma, immunoblastic (or equivalent term)
- Lymphoma, primary, of brain
- *Mycobacterium avium* complex or *Mycobacterium kansasii*, disseminated or extrapulmonary†
- *Mycobacterium tuberculosis* of any site, pulmonary,†§ disseminated,† or extrapulmonary†
- *Mycobacterium*, other species or unidentified species, disseminated† or extrapulmonary†
- *Pneumocystis jirovecii pneumonia*†
- Pneumonia, recurrent†§
- Progressive multifocal leukoencephalopathy
- *Salmonella* septicemia, recurrent
- Toxoplasmosis of brain, onset at age >1 month†
- Wasting syndrome attributed to HIV

* Only among children aged <13 years
† Condition that might be diagnosed presumptively.
§ Only among adults and adolescents aged ≥13 years.

Source: [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5710a2.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5710a2.htm)
General Epidemiology: Incidence

**Incidence:** the number of new cases of HIV in a specified time period.
- *ex.* **324** HIV disease cases were diagnosed in the Memphis TGA in 2014.

**Incidence rate:** Number of new cases of HIV expressed per unit of population.
- *ex.* **24.4** HIV disease cases per 100,000 people were diagnosed in the Memphis TGA in 2014.

*HIV incidence helps us understand how HIV is spreading now and how to more effectively focus prevention efforts.*
Prevalence: the proportion of a population known to be living with HIV or AIDS.

- Typically expressed as a percentage of the population at a point in time.
- Ex. 7,297 PLWHA in the Memphis TGA as of December 31, 2014 (0.55% of the total TGA population).
- PLWHA=“persons living with HIV or AIDS”

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

- Geographical Location
- County Populations
- Race/Ethnicity
- Poverty
- Educational Attainment
- Health Insurance Coverage
Geographical Location of the Memphis TGA

The Memphis Transitional Grant Area (TGA) encompasses the eight counties from three states (Tri-State Area). At the end of 2013, Memphis TGA total Population = 1,329,931

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

Data Source: U.S. Census Bureau, 2011-2013 3-Year American Community Survey.
Memphis TGA Residents by Race/Ethnicity, U.S. Census Bureau, 2013

<table>
<thead>
<tr>
<th></th>
<th>White, Non Hispanic</th>
<th>Black, Non Hispanic</th>
<th>Hispanic or Latino</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>TGA Total</td>
<td>45.4%</td>
<td>45.8%</td>
<td>5.1%</td>
<td>3.7%</td>
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<tr>
<td>Shelby</td>
<td>37.9%</td>
<td>52.3%</td>
<td>5.8%</td>
<td>4.0%</td>
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<td>Tipton</td>
<td>76.4%</td>
<td>17.5%</td>
<td>2.4%</td>
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<tr>
<td>Fayette</td>
<td>67.9%</td>
<td>27.7%</td>
<td>2.4%</td>
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</tr>
<tr>
<td>Crittenden</td>
<td>44.7%</td>
<td>50.4%</td>
<td>2.2%</td>
<td>2.6%</td>
</tr>
<tr>
<td>DeSoto</td>
<td>68.9%</td>
<td>23.0%</td>
<td>4.9%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Marshall</td>
<td>48.4%</td>
<td>46.9%</td>
<td>3.3%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Tate</td>
<td>65.8%</td>
<td>30.0%</td>
<td>0.5%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Tunica</td>
<td>23.0%</td>
<td>73.0%</td>
<td>2.2%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

45.4% of the Memphis TGA population is White, 45.8% Black and 5% Hispanic. Race and ethnicity varies by county.

Data Source: U.S. Census Bureau, 2011-2013 3-Year American Community Survey.
Almost 20% of all Memphis TGA residents are living in poverty; residents under 18 years, females and Blacks/African Americans are living in the highest poverty level.

Data Source: U.S. Census Bureau, 2011-2013 3-Year American Community Survey.
Educational Attainment among Memphis TGA Residents aged 25+ Years, 2011-2013

In the Memphis TGA, 60% of residents have a high school Diploma or Associate’s degree, 14% of residents have less than a high school diploma, 26% have bachelors degree or higher.

Data Source: U.S. Census Bureau, 2011-2013 3-Year American Community Survey.
Education Attainment inversely correlates with Below the Poverty Level. The lower the Education Attainment, the higher percentage of Below the Poverty Level will be.

Data Source: U.S. Census Bureau, 2011-2013 3-Year American Community Survey.
In the end of 2013, 17% males and 14% females do not have health insurance coverage in the Memphis TGA.

Data Source: U.S. Census Bureau, 2011-2013 3-Year American Community Survey.
In the end of 2013, 35% of Hispanics/Latinos and 18% of Blacks do not have health insurance coverage in the Memphis TGA. Almost half of the Hispanic/Latinos do not have Health Insurance, in Shelby, DeSoto, and Tunica counties.

Data Source: U.S. Census Bureau, 2011-2013 3-Year American Community Survey.
In the end of 2013, 22% of all adults aged 18-64 years in the Memphis TGA do not have health insurance coverage.

Data Source: U.S. Census Bureau, 2011-2013 3-Year American Community Survey.
Scope of HIV Epidemic in the Memphis TGA

- Incidence
- Prevalence
- Deaths
- Co-Infections
- STDs
Memphis MSA has a low number of estimated new infections, but an HIV incidence rate was more than two times higher than total MSAs’ rate. (Ranked 7th among the 381 metropolitan statistical area of residence—United States)

In 2013, New HIV diseases rates of Memphis MSA more than 2 times higher than that of MSAs and ranked 7th among the 381 metropolitan statistical area of residence—United States; new HIV rates were even higher in Shelby county almost 34 per 100,000 persons.

Rates and Ranks of New AIDS Diagnoses by Metropolitan Statistical Area, United States, 2013

New AIDS diagnoses rate in the Memphis TGA was almost 4 times higher than the new AIDS diagnoses rate (8.5 per 100,000 population) among all MSAs in the United States in 2013. (Ranked 1st among the 381 metropolitan statistical area of residence—United States)

In 2013, New AIDS diseases rates of Memphis MSA were almost 4 times that of MSAs and ranked 1st among the 381 metropolitan statistical area of residence—United States; and 75% of the new AIDS cases were diagnosed in Shelby County.

Shelby county accounted for 86% of new HIV cases, followed by DeSoto county (5.6%), and Crittenden county (4%) in Memphis TGA, in 2014*.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change

Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;
In **Pre-HAART-era**, new HIV cases increased among both Blacks and Whites. In **Post-HAART-era**, new HIV cases stabilized among blacks about 380 cases yearly; but it began to decrease among the Whites. In **Ryan White-era**, new HIV cases showed significant decrease among Blacks.

Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;
In Pre-HAART-era, the main modes of transmission were MSM, Heterosexual contact, and IDU. In Post-HAART-era, infection through MSM started to decrease slowly. IDU was also decreased. Heterosexual transmission continuously increased until 2002, likely due to the myth of “HIV is being a Gay man’s disease”. In Ryan White-era, new HIV cases through MSM and Heterosexual contact are continuously decreasing. However, recent two years infection through MSM showed a slight increase.

Source: Enhanced HIV/AIDS Reporting System (eHARS), TN;
HIV disease diagnoses and AIDS diagnoses should never be added together. HIV disease diagnoses are based on year of initial disease diagnoses. AIDS diagnoses are based on the year of AIDS diagnosis.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
Three counties (Shelby, Fayette, and Tipton) in West Tennessee accounted for 89% of new HIV cases, in 2014.

*Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
The proportion of new HIV cases among males and females remained stable since 2010 in the Memphis TGA. In 2014, 72% of all new HIV diagnoses were among males.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
In 2014, 81% of all new HIV diagnoses were among Non-Hispanic Blacks, 12% Non-Hispanic Whites, and 3% Hispanics.
New HIV case rates among Blacks were almost 7 times Non-Hispanic Whites, and new HIV rates among Hispanics were more than two times higher than that of Whites in the Memphis TGA 2014.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
Blacks are disproportionately impacted by HIV infections. Although almost half of the TGA populations are Blacks (46%), they accounted for 81% of newly diagnosed HIV cases in 2014.

Source: (eHARS), TN; AR, MS; U.S. Census Bureau, 2011-2013 3-Year American Community Survey; *: Preliminary data, subject to change
The trends of new HIV diagnoses were shifted to adolescents and young adults. The proportion of new HIV Diagnoses steadily increased from 53% in 2010 to 59% in 2014 among the adolescents and young adults aged 15-34 years old in the Memphis TGA.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
In 2014, 44% of new diagnoses were among MSM, 36% attributed to heterosexual transmission and 19% had no reported/identified risk. Due to the improvement of documentation in HIV Surveillance, Unidentified risk exposure decreased from 47% in 2012 to 19% in 2014.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
In 2013, 319 (95%) of AIDS cases were diagnosed in the West TN three counties (Shelby, Fayette, and Tipton).

Source: http://www.cdc.gov/hiv/library/reports/surveillance/2013/surveillance_Report_vol_25.html; (eHARS), TN; AR, MS; *: Preliminary data, subject to change.
The proportion of Late HIV Diagnoses has been increasing from 17% in 2009 to 25% in 2014. Of 288 newly diagnosed HIV cases, 25% cases had an initial AIDS diagnoses within three months of their HIV infection diagnoses in the 12 month measurement period, in 2014.

Source: (eHARS), TN; AR, MS;  *: Preliminary data, subject to change
New AIDS Cases and Late HIV Diagnoses, West TN Counties, 2010-2014

The proportion of Late HIV Diagnoses has been increasing from 24% in 2010 to 39% in 2014. Late HIV Diagnosis is considered to be the main reason for the Memphis TGA to be ranked 1st among the MSAs in the Nation for new AIDS diagnoses in 2013.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
New AIDS diagnoses were shifted from the older age group to younger age group. In 2013, among the age group 0-14 years old, new AIDS diagnoses rates increased more than 10 times compared to those in 2012; and among the adolescents and young adults aged 15-34 years old, new AIDS diagnoses rates almost doubled. However, the new AIDS rates steadily decreased among the aged 35-54 year old.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
Late HIV Diagnoses, West TN Counties, 2014

Total # of Late HIV: 72 Cases in 2014*

The majority of the Late HIV Diagnoses were males (73%), Non-Hispanic Blacks (72%), and adolescents and young adults aged 15-34 years old (56%) in 2014*

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
The number of deaths among the PLWHA in the Memphis TGA residents have been fluctuating with a yearly average of **133 Cases** between 2008 and 2013(159 in 2008 to 139 in 2013).

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
In 2013, 139 death cases were identified among the PLWHA in the Memphis TGA residents. Males accounted for 72%, Blacks accounted for 84%, and the age group 45+ years old accounted for 64% of death cases.

Source: (eHARS), TN; AR, MS;
At the end of 2014, 7,297 PLWHA in the Memphis TGA; 86% of PLWHA resided in Shelby County, and almost 90% (6,458) of cases were in West TN three Counties.

Source: Enhanced HIV/AIDS Reporting System (eHARS), TN, MS, AR; *: Preliminary data, subject to change
People Living With HIV AIDS by County, Memphis TGA Map, as of 2014

Total: 7,297 *

- Shelby, TN: 6,296 (86.3%)
- Tipton, TN: 95 (1.3%)
- DeSoto, MS: 398 (5.5%)
- Marshall, MS: 83 (1.1%)
- Tate, MS: 36 (0.5%)
- Tunica, MS: 76 (1.0%)
- Crittenden, AR: 246 (3.4%)
- Fayette, TN: 67 (0.9%)
- Marshall, MS: 83 (1.1%)

Data Source: eHARS TN, MS, AR; *: Preliminary data, subject to change
The majority of persons living with diagnosed HIV infection were concentrated in northwest and southwest part of Shelby county. Outside Shelby county, ZIP code 38671 in DeSoto county and zip code 72301 in Crittenden county were the highest number of PLWHA (109 – 230 cases) concentrated areas in the Memphis TGA in 2014.

Data Source: eHARS TN, MS, AR. *: Preliminary data, subject to change
In 2014, we had a total of 16 providers. There were four outpatient providers in Shelby County and one in AR. (All outpatient providers also provide supportive services.) There were 11 providers of supportive services who do not provide outpatient medical. All in Shelby County, except the one in DeSoto, MS.

Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; *: Preliminary data, subject to change
At the end of 2014, 7,297 PLWHA in Memphis TGA; The proportion of people living with HIV was decreasing from 54% to 51% and the proportion of people living AIDS was increasing from 46% to 49% between 2011 and 2014.

Data Source: eHARS TN, MS, AR; *: Preliminary data, subject to change.
Among the PLWHA, males accounted for 68% and Black, not Hispanics accounted for 82% of HIV or AIDS cases at the end of 2014.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
At the end of 2014, 46% of all PLWHA were 45+ years old in Memphis TGA.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
Rates (per 100,000 population) of HIV/AIDS Prevalence in Shelby County, as of 2014*

The darkest shaded area represents the highest rates of PLWHA, which are mainly southwest and northwest of Shelby county.

Source: (eHARS), TN; *: Preliminary data, subject to change
Rates (per 100,000 population) of HIV/AIDS Incidence, Shelby County, in 2014

The darkest shaded area represents the highest rates of new HIV diagnosed ZIP code area, which are in downtown and southwest Memphis.

Source: (eHARS), TN; *: Preliminary data, subject to change
The positive correlation between the rates of HIV/AIDS prevalence and the rates of HIV incidences by ZIP code area shows that these ZIP code areas should be considered to be highly prioritized for resource allocation in terms of HIV testing and care.

Source: (eHARS), TN; *: Preliminary data, subject to change
STD Rates in the Memphis TGA and among the National MSAs, 2013

Chlamydia and Gonorrhea Both Ranked 1st in the Nation

The Memphis MSA (metropolitan statistical area) has the highest Chlamydia, Gonorrhea rates among all MSAs in the Nation. However, P&S Syphilis rates decreased to the same as National level in 2013.

Source: Sexually Transmitted Disease Surveillance 2013
TB rates were more than 30 times, P&S Syphilis rates were 24 times, Gonorrhea rate were 7 times, and Chlamydia rates were 2 times higher among the PLWHA than among the general population in Memphis TGA in 2014.

Source: Enhanced HIV/AIDS Reporting System (eHARS), TN; PRISM, TN; NEDSS, TN; MS; AR.
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 co-infection occurred further from the highly concentrated HIV incidence and prevalence ZIP code areas.

Source: (eHARS), TN; *: Preliminary data, subject to change
Indicators of HIV Risk

- Black/African American, MSM
- Black Women of Childbearing Age
- Adolescents and young Adults
- Hispanics
- Incarcerated
In the Memphis TGA, Black, Not-Hispanics accounted for 81% of new HIV diagnoses, 77% of new AIDS Diagnoses, 72% of late HIV diagnoses in 2014.

Source: (eHARS), TN; PRISM, TN; *: Preliminary data, subject to change
In 2014, 62% of new HIV cases among males were infected through MSM contact in West TN counties.

Source: (eHARS), TN; PRISM, TN; *: Preliminary data, subject to change
The majority of the New HIV, New AIDS, and Late HIV Diagnosis were among the adolescents and young adults aged 15-34 years old (58%, 61%, and 56% respectively) in 2014*

Source: (eHARS), TN; PRISM, TN; *: Preliminary data, subject to change
Adolescents and young Adults
Rates of New HIV Case (per 100,000 persons) by age group in United States and Memphis TGA, 2013

According to the CDC HIV Surveillance Report 2013, in the Memphis TGA, newly diagnosed HIV rates among young adults 20-24 years old were almost three times higher and among youth 15-19 years old were more than two times higher than that of among the same age groups in the Nation.

Youth
Chlamydia and Gonorrhea Rates among Adolescents aged 15-19 years old, Shelby County and Tennessee, 2014

Chlamydia rates among Shelby County adolescents aged 15-19 years old were more than 2 times higher than that of Tennessee adolescents of the same age group; and Gonorrhea rates were almost 3 times that of U.S. total and Tennessee adolescents of the same age group.

Source: PRISM, TN;
In the West TN three Counties, between 2008 and 2012, 199 babies born from HIV infected mothers. Of these, 83% were diagnosed as pediatric seroreverters, 3% were diagnosed as pediatric AIDS cases, and 91% were born to Non-Hispanic Black mothers.

Source: (eHARS), TN; PRISM, TN; *: Preliminary data, subject to change
In the West TN three Counties, between 2008 and 2012, although the number of babies born to HIV infected mothers were increased, the proportion of pediatric seroreverters were increased, as a result, the proportion of pediatric HIV/AIDS cases were decreased.

Source: (eHARS), TN; PRISM, TN; *: Preliminary data, subject to change
Black Women of Child Bearing Age, West Tennessee Counties

Congenital Syphilis, 2010 - 2014

36 Congenital Syphilis cases were reported between 2010-2014 in Shelby County. 30 (83%) occurred among infants born to Black mothers.

Source: (eHARS), TN; PRISM, TN;
Incarcerated
New HIV Disease Cases in Correctional Facilities in the West Tennessee, 2007-2013

The number of new HIV disease cases diagnosed in correctional facilities has declined, and 14 cases were identified in 2013.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
Disproportionate impact of HIV/AIDS, in the Memphis TGA

Black/African American MSM
- Non-Hispanic Blacks accounted for 81% of all newly diagnosed HIV disease cases among males in 2014.
- MSM was the most commonly reported risk exposure category (59%) among newly diagnosed Non-Hispanic Black individuals in the West TN Counties.
- 77% of newly diagnosed AIDS cases were among Non-Hispanic Blacks in the Memphis TGA, in 2014

Adolescents and Young Adults aged 15-34
- Accounted for 59% of new HIV cases,
- 61% of newly diagnosed AIDS cases, and 56 % of late HIV cases in 2014

Black/African American Women of Child-Bearing Age
- 87% of women living with HIV or AIDS are Non-Hispanic Black, and 55% were between the child-bearing ages of 15-44 years in 2014.
- In the years 2010-2014, there were 193 babies were born from HIV infected mothers. Of these, 88%(n= 169) were born to Black mothers.
- and 36 Congenital Syphilis cases reported in Shelby County , 83% (n=30) of them were born to Black mothers.

Hispanics
- Although Hispanics accounted for only 3% of new HIV cases, the rates of new HIV cases among Hispanics were more than two times greater than that of Non-Hispanic Whites in 2014

Hispanics
- Although Hispanics accounted for only 3% of new HIV cases, the rates of new HIV cases among Hispanics were more than two times greater than that of Non-Hispanic Whites in 2014
References and Notes

• All 2014 data are preliminary and subject to revision. Use of preliminary data is restricted to planning purposes for the Ryan White Planning Council and may not be released to the general public or media.
• Prevalence estimates are based on current residence variable in eHARS.
• Questions? Need more data? Contact:

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Shelby County Health Department  
Tel: 901-222-9234  
Sulaiman.Aizezi@Shelbycountytn.gov

HIV/STD Data:
• Shelby County Health Department, Epidemiology Section, 814 Jefferson Ave, Memphis TN 38103.
• Arkansas Department of Health, HIV/AIDS Registry Section, 4815 W. Markham, Little Rock AR 77205. The HIV/AIDS Registry Section is fully funded by a Cooperative Agreement with the Centers for Disease Control and Prevention (CDC).
• Mississippi Department of Health, STD/HIV Office, P.O. Box 1700 Jackson, MS 39215.

National HIV/STD Data:
• http://www.cdc.gov/std/stats13/surv2013-print.pdf;
Part II

Unmet Need, HIV Testing, and HIV Continuum of Care

Memphis TGA, 2014

David Sweat, MPH
Chief of Epidemiology
Shelby County Health Department
Outline

- Level of unmet need among the PLWHA population in the Memphis TGA

- Estimated number of persons unaware of their HIV+ status in the Memphis TGA
  - HIV testing data
  - Memphis TGA EIIHA (Early Identification of Individuals Living with HIV/AIDS) Strategy

- HIV Continuum of Care
Definition of Unmet Need

- How many PLWHA are not receiving Primary Medical Care?

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

- CD4+ count or
- viral load or
- provision of ARVs
Data Sources

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

Limitations:

- Collect and Integrate data
- Matching data

Persons not Ryan White eligible may not be included in the unmet need framework.
In 2014, total 32% of PLWHA did not receive medical care, 72% – 80% of PLWHA in north MS County, followed by 56% of PLWHA in Crittenden County, and 27% of PLWHA in Shelby County did not receive medical care.

Source: (eHARS), TN; ADAP, IAP, RW CAREWare; *: Preliminary data, subject to change
In 2014, the majority of PLWHA not receiving primary medical care were residents of Shelby County (72%), followed by DeSoto County (14%), and Crittenden County (6%).

Source: (eHARS), TN; ADAP, IAP, RW CAREWare; *: Preliminary data, subject to change
Unmet Need in the West TN three Counties of Memphis TGA (Shelby, Fayette, and Tipton), 2007-2014

Linkage to HIV medical care and Unmet Need are reversely correlated. In West TN Counties, while the Linkage to Care increased from 21% in 2008 to 66% in 2014, the Unmet Need has steadily decreased from 73% in 2008 to 27% in 2014.

Source: (eHARS), TN; ADAP, IAP, RW CAREWare; *: Preliminary data, subject to change
The Unmet Need percentage among the PLWHA in the West TN three Counties has steadily and continually decreased 55% between 2009 and 2014; higher number of PLWA (84%) received medical care compare to the PLWH (63%) in 2014.

Source: (eHARS), TN; ADAP, IAP, RW CAREWare; *: Preliminary data, subject to change
In 2014, 1,735 PLWHA in the West TN 3 Co. did not receive medical care. Of them, 70% were male, 85% were Blacks, 76% were adults aged 25-54 years old, 36% were identified as MSM.

Source: (eHARS), TN; ADAP, IAP, RW CAREWare; *: Preliminary data, subject to change
Trends of Unmet Need by Zip Code, Shelby County, 2011

40% Need Unmet

Unmet Need 2011

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<th># of Cases</th>
<th>Color</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>67 - 131</td>
<td>Light Orange</td>
</tr>
<tr>
<td>132 - 197</td>
<td>Orange</td>
</tr>
<tr>
<td>198 - 252</td>
<td>Dark Orange</td>
</tr>
</tbody>
</table>

Data Source: eHARS, TN
Trends of Unmet Need by Zip Code, Shelby County, 2012

30% Need Unmet

Unmet Need 2012

# of Cases
- Yellow: 0 - 66
- Orange: 67 - 131
- Brown: 132 - 197
- Maroon: 198 - 252

Data Source: eHARS, TN
Trends of Unmet Need by Zip Code, Shelby County, 2013

28% Need Unmet

Unmet Need 2013
# of Cases
- 0 - 66
- 67 - 131
- 132 - 197
- 198 - 252

Data Source: eHARS, TN
Trends of Unmet Need by Zip Code, Shelby County, 2014

27% Need Unmet

Unmet Need 2014
# of Cases
- Yellow: 0 - 66
- Light Orange: 67 - 131
- Orange: 132 - 197
- Dark Orange: 198 - 252

Data Source: eHARS, TN
Identifying the Unaware

- HIV Testing Data
- Memphis TGA EIIVA Strategy
  (Early Identification of Individuals Living with HIV/AIDS)
- Unaware Estimate
Number of HIV Tests Conducted at Prevention/Expanded Sites, Memphis TGA, 2010-2014

There were almost 8,000 fewer HIV tests conducted in 2014 compared to the tests conducted in 2012. About 100 fewer HIV cases were identified in 2014 compared to 2012.

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
### Number of New HIV Tests and Test Positivity by County, in the Memphis TGA, 2014

<table>
<thead>
<tr>
<th>Counties</th>
<th># of Tests</th>
<th>Positive Tests</th>
<th>Positivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelby County</td>
<td>36,298 (87%)</td>
<td>416</td>
<td>1.1%</td>
</tr>
<tr>
<td>Tipton County</td>
<td>440 (1%)</td>
<td>2</td>
<td>0.5%</td>
</tr>
<tr>
<td>Fayette County</td>
<td>632 (2%)</td>
<td>3</td>
<td>0.5%</td>
</tr>
<tr>
<td>MS 4 Counties</td>
<td>2,989 (7%)</td>
<td>45</td>
<td>1.5%</td>
</tr>
<tr>
<td>Crittenden, AR</td>
<td>1,335 (3%)</td>
<td>13</td>
<td>1.0%</td>
</tr>
<tr>
<td><strong>Total Number of Tests</strong></td>
<td><strong>41,694</strong></td>
<td><strong>479</strong></td>
<td><strong>1.1%</strong></td>
</tr>
</tbody>
</table>

*Prevention and expanded test sites include Shelby Co. Health Dept., LeBonheur HIV Community Network, Greater Memphis Planned Parenthood, Partnership to End AIDS Status (PEAS), Friends For Life, Children and Family Services, Tipton, Crittenden Co. AR, Mississippi four Counties (Desoto, Marshall, Tate and Tunica).

In 2014, among the all counties in Memphis TGA, the highest number of tests (36,298, 87%) were conducted and the highest number of positive tests were reported in Shelby county. However, MS 4 counties showed highest test positivity (1.5%).

Source: (eHARS), TN; AR, MS;
Number of New HIV Tests and Test Positivity in the Memphis TGA, 2014

<table>
<thead>
<tr>
<th><strong>Total number of tests</strong></th>
<th>41,694*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number positive</strong></td>
<td>479(1.1%)</td>
</tr>
<tr>
<td><strong>Number previously positive (self-report)</strong></td>
<td>155</td>
</tr>
<tr>
<td><strong>Number new HIV infections</strong></td>
<td>324</td>
</tr>
<tr>
<td><strong>Linked to Care in West TN 3 Counties (Shelby, Fayette, and Tipton Counties)</strong></td>
<td>190/288=66%</td>
</tr>
</tbody>
</table>

*Prevention and expanded test sites include Shelby Co. Health Dept., LeBonheur HIV Community Network, Greater Memphis Planned Parenthood, Partnership to End AIDS Status (PEAS), Friends For Life, Children and Family Services, Tipton, Crittenden Co. AR, Mississippi four Counties (Desoto, Marshall, Tate and Tunica).

In 2014, 41,694 HIV tests were conducted. 324 new HIV cases were identified in Memphis TGA, and, 288 cases were identified in the West TN Counties. Of the 288 new HIV cases, 66% (n=190) cases were linked to medical care (defined as attended at least one medical visit within 3 months of HIV diagnosis).

Source: (eHARS), TN; AR, MS;
## HIV Test Positivity at Prevention and Expanded Testing Sites, Shelby County, 2014

<table>
<thead>
<tr>
<th></th>
<th>Number of Tests</th>
<th>Number positive</th>
<th>Positivity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total, All sites</strong></td>
<td>36,298</td>
<td>416</td>
<td>1.1%</td>
</tr>
<tr>
<td>Health Department</td>
<td>21,015</td>
<td>366</td>
<td>1.7%</td>
</tr>
<tr>
<td>Lebonheur</td>
<td>12,774</td>
<td>32</td>
<td>0.3%</td>
</tr>
<tr>
<td>Planned Parenthood</td>
<td>1,140</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Friends For Life/CAPUS</td>
<td>925</td>
<td>15</td>
<td>1.6%</td>
</tr>
<tr>
<td>(Partnership to End AIDS Status)PEAS</td>
<td>247</td>
<td>2</td>
<td>0.8%</td>
</tr>
<tr>
<td>Walgreens (On the NHTD 6/27)</td>
<td>197</td>
<td>1</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Shelby County Health Dept. sites reported the highest positivity, followed by Friends For Life, Partnership to End AIDS Status (PEAS), and LeBonheur HIV Community Network.

Source: (eHARS), TN; AR, MS;
Memphis TGA EIIHA Strategy

“Early Identification of Individuals Unaware of their HIV/AIDS Status”

**EIIHA:** for the identifying, counseling, testing, informing, and referring of diagnosed and undiagnosed individuals to appropriate services, as well as linking newly diagnosed HIV positive individuals to medical care.

• The U.S. Preventive Services Task Force now recommends that clinicians screen all individuals ages 15 to 65 years for HIV

**Objectives:**

1) To promote awareness about the importance of early detection and treatment for HIV.

2) To promote awareness about available HIV testing services.

3) To increase access to and utilization of existing HIV testing services.

4) To expand the availability of HIV testing services to underserved geographic areas and demographic sub-populations.

The fourth objective allows funding for HIV testing services through the EIS (Early Intervention service) category to underserved geographic areas (outside of Shelby) and at-risk populations.
PLWHA aware of their HIV+ status but not receiving “Primary Medical Care”

Source: National Quality Center; www.nationalqualitycenter.org
Where HIV Prevention and Care Services come together. We must identify those unaware of their status as soon as possible to ensure timely linkage to care and prevention of new positives.

Source: National Quality Center; www.nationalqualitycenter.org
Extended Back Calculation Method uses Memphis TGA prevalence as of 2014
- \( P \) = Based on national proportion of persons not diagnosed = 14%
- \( N \) = total number PLWHA in Memphis TGA = 7,297

\[
\text{Total number undiagnosed} = P \div (P - 1) \times N = 14\% \div (1 - 14\%) \times 7,297 = 1,188
\]

\[
\text{Total number of Estimated Infections in Memphis TGA} = 7,929 + 1,188 = 8,485
\]

Source: (eHARS), TN; AR, MS; *: Preliminary data, subject to change
HIV Continuum of Care

In 2013, President Obama established the HIV Care Continuum Initiative.

- to implement the National HIV/AIDS Strategy (released in 2010)
- accelerating efforts to better address drop-offs along the continuum
- and increasing the proportion of individuals in each stage along the continuum.

The HIV care continuum—is a model that outlines the sequential 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.

Video: [Link to video]

Source: https://www.aids.gov/federal-resources/policies/care-continuum/
In 2003, President Obama established the HIV Care Continuum Initiative.

- to implement the National HIV/AIDS Strategy
- accelerating efforts to better address drop-offs along the continuum
- and increasing the proportion of individuals in each stage along the continuum.

The HIV care continuum—a model that outlines the sequential 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.
Stages of HIV Continuum of Care
(CDC Recommended Definition)

- **Estimated HIV Infection**
  - Total number of PLWHA including the persons unaware of their HIV infection status

- **Diagnosed with HIV Infection**
  - The number of people currently diagnosed and living with HIV

- **Linkage to HIV Medical Care**
  - The number and Percentage of persons who attended a routine HIV medical care visit within 3 months of HIV diagnosis

- **Retention in HIV Medical Care**
  - The number and 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.

- **Antiretroviral Therapy (ART)**
  - The number and percentage of people receiving medical care and who have a documented ART prescription in their medical records in the observed year.

- **Viral Load Suppression**
  - Percentage of individuals whose most recent HIV viral load within the observed year was less than 200 copies/ml.

The estimation of each stages of HIV continuum of care is based on the CDC recommended calculation method. (Marks G et al., 2010). 51% of PLWHA were not staying and getting in medical care, and more than half of the PLWHA were not achieving VL Suppression. According to the CDC HIV Continuum of Care Study, those who did not achieve VL suppression are accountable for the 9 in 10 new HIV infections in the Memphis TGA.

Source: (eHARS), TN; ADAP, IAP, RW CAREWare; AR, MS; *: Preliminary data, subject to change
In the 2014 Calendar year, RW Part A program served for 3,982 clients, which comprises 55% of all PLWHA in the Memphis TGA. Of these, 91% clients resided in Shelby County, followed by 2% in Desoto, and 2% in Crittenden county.

Source: (eHARS), TN; AR, MS; RW CAREWare
Memphis TGA RW Clients by Demographic Characteristics, 1/1/2014 – 12/31/2014

Of these 3,982 RW clients, 65.4% were Male, 74% were adults aged 25-54, and 85% were Black/African Americans in 2014 Calendar year.

Source: RW CAREWare
HRSA Recommended definitions for the Continuum of HIV Care

<table>
<thead>
<tr>
<th>Numerator Definition</th>
<th>Denominator Definition (for proportion)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RW client</strong></td>
<td></td>
</tr>
<tr>
<td>Client received at least 1 RW-funded service in calendar year [Includes HIV+, HIV-negative, HIV-indeterminate]</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Received RW-funded medical care or case management and HIV+</strong></td>
<td></td>
</tr>
<tr>
<td>Client received RW-funded medical care or case management services and was documented to be HIV+</td>
<td></td>
</tr>
<tr>
<td><strong>RW-funded medical care</strong></td>
<td></td>
</tr>
<tr>
<td>Received RW-funded medical care</td>
<td>RW client</td>
</tr>
<tr>
<td><strong>Retained in medical care</strong></td>
<td></td>
</tr>
<tr>
<td>Attended at least 2 RW-funded medical care visits that were at least 90 days apart</td>
<td>RW-funded medical care and had visit date available</td>
</tr>
<tr>
<td><strong>ART</strong></td>
<td></td>
</tr>
<tr>
<td>Received ART prescription at any time in the year</td>
<td>RW-funded medical care and had ART data and visit date available</td>
</tr>
<tr>
<td><strong>Viral load suppressed</strong></td>
<td></td>
</tr>
<tr>
<td>HIV-1 viral load &lt;200 copies/ml for the most recent value reported</td>
<td>RW-funded medical care and had viral load available</td>
</tr>
</tbody>
</table>

Source: [http://hab.hrsa.gov/data/reports/continuumofcare/continuumdefinitions.html](http://hab.hrsa.gov/data/reports/continuumofcare/continuumdefinitions.html)
Memphis TGA Ryan White Clients
HIV Continuum of Care, 2014

Retention in Care

Of these 3,982 RW clients, 92% clients have received medical care. In other words, Unmet Need among the RW clients decreased to 8%. 89% of clients lab tests were available, and 82% clients were retained in medical care.

Source: (eHARS), TN; ADAP, IAP, RW CAREWare
In the 2014 Calendar year, of the 2,894 clients retained in care, 2,109 (73%) clients were received prescribed Antiretroviral Therapy (ART).

Source: (eHARS), TN; ADAP, IAP, RW CAREWare
In the 2014 Calendar year, 2,774 individuals received at least one RW-funded medical care visit and had viral load data available. Of these, 82% (n=2,181) clients have achieved viral load suppression (viral load <200 copies/ml at the most recent test).

Source: (eHARS), TN; ADAP, IAP, RW CAREWare
Lesson Learned from the HIV Continuum of Care

CDC published **HIV Continuum of Care Study** in Feb 23, 2015:

- **91.5 percent of new HIV infections** in 2009 were attributable to people with HIV who were not in medical care, including those who didn’t know they were infected.

- **less than six percent of new infections** could be attributed to people with HIV who were in care and receiving antiretroviral therapy.

  - In other words, according to this research, **9 in 10 new HIV infections** in the United States could be prevented through early diagnosis and prompt, ongoing care and treatment.
Acknowledgement

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- Jennifer Wang, HIV/STD Epidemiologist, Arkansas Department of Health
- Steve Overman, Data Analyst, Memphis TGA Ryan White Program
- Sulaiman Aizezi, HIV/STD/TB Epidemiologist, Shelby County Health Department
Thanks for your attention

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