

T E N N E S S E E
C O M P R E H E N S I V E
H I V P R E V E N T I O N
P L A N 2 0 1 0 - 2 0 1 4



Acknowledgments

The Tennessee Department of Health's HIV/STD Prevention Services Program (TDH) would like to acknowledge the hard work and dedication of the Tennessee Community Planning Group (TCPG) during the planning and creation of the 2010-2014 *Tennessee Comprehensive HIV Prevention Plan*.

Tennessee Community Planning Members

Ann Smith
Janice Brown
Carter Beard
Jerry Evans
Linda Palmer
Tina Duncan
Mark Hall
Ursula Martin
Elizabeth Anderson
Kimberly Schlangen
Gwendolyn Cromer
Mary T. Jones

Margaret Davis
Julie Robinson
Patrick Luther
Kevin Lawson
Tim Daniels
Ron Brabson
Ron Crowder
Victoria Seyes
Sharron Moore-Edwards
Tom Rucci
DaShawn Usher
Yolonda Bateman

The Program would also like to recognize members of the Ryan White Program and HIV/STD Surveillance & Data Management Program for their assistance in completing this project.

In 2008, the TCPG launched the development and implementation of the 2010-2014 *Tennessee Comprehensive HIV Prevention Plan*. In partnership with the TDH, the TCPG presents the completed 2010-2014 *Tennessee Comprehensive HIV Prevention Plan*, which will guide programs and services across the State of Tennessee over the next five years.

The *2010-2014 Tennessee Comprehensive HIV Prevention Plan* is the culmination of work that has spanned more than two years. This document represents the efforts of the TCPG, TDH and countless others who have made significant contributions. It is expected that the *2010-2014 Tennessee Comprehensive HIV Prevention Plan* will be a living document, which can be revised as content is updated and new information becomes available.



There are six major components to the *2010-2014 Tennessee Comprehensive HIV Prevention Plan*:

1. Community Planning
2. HIV Epidemiologic Profile
3. Community Services Assessment
4. Prioritization of Populations
5. Prevention Interventions and Strategies
6. Linkage of HIV Prevention and Care



EXECUTIVE SUMMARY

Tennessee has two levels of community planning to ensure that needs are being identified and met from the grassroots level to the statewide level. There are five regional community planning groups (RCPGs); Southwest, West, Middle, Southeast, East, that are responsible for dissemination of the needs assessment, funding recommendations, identification of local priority populations, and providing assistance to the TCPG. RCPG representation consists of community members, health department employees, and funded agencies. RCPGs are co-chaired by a community representative and by a health department representative in each region.

The TCPG's primary responsibility is to develop the Tennessee HIV Prevention Plan and provide grant concurrence. The TCPG works in conjunction with the RCPGs to properly identify populations and interventions that would best suit the citizens of Tennessee. The TCPG core members consist of the health department co-chair, a representative from TDH, the community co-chair, and the two co-chairs from each of the five RCPGs. Members of the RCPGs are qualified to become TCPG members as long as they actively participate and upon acceptance of the TCPG application. Additional members are added as needed to meet parity, inclusion and representation.



COMMUNITY PLANNING

HIV prevention community planning in Tennessee is based on a grassroots system that empowers its regional community planning groups (RCPGs). The RCPGs and the TCPG must meet certain core requirements for parity, inclusion, and representation based on regional and statewide epidemiological data. The RCPGs perform all the normal duties of community planning. They compile epidemiological data and provide input to the State for the statewide needs assessment. They track unmet needs within at-risk populations and target populations with recommended interventions and activities identified in the HIV Prevention Plan for each region.

The Tennessee Community Planning Group's membership includes members from the local five RCPGs located in the following regions: Southwest TN (Memphis); West TN (Jackson); Middle TN (Nashville); Southeast TN (Chattanooga) and East/Northeast TN (Knoxville). This statewide group serves as a networking and capacity building unit for Tennessee Department of Health. In collaboration they create a new statewide HIV Prevention Plan for submission to CDC every third year of the planning cycle. If any updates are needed in the other two years, it will create those as well.

Tennessee Department of Health receives funding from CDC annually for HIV prevention interventions. The State provides formula based HIV prevention funding to the five regions based on the numbers of cases of HIV/AIDS within the region. The regions with the highest rates of infection receive the largest funding awards.



EPIDEMIOLOGICAL PROFILE

The HIV/AIDS epidemic has affected persons in every gender, age, and racial/ethnic group in Tennessee. In the beginning of the epidemic, HIV/AIDS cases rose sharply among White men who reported having sex with other men (MSM). While the majority of cases are still among MSM, recent trends suggest a slight shift upward in the HIV/AIDS epidemic among women, minorities, and high-risk heterosexuals (HRH). As the epidemic continues to evolve, and the number of persons living with HIV/AIDS continues to increase, it will be important to identify those populations most impacted or most at risk for HIV/AIDS infection. This will allow agencies to develop effective HIV/AIDS prevention and care activities, as well as to allocate limited resources to those people who need it most.

This section provides detailed information about demographic and risk characteristics of HIV/AIDS infected individuals, and includes five-year cumulative data pertaining to trends in the statewide epidemic. This document also describes estimated cumulative cases diagnosed through 12/31/2008 by year of diagnosis, age of diagnosis, exposure category, gender, and race/ethnicity. Unless noted, all data originates from Tennessee's HIV/AIDS Surveillance and Data Management Program and includes only Tennessee residents at time of HIV/AIDS diagnosis. Numbers shown in tables within this section represent actual cases reported, and statistical data-smoothing techniques were not used in these analyses. Due to rounding, values displayed in each column may not necessarily sum to the column total. The letter 'A' is used to designate counts and calculations that are not applicable or not calculated.

Highlights

- There are persons living with HIV/AIDS in every county of Tennessee; and the number continues to increase each year. At the end of 2008, 16,713 persons were estimated to be living in the state.
- The annual number of newly diagnosed and reported AIDS cases in Tennessee appears to be decreasing; from 609 cases reported in 2005 to 408 cases reported in 2008.
- New HIV/AIDS diagnoses among Black, non-Hispanics continue to be disproportionately high. In 2008, 64% of newly diagnosed HIV/AIDS cases reported were among the Black, non-Hispanic population. This has increased from 59% in 2004.



- MSM is the predominant mode of exposure reported in 2008. This trend holds true for all race and ethnicity categories.
- Historically, the proportion of newly diagnosed HIV/AIDS cases reported among females in Tennessee steadily increased since the beginning of the epidemic. However, this trend seems to be tapering off in more recent years with the distribution of gender remaining relatively steady. Between 2004 and 2008 diagnoses among women represented about 28% of the cases.

HIV/AIDS Recent Trends

During 2008, Tennessee had 1,071 newly diagnosed cases of HIV/AIDS at an estimated rate of 17.2 cases/100,000 population. These numbers reflect persons with HIV/AIDS infection whose positive status was first diagnosed and reported to the health department in 2008. Men represented the majority (73%) of the total reported cases in 2008. This trend has been very stable over the past five years. Sixty four percent of new HIV/AIDS diagnoses were among African-Americans (59% of total reported cases among males, and 76% of total reported cases among females). (See Table 1)

Due to reporting delays from HIV/AIDS infection to diagnosis, some persons may have been diagnosed with AIDS at the time HIV was first diagnosed. In recent years, the number of diagnosed cases, including the number of expected cases, has remained stable. Reporting delays were estimated using a maximum likelihood procedure, taking into account possible differences in reporting delays among exposure, geographic, ethnic, age, and gender categories.

Table 1. Reported HIV/AIDS cases among persons in Tennessee, by race/ethnicity and sex, 2008

Race/Ethnicity	Males			Females			Total		
	No.	%	Rate	No.	%	Rate	No.	%	Rate
White, not Hispanic	269	34	a	58	20	a	327	31	a
Black, not Hispanic	466	59	a	216	76	a	682	64	a
Hispanic	46	6	a	10	4	a	56	5	a
Asian/Pacific Islander	2	0	a	1	0	a	3	0	a
American Indian/Alaska Native	1	0	a	0	0	a	1	0	a
Unknown/Multiple Race	2	0	a	0	0	a	2	0	a
Total	786	100	a	285	100	a	1,071	100	a

a - Not applicable



During the period 2004-2008, the estimated number of persons diagnosed in Tennessee with HIV/AIDS continued to be over 1,000 cases per year but appears to have remained stable over the past five years.

Table 2. Reported HIV/AIDS cases among persons in Tennessee, by race/ethnicity and year of diagnosis

Race/Ethnicity	2004	2005	2006	2007	2008	Cumulative cases through 2008
	No.	No.	No.	No.	No.	No.
White, not Hispanic	349	341	287	302	327	7,823
Black, not Hispanic	590	603	643	655	682	11,853
Hispanic	45	41	41	39	56	469
Asian/Pacific Islander	1	4	7	2	3	27
American Indian/Alaska Native	1	1	0	1	1	16
Unknown/Multiple Race	8	2	3	2	2	117
Total	994	992	981	1,001	1,071	20,305

As previously stated, HIV/AIDS was initially viewed as a White, male-oriented disease; but over time, it has spread across gender, race, and ethnic boundaries. Currently, the highest prevalence of HIV/AIDS cases in Tennessee is among the Black, non-Hispanic population; this group accounts for over 60% of all cases diagnosed between 2004 and 2008. This disparity is further compounded by considering the population of Tennessee as a whole. According to the latest U.S. Census statistics, Black, non-Hispanics account for 16% of the state's population but comprise 58% of the cumulative HIV/AIDS cases diagnosed in Tennessee. In contrast, White, non-Hispanics account for almost 80% of the population, but 39% of the state's HIV/AIDS cases. Hispanics and all other non-Hispanic populations (Asian/Pacific Islander, American Indian/Alaskan Native, Unknown/Multiple Race) account for 4% of the total population and 3% of the total reported HIV/AIDS cases (Table 2).

More research needs to be conducted to explain the disproportionate number of cases among the Black community. Some studies have suggested that possible causes include lack of health care access, the reinforced stigma of HIV/AIDS disease within this community, and/or inadequate prevention messages directed to this minority group.



During the course of this epidemic, the majority of persons diagnosed with HIV/AIDS in Tennessee have been between ages 25 and 44 years. Cumulatively, 7,352 HIV/AIDS cases have been diagnosed in people in the age group 25-34 years, and 6,141 cases were diagnosed among persons in the age group 35-44 years. During the period 2004-2008, the rate of increase of newly reported cases of HIV/AIDS was highest among 15-24 year olds and 45-54 year olds each increased by 10% (Table 3).

Table 3. Reported HIV/AIDS cases among persons in Tennessee by age at diagnosis and year of diagnosis

Age (yrs)	2004	2005	2006	2007	2008	Cumulative cases through 2008
	No.	No.	No.	No.	No.	No.
<13	5	5	3	2	4	136
13-14	0	0	0	1	2	23
15-24	161	161	159	187	220	3,213
25-34	283	262	245	281	311	7,352
35-44	313	323	332	287	272	6,141
45-54	175	163	186	176	192	2,520
55-64	47	63	43	58	59	721
>=65	10	15	13	9	11	199
Total	994	992	981	1,001	1,071	20,305



Table 4. Reported HIV/AIDS cases among persons in Tennessee by exposure category and year of diagnosis

Exposure Category	2004	2005	2006	2007	2008	Cumulative cases through 2008
	No.	No.	No.	No.	No.	No.
Male-to-male sex	421	434	430	402	426	9,435
Injection drug use (IDU)	59	36	55	40	28	2,345
Male-to-male sex and IDU	19	13	13	10	8	782
Heterosexual contact	227	224	253	247	231	4,601
Mother with/at risk for HIV	5	5	4	2	4	121
Other/unknown	263	280	226	300	374	3,021
Total	994	992	981	1,001	1,071	20,305

At the onset of the epidemic in the early 1980s, HIV/AIDS was thought to be acquired primarily through male-to-male intercourse. This idea was perpetuated because the first cases of this disease were identified among White, non-Hispanic males whom reported having sex with other men (MSM). As additional information of the disease became available, and testing for the virus became possible, an increased number of cases began to be reported among Black, non-Hispanic males. Presently, HIV/AIDS in Tennessee continues to be a predominantly male disease, with over 50% of reported HIV/AIDS cases (annually and cumulatively) being attributed to MSM. The second highest category of risk is heterosexual contact, which has been increasing among both males and females (Table 4).

HIV/AIDS by Demographics and Exposure Categories

The category of exposure (i.e., persons' risks for HIV/AIDS transmission) has changed in recent years. Currently, exposure is described in a hierarchical order and is described once per case. Sufficient proof must be documented in order to classify someone as having heterosexual contact and therefore lack of documentation can affect a case's exposure classification. The 'Other/Unknown' exposure category includes hemophilia, blood transfusion, perinatal, and risk not reported or identified.



Throughout the epidemic, most HIV/AIDS transmission has occurred due to male-to-male sex (MSM). The largest proportion of cases diagnosed in 2008 was attributed to MSM exposure. Cases of MSM, including MSM/IDU, accounted for 41% of all new cases diagnosed in 2008 (Table 4); furthermore, half (50%) of all persons living with HIV/AIDS in Tennessee may have been exposed to the virus through MSM contact (Table 5). Heterosexual contact was implicated in 22% of current cases and 23% of all living cases.

Table 5. Reported HIV/AIDS cases in Tennessee, by exposure category and race/ethnicity, 2008

Exposure category	White, not Hispanic		Black, not Hispanic		Hispanic		Asian/Pacific Islander		American Indian/Alaska Native		Unknown/Multiple Race		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male-to-male sex	181	55	222	33	21	38	0	0	0	0	2	100	426	40
Injection drug use (IDU)	20	6	8	1	0	0	0	0	0	0	0	0	28	3
Male-to-male sex and IDU	6	2	2	0	0	0	0	0	0	0	0	0	8	1
Heterosexual contact	27	8	187	27	16	29	1	33	0	0	0	0	231	22
Mother with/at risk for HIV	0	0	3	0	1	2	0	0	0	0	0	0	4	0
Other/unknown	93	28	260	38	18	32	2	67	1	100	0	0	374	35
Total	327	100	682	100	56	100	3	100	1	100	2	100	1,071	100

Of the 1,071 estimated new cases of HIV/AIDS diagnosed in Tennessee in 2008, 64% were reported as Black, non-Hispanics, 31% as White, non-Hispanics and 5% as Hispanic. While the greatest proportion of reported exposure continued to be exposure by MSM, exposure reported as heterosexual contact was high among Black, non-Hispanics and Hispanic populations, 27% and 29% respectively, in 2008. Among White, non-Hispanics, the predominant mode of exposure remained MSM (55%) followed by heterosexual contact (8%). (Table 5)



Table 6. Reported HIV/AIDS cases among persons in Tennessee, by exposure category and sex, 2008

Exposure Category	Males		Females		Total	
	No.	%	No.	%	No.	%
Male-to-male sex	426	54	a	a	426	40
Injection drug use (IDU)	10	1	18	6	28	3
Male-to-male sex and IDU	8	1	a	a	8	1
Heterosexual contact	87	11	144	51	231	22
Mother with/at risk for HIV	2	0	2	1	4	0
Other/unknown	253	32	121	42	374	35
Total	786	100	285	100	1,071	100

a - Not applicable

As previously stated, males comprise the largest percentage of estimated HIV/AIDS cases in Tennessee. The most frequently reported exposure category among males in 2008, numbering 426 cases, was male-to-male sex (MSM), which accounted for 54% of the 786 estimated new HIV/AIDS cases of this gender. The number of males exposed through heterosexual contact was 87 (11%). For the estimated 285 females newly diagnosed with HIV/AIDS in Tennessee in 2008, the most frequently reported exposure category was heterosexual contact with 144 cases (51%), followed by 18 cases (6%) from injection drug use. (Table 6)



Table 7. Estimated HIV/AIDS cases among persons in Tennessee, by age at diagnosis and sex, 2008

Age (yrs)	Males		Females		Total	
	No.	%	No.	%	No.	%
<13	2	0	2	1	4	0
13-14	1	0	1	0	2	0
15-24	174	22	46	16	220	21
25-34	219	28	92	32	311	29
35-44	194	25	78	27	272	25
45-54	148	19	44	15	192	18
55-64	39	5	20	7	59	6
>=65	9	1	2	1	11	1
Total	786	100	285	100	1,071	100

Among persons diagnosed with HIV/AIDS in 2008, 311 individuals (29%) were in the age group 25-34 years, and 272 people (25%) were between the ages of 35-44 years. Together these age groups represented 54% of the total cases reported for 2008. Less than 2% of the estimated reported cases were among children under age 15 years and in adults greater than or equal to age 65 years. By gender, 28% of males and 32% of females diagnosed with HIV/AIDS in 2008. (Table 7)

Persons Living with HIV/AIDS by Year

The following tables denote persons living with HIV/AIDS at the end of the specified year and do not include those patients whom have died. As of December 31, 2008, 16,713 persons were estimated to be living with HIV/AIDS in Tennessee. In actuality, this number is underestimated because it excludes HIV/AIDS infected persons who have not yet been tested or who have only been tested anonymously. To account for individuals who have not yet been tested, this value should be inflated by about one-quarter to one-third, according to the CDC (Fleming PL, et al., 1998).



Table 8. Estimated number of persons living with HIV/AIDS in Tennessee, by sex and year

Sex	2004	2005	2006	2007	2008
	No.	No.	No.	No.	No.
Males	8,896	9,317	9,798	10,354	11,016
Females	3,063	3,236	3,444	3,647	3,885
Total	11,959	12,553	13,242	14,001	14,901

During the period 2004-2008, there were almost three times as many males than females living with HIV/AIDS in Tennessee. Continued HIV/AIDS infections and newly diagnosed cases among males have caused the number in this population to increase 19% from 8,896 persons in 2004 to 11,016 in 2008. Among females, HIV/AIDS prevalence has risen 27% from 3,063 persons in 2004 to 3,885 in 2008 (Table 8). This is consistent with that of previous years. The reported data in 2008 illustrated a growing trend of HIV/AIDS infection within the female population that can be attributed to increased exposure via heterosexual contact.

Table 9. Estimated number of persons living with HIV/AIDS in Tennessee by race/ethnicity and year

Race/ethnicity	2004	2005	2006	2007	2008
	No.	No.	No.	No.	No.
White, not Hispanic	4,891	5,110	5,317	5,555	5,821
Black, not Hispanic	6,711	7,054	7,496	7,977	8,555
Hispanic	251	283	319	355	408
Asian/Pacific Islander	11	14	21	23	26
American Indian/Alaska Native	9	9	9	9	10
Unknown/Multiple Race	86	83	80	82	81
Total	11,959	12,553	13,242	14,001	14,901

Increases in the number of persons living with HIV/AIDS were also reported in each racial/ethnic category. An estimated 57% of the people living with HIV/AIDS in Tennessee in 2008 were Black, non-Hispanic; approximately 39% were White, non-Hispanic, 3% were Hispanic, and the remaining 1% was distributed among Asian/Pacific Islanders, American Indian/Alaska Natives and Unknown/Multiple Race (Table 9).



Table 10. Reported number of persons living with HIV/AIDS in Tennessee by current age and year

Current age (yrs)	2004	2005	2006	2007	2008
	No.	No.	No.	No.	No.
<13	43	48	50	52	56
13-14	13	13	14	14	16
15-24	163	241	341	481	691
25-34	1,669	1,866	2,096	2,364	2,656
35-44	4,297	4,521	4,737	4,940	5,162
45-54	4,014	4,099	4,226	4,326	4,472
55-64	1,416	1,421	1,435	1,473	1,500
>=65	344	344	343	351	348
Total	11,959	12,553	13,242	14,001	14,901

At the end of 2008, the majority of persons (83%) living with HIV/AIDS were aged 25-54 years. Those age 24 years or younger comprised just 5% and adults age 55 years and older comprised only 12%, respectively, of all living cases (Table 10).

Table 11. Reported number of persons living with HIV/AIDS in Tennessee by exposure category and year

Exposure category	2004	2005	2006	2007	2008
	No.	No.	No.	No.	No.
Male-to-male sex	5,703	5,983	6,300	6,602	6,977
Injection drug use (IDU)	1,421	1,394	1,392	1,393	1,397
Male-to-male sex and IDU	446	437	443	447	448
Heterosexual contact	2,814	2,941	3,132	3,319	3,506
Mother with/at risk for HIV	94	99	103	105	109
Other/unknown	1,481	1,699	1,872	2,135	2,464
Total	11,959	12,553	13,242	14,001	14,901

Among those individuals living with HIV/AIDS at the end of 2008, the exposure by MSM (including MSM with IDU) accounted for half (50%) of individuals statewide. Heterosexual contact was the second highest category of exposure in 24% of all living cases, and the third most frequent category of exposure was among injection drug users, who comprised 9% of those people living with HIV/AIDS (Table 11).



AIDS Trends and HIV/AIDS Mortality

New highly active antiretroviral therapies (HAART) were introduced in 1995. These drugs have been shown to be effective in the treatment of HIV/AIDS infection resulting in altering the natural progression of HIV/AIDS infection. HAART has delayed the progression from HIV to AIDS and from AIDS to death for many infected people. Due to widespread use of these HIV/AIDS treatments, declines have been seen nationwide in the number of AIDS related deaths. For this reason, AIDS surveillance data no longer accurately represent trends in HIV/AIDS transmission. Rather, AIDS surveillance data now reflect differences in access to testing and treatment, as well as the failure of certain treatment regimens. Consequently, AIDS incidence and deaths, from 1996 on, provide a measure for identifying and describing the populations for whom treatment may have not been previously accessible or effective.

AIDS Trends

During 2008, Tennessee reported an estimated 408 newly diagnosed cases of AIDS. These numbers reflect persons infected with the HIV virus that had progressed to present with clinical manifestations of AIDS and were reported to the health department. By the end of 2008, Tennessee had an estimated cumulative number of reported cases of AIDS in the Tennessee HIV/AIDS Registry of 7,536 (Table 12). There continues to be significantly more AIDS diagnosis among males than females; a trend that has occurred since the beginning of the epidemic (Table 12).

Table 12. Reported AIDS cases among persons in Tennessee by sex and year of diagnosis

Sex	2004	2005	2006	2007	2008	Cumulative cases through 2008
	No.	No.	No.	No.	No.	No.
Males	398	449	315	307	289	5,717
Females	137	160	173	158	119	1,819
Total	535	609	488	465	408	7,536



Table 13. Reported AIDS cases among persons in Tennessee by race/ethnicity and year of diagnosis

Race/Ethnicity	2004	2005	2006	2007	2008	Cumulative cases through 2008
	No.	No.	No.	No.	No.	No.
White, not Hispanic	161	182	127	139	134	2,903
Black, not Hispanic	352	403	344	305	246	4,402
Hispanic	17	20	12	15	18	153
Asian/Pacific Islander	0	2	2	1	4	10
American Indian/Alaska Native	0	0	0	1	2	8
Unknown/Multiple Race	5	2	3	4	4	60
Total	535	609	488	465	408	7,536

Consistent with that seen in previous years, the majority of the AIDS cases reported in 2008 were among Black, non-Hispanics at 60%. White non-Hispanics represented 33% of AIDS cases reported in 2008, while Hispanics only represented about 4%. Cumulatively, Black, non-Hispanics comprises 58% of total reported AIDS cases, while White, non-Hispanics comprise 39% of the cumulative total. Hispanics and other minority populations only represent 3% of cumulative cases reported (Table 13).



Table 14. Reported AIDS cases among persons in Tennessee by age at diagnosis and year of diagnosis

Age (yrs)	2004	2005	2006	2007	2008	Cumulative cases through 2008
	No.	No.	No.	No.	No.	No.
<13	0	0	0	0	0	0
13-14	0	0	0	0	1	2
15-24	42	39	24	35	35	492
25-34	142	149	127	119	92	2,425
35-44	209	238	188	163	138	2,781
45-54	101	135	115	101	102	1,371
55-64	31	35	29	39	38	372
>=65	10	13	5	8	2	93
Total	535	609	488	465	408	7,536

Cumulatively, 69% of reported cases were in the age group 25-44 years when initially diagnosed with AIDS. The age distribution of those persons diagnosed and reported with AIDS in Tennessee in 2008 was consistent with that seen in previous years and cumulatively (Table 14).



Table 15. Reported AIDS cases among persons in Tennessee, by year of diagnosis and exposure category

Exposure Category	2004	2005	2006	2007	2008	Cumulative cases through 2008
	No.	No.	No.	No.	No.	No.
Male-to-male sex	232	261	192	188	158	3,646
Injection drug use (IDU)	61	41	45	32	34	913
Male-to-male sex and IDU	21	15	6	7	3	310
Heterosexual contact	133	159	141	149	113	1,780
Mother with/at risk for HIV	0	0	0	0	0	0
Other/unknown	88	133	104	89	100	887
Total	535	609	488	465	408	7,536

The highest cumulative reported exposure category among AIDS cases as of 2008 was MSM (including MSM with IDU), numbering 3956 (52%). Heterosexual contact was the second most frequently reported exposure category associated with AIDS, consisting of 1,780 (24%) of cumulative cases. Annually, the incidence of AIDS cases reporting exposure through heterosexual contact has increased proportionally; this may indicate a gradual shift in the epidemic from traditional MSM and IDU transmissions (Table 15).

Morbidity Trends

One of the most devastating effects of HIV/AIDS is how the virus affects a person's immune system. As the immune system is compromised, the patient becomes highly susceptible to contracting numerous communicable diseases. If left untreated, this could result in injury or death.



Table 16. Reported HIV/AIDS cases among persons in Tennessee by tuberculosis co-morbidity and sex, 2008

Tuberculosis Diagnosis	Males		Females		Total	
	No.	%	No.	%	No.	%
Not diagnosed	782	99	284	100	1,066	100
Definitive case	4	1	1	0	5	0
Presumptive case	0	0	0	0	0	0
Total	786	100	285	100	1,071	100

Tuberculosis (TB) is one such disease and is caused by the bacteria, *Mycobacterium tuberculosis*. Most TB disease in TN is pulmonary and therefore able to be spread through airborne exposure. However, a person can become infected with TB in other parts of their body and if they progress to disease they then have extra-pulmonary TB. The steady decline in incidence of TB dating from 1953 was seen to reverse in 1985, coinciding with the expansion of the AIDS epidemic.

For HIV/AIDS patients that have impaired immune systems, becoming infected with TB (or having latent TB infection, LTBI) and progressing to TB disease is much more likely. TB is curable with antibiotics, and several medications are used to treat TB in patients currently receiving antiretroviral therapy. Treating TB infection and disease is becoming increasingly difficult as resistance to the first line and second line TB medications is steadily increasing. In Tennessee, five (5) TB cases were diagnosed among those with HIV/AIDS in 2008 (Table 16).

Mortality Trends

Data released from the Tennessee Department of Health’s Surveillance and Data Management Section counts patients with HIV/AIDS that have died within a certain year, as well as cumulative deaths as of a specific date. It is very important for the reader to note that these counts do not reflect “deaths due to HIV/AIDS.” This is a common misconception and can lead to incorrect conclusions if mortality trends are used improperly. Death certificates contain information about the specific causes of death, but caution should be used when interpreting these types of data. Personal biases, misdiagnoses, and other mistakes made by attending medical staff may result in an inaccurate recording of the actual cause of death. Additionally, increased investigations of death certificates by health department staff have yielded more complete information concerning a patient’s death status within the HIV/AIDS database. Thus, these activities may have some impact on the trends shown in the next few tables.



Table 17. Reported number of deaths among persons with HIV/AIDS in Tennessee by sex and year of death

Sex	2004	2005	2006	2007	2008	Cumulative deaths through 2008
	No.	No.	No.	No.	No.	No.
Males	284	297	209	179	124	4,269
Females	103	101	83	63	47	1,135
Total	387	398	292	242	171	5,404

HIV/AIDS mortality has steadily decreased among Tennessee residents over the past five years. Of the 5,404 cumulative deaths to date, only 1,490 or 28% have occurred within the last five years. Mortality among persons infected with HIV/AIDS is highest among males; this is understandable, as males have historically comprised the majority of cases in the state. Through the end of 2008, seventy-nine percent (79%) of total deaths among HIV/AIDS infected patients have been recorded among males (Table 17).

Table 18. Reported number of deaths among persons with HIV/AIDS in Tennessee, by race/ethnicity and year of death

Race/Ethnicity	2004	2005	2006	2007	2008	Cumulative deaths through 2008
	No.	No.	No.	No.	No.	No.
White, not Hispanic	120	122	80	64	61	2,002
Black, not Hispanic	254	260	201	174	104	3,298
Hispanic	9	9	5	3	3	61
Asian/Pacific Islander	0	1	0	0	0	1
American Indian/Alaska Native	0	1	0	1	0	6
Unknown/Multiple Race	4	5	6	0	3	36
Total	387	398	292	242	171	5,404

Deaths among HIV/AIDS patients have occurred in all of Tennessee's racial and ethnic groups. As recently as 2002, the majority of total deaths had occurred among White, non-Hispanic cases. But current information now indicates that cumulative mortality has occurred most frequently among Black, non-Hispanics patients (61%) as of 2008 (Table 18).



Table 19. Reported number of deaths among persons with HIV/AIDS in Tennessee, by age at death and year of death

Age (yrs)	2004	2005	2006	2007	2008	Cumulative deaths through 2008
	No.	No.	No.	No.	No.	No.
<13	0	0	0	0	0	12
13-14	0	0	0	0	0	1
15-24	10	4	1	3	1	123
25-34	57	69	32	33	21	1,344
35-44	137	125	104	88	53	2,035
45-54	121	117	103	88	54	1,263
55-64	45	66	37	24	27	450
>=65	17	17	15	6	15	176
Total	387	398	292	242	171	5,404

Cumulatively, 86% of deaths among people with HIV/AIDS have occurred among persons age 25-54 years. However, the majority of deaths over the past five years (66%) have occurred in people between the ages of 35-54 years (Table 19).



Table 20. Reported number of deaths among persons with HIV/AIDS in Tennessee by exposure category and year of death

Exposure Category	2004	2005	2006	2007	2008	Cumulative deaths through 2008
	No.	No.	No.	No.	No.	No.
Male-to-male sex	155	154	113	100	51	2,458
Injection drug use (IDU)	65	63	57	39	24	948
Male-to-male sex and IDU	17	22	7	6	7	334
Heterosexual contact	102	97	62	60	44	1,095
Mother with/at risk for HIV	0	0	0	0	0	12
Other/unknown	48	62	53	37	45	557
Total	387	398	292	242	171	5,404

Cumulatively, the majority (45%) of cumulative deaths have occurred in those individuals whose primary exposure category was MSM, 20% occurred among those infected from heterosexual contact, and 18% among those infected through injection drug use (Table 20).



COMMUNITY SERVICES ASSESSMENT

The community services assessment is designed to identify the prevention needs of priority populations with or at risk for HIV infection, the prevention interventions/activities implemented to address those needs, and gaps in service. The community services assessment consists of three components:

- Resource Inventory
- Needs Assessment
- Gap Analysis

This report provides an overview of the methodology used to acquire the three components, as well as their limitations. Then, a comprehensive assessment of each priority population based on the needs assessment will be presented, along with the agencies that address these needs. Gaps are also identified within the assessment, as well as the resource inventory for each priority population.

METHODOLOGY

Resource Inventory

The Tennessee Department of Health's HIV/AIDS/STD Section maintains a HIV prevention resource inventory through surveys, directly funded lead agencies, and national organizations.

Needs Assessment

This survey was developed to meet current and future grant requirements specified by the Centers for Disease Control and Prevention (CDC). Based on meetings attended by members of consortia groups, regional community planning groups (RCPGs), and health department staff, a list of 28 core questions were developed that satisfied data needs for HIV Prevention Community Planning.

These questions included demographic data (gender, age, race, etc.), as well as questions about the behavioral determinants related to risk reduction (or lack of risk reduction) practices. Questions also addressed availability of HIV prevention services and testing. Although each survey was administered anonymously, analyses were calculated at the statewide and Consortia/RCPG levels in order to provide a more detailed look at prevention and care needs across the state.

Beginning March 2009, a team comprised of epidemiologists from the Tennessee Department of Health's HIV/AIDS Surveillance & Data Management Program, with guidance from the HIV Prevention Program, developed a survey instrument. The survey contained multiple-choice questions and areas for additional written input that captured



demographic data and behavioral determinates related to risk reduction around HIV (self-efficiency, social support, skills, knowledge, access etc.) Between June 1, 2009, and October 15, 2009, staff from various regional consortium/CPGs, Centers Of Excellence (COEs), and county health departments administered this survey. The survey was available on Survey Monkey as well as in paper form.

Surveys were completed by 1,259 Tennesseans. Univariate analysis was used to calculate frequency distributions of all survey responses. Responses for each question were displayed in tables denoting both statewide and regional distributions. Tabulations were focused not only on HIV status but included stratifications based on respondent demographics. Presentation of results from multiple perspectives, geographic location, employment status, education level, and race/ethnicity, for example, will prove helpful in planning and allocating prevention and care services throughout Tennessee.

Gap Analysis

In April and October 2009, members of the HIV/STD Prevention Services Program and TCPG reviewed and identified gaps in services based on data from the needs assessment and resource inventory.

LIMITATIONS

When reviewing the gap analysis for Tennessee, one must keep in mind the limitations of the resource inventory and needs assessment. The State uses various measures to maintain a current resource inventory including lead agencies, national organizations, and surveys. Tennessee recognizes that a limitation has been created due to the amount of surveys disseminated and the existing questions. A comprehensive disbursement of surveys in conjunction with retooling of the existing survey would provide a better snapshot of Tennessee's funded and non-funded agencies and services they provide.

There are several limitations with the needs assessment, consequently creating limitations on the overall community services assessment. Because this survey was not conducted using a random sample methodology, the results presented are not truly representative of the general population. Thus, care should be taken in extrapolating these results to any group other than the original survey respondents (e.g., white female respondent answers within the survey may or may not be similar to those of white females who did not participate in the survey). Second, numerous surveys had missing responses to one or more questions. In some cases, these omissions were quite extensive, which may skew data interpretation (e.g., respondents in correctional facilities may tend to abstain from answering questions concerning alcohol/drug use). When reviewing the responses, keep in mind that if the data were stratified differently, such as containing only HIV-infected individuals, the survey responses potentially would be quite different.



PRIORITY POPULATIONS

The Tennessee Community Planning Group (TGPG) utilized the Academy of Educational Development (AED) priority setting methodology to provide structure and guidance in determining priority populations. The AED methodology guides planning committees to assign weights to the identified population groups as follows:

- Size of the population at risk.
- HIV sero-prevalence within the identified population.
- Epidemiological trends of the identified population.
- Risk behavior of the identified population.
- Disproportionate impact of the HIV epidemic on the identified population.
- Barriers to service for the identified population.

The TPCG utilized prior plans, current and historical data, and program staff expertise to create a list of populations for priority setting. Some of the sources of data used were the 2008 Tennessee Epidemiological Profile, 2009 community services assessments, local program data, and expertise from community members. Representatives from all regions of Tennessee presented their recommendations to the TPCG for discussion. TPCG's final population priorities, by region, are as follows:

West TN Region

HIV+
AA Men Having Sex With Men
Men Having Sex With Men
AA Women Of Childbearing Age
High Risk Heterosexuals
IDU
High Risk youth (13-24)
Perinatally Exposed

Southwest TN Region

HIV+
MSM
AA Women of Childbearing Age)
High Risk Youth (13-24)
High Risk Heterosexuals



Southeast TN Region

HIV+
MSM
African American Women of Childbearing Age
At Risk Youth
High Risk Heterosexuals
IDU
African American MSM
Prenatal Transmission

Middle TN Region

HIV+
MSM (including A.A. MSM)
High Risk Heterosexuals
African American Women of Childbearing Age

East TN Region

HIV+
MSM
AA Women of Childbearing Age
AA MSM
High Risk Heterosexuals



PREVENTION INTERVENTIONS AND STRATEGIES

West TN Region

Population	Intervention
HIV+	CRCS PCRS CTS
AA Men Having Sex With Men	3MV PCRS CRCS CTS
Men Having Sex With Men	3MV CRCS CTS
AA Women Of Childbearing Age	SISTA Voices/Voces CRCS CTS PCRS
High Risk Heterosexuals	CTS CRCS PCRS Voices/Voces
IDU	CTS PCRS CRCS
High Risk youth (13-24)	Focus On Youth CTS

Southwest TN Region

Population	Intervention
People Living with HIV/AIDS	CLEAR Healthy Relationships
MSM	D-Up MPOWERment
AA Women of Childbearing Age)	SISTA CRCS
Youth (13-24)	Street Smart Focus on Youth
High Risk Heterosexuals	CLEAR



Middle TN Region

Population	Intervention
HIV+ Individuals	Healthy Relationships
MSM (including A.A. MSM)	MPOWERment
High Risk Heterosexuals	Voices/Voces
African American. Women of Childbearing Age	SISTA

East TN Region

Population	Intervention
People Living With HIV/AIDS	CRCS Healthy Relationships CLEAR
MSM	CTS MPOWERment POL
AA Women of Childbearing Age	SISTA Voices/Voces CTS
AA MSM	D-Up CTC
High Risk Individuals Who Are Heterosexual	Voices/Voces CTS

Southeast TN Region

Population	Intervention
HIV+	Healthy Relationships CRCS POL
MSM	CRCS POL
African American Women of Childbearing Age	CRCS POL
At Risk Youth	CRCS Voices/Voces POL
High Risk Heterosexuals	CRCS POL
IDU	CRCS POL
African American MSM	CRCS POL



LINKAGES BETWEEN PREVENTION AND CARE

Linkages with other HIV programs and services are a vital component to meeting all of the client's needs for Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) prevention. Prevention providers are often not able to meet all of the various needs of every client. Therefore, linkages and collaborations among other agencies provide more comprehensive and effective services to meet the complex issues and concerns of individuals at high risk of becoming HIV-infected.

Tennessee is committed to linking medical and support services from testing to diagnosis to treatment for all HIV positive clients, in order to maintain their health and quality of life by providing a successful continuum of HIV services. It is imperative that HIV providers form collaborations and stay informed about programs and agencies in the community. Program referrals commonly include HIV partner counseling and testing, substance abuse and/or mental health counseling, housing assistance, food pantry services, and transportation services to medical appointments. Tennessee's HIV/STD Prevention Services Program, regional and statewide community planning programs, and HIV service providers work very diligently to support linkages and coordination of services among programs. As linkages occur and collaborations supported, the result should be:

- Knowledge of HIV disease and risks
- Early identification of infections
- Improved quality and efficiency of services
- Identification and elimination of service gaps
- Coordination of resources and services for prevention and care programs

Below is an overview of how specific programs and statewide bodies are collaborating:

Ryan White Services

In Tennessee, the majority of HIV treatment services are provided by a Center of Excellence (COE). The AIDS COE model consists of a coordinated network of clinics and private practices across the state, which provides a comprehensive approach to HIV and AIDS treatment. There are currently 12 COEs statewide, several of which are located in a local health department. There is one or more medical care manager (MCM) located at each COE depending on patient volume. During either initial or routine medical visits, care managers discuss many issues with the patient, including continued risk reduction. For COEs that are located in health departments, a Disease Intervention Specialist (DIS) can engage patients to reinforce risk reduction messages.



Additionally, TDH works with funded CBOs who are located in medical facilities to address HIV prevention issues with patients as they receive care services.

Sexually Transmitted Diseases

The Tennessee Sexually Transmitted Disease (STD) Program and HIV Prevention Program are integrated into one program housed under the HIV/AIDS/STD Section. There are 13 public health regions all working in concurrence with the HIV and STD Program to ensure that high risk individuals have the availability to be tested for STD's and HIV in 115 locations statewide.

Substance Abuse

Persons with HIV disease who are also substance abusers face a multitude of problems related to their health and well being. The prevalence of HIV and substance abuse co-morbidity is very high due to the enormous psychological, social and medical issues they face. As a result of collaboration with the Tennessee Bureau of Alcohol and Drug Abuse, HIV counseling and testing services are being provided within funded treatment facilities that serve IDU (Intravenous Drug User) clientele. The Substance Abuse and Mental Health Services Administration (SAMHSA) has implemented a program to provide funded agencies with HIV rapid test kits.

Hepatitis

HIV, Hepatitis B, and C viruses share common routes of transmission and common risk factors. HIV/Hepatitis co-infection has emerged as a significant widespread problem among individuals who are at high risk. Some recent studies suggest that about one-third of all persons infected with HIV are co-infected with Hepatitis. Manifestations of neurocognitive dysfunction ranging from subtle to mild cognitive changes have been well established in studies on HIV; with Hepatitis co-infection, neurocognitive impairment can intensify and accelerate a decrease in functioning over time. Although HIV and Hepatitis B and C are both transmitted through blood, and most commonly spread through injection drug use (needle sharing) or unprotected/unsafe sex, Hepatitis B and C are both vaccine-preventable. In light of this fact, the Tennessee Department Health's HIV/AIDS/STD Section and Communicable Environmental Disease Services Section's Immunization Program have collaborated to identify and vaccinate high risk clients. Additionally, various STD clinics across the state also provide vaccines to clients identified through outreach, or who come in for testing.

