

An Epidemiologic Profile of HIV and AIDS in South Carolina 2013



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Executive Summary

In June 1981, the CDC published a report which documented five cases of *Pneumocystis carinii* pneumonia in otherwise healthy young men in Los Angeles, California; these would be considered the first cases of AIDS identified in the United States. That report would prompt AIDS case reports from other areas of the U.S. such as New York, San Francisco, and in 1982, South Carolina.

Since 1986, more than 26,056 people have been diagnosed with HIV infection (including AIDS) in South Carolina through December 2012. During 1985-1990 an average of 860 cases were diagnosed each year. In the subsequent three years (1991-1993), newly diagnosed HIV/AIDS cases averaged 1,306. The increase during this period was in part due to the artificial rise in AIDS cases as a result of the change in case definition in 1993. For the past five years, the annual number of new cases has been about 752. According to the CDC however, many more people are infected but have not been tested.

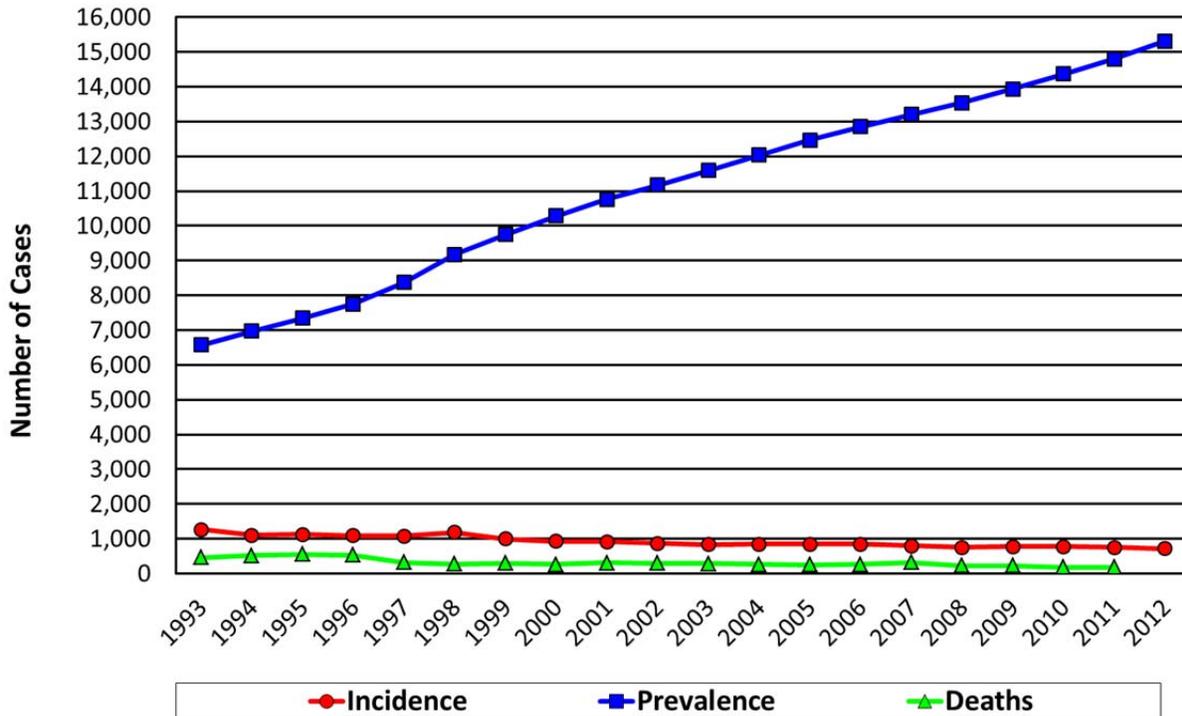
Some of the changes over time in numbers of new cases are largely the result of reporting patterns or targeted testing initiatives. The initial steep rise in the epidemic reflects the early years when less was known about the transmission of HIV and effective medical treatments did not exist. As a result, infection rates increased and more HIV-infected individuals went on to develop AIDS. Most experts believe that when more was learned about HIV and the behaviors involved in its spread, effective prevention strategies reduced the overall number of new infections, and medical treatment, for some individuals, postponed the onset of AIDS. In more recent years, however, there is concern nationally that the epidemic may grow, particularly among young men who have sex with men.

Since 1994, new anti-retroviral drugs and strengthened care services have contributed to a decline in overall AIDS deaths. This decline is illustrated by the 185 deaths in 2011, a 39 percent decrease from the 302 deaths in 2002. It is important to note that despite the decline in deaths due to AIDS and the apparent stabilization of the number of new HIV/AIDS cases diagnosed annually, the prevalence of HIV infection (the number of people estimated to be living with HIV/AIDS) is continuously increasing. The number of people living with HIV/AIDS (PLWHA) at the end of each year has increased 32 percent from 2003 to 2012. It is also important to note that there are differences among certain populations in the number and rate of new and prevalent infections, as this profile will indicate.

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Figure 1.01 shows total incidence (the number of new cases within a specified time period), deaths, and prevalence of HIV/AIDS cases in South Carolina since 1993.

Figure 1.01: South Carolina HIV/AIDS incidence, prevalence, and deaths



Note: number of cases diagnosed in S.C. only; excludes out of state cases returning to S.C.

The epidemic in South Carolina is primarily driven by sexual exposure, primarily among men who have sex with men and heterosexuals at risk. Injecting drug use appears to be diminishing as a risk for HIV.

African-Americans are disproportionately affected by HIV/AIDS and are over-represented among all risk populations.

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Overview of Epidemiologic Profile

The purpose of this Epidemiologic Profile is to provide information to the S.C. HIV Planning Council (HPC) on the number and characteristics of people becoming HIV infected. The HPC has a primary responsibility to review the Epidemiologic Profile and ensure that HIV prevention services and resources are directed by DHEC to the populations and geographic areas with the greatest disease burden.

This Epidemiologic Profile includes a list of definitions and describes the data sources used, the limitations of each data type, and presents the data in order to answer the following questions:

What are the socio-demographic characteristics of the population?

What is the impact of HIV/AIDS on the population?

Who is at risk for becoming infected with HIV?

What is the geographic distribution of HIV infection? *

What are the patterns of service utilization of people living with HIV/AIDS?

What are the characteristics of people who know they are HIV-positive but who are not in HIV primary care?

These questions will be explored through analyses of currently living with HIV/AIDS (prevalence) and newly diagnosed (incidence) HIV/AIDS cases; a description of seroprevalence data from HIV counseling and testing sites and other studies; a summary of other risk behavior profiles and community-based HIV risk assessment information; and a discussion of related sociodemographic, health and risk behavior indicators.

Definitions

AIDS – Acquired Immunodeficiency Syndrome, the end stage of HIV infection characterized by life-threatening or severely disabling disease.

HIV – Human Immunodeficiency Virus, the cause of HIV infection.

HIV/AIDS – Includes those people with HIV infection, as well as those who have progressed to AIDS. Unless noted, most HIV data in this profile includes people diagnosed with AIDS.

HIV Only – Includes only people with HIV infection who did not develop AIDS within 365 days of report of positive HIV test.

Health Professional Shortage Area (HPSA) – A Department of Health and Human Services (HHS) designation system to identify areas facing a critical shortage of primary medical, dental, or mental health care professionals.

Incidence – The number of new HIV/AIDS cases newly diagnosed and reported each year. Incidence cases may be combined in two or three year periods.

Incidence Rate – Number of new cases occurring during a period of time, divided by the annual average population, multiplied by 100,000. It is a measure of the frequency with which an event occurs in a population over a period of time. It is also a measure of risk of getting the disease.

Natural Breaks (Jenks) – Is a data classification method designed to determine the best arrangement of values into different classes. This is done by seeking to minimize each class's average deviation from the class mean, while maximizing each class's deviation from the means of the other groups.

Other Risks – In relation to Risk Exposures, the term “Other” or “Other Risks” is used to describe a group of risks which include such categories as: hemophilia, blood transfusion, and perinatally acquired infection.

PLWHA – People Living With HIV/AIDS.

Prevalence – The number or proportion of people estimated to be living with HIV/AIDS at the end of a particular period of time (e.g. year).

Prevalence Rate – Total number of living HIV/AIDS cases (both old and new cases) during the year of report, divided by the annual average population multiplied by 100,000. It is the proportion of people in a population who have a particular disease or attribute at a specified point in time (or specified period of time).

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Rates are used to:

- measure the frequency of disease (in this case, HIV/AIDS) or other outcomes of interest,
- describe the distribution of disease occurrence in human populations,
- allow comparison of the risk of disease or burden of disease across populations,
- characterize the risk of disease for a population, and
- identify determinants of disease.

They may also be used to help:

- prioritize prevention programs among competing causes,
- identify target groups for intervention,
- acquire funding for resources, and
- compare events across geopolitical boundaries.

Types and Quality of Data

Because no one epidemiologic data set will provide a complete picture of HIV/AIDS in the community, or the state for that matter, we have assembled data from several categories and sources. Data from a variety of categories provide a more accurate picture of past, present and future HIV/AIDS infection trends. Keeping in mind that not all data are equal, data sources must be considered in the context of their objectives, strengths and limitations; who the target populations are; how the data were collected; and the validity of the data.

As described above, several data sets are used to illustrate the South Carolina populations diagnosed with HIV/AIDS and to characterize the nature of risk-taking behaviors. All of these data sets share limitations or have similar types of bias introduced, in that most are reported by third parties, largely providers, who must seek information from the affected individual as to illness, transmission mode, and demographic characteristics. These reports are limited both by the willingness of providers to ask about these factors and that of clients to report on personal behaviors. These data are also limited in their ability to broadly characterize populations. For instance, STD (sexually transmitted disease) or HIV/AIDS case report data can only characterize people with STD or HIV who seek treatment, or data on estimated condom use among women cannot characterize all women but only those who agree to participate in selected behavioral surveys. Individuals who seek treatment for STD (and who are offered HIV testing) may be very different from those individuals who do not. However, each of the data sets referred to in this profile provide information to describe the relative risk and impact of this disease on the people of South Carolina.

The following summarizes data sources, and limitations, used by the data work-group to complete the South Carolina Epidemiologic Profile of HIV/AIDS.

Selected Data Source Description and Limitations:

DHEC, Enhanced HIV/AIDS Reporting Surveillance System (eHARS)

All health care providers, hospitals, and laboratories in South Carolina are required to report people diagnosed with confirmed HIV infection and/or AIDS. 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. DHEC's surveillance system, 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.

This profile primarily presents data on the total infection/disease spectrum: HIV infection including AIDS (not AIDS alone). Because of the long and variable period from HIV infection to the development of AIDS, trends in AIDS cases data do not represent recent HIV infections or all HIV-infected people. AIDS surveillance data do not represent people whose HIV infection is not recognized or diagnosed. AIDS cases have declined nationwide; however, because AIDS surveillance trends are affected by the incidence of HIV infection, as well as the effect of treatment on the progression of HIV disease, future AIDS trends cannot be predicted.

Because trends in new diagnoses of HIV infection are affected when in the course of disease a person seeks or is offered HIV testing, such trends do not reflect the total incidence of HIV infection in the population. In addition, because not all HIV-infected people in the population have been diagnosed, these data do not represent total HIV prevalence in the population. Interpretation of these data is complicated by several factors, ranging from a person having both HIV then AIDS diagnoses in the same year, varying time between reporting HIV and AIDS cases, and numerous reasons why the number of new HIV diagnoses changed (increased, decreased, or stable).

Some data is provided on HIV infection-only (people reported with HIV infection who do not have an AIDS diagnosis within 365 days of being diagnosed with HIV). This data, while highly dependent on people seeking or receiving HIV testing early in their infection stages, provide an opportunity to compare people presumably infected more recently with those infected as long as ten or so years ago (AIDS diagnosis).

Risk categories are assigned similar to the methods described above in HIV Counseling and Testing. There are some slight differences in the type of categories between HIV/AIDS surveillance reports and HIV Counseling and Testing reports. In South Carolina, about 25 percent of adult/adolescent HIV infection/AIDS cases reported in 2012 did not have risk categories reported. These cases are defined as "No Identified Risk"- (NIR). The proportion of

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NIR cases has been increasing nationally as well. The primary reason for incomplete risk information is that reports from laboratories do not include risk and an increasing proportion of cases result from heterosexual transmission but are not able to be defined in CDC's definition of heterosexual transmission. For example, people who report having multiple heterosexual partners or who have sex for money/drugs but the status of their partners is not known, are not classified as "heterosexual", they are "No Identified Risk".

DHEC, Sexually Transmitted Diseases Management Information System (STD*MIS)

Health care providers and laboratories are required by law to report certain sexually transmitted diseases (including syphilis, chlamydia, gonorrhea, chancroid, hepatitis) to DHEC. A sexually transmitted disease, other than HIV infection, represents a visible and immediate health problem that stems from unprotected intercourse with an infected partner. Research from several studies strongly indicates that STDs increase the possibility of acquiring and transmitting HIV infection. The emerging problem of heterosexual HIV transmission in the South closely parallels that of syphilis and gonorrhea. Gonorrhea, syphilis, and chlamydia incidence and prevalence data are used by programs to: 1) monitor local, and state trends; 2) identify high-risk groups and geographic areas in which unsafe sexual behaviors occur, 3) guide the development and implementation of public health intervention and prevention programs; and 4) assist in evaluating the efficacy of public health interventions.

Considering the short incubation periods for these infections, gonorrhea, syphilis, and chlamydia incidence represent recent consequences of unsafe sexual behavior and point to populations who are potentially at very high risk for acquiring and transmitting HIV infection. Unfortunately, an often unrecognized aspect of STDs, including bacterial STDs, is how frequently people with these infections have no symptoms or do not recognize symptoms. Most studies of STDs are conducted in health-care settings specifically for people who do recognize symptoms; therefore, these studies usually overestimate the proportion of infected people who are symptomatic. Studies of STD screening in non-health-care settings (e.g., jails, workplaces, and communities) or health-care settings where STD treatment is not the primary function (e.g., family-planning clinics) suggests that most people with gonorrhea or chlamydia are asymptomatic.

Limitations: STD data lack much information that would help to better understand HIV risk, such as mode of transmission. Also, bias is introduced for some diseases, such as chlamydia, where screening of asymptomatic people is done much more frequently in women than in men. For example, all women <25 years attending family planning and STD clinics in county health departments are routinely screened for chlamydia and gonorrhea. Also, there may be bias in that the majority of reports are from public clinics; the personal nature of STD's may affect providers' willingness to report. This may account, in part, for the likelihood of some STDs to occur at much higher rates among African-Americans who are more likely to seek care in public clinics, where there is more complete reporting.

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HIV Counseling and Testing Program Data from DHEC Clinics

Counseling and testing data, while highly informative about people who seek counseling and testing, does not tell us anything about people who do not seek testing or choose not to test. All states provide HIV counseling and testing services and maintain data to quantify HIV counseling and testing services delivered in publicly-funded sites and to determine the characteristics of people receiving those services. These data are used by prevention programs to plan and target services for high-risk individuals. The type of data collected in South Carolina includes the counseling and testing site type, number of clients tested and number positive for each risk group, number tested, number positive by type of test site, and number tested and number positive by race/ethnicity gender, and age group. Clients receive confidential counseling and testing in each of the 46 county health department clinics.

The counseling and testing data system is standardized and has been in place for several years. Data in this Epi-Profile reflect number of individual clients tested during a specific period of time. People who received multiple tests during the report period are only counted once. It includes people tested in family clinics, maternity clinics, TB, STD clinics and people voluntarily requesting services or referred through partner counseling services. Approximately one third of the total of newly diagnosed and reported people with HIV infection each year is from DHEC counseling and testing sites. People tested in other settings, such as physician offices, hospitals, state facilities, etc. are not included in the DHEC counseling and testing database.

To determine a client's level of risk, each person is assigned a risk status: men who have sex with men (MSM), injection drug use (IDU), or heterosexual contact with a person at risk for or infected with HIV. Since most clients acknowledge multiple risks, risk status is determined by using the CDC's hierarchy of risk. This process assigns the client's "highest" risk. The highest possible risk in the hierarchy is sex with a person with HIV/AIDS, while the least significant risk is "no acknowledged risk". A person is only represented in their highest risk category regardless of how many risks the client acknowledges.

The CDC's hierarchy of risk includes a category for the combined risks of MSM and IDU; in previous HIV/AIDS Epidemiologic Profiles, the combined risks of MSM and IDU have been grouped and reported within the single category of 'Injection Drug Use'. This report leaves the combined risks of MSM and IDU as a stand-alone category. This CDC risk hierarchy can limit interpretability of data; it also does not reflect associated risks such as other non-injecting substance use, i.e. crack-cocaine.

Counseling and testing data in South Carolina and nationally is distinct from blinded, HIV seroprevalence surveys which generate an estimate of HIV seroprevalence that is unbiased by client self-selection. The DHEC counseling and testing system only includes clients who seek out counseling and testing services or agree to be tested after consultation with a counselor at a clinic site. However, for those clinic sites in which clients can obtain services other than counseling and testing for HIV, and in which all or nearly all clients actually receive HIV testing, (for example, maternity and STD clinics), data for those sites approximates the reliability of the blinded surveys.

Ryan White Program Data Report

The Ryan White HIV/AIDS Program Data Report (RDR) is an annual report that captures information regarding the services provided by all Ryan White funded entities. The RDR is divided into sections including: service provider information; client information; service information; HIV counseling and testing; and medical information. Providers report on all clients who received services eligible for Ryan White Parts A, B, C or D funding, regardless of the actual funding source used to pay for those services. The South Carolina Ryan White Part B contractors complete the RDR forms and submit them to DHEC. DHEC assembles all of the reports and submits the data to Health Resources and Services Administration (HRSA).

South Carolina Community Assessment Network (SCAN)

Its purpose is to provide basic reference data for a variety of users. The primary use of SCAN is to enumerate and characterize mortality attributed to HIV infection. The data were also used to compare trends in HIV infection mortality with other leading causes of death and to characterize the impact of HIV infection on mortality. Data on causes of death are based on information recorded by hospitals, physicians, coroners, midwives and funeral directors. Recorded information may be inaccurate or incomplete due to underreporting of certain causes of deaths, the number of HIV-related deaths and the conditions may be underestimated. Vital statistics data are not as timely as AIDS case reports due in part to processing time. SCAN is also used to enumerate and characterize birth attributes.

U.S. Department of Health and Human Services (DHHS): National Survey on Drug Use and Health (NSDUH)

The National Survey on Drug Use and Health is an annual nationwide survey involving interviews with approximately 70,000 randomly selected individuals aged 12 and older. The Substance Abuse and Mental Health Services Administration (SAMHSA), which funds NSDUH, is an agency of the U.S. Public Health Service in the U.S. Department of Health and Human Services (DHHS). Supervision of the project comes from SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ).

Through a competitive bidding process, SAMHSA selected Research Triangle Institute (RTI) to conduct the NSDUH through 2013. RTI has successfully conducted the survey since 1988. RTI's role in this long-term national effort includes study design, sample selection, data collection, data processing, analysis, and reporting.

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Data from the NSDUH provide national and state-level estimates on the use of tobacco products, alcohol, illicit drugs (including non-medical use of prescription drugs) and mental health in the United States. To assess and monitor the nature of drug and alcohol use and the consequences of abuse, NSDUH strives to:

- provide accurate data on the level and patterns of alcohol, tobacco and illegal substance use and abuse;
- track trends in the use of alcohol, tobacco, and various types of drugs;
- assess the consequences of substance use and abuse; and
- identify those groups at high risk for substance use and abuse.

A scientific random sample of households is selected across the United States, and a professional RTI interviewer makes a personal visit to each selected household. After answering a few general questions during the in-person visit by the interviewer, one or two residents of the household may be asked to participate in the survey by completing an interview. Since the survey is based on a random sample, each selected person represents more than 4,500 United States residents.

Participants complete the interview in the privacy of their own home. A professional RTI interviewer personally visits each selected person to administer the interview using a laptop computer. Individuals answer most of the interview questions in private and enter their responses directly into the computer so even the interviewer does not know the answer entered. For some items, the interviewer reads the question aloud and enters the participant's response into the computer.

Each interview data file – identified only by a code number – is electronically transmitted to RTI on the same day the interview is conducted. Combined with all other participants' answers, the data are then coded, totaled, and turned into statistics for analysis. As a quality control measure, participants may receive a telephone call or letter from RTI to verify the interviewer completed the interview with them in a professional manner.

Youth Risk Behavior Surveillance System (YRBSS)

The Youth Risk Behavior Survey (YRBS) was developed cooperatively by the Centers for Disease Control and Prevention (CDC), several federal agencies, and state departments of education to measure the extent to which adolescents engage in health risk and health enhancing behaviors. The system consists of national, state, and local school-based surveys. In South Carolina, the YRBS consists of questionnaires administered to middle school (6th-8th grade) and high school (9th-12th grade) students in the public school system. A two-stage sampling process is used to provide a state-wide sample at each level. In the first stage, regular public schools with any of the target grades are sampled with probability proportional to the school enrollment. In the second stage, intact classes are sampled randomly and all students in these classes are eligible to participate. The overall response rate is calculated as the percentage of sampled schools that participate multiplied by the percentage of sampled students that complete useable surveys. If this overall response rate is 60% or greater, the resulting data are weighted to be representative of the state as a whole.

There are 367 private K-12 schools in South Carolina (S.C. Statistical Abstract, 2003/04). However, none of them are included in the survey. Also, while schools are randomly selected for participation some may choose not to participate.

The survey includes questions about injury and violence, tobacco use, alcohol and other drug use, sexual risk behaviors, physical activity, and nutrition behaviors (the specific questions can vary from year to year).

This survey is conducted by S.C. Healthy Schools at the Department of Education, and relies heavily on surveillance methods and self-reports; so it depends on how well respondents understand the questions and how well they can accurately and honestly answer the question. However, the questionnaire has demonstrated good test-retest validity and the data are edited, checked and weighted. These data are representative of only public middle school students (grades 6-8) or public high school students (grades 9-12) in South Carolina.

What are the sociodemographic characteristics of the population?

The HIV epidemic in the United States, and in South Carolina, is a composite of multiple, unevenly distributed epidemics in different regions and among different populations. These populations may comprise people who practice similar high-risk behavior, such as injecting drugs or having unprotected sex with an infected person. Although race and ethnicity are not risk factors for HIV transmission, they are markers for complex underlying social, economic, and cultural factors that affect personal behavior and health. Low socioeconomic status is associated with increased disease morbidity and premature mortality. Unemployment status is correlated to limited access to health care services, resulting in increased risk for disease. This section provides background information on South Carolina’s populations and contextual information, i.e. education, poverty level, housing, etc., for assessing potential HIV impact. The social, economic, and cultural context of HIV infection must be considered when funding, designing, implementing and evaluating HIV prevention programs for diverse populations.

The State

South Carolina lies on the southeastern seaboard of the United States. Shaped like an inverted triangle, the state is bounded on the north by North Carolina, on the southeast by the Atlantic Ocean, and on the southwest by Georgia. It ranks 40th among the 50 states in size and has a geographic area of 30,061 square miles. South Carolina has a diverse geography that stretches from the Blue Ridge Mountains in the northwest corner to the beaches along the Atlantic coast. There are 46 counties grouped into four public health regions. Columbia, located in the center of the state, is the capital and the largest city. There are 3 metropolitan areas with a population of 500,000 or more: Columbia, Charleston and Greenville areas. Manufacturing is the state’s leading industry, followed by tourism and forestry.

Populations

Based on Census Bureau data, the total number of South Carolinians is 4,723,723 (2012 estimate). Of this total, 64 percent were Caucasian, 28 percent were African-American, 0.5 percent were Native American/Alaskan, 1.4 percent were Asian/Pacific Islander and 5.3 percent were of Hispanic origin. Fifty-one percent were female and 49 percent were male. 75 percent of the population distribution in South Carolina is defined as metropolitan, 25 percent is non-metropolitan. (Figure 1.02).

**Figure 1.02: Selected demographic information
South Carolina and United States**

	South Carolina	United States
Population (2012 est.)	4,723,723	313,914,040
Proportion of Persons Living in Non-Metropolitan Areas, 2012	25%	15%
Median Age, 2011	38.0	37.3
Racial/Ethnic Distribution of Pop. (2012 est.)		
White	64%	63%
Black	28%	13%
Hispanic	5%	17%
Educational Attainment 2011		
High school grad. or higher	84%	86%
Bachelor’s degree or higher	24%	29%
Unemployment Rate, 2012	8.6	7.8
Median Household Income, 2011	\$42,367	\$50,502

Sources: U.S. Census Bureau.

Epidemiologic Profile

Education & Earnings

Despite the economic strides made in recent years, South Carolina remains among the states with the highest percentage of people who live below the poverty level (10th of fifty states, District of Columbia, and Puerto Rico). Educational attainment is strongly correlated with poverty, and South Carolina continues to rank low in percent of people over 25 years of age who have bachelor's degrees or higher (38th of fifty states and District of Columbia). Just over sixteen percent (16.4 percent) of the population has less than a high school education. By race, 12 percent of the white population in South Carolina over the age of 25 had an educational attainment of less than a high school diploma. The same is true for 22 percent of the African American population as well as 34 percent of other races (other includes Asian, Pacific Islanders and Native Americans).

In comparison, African-Americans and people of Hispanic origin have lower per capita incomes, averaging 37 percent below the state's mean income, while Asian and whites earned 26 percent above the state's mean income. (Figure 1.3)

Figure 1.03: S.C. Per Capita Income by Race and Ethnicity

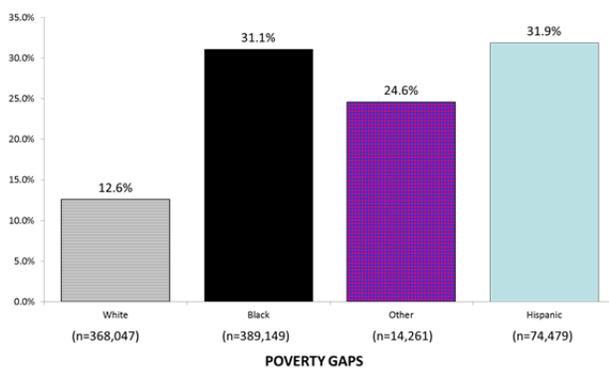
Per Capita (mean) Income (2011 Inflation-Adjusted Dollars)	Estimate	Relative to African-Americans
African-American	\$ 14,722	1.0
American Indian/Alaska Native	\$ 15,325	1.0
Asian	\$ 29,797	2.0
Hispanic or Latino origin (of any race)	\$ 13,556	0.9
Native Hawaiian/Other Pacific Islander	\$ 25,274	1.7
White (non-Hispanic)	\$ 26,926	1.8
South Carolina Overall	\$ 22,598	1.5

Data Sources: U.S. Census Bureau

Poverty Level

According to US Census Bureau data, approximately 18.9 percent of South Carolinians live below the poverty level (ranking 10th in the US) and 14.3 percent of South Carolina families live below the poverty level.

Figure 1.04: Percent of each racial/ethnic pop. living below federal poverty level: S.C. 2011



Data Source: U.S. Census Bureau, American Community Survey.

An estimated 31 percent of African-American South Carolinians were below poverty in 2011, compared to 32 percent of people of Hispanic descent, 13 percent among whites and close to 27 percent of people categorized as Other, which includes Asian, Pacific Islanders and Native Americans (Figure 1.04).

Epidemiologic Profile

Insurance/Access to Primary Care

Almost seventeen percent (16.7 percent) of South Carolinians do not have health insurance coverage. In South Carolina, all or part of forty-five (out of forty-six) counties are designated as Health Professional Shortage Areas (HPSA). An estimated 1,253,951 South Carolinians live in HPSAs; or approximately 27.1 percent of the South Carolina's population, compared to 17.7 percent of the total U.S. population (Figure 1.05).

Figure 1.05: Selected access indicators, S.C. and U.S.

	South Carolina	United States
Total Population Uninsured, 2011	16.7%	15.1%
Individuals Below 200% Poverty Level, 2011	40.8%	35.2%
Population living in a Primary Care Health Professional Shortage Area, 2012	27.1%	17.7%

Source: U.S. Dept. of Health and Human Services; HRSA.

Employment

South Carolina's unemployment rate at the end of 2012 was 8.6 percent, higher than the US rate of 7.8 percent. The median household income in South Carolina was \$42,367 vs. the US median income of \$50,502 (2011 inflation adjusted dollars).

Housing

According to the US Census, 69 percent of the state's homes were owned. The S.C. Council on Homelessness's 2012 Homeless Count reports 2,210 adults and children sheltered in South Carolina.

Summary

South Carolina, as many southern states, ranks high for poverty, low educational attainment and uninsured population compared to other US states. These factors can affect one's ability to access prevention and health care services and adhere to regimens for treatment and care of diseases that may lead to more severe consequences.

What is the impact of HIV/AIDS on the population?

In the United States, HIV/AIDS remains a significant cause of illness, disability, and death, despite declines in new AIDS cases and deaths from 1995 to 2012. Current surveillance activities provide population-based HIV/AIDS data for tracking trends in the epidemic, targeting and allocating resources for prevention and treatment services, and planning and conducting program evaluation activities.

In South Carolina, AIDS cases have been reported since 1981, and confirmed cases of HIV infection have been reportable since February 1986. During the calendar year of 2011, according to the CDC HIV/AIDS Surveillance Report, South Carolina ranked 8th among states, the District of Columbia, and U.S. dependent areas with an AIDS case rate of 13.7 per 100,000 population. The epidemic is continuing to grow with an average of 59 cases of HIV infection reported each month during 2012. As of December 31, 2012, among South Carolina residents 15,294 people have been reported living with HIV infection (including AIDS). The incidence rate in South Carolina for 2012 is 15.0 per 100,000 population.

This section summarizes the overall toll of the epidemic in South Carolina based on total reported HIV/AIDS cases and deaths.

Gender

Figure 2.01 shows the impact of HIV on the men and women in South Carolina. Men unequivocally are disproportionately affected by HIV/AIDS. Men make up 49 percent of South Carolina's total population, but comprise 70 percent of PLWHA (prevalence). HIV/AIDS diagnosed cases during the two-year period 2011-2012 gives an estimate of more recent infections or potentially emerging populations.

Figure 2.01: Disproportionate S.C. HIV impact by sex

SEX	S.C. Total Population, 2012 est.		Total Estimated Living With HIV/AIDS, 2012		Total HIV/AIDS Diagnosis, 2011-2012	
	No.	%	No.	%	No.	%
Male	2,297,213	49%	10,707	70%	1,115	77%
Female	2,426,510	51%	4,587	30%	340	23%
Total	4,723,723		15,294		1,455	

Source: US Census Data; SCDHEC eHARS.

Epidemiologic Profile

Figure 2.02: S.C. HIV/AIDS case rate per 100,000 for males and females, 2003-2012

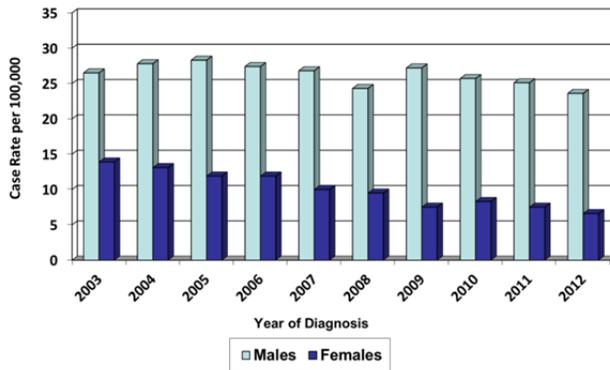


Figure 2.02 shows the rate per 100,000 population for males and females diagnosed with HIV/AIDS each year. From 2003 to 2012 the case rate for females appears to be slightly decreasing. For males, the rate tends to fluctuate, but indicates a generally downward trend.

Race/Ethnicity

African-Americans are disproportionately impacted by HIV/AIDS in South Carolina. African-Americans comprise 28 percent of the state's total population, yet 72 percent of the total people living with HIV are African-American. Three percent of total cases are Hispanic, who comprise five percent of the state's population (Figure 2.03).

Figure 2.03: Proportion of persons living with HIV/AIDS by race/ethnicity, 2012

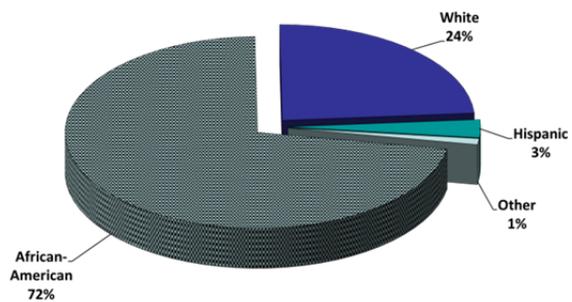


Figure 2.04: Disproportionate HIV impact by race/ethnicity/gender, S.C.

Race/Ethnicity & Gender	SC Total Population		Total Persons Living With HIV/AIDS, 2012		Total HIV/AIDS Diagnosis, 2011-2012	
	No.	%	No.	%	No.	%
Black Males	622,847	13%	7,253	47%	799	55%
Black Females	704,914	15%	3,716	24%	267	18%
White Males	1,493,587	32%	2,931	19%	236	16%
White Females	1,560,788	33%	709	5%	58	4%
Hispanic Males	137,349	3%	406	3%	62	4%
Hispanic Females	112,363	2%	113	1%	11	1%

African-American men, who comprise only 13 percent of the state's population, make up the largest proportion of both PLWHA in 2012 and new diagnosis in 2011/2012 (47 percent and 55 percent respectively). African-American women, who similarly comprise 15 percent of the population, make up 24 percent of PLWHA in 2012 and 18 percent of new diagnosis in 2011/2012. Whites, who comprise the largest proportion of the population in South Carolina (32 percent males; 33 percent females), make up

24 percent of PLWHA in 2012 (19 percent males; five percent females) and 20 percent of new diagnosis in 2011/2012 (16 percent males; four percent females).

Epidemiologic Profile

Each year the number of all people living with HIV/AIDS continues to grow. Case rates per 100,000 by race and gender show the disparate burden of HIV among African-Americans. As Figure 2.05 shows, the rate per 100,000 population in 2012 is six times higher for black males than for white males, and twelve times higher for black females compared to white females.

Figure 2.05: S.C. HIV/AIDS prevalence rates by race/gender, 2003-2012

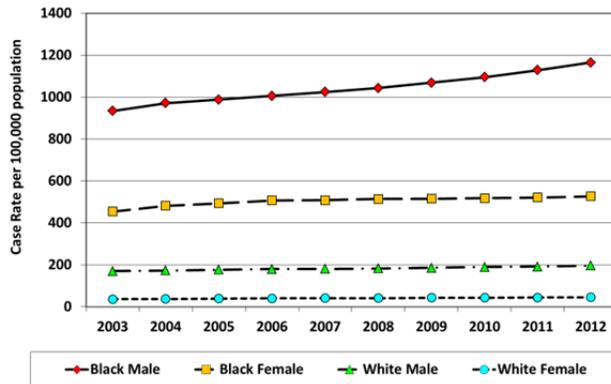
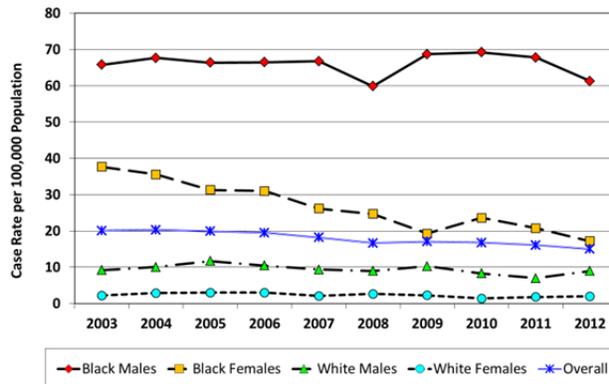


Figure 2.06: S.C. HIV/AIDS case rates by race/gender and year of diagnosis, 2003-2012



While the overall number and rate of newly diagnosed people with HIV/AIDS each year has been declining, there are differences among race/gender populations. The case rate per 100,000 population among white men in South Carolina has on average remained relatively stable during the past five years (2008-2012) (Figure 2.06). The rate for African-American women in S.C. has steadily decreased during the past decade (decreasing 30 percent between 2008 and 2012). The rate for African-American males had been relatively consistent over the same time period.

Age

People between the ages of 20 and 44 are disproportionately impacted. They make up 33 percent of the total population yet they represent about 44 percent of PLWHA and 67 percent of newly diagnosed cases (Figure 2.07).

Figure 2.07: Disproportionate S.C. HIV impact by age

Age Range	SC Population		Total Persons Living with HIV/AIDS, 2012		Total HIV/AIDS Diagnosis, 2011-2012	
	No.	%	No.	%	No.	%
<15 Years	901,787	19%	50	0.3%	7	0.5%
15-19 Years	313,166	7%	89	0.6%	91	6%
20-24 Years	349,548	7%	726	5%	338	23%
25-44 Years	1,200,302	25%	5,921	39%	646	44%
45+ Years	1,958,920	41%	8,489	56%	370	25%

Epidemiologic Profile

Figure 2.08: S.C. HIV/AIDS Incidence case rate by year of diagnosis and age, 2003-2012

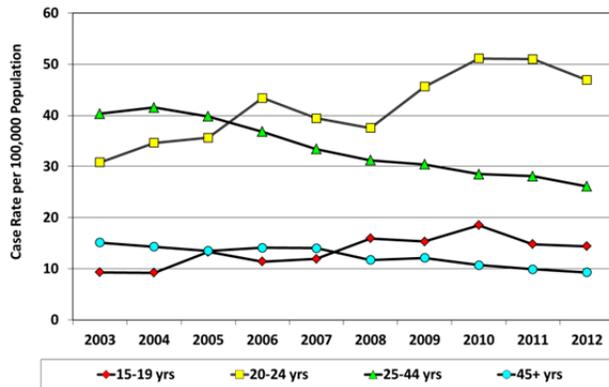


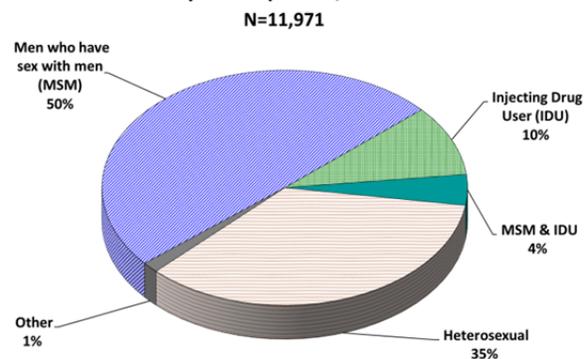
Figure 2.08 shows the HIV/AIDS case rates by year of diagnosis for selected age groups. The rate for people 20-24 years of age has been consistently higher than any other age group, and since 2009 has been on the increase. In 2012 the rate decreased eight percent compared to 2011's rate, however, the rate for 2012 is 25 percent higher than the rate in 2008. Conversely, the rate for those 25-44 years of age has been steadily decreasing; the rate for people age 24-44 decreased seven percent compared to 2011 and 16 percent compared to 2008.

Risk Exposure

Of the cases with an identified risk factor, men who have sex with men was the highest reported risk factor in 2012 for PLWHA (50 percent). Heterosexual contact accounted for 35 percent of reported risk factors. Ten percent reported injecting drug use (IDU). Four percent reported the combined risks of MSM and IDU (Figure 2.09).

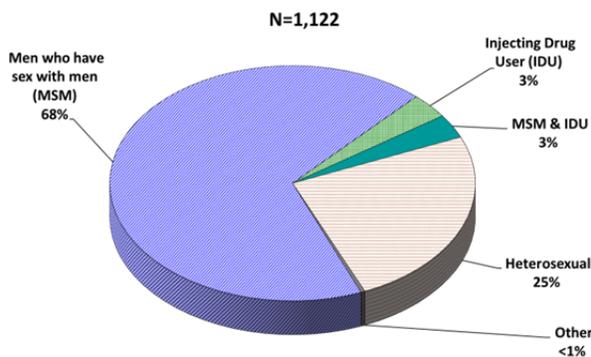
Other risks include blood transfusions, hemophilia, and perinatal transmission; all of which account for a very small proportion of PLWHA. Of the total estimated number of PLWHA in 2012, 22 percent had no risk identified.

Figure 2.09: Proportion of persons living with HIV/AIDS by risk exposure, 2012



Note: Total excludes cases with no risk identified.

Figure 2.10: Proportion of HIV/AIDS cases diagnosed 2011-2012 by risk exposure



Note: Total excludes cases with no risk identified.

Figure 2.10 shows reported risk for people newly diagnosed with HIV/AIDS during 2011-2012. The proportion of new cases with a reported risk of MSM was 68 percent and with a reported risk of heterosexual contact was 25 percent; IDUs made up three percent and the combined risk of MSM and IDU three percent also. Twenty-three percent of new cases had no risk identified.

Epidemiologic Profile

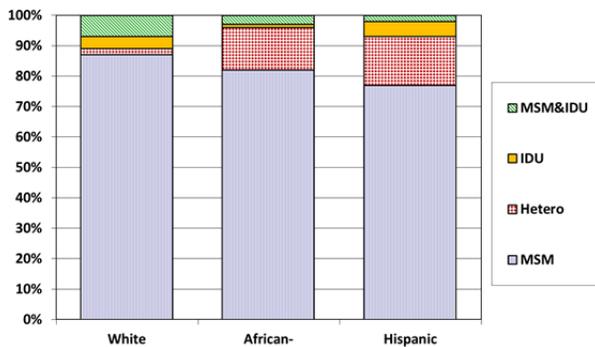
Over time, the proportion of cases with no risk identified in a given year decreases as risks are determined through follow-up surveillance activities. For example, in 2000, there were 312 cases reported with no risk; as of 2012, risk has been determined for 82 of these cases. The race/gender profile of newly diagnosed cases in 2011-2012 with no risk reported is relatively close to the total proportion of HIV/AIDS cases by race/gender (Figure 2.11).

Figure 2.11: New S.C. HIV/AIDS cases (2011-2012)
Race/Ethnicity and Gender: Proportion of No Risk Identified Compared to Proportion of Reported Cases

Race/Gender (Adult/Adolescent Cases)	New HIV/AIDS Cases 2011-2012	
	% with No Risk Identified (N=333)	% Cases Reported (N=1,444)
Black Male	40%	56%
Black Female	33%	19%
White Male	13%	16%
White Female	7%	4%
Hispanic Male	6%	4%
Hispanic Female	2%	1%

Note: Primary reasons for risk exposure information not reported were explained in the South Carolina HIV/AIDS Surveillance System section of the introduction.

Figure 2.12: Proportion of Male HIV/AIDS cases by exposure category, diagnosed 2011-2012

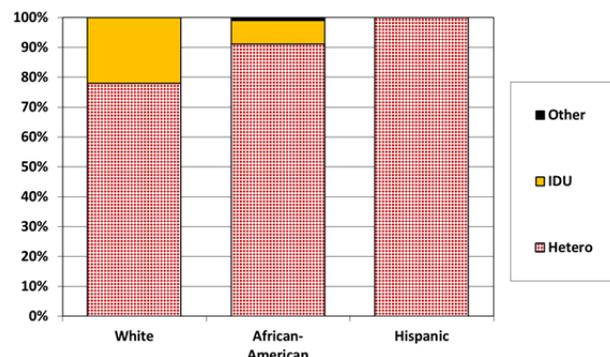


Excludes persons with no risk reported. The exposure category "Other" = <1% for each race/ethnicity.

American males (one percent). The combined risks of MSM & IDU is reported by seven percent of white males, three percent of African-American males, and two percent of Hispanic men (Figure 2.12).

Among women diagnosed during 2011-2012 (Figure 2.13), 79 percent of cases were among African-American women. Among white, African-American, and Hispanic women, most cases were attributed to Heterosexual risk (77 percent, 92 percent, and 100 percent respectively). White women report Injecting Drug Use more often (23 percent) than African-American women (seven percent).

Figure 2.13: Proportion of Female HIV/AIDS cases by exposure category, diagnosed 2011-2012



Excludes persons with no risk reported.

Epidemiologic Profile

Figures 2.14 and 2.15 show the proportion of total HIV/AIDS cases diagnosed during four periods from 2001 to 2012 by sex and risk exposure category for males and females in South Carolina. Both men and women experienced decreases over time in the proportion of total cases with reported risk of injecting drug user. During 2007-2009 to 2010-2012, there was a 60 percent decrease in the proportion of injecting drug use among men and a three percent decrease among women. The proportion of heterosexual risk decreased 36 percent for men and increased one percent for women during the same time periods.

Figure 2.14: Proportional distribution of male HIV/AIDS cases by exposure category, diagnosed 2001-2012

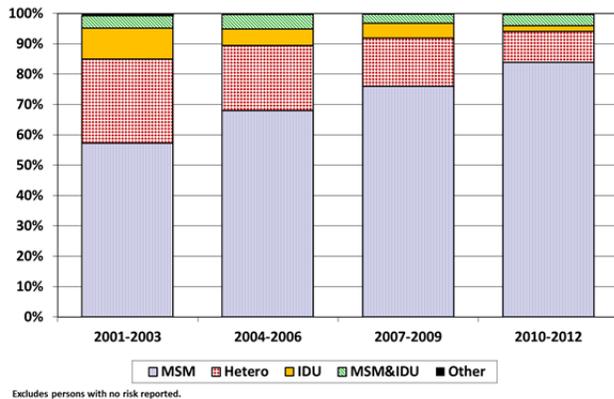
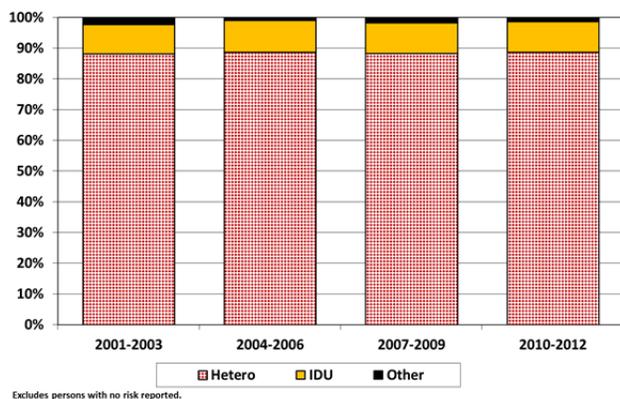


Figure 2.15: Proportional distribution of female HIV/AIDS cases by exposure category, diagnosed 2001-2012



Residence

People living with HIV/AIDS are widespread throughout the state. Figure 2.16 shows the prevalence rate for African-Americans: Seventeen percent of South Carolina counties have a prevalence rate greater than 868.2 per 100,000 population (the state prevalence rate for African-Americans is 826.4). Twenty percent of South Carolina counties have a three year average (2010-2012) incidence rate for African-American (Figure 2.17) greater than 40.9 per 100,000 population (the state three year average incidence rate for African-Americans is 41.8).

Figure 2.16: S.C. HIV/AIDS prevalence rates 2012

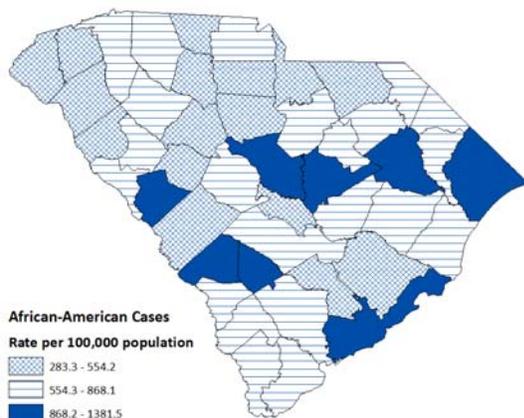
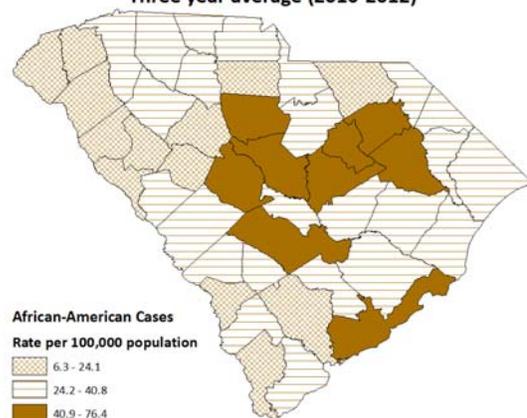


Figure 2.17: S.C. HIV/AIDS incidence rate: Three year average (2010-2012)



Epidemiologic Profile

While the HIV/AIDS rate for whites in South Carolina is significantly lower than for African-Americans, the distribution throughout the state is not dissimilar. Figure 2.18 shows seventeen percent of South Carolina counties have a prevalence rate for whites that is greater than 135.1 per 100,000 population (the state prevalence rate for whites is 119.3). Twenty percent of South Carolina counties have a three year average (2010-2012) incidence rate for whites (Figure 2.19) greater than 5.9 per 100,000 population (the state three year average incidence rate for whites is 4.9).

Figure 2.18: S.C. HIV/AIDS prevalence rates 2012

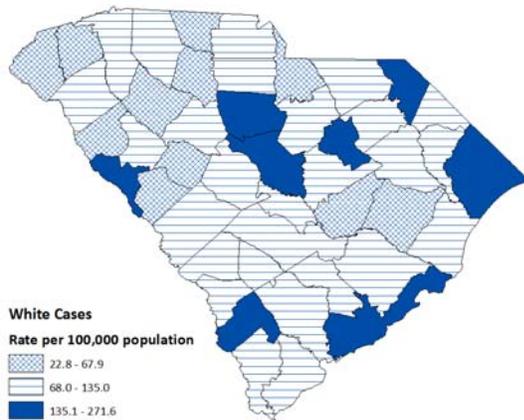
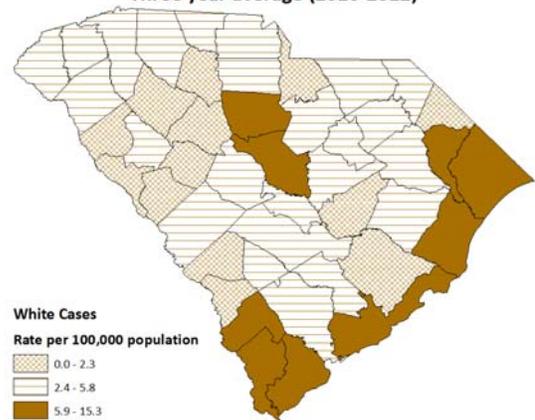


Figure 2.19: S.C. HIV/AIDS incidence rate:
Three year average (2010-2012)



Mortality

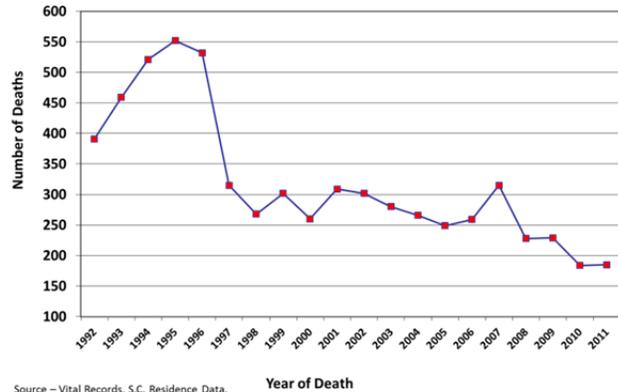
With the advent of combination therapies and the use of prophylaxis, people infected with HIV are living longer and delaying the progression of AIDS, which is the advanced stage of the disease. These medications have also led to the decrease in AIDS-related deaths.

Large declines in AIDS mortality nationally essentially occurred during 1996-1997. Officials at the Centers for Disease Control and Prevention (CDC) cautiously attributed the sudden drops in deaths to new antiretrovirals, protease inhibitors, combination therapies, and increased prophylaxis for opportunistic illnesses. However, the initially reported gains were tempered by reports of demographic differentials that suggested only certain groups were benefiting from these new therapies.

Epidemiologic Profile

Figure 2.20 shows the largest decline in deaths in South Carolina was in 1997, with AIDS related deaths dropping to 317 from 532 the previous year. Since 1997, the number of AIDS deaths per year has continued to decline; however, as seen in the graph, there are fluctuations in the number of AIDS deaths from year to year. Reasons for this may include delay in diagnosis of HIV infection until severe symptoms arise, difficulty in adherence to prescribed medical treatments, and development of viral resistance to therapy.

Figure 2.20: Deaths among persons with AIDS in South Carolina, 1992-2011



Source – Vital Records, S.C. Residence Data.

Figure 2.21: Characteristics of persons who died of AIDS, 2011

	Number	Percent
Race/Sex		
Black Male	83	45%
Black Female	64	35%
White Male	34	18%
White Female	2	1%
Age Group		
<15	0	0%
15-24	2	1%
25-44	57	31%
45+	125	68%

Source – Vital Records, S.C. Residence Data.

In addition to representing 48 percent of PLWHA, African-American males accounted for the majority of people dying from AIDS (45 percent) in 2011. African-American females accounted for 35 percent of AIDS related deaths followed by white males (18 percent). By age group, the majority of deaths occurred among people age 45 and older (68 percent) (Figure 2.21).

Region 3 and Region 4 are the areas with the highest number of deaths from AIDS in South Carolina in 2011 (Figure 2.22). These areas are also among those that have the highest prevalence of HIV/AIDS in the state.

Note: Vital Records 2011 data reported using eight regions.

Figure 2.22: Number of persons who died of AIDS by health region, 2011

Health Region	No.	%
Region 1	13	7%
Region 2	14	8%
Region 3	50	27%
Region 4	31	17%
Region 5	20	11%
Region 6	21	11%
Region 7	25	14%
Region 8	11	6%
TOTAL	185	100%

Source – Vital Records, S.C. Residence Data.

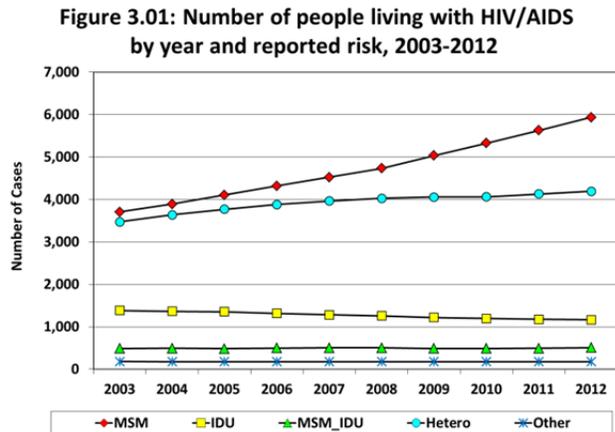
Who is at risk for becoming infected with HIV?

HIV can be transmitted via blood coming in contact with an infected person’s blood, breast milk, or sexual fluids. The people most likely to become infected with HIV are those who engage in high-risk behaviors which place them at greater than normal risk. Transmission happens most often during sexual or drug-using activity, and the frequency of the high-risk behavior combined with HIV prevalence in sexual or drug using-networks determines a person’s risk for becoming infected. In order to accurately target STD/HIV prevention and treatment activities, it is important for community planning groups (and program providers) to have information on the number and characteristics of people who become newly infected with HIV and people whose behaviors or other exposures put them at various levels of risk for STD and HIV infection. This section summarizes HIV infection among population groups at high risk for HIV infection, sexually transmitted disease data, and behavioral data.

Characteristics of HIV/AIDS in People at Highest Risk

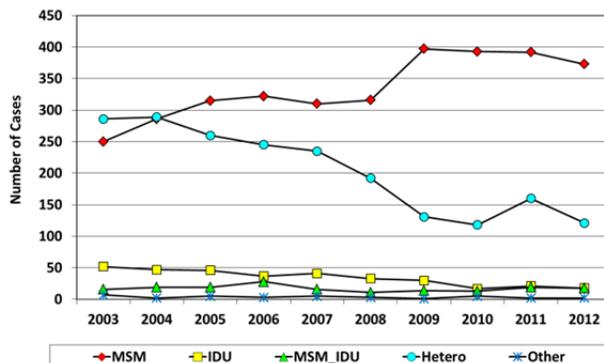
Analysis of characteristics of people with HIV/AIDS helps identify people at greatest risk for becoming infected. Risk for infection can be determined by assessing the frequency of high-risk behavior (e.g., unprotected sex, needle-sharing) in combination with the estimated prevalence of HIV/AIDS and incidence of HIV/AIDS.

Figure 3.01 shows the number of people in South Carolina living with HIV/AIDS at the end of each year by reported risk. MSM comprise the greatest number of people living with HIV, followed closely by heterosexuals. IDU, MSM and IDU, and other risks comprise fewer numbers.



Excludes persons with no risk reported.

Figure 3.02: Number of new HIV/AIDS cases by year of diagnosis and reported risk, 2003-2012



Excludes persons with no risk reported.

As with people living with HIV, newly diagnosed HIV/AIDS cases each year indicate that beginning around 2005, more people are reporting their risk as men who have sex with men. As Figure 3.02 shows, this is a change from the earlier part of the decade when heterosexual risk was the most often reported risk.

Epidemiologic Profile

While not validated, many local experts believe the number of heterosexuals among African-American men may be artificially high due to fears of discrimination; therefore, men do not reveal male to male sex as a risk behavior. The number of injecting drug users reported each year declined over the past decade, while the combined risks of MSM and IDU have remained relatively stable.

Based on data in this profile, the following primary populations have been identified as being at the highest risk of HIV/AIDS: men who have sex with men (MSM), high-risk heterosexuals, injecting drug users (IDUs), and men who have sex with men and injecting drug use. Women will be described in the heterosexual and injecting drug user section, and teenagers/young adults will be described within each population category.

Men who have Sex with Men

Estimates of Men Who Have Sex with Men Behavior in South Carolina

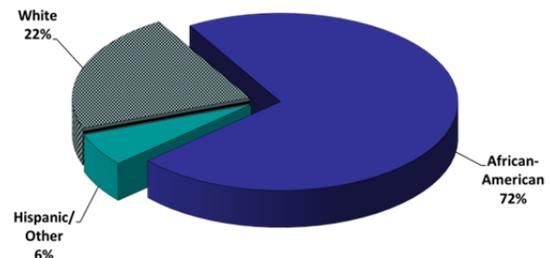
According to the U.S. Census Bureau, there are an estimated 1,534,003 males in South Carolina between the ages of 15-64, which is the age range when people are most sexually active. Review of literature and other state profiles, indicates that the estimated percentage of men who have sex with men (MSM) ranges from 2.1 percent to 10.1 percent, with the average at 2.7 percent. This would mean the number of MSM in South Carolina could be estimated to 41,418; although the estimated range is much broader.

Characteristics of men who have sex with men

The largest proportion of PLWHA in South Carolina at the end of 2012 was men who have sex with men (50 percent of total prevalent adult/adolescent cases with identifiable risk). MSM accounted for a higher proportion (68 percent) of the more recently diagnosed adult/adolescent cases during 2011-2012.

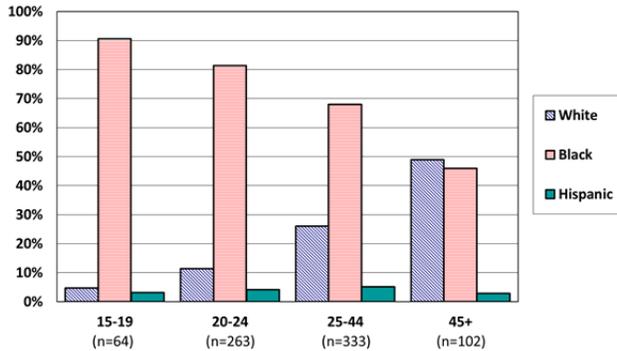
As Figure 3.03 demonstrates, the majority of MSM cases diagnosed during 2011-2012 were African-Americans (72 percent). White men accounted for 22 percent of the new cases and six percent were Hispanic or other races.

Figure 3.03: Proportion of men diagnosed with HIV/AIDS in 2011-2012 who reported a risk of MSM by race/ethnicity (N=762)



Epidemiologic Profile

Figure 3.04: Percent of MSM HIV/AIDS cases diagnosed 2011-2012 by age group & race/ethnicity
N=762

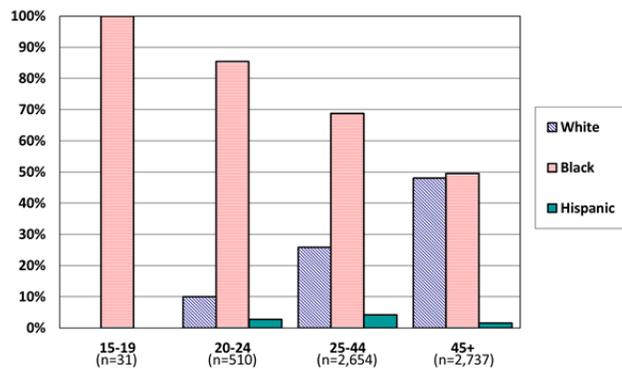


Total N includes 13 "Other" race/ethnicity not included in graph.

The majority of MSM diagnosed during 2011-2012, were 25-44 years of age (44 percent); 35 percent were 20-24 years old and 13 percent were 45+ years. For men more recently diagnosed, African-Americans accounted for the highest proportion for each age group except those 45 and older, where whites accounted the highest proportion (49 percent) (Figure 3.04).

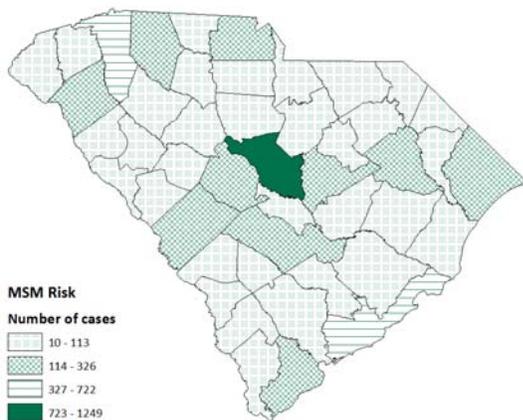
Of the men who have sex with men presumed living with HIV/AIDS in 2012, 61 percent were African-American, 35 percent were white and three percent were Hispanic men. As Figure 3.05 shows, for each younger age category less than 45 years, African-Americans comprise the greatest proportion of living MSM. However, among those 45 years and older, the proportion is almost equal for both white (48 percent) and African-American (50 percent) men.

Figure 3.05: Percent of MSM living with HIV/AIDS by age/race, 2012 (N=5,932)



Total N includes 58 "Other" race/ethnicity not included in graph.

Figure 3.06: S.C. HIV/AIDS 2012 prevalence



Richland County has the greatest number of MSM living with HIV/AIDS in 2012, with Greenville and Charleston having the next highest numbers. Most South Carolina counties had fewer than 113 MSM living with HIV/AIDS (Figure 3.06).

Summary

Among men who have sex with men, African-American men account for over half the proportion of both living cases (61 percent) and newly diagnosed HIV/AIDS cases (72 percent). And of men who have sex with men under the age of forty-five, African-American men comprised 72 percent of living cases and 76 percent of newly diagnosed HIV/AIDS cases.

High Risk Heterosexuals

Estimates of High-Risk Heterosexual Behavior in South Carolina

It is difficult to make an assessment of the number of people in South Carolina who engage in heterosexual contact that puts them at high risk for becoming infected with HIV. While there are some differences in the population of people with HIV/AIDS and the population of those with a non-HIV STD, most experts acknowledge that a diagnosis of an STD would suggest the individual is engaging in unsafe sexual practices. During 2012, 27,013 cases of chlamydia, 7,597 cases of gonorrhea and 220 cases of infectious syphilis were reported in South Carolina. More data on STDs, as well as other behavioral indicators such as teenage pregnancy and condom use, is described later.

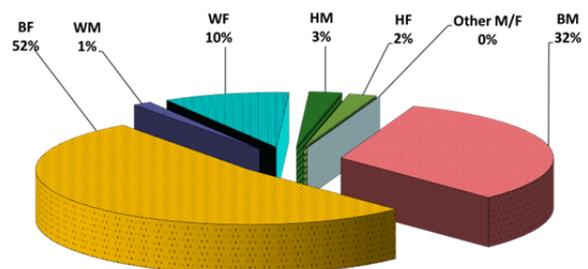
In order for a case of HIV or AIDS to be considered as heterosexual transmission, it must be reported that the individual had heterosexual contact with a person who has documented HIV infection or AIDS, or had heterosexual contact with a person who is in a high risk group for HIV (MSM or IDU).

Characteristics of high risk heterosexuals

People with documented high-risk heterosexual contact comprise 35 percent of the total adult/adolescent PLWHA at the end of 2012 and 25 percent of people more recently diagnosed during 2011-2012 (excluding people with no risk identified for both new and prevalent cases). Of PLWHA in 2012 who reported a risk of heterosexual contact, over half were African-American women (55 percent), 29 percent were African-American men, nine percent were white women, and three percent were white men. The number of heterosexual cases diagnosed has decreased 36 percent from 2008 to 2012.

Figure 3.07 shows that African-American men and women comprise a disproportionate 84 percent of recently diagnosed heterosexual HIV/AIDS cases. African-American women account for 52 percent of recent cases and white women account for ten percent. Thirty-two percent are African-American men while white men account for only one percent of recent cases.

Figure 3.07: Proportion of heterosexual HIV/AIDS cases by race/ethnicity, diagnosed 2011-2012 (N=282)



Epidemiologic Profile

Figure 3.08: S.C. HIV/AIDS cases attributed to heterosexual transmission, by sex and year of diagnosis

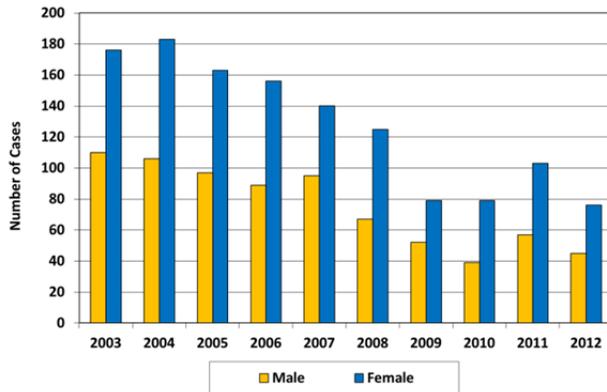


Figure 3.08 shows the number of heterosexually acquired HIV cases in men and women in South Carolina from 2003 to 2012. During most of this period, the proportion of female cases averaged 71 percent higher than males. The number of men and women reporting heterosexual risk has steadily decreased over the past several years. 2011 saw a slight increase; however, the number dropped in 2012.

The majority of high risk heterosexuals recently diagnosed were 25-44 years of age (51 percent); 38 percent were 45 years and older and 12 percent under 25 years. African-American women and men comprised the greatest proportion of cases in each age group (Figure 3.09). Among young women less than 45 years of age, eight out of every ten are African-American women.

Figure 3.09: Percent heterosexual S.C. HIV/AIDS cases diagnosed 2011-2012 by age/race/sex (N=282)

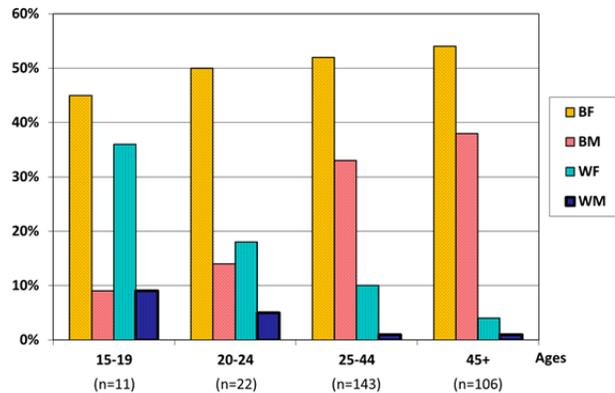
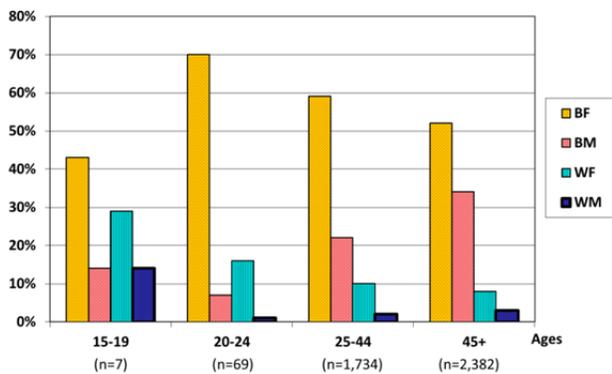


Figure 3.10: Percent of heterosexuals living with HIV/AIDS by age group and race/sex, 2012 (N=4,192)



Eight of every ten women under age 25 living with HIV/AIDS are African-American. Within the 25 to 44 age group, African-American women comprise the largest proportion (59 percent). Of PLWHA in 2012 who reported a risk of heterosexual contact, 57 percent were age 45 and over; African-American women comprised the greatest proportion, followed closely by African-American men. Similar to high risk heterosexuals recently diagnosed, white men and women account for 12 percent of PLWHA who reported a risk of heterosexual contact across all age groups.

Epidemiologic Profile

Figure 3.11: S.C. HIV/AIDS 2012 prevalence

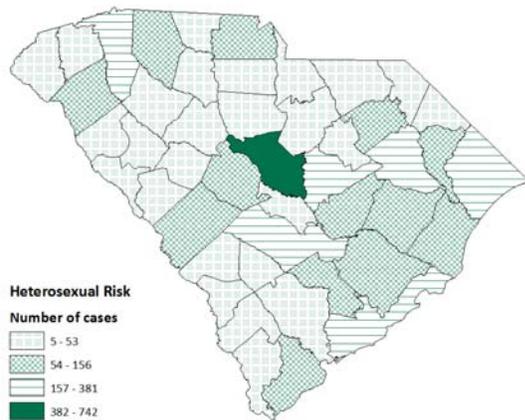
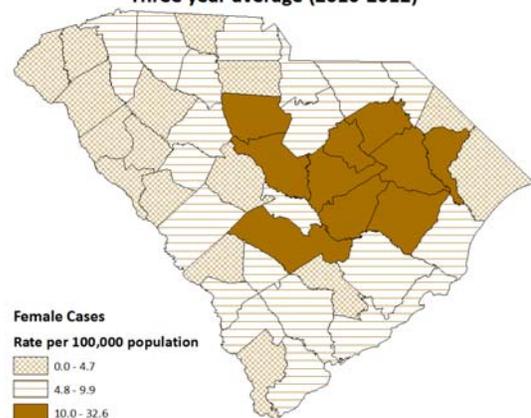


Figure 3.11 shows the counties with the highest prevalence of PLWHA due to heterosexual transmission. Richland has the highest number of reported cases (742), followed closely by Charleston, Florence, Greenville, Horry, Sumter, and Orangeburg. Eighty-five percent of South Carolina counties have less than 157 reported cases each.

Figure 3.12 shows the case rate for 2010-2012 among women, an indicator for more recent heterosexual risk. Lee and Williamsburg counties have the highest case rates in the state (32.9 and 20.9 per 100,000 population respectively). Seventy-eight percent of counties have case rates below 10.0 (the state rate is 7.5).

Figure 3.12: S.C. HIV/AIDS incidence rate:
Three year average (2010-2012)



Summary

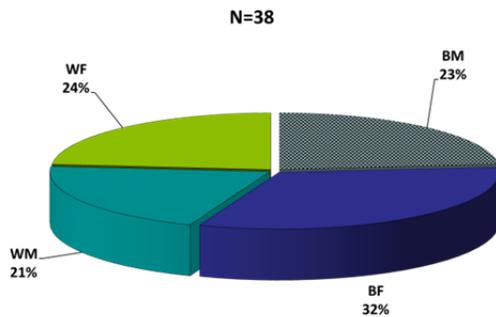
Among heterosexually exposed cases, African-American women account for half of newly diagnosed HIV/AIDS cases (52 percent) and African-American men account for 32 percent. Among heterosexuals living with HIV/AIDS, African-American women account for 55 percent and African-American men account for 29 percent. African-American men and women 25-44 years of age account for over eight out of every ten person living and recently diagnosed cases.

Injecting Drug Users

Characteristics of Injecting Drug Users

Injecting drug users (IDUs) account for 10 percent of the people presumed living with HIV/AIDS in 2012 and three percent of people recently diagnosed with HIV/AIDS during 2011-2012. The number of IDU cases diagnosed each year decreased 48 percent from 2008 to 2012.

Figure 3.13: Proportion of injecting drug users diagnosed with HIV/AIDS 2011-2012 by race/sex

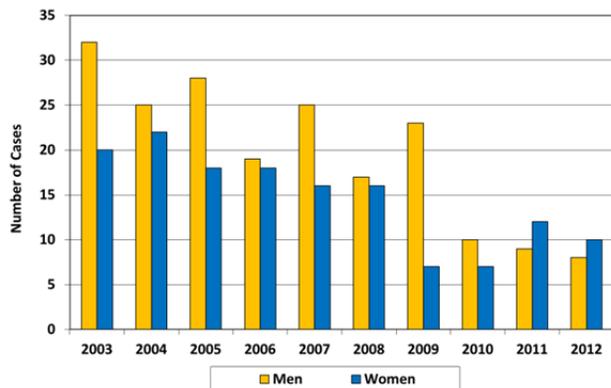


Total N includes 4 other race/sex not included in graph.

Figure 3.13 shows the proportion of recently diagnosed injecting drug use cases is relatively evenly distributed, with African-American women comprising the largest proportion (32 percent).

Within HIV/AIDS cases due to injecting drug use, while the actual number of cases fluctuates year to year, the trend among both men and women has been a steady decrease in the number of cases. Historically, men have been overwhelmingly impacted by HIV transmitted by injecting drug use; however, in 2011 and 2012, the number of cases among women outnumbered the number of cases among men (Figure 3.14).

Figure 3.14: Number of HIV/AIDS cases due to injecting drug use by sex and year of diagnosis, 2003-2012



Epidemiologic Profile

Figure 3.15 shows that 53 percent of IDU cases diagnosed in 2011-2012 are age 45 and over, while 39 percent are age 25-45.

Figure 3.15: Percent of injecting drug users diagnosed with HIV/AIDS 2011-2012 by age group

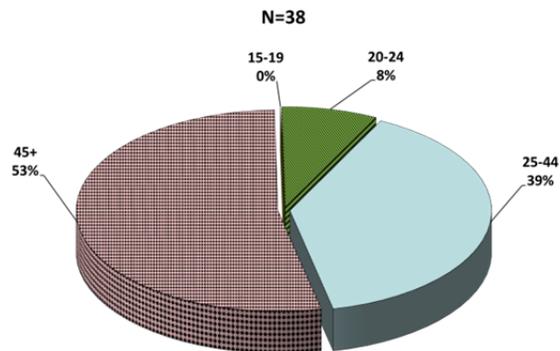
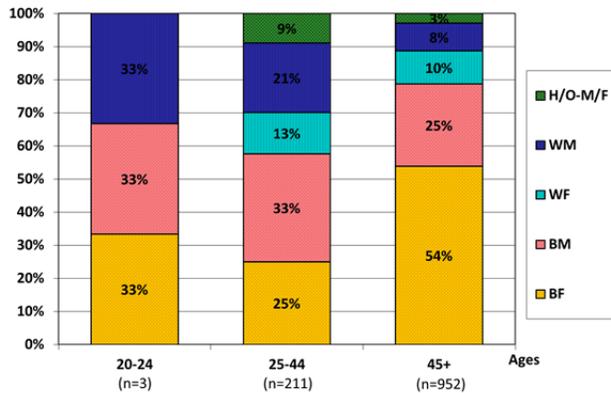


Figure 3.16: Percent of IDU persons presumed living with HIV/AIDS by race/sex and age group, 2012 (N=1,166)

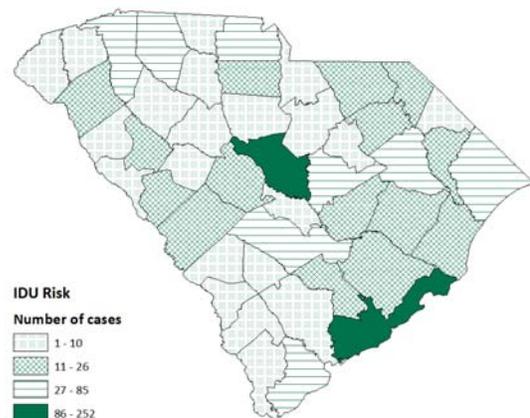


Of PLWHA with IDU as identified risk factor, most (82 percent) are 45 years of age and older. African-Americans account for the greatest proportion of cases over the age of 45, with African-American women accounting for 54 percent and African-American men accounting for 25 percent.

Within the 25-44 age group, African-American men account for the greatest proportion (33 percent) and African-American women the next highest proportion (25 percent). (Figure 3.16).

Figure 3.17 shows Richland and Charleston counties have the highest number of PLWHA with IDU as identified risk factor. As with other risks, the more urban counties have the greatest numbers.

Figure 3.17: S.C. HIV/AIDS 2012 prevalence



Other Populations at Risk

Other populations at varying risk for HIV are described below and include people with sexually transmitted diseases, infants and children, and pregnant teen age women.

People with Sexually Transmitted Diseases (STDs)

STDs are primary risk factors for HIV infection and a marker of high risk, unprotected sexual behavior. Many STDs cause lesions or other skin conditions that facilitate HIV infection. Trends in STD infection among different populations (e.g. adolescents, women, men who have sex with men) may reflect changing patterns in HIV infection that have not yet become evident in the HIV/AIDS caseload of a particular area.

Chlamydia

Figure 3.18 shows the increase in chlamydia over the last decade; some of this increase may be attributed to initiating routine screening for all young women attending family planning and STD clinics in health departments statewide. In 2012, there were 27,013 cases of chlamydia diagnosed in South Carolina. Among those cases, 35 percent were African-American women and 13 percent were white women. Thirty-five percent of chlamydia cases have ‘Unknown’ race; this is attributed to the fact that these conditions are primarily reported by labs, which frequently do not indicate a race.

Figure 3.18: South Carolina count of reported Chlamydia cases by year of diagnosis, 2003-2012

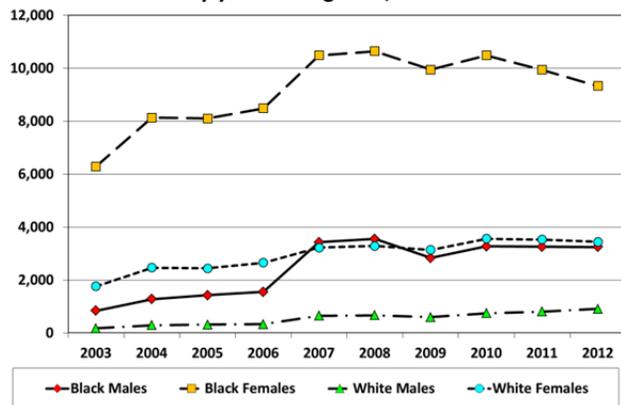
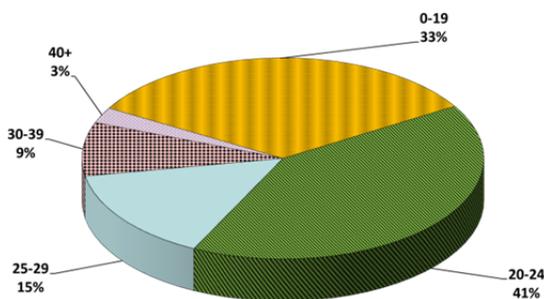


Figure 3.19: Proportion of 2012 Chlamydia cases by age group



Excludes persons with no reported age.

Figure 3.19 shows that in 2012, young adults 20-24 make up the highest proportion of chlamydia cases (41 percent) in the state. Persons age 19 and under make up the second highest proportion of chlamydia cases (33 percent).

Gonorrhea

In 2012, 7,597 gonorrhea cases were diagnosed. African-American men and women account for 58 percent of reported cases in 2012. As with chlamydia, thirty percent of reported cases have 'Unknown' for race. Figure 3.20 shows trends among reported race/gender by year.

Figure 3.20: South Carolina count of reported gonorrhea cases by year of diagnosis, 2003-2012

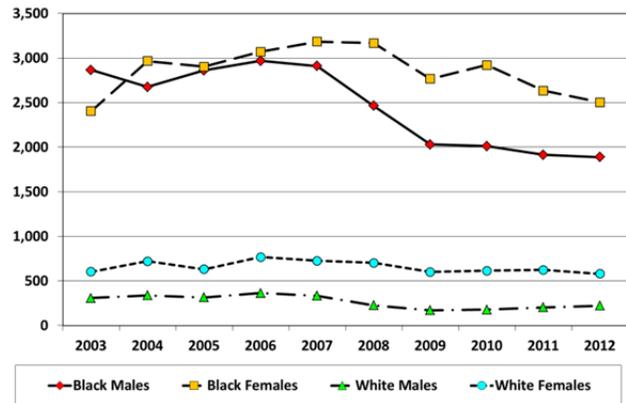
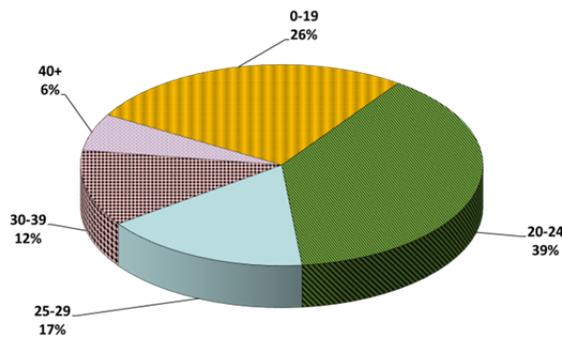


Figure 3.21: Proportion of 2012 Gonorrhea cases by age group



Excludes persons with no reported age.

Gonorrhea cases most affect young adults under the age of 30 (82 percent of total), with those age 19 and under comprising 26 percent of total, and those age 20-29 comprising 39 percent (Figure 3.21).

Infectious Syphilis

In 2012, 220 cases of infectious syphilis were diagnosed; this is down from the 229 cases reported in 2011, but is a 104 percent increase from the number of cases reported in 2008.

Figure 3.22 show that the number of cases among men dropped in 2012 (13 percent for African-American men and nine percent for white men); however, men continue to represent the majority of cases (83 percent). African-American men specifically, are most impacted, accounting for 62 percent of total cases, and white men accounting for 19 percent. The number of infectious syphilis cases among women, regardless of race, increased in 2012 (white women increased 350 percent while African-American women increased 47 percent as compared to 2011).

Figure 3.22: South Carolina count of reported Infectious Syphilis cases by year of diagnosis, 2003-2012

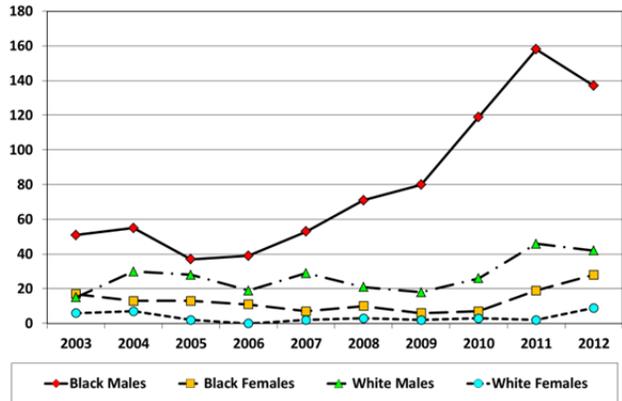
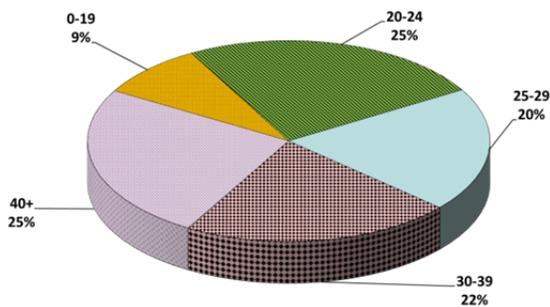


Figure 3.23: Proportion of 2012 Infectious Syphilis cases by age group



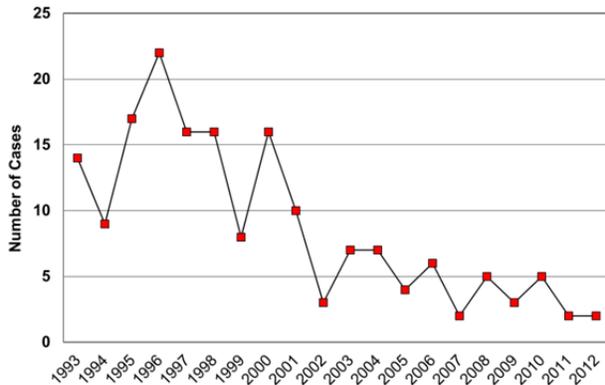
Excludes persons with no reported age.

As Figure 3.23 shows, the proportion of 2012 reported infections syphilis cases by age group is relatively evenly distributed between all age groups over the age of twenty.

Infants and Children: (Children under 13 years of age)

Cumulatively, through December 2012, there have been 223 HIV infection cases diagnosed among children less than 13 years of age; this represents one percent of the total reported AIDS and HIV infection cases.

Figure 3.24: Number of children <13 years old diagnosed with HIV/AIDS in South Carolina, 1993-2012

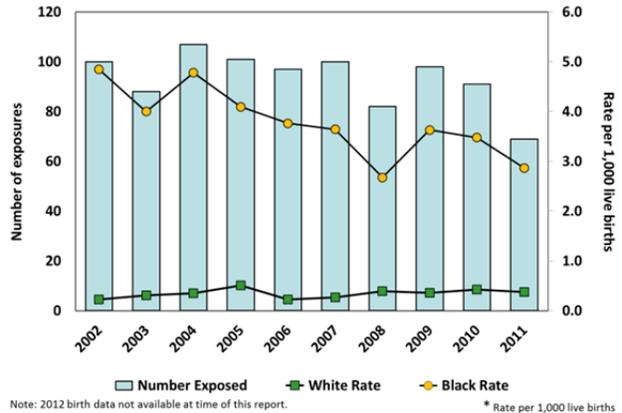


Most infants and children infected with HIV acquired it perinatally from their mother. There has been significant progress during the past twenty years in reducing the number of infants with perinatal acquired HIV infection. Figure 3.24 shows the decline in the number of infants diagnosed; from a high of 21 cases in 1993 to 2 cases in 2008/2009. There were three cases in 2012.

Perinatally HIV exposed births

The number of perinatally HIV exposed births averages around 93 per year, while perinatally acquired HIV cases average three per year. This translates into 2.9 percent of perinatally HIV exposed births testing positive for HIV. Figure 3.25 shows number of perinatally HIV exposed births (values on left) and the rate by race of mother and (values on right). The rate for 2011 is eight times higher among African-American women compared to white women.

Figure 3.25: Perinatally HIV exposed births by year of birth and rate* by race and year of birth



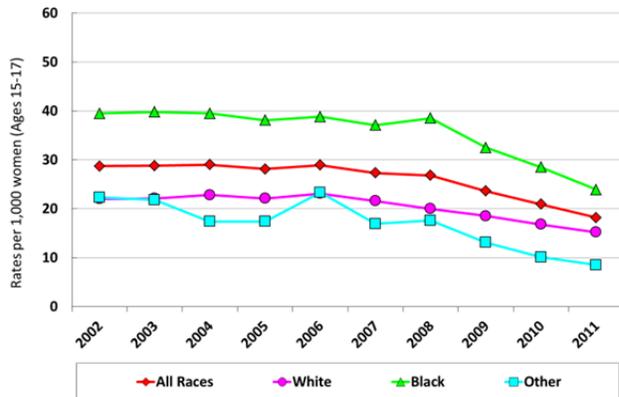
Teenage Pregnancy

Pregnancy, birth and abortion rates, like STD rates, are indications of the extent of unprotected sexual activity in a population.

African-American girls between the ages of 10 and 14 have continued to have higher rates of live births than their white counterparts. However, their rates have decreased from 1.9 in 2003 to 1.0 per 1,000 in 2011.

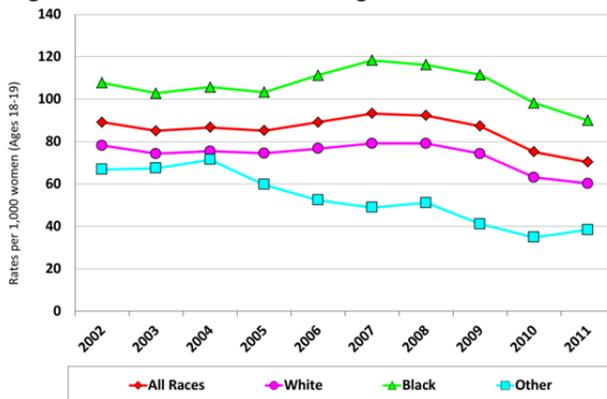
Teenage live births among 15-17 year old South Carolinians have decreased from a rate of 28.7 per 1,000 live births in 2002 to 18.2 in 2011; a 36.6 percent decline (Figure 3.26). This success is also seen when viewing teen birth rates by racial/ethnic subgroups. The rate for white 15-17 year old teens was 22.0 in 2002 and 15.2 in 2011, representing a 31 percent decline. The rate for African-American 15-17 year old teens declined 40 percent from 2002 to 2011.

Figure 3.26: South Carolina teens age 15 - 17 live birth rate



Source – SCDHEC, Vital Records, SC Residence Data

Figure 3.27: South Carolina teens age 18 – 19 live birth rates



Source – SCDHEC, Vital Records, SC Residence Data

Figure 3.27 shows the teen birth rates for 18 and 19 year olds. As with the previous age groups, African-American teenage girls continue to have higher live birth rate between 2002 and 2011 than all races.

People Receiving HIV Counseling and Testing At County Health Departments

Data from local HIV counseling and testing sites (county health departments) generally reflect similar trends as HIV/AIDS surveillance data in terms of who is most likely to be HIV infected, risk category, and county of residence. As stated in the Introduction, the data reflects only those people tested voluntarily in local health departments. This data reflects number of individuals tested, not the number of tests. In 2012, African-Americans comprised 65 percent of the total people tested, and 72 percent of the total positive. Men accounted for 34 percent of people tested and 83 percent of total positive. People 20-39 years of age represented the highest proportion tested (76 percent) and the highest proportion total positive people (70 percent). People over the age of 40 comprised 14 percent of the total people tested, and 25 percent of the total positive.

Public Health regions that accounted for the greatest proportion of people tested who were positive include those with the same urban counties of highest prevalence:

Region 7, (includes Charleston County) – 10 percent of total positives;

Region 3, (includes Richland County) - 19 percent of total positives tested;

Region 2, (includes Greenville/Spartanburg County) – 18 percent of total positives;

Region 4 (includes Sumter and Florence counties) – 14 percent of total positives;

Region 1 (includes Anderson County) – 8 percent of total positives.

Region 5, (includes Orangeburg County) – 8 percent of total positives;

Region 6 (includes Horry County) – 7 percent of total positives; and

Region 8 (includes Beaufort County) – 2 percent of total positives;

Other Behavioral/Risk Data

Behavioral Risk Factor Surveillance System (BRFSS)

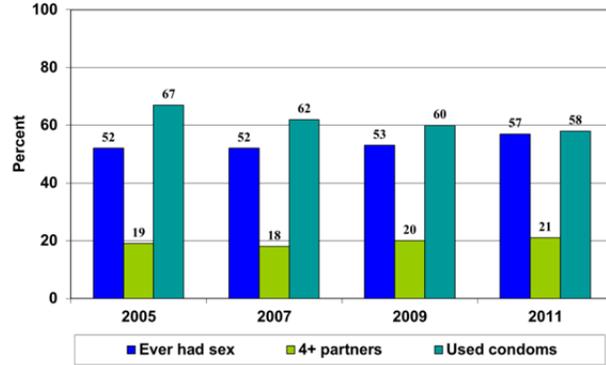
Behavior Risk Factor Surveillance System is the world's largest random telephone survey of non-institutionalized population aged 18 or older that is used to track health risks in the United States. In 1981, the Centers for Disease Control and Prevention (CDC), in collaboration with selected states, initiated a telephone based behavioral risk factor surveillance system to monitor health risk behaviors. South Carolina began administering BRFSS in 1984. Several core questions address knowledge, attitudes, beliefs, and behaviors regarding sexually transmitted diseases, particularly AIDS.

The HIV/AIDS questions for the 2010 survey focused on respondents HIV/AIDS testing history. Results show that when asked about ever being tested for HIV themselves, only 40.8 percent of respondents indicated ever being tested. African-Americans were more likely (59.9%) to have been tested than Caucasians (33.7%). Hispanics are less likely to have been tested, with only 25.1% reporting having ever been tested. Men are only slightly less likely to have been tested than women (39.5% versus 42.0%). Of those reporting having ever been tested, 14.9% reported being tested in 2010 and 59.5% reported being tested between 2005 and 2009.

Youth Risk Behavior Survey (YRBS)

The YRBS has been conducted in SC high schools every other year since 1991 and in middle schools since 2005. The survey is part of a national effort to monitor priority health risk behaviors that contribute to the leading causes of death, disability, and social problems among youth and adults in the United States. Figure 3.28 shows the proportion of high school students who have been sexually active, report having had four or more lifetime partners, and report using a condom at last sexual intercourse (had intercourse in past 3 months). Since 2005, the proportion of students who report being sexually active and who report having had four or more lifetime partners, has remained about the same; while the proportion reporting condom use decreased. The decrease in condom use is important because of the increased risk of exposure to HIV.

Figure 3.28: Proportion of high school students indicating sexual risks, 2005-2011



Source – SC Dept. of Education & CDC

Substance Use

Drug use is known to be a major factor in the spread of HIV infection. The Centers for Disease Control (CDC) specifically includes Injection Drug Use (IDU) as a transmission category for the classification of cases that summarizes a person’s possible HIV risk factor. IDU is considered a high risk because shared equipment (primarily used needles, but also other equipment) can carry HIV, which is drawn up into a syringe and then injected along with the drug by the next user of the syringe. Sharing equipment for using drugs can also be a means for transmitting hepatitis B, hepatitis C, and other serious diseases.

Additionally, non-injecting drug use, including methamphetamine or alcohol, is linked with unsafe sexual activity, which increases the risk of becoming infected with HIV or another sexually transmitted disease. Often, substance users have multiple sexual partners and do not protect themselves during sexual activity. Also, substance users may have an increased risk of carrying sexually transmitted diseases; this can increase the risk of becoming infected with HIV, or of transmitting HIV infection.

According to the Office of National Drug Control Policy, from the 2009-2010 National Survey on Drug Use and Health, 8.88 percent of South Carolina residents reported using illicit drugs in the past month. The national average was 8.82 percent. Additionally, 3.9 percent of South Carolina residents reported using an illicit drug other than marijuana in the past month (the national average was 3.6 percent). According to data from the El Paso Intelligence Center’s National Seizure System (EPIC-NSS), the number of meth lab seizure incidents in South Carolina increased 158%, from 130 incidents in 2008 to 335 incidents in 2011. (Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used non-medically.)

What are the patterns of service utilization of HIV-infected people?

Ryan White Part B

In 1990, Congress enacted the Ryan White CARE Act to provide funding for states, territories and Eligible Metropolitan Areas to offer medical care and support services for people living with HIV disease who lack health insurance and financial resources for their care. Congress reauthorized the Ryan White CARE Act in 1996 and 2000 to support Titles I through IV, Special Projects of National Significance (SPNS), the HIV/AIDS Education Training Centers and the Dental Reimbursement Program, all of which are part of the CARE Act. The legislation was reauthorized again in 2006 when it became the Ryan White HIV/AIDS Treatment Modernization Act and finally in 2009 with the Ryan White HIV/AIDS Treatment Extension Act.

Ryan White Part B funding is used to assist States and Territories in developing and/or enhancing access to a comprehensive continuum of high quality, community-based care for low-income individuals and families living with HIV.

Figure 4.01: Characteristics of Ryan White Part B clients compared to S.C. persons living with HIV/AIDS in 2012

	Ryan White Part B Clients, N=8,180	Persons Living with HIV/AIDS, N=15,294
Race/Ethnicity		
White, not-Hispanic	23%	24%
Black, not-Hispanic	72%	72%
Hispanic	3%	3%
Other	1%	1%
Sex		
Male	66%	70%
Female	34%	30%
Transgender	<1%	---
Age Group		
<13	<1%	<1%
13-24	6%	5%
25-44	39%	39%
45+	52%	55%

During 2012, 8,180 clients received services through the Ryan White Part B funds. Figure 4.01 presents the distribution of Part B clients by race/ethnicity, sex and age as well as for PLWHA in South Carolina through December 2012. Clients served through Part B are representative of the population affected with HIV/AIDS in all categories.

HRSA has directed that states should allocate funds for essential core services:

- 1) Primary Medical Care consistent with Public Health Service (PHS) Treatment Guidelines;
- 2) HIV Related Medications;
- 3) Mental Health Treatment;
- 4) Substance Abuse Treatment;
- 5) Oral Health; and
- 6) Medical Case Management.

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Figure 4.02 shows a breakdown of Ryan White Part B clients who received six of the core services through funding and the average number of visits per clients. Among the 8,180 clients who received services, the majority of clients obtained medical case management services (n=7,128) followed by medical care (n=5,996), mental health services (n=903), dental care (n=829) and substance abuse services (n=430). Utilization of HIV related medications is described in the ADAP section.

Figure 4.02: South Carolina Ryan White Part B Service Utilization by Service Type, 2012

	No. of clients receiving service	No. of visits per category	Avg. no. of visits per client
Medical Care	5,996	27,414	5
Medication Assistance (ADAP)	4,754	See SC ADAP Data	See SC ADAP Data
Oral/Dental Care	829	1,783	2
Mental Health	903	2,331	3
Substance Abuse	430	1,573	4
Medical Case Management	7,128	71,853	10

Of those services utilized most by clients (visits/clients), medical case management services were among the highest (10 visits per clients), followed by medical care (5 visits per client), substance abuse (4 visits per client), mental health services (3 visits per client), and dental care services (2 visits per client).

Additional services obtained by clients in 2012 included treatment adherence, counseling, food bank/home delivered meals, health education/risk reduction, referral for health care and supportive services, psychological support services, housing assistance and transportation services.

AIDS Drug Assistance Program (ADAP)

The South Carolina AIDS Drug Assistance Program (S.C. ADAP) operates under the Ryan White HIV/AIDS Treatment Modernization Act to provide access to medications that treat HIV disease and to prevent the serious deterioration of health arising from HIV disease in eligible individuals. The S.C. ADAP provides medication assistance via the following service tiers: 1) Direct Dispensing to provide medications via mail-order through a contracted pharmacy; 2) Insurance Assistance to reimburse costs for private insurance premiums, copayments, and deductibles; and 3) Medicare Assistance to provide support for Medicare Part D copayment and deductible costs. S.C. ADAP enrollment and services are centrally managed by the S.C. Department of Health and Environmental Control.

Currently there are 89 drugs are on the approved formulary. The S.C. ADAP has an advisory body of infectious disease (ID) physicians and program staff that meets annually to review the S.C. ADAP formulary and make recommendations for program improvements. In the past, once an antiretroviral medication received FDA approval, it was automatically added to the S.C. ADAP formulary. With the new development of extremely expensive therapies, such drugs are added as appropriate, after consultation with the S.C. ADAP Medical Advisory Committee and in compliance with ADAP performance measures. Fuzeon, Selzentry, abacavir-containing medications, pegylated interferon, and ribavirin currently require prior authorization for

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approval. There are no restrictions or caps on the number of antiretroviral medications per client.

Eligibility for S.C. ADAP includes verified HIV positive status, South Carolina residency, and limited income. The financial requirement is measured according to the Federal Poverty Guidelines. Eligibility for the ADAP direct dispensing service tier is 300 percent of the Federal Poverty Level (FPL). Eligibility for the ADAP insurance assistance service tier is 550 percent of FPL. Eligibility for the Medicare Assistance service tier is 550 percent of FPL and applies for individuals who do not qualify for the Medicare Part D Full Low-income Subsidy (FLIS). Expenditures are carefully monitored and projections are reviewed monthly.

Figure 4.03: 2012 ADAP Patient Profile Compared to Persons Living with HIV/AIDS

	S.C. HIV/AIDS Prevalence N=15,294	Direct Dispensing N=3,616	Insurance Program N=1,185	Medicare Part D Assistance N=245
Race/Ethnicity				
White, not-Hispanic	24%	21%	30%	41%
Black, not-Hispanic	72%	71%	66%	57%
Hispanic	3%	6%	2%	2%
Sex				
Male	70%	72%	67%	82%
Female	30%	27%	33%	18%

Figure 4.03 lists the characteristics of clients enrolled in ADAP during 2012. Clients served through ADAP have a similar distribution to that of PLWHA in South Carolina. The majority of the clients are non-Hispanic African-American (70 percent), male (71 percent) and in the 45-64 year age group (50 percent).

Figure 4.04 shows a breakdown of SC ADAP clients who received each of three types of services that support access to medications and the average number of services per client. The majority of SC ADAP enrollees received prescriptions, via mail order for uninsured clients and at retail pharmacies with insurance copayment/deductible assistance from SC ADAP (n=4634). The SC

Figure 4.04: South Carolina ADAP Service Type, 2012

	No. of clients receiving service	No. of visits per category	Avg. no. of Services per client
Prescription Refills (Direct Dispensing & Insurance Copayments/Deductibles)	4,634	99,351	21
Premiums Health Insurance Premiums (including Pre-existing Condition Plans)	269	1,915	7
Medicare Copayments/Deductibles*	245	6,265	26

*Insurance Copayments and Deductibles are associated with specific prescriptions and are reported as Refills/Medications.

ADAP paid health insurance premiums for enrollees with access to private insurance (n=269) and supported out-of-pocket costs for enrollees with Medicare Part D coverage (n=245).

In Care vs. Not In Care

This section looks at the number and characteristics of people who know they are HIV positive but who are not receiving HIV primary medical care.

eHARS data was used to determine the in-care/not-in-care status of PLWHA in South Carolina. The selection criteria included all people diagnosed through December 31, 2012, who were alive as of December 31, 2012, and have South Carolina as their current residence.

Cases meeting these criteria were linked to laboratory tests (CD4 and viral load tests have been reportable since January 1, 2004) from January 1, 2012 through December 31, 2012.

A person was considered “in care” if they had at least one CD4 or viral load test in 2012 and that test was at least three months after the initial date of diagnosis; people with no CD4 or viral load test in this time period were considered “not in care”.

**Figure 5.01: People living with HIV/AIDS (2012)
proportion estimated in care vs. not in care
(N=17,397)**

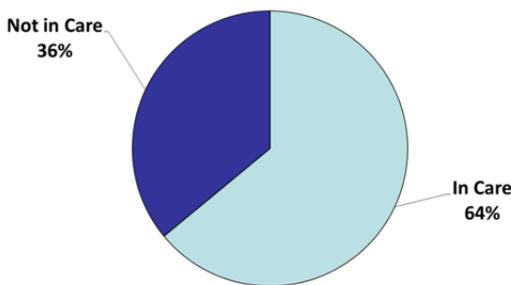
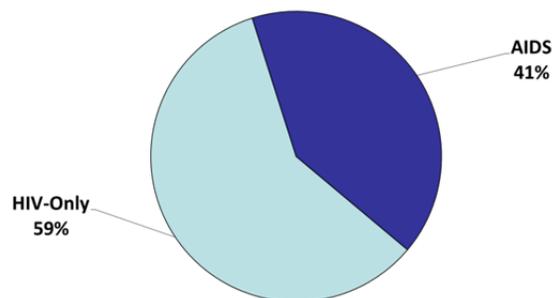


Figure 5.01 shows that of the 17,397 PLWHA as of December 2012, 36 percent (6,252) did not receive a CD4 or viral load test report within the specified time period, and therefore are reported as not in care. Sixty-four percent are defined as in care.

Of the 6,252 PLWHA not in care, 59 percent have a diagnosis of HIV-only and 41 percent have been diagnosed with AIDS (Figure 5.02).

**Figure 5.02: People living with HIV/AIDS (2012)
estimated not in care: HIV-only vs. AIDS
(N=6,252)**



Epidemiologic Profile

A comparison of PLWHA who are not in care by gender shows men account for the largest proportion (73 percent); when compared by race/ ethnicity, the majority (67 percent) are African-American; when compared by age groups, sixty-eight percent are over the age of 40 (40-49 thirty-four percent and 50+ thirty-four percent). (Figure 5.03)

Figure 5.03: People living with HIV/AIDS (2012) estimated not in care: Comparison within select demographics of individuals

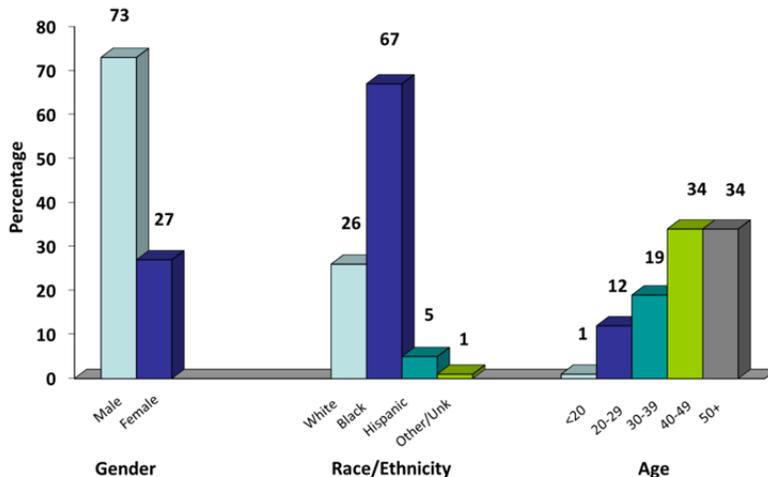
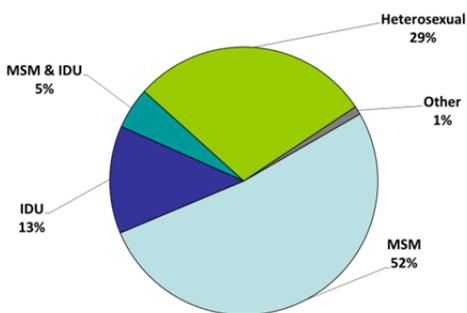


Figure 5.04: People living with HIV/AIDS (2012) estimated not in care by reported risk

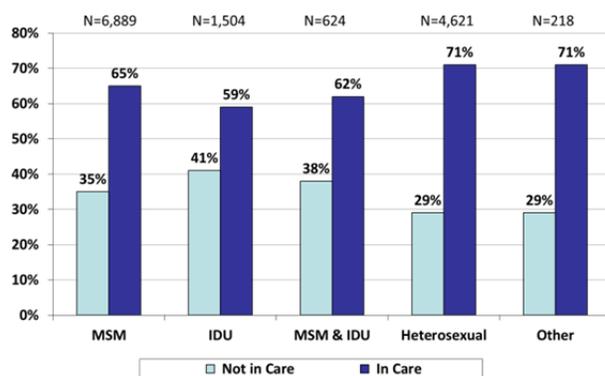


Excludes cases with no risk identified, N = 4,678

An analysis by mode of exposure of PLWHA indicates most people not in care are MSM (52 percent) and heterosexuals (29 percent) followed by IDUs (13 percent) (Figure 5.04).

Figure 5.05 goes further to compare those in care versus those not in care within each risk category. Among all MSM living with HIV/AIDS, more people are in care (65 percent) than not in care. For people whose mode of exposure was injecting drug use (IDU), the number of those in care (59 percent) is similar to those in care whose mode of exposure was the combined risk of MSM and IDU (62 percent). Among heterosexuals with HIV/AIDS, 71 percent are in care.

Figure 5.05: People living with HIV/AIDS (2012) comparison within mode of exposure: in care vs. not in care



excludes cases with no risk identified, N = 13,856

Epidemiologic Profile

The location of a person's residence may have an impact of whether or not they are in care. There are more people not in care from urban areas (71 percent) versus rural areas (25 percent) (Figures 5.6 and 5.07).

Figure 5.06: People living with HIV/AIDS (2012) estimated not in care by location (N=6,252)

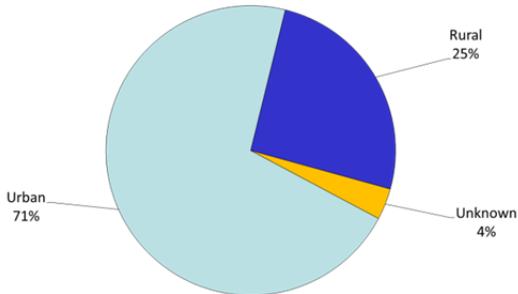
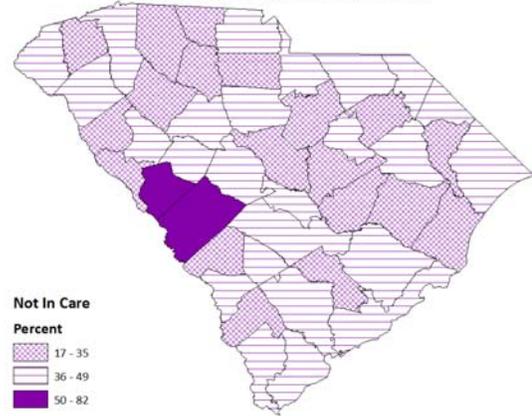


Figure 5.07: S.C. HIV/AIDS Cases NOT In Care Diagnosed through 2012 by County



Note: Border counties, such as Aiken and Edgefield (the two solid fill counties), may have artificially high percentages of not in care due to S.C. residents receiving care in other states, where test results are not provided to S.C.



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