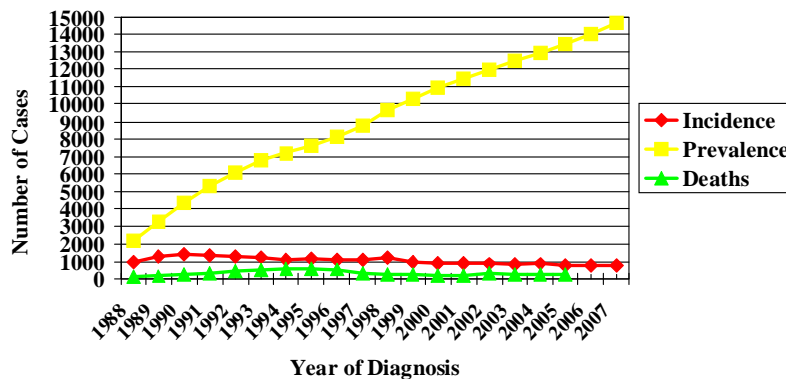


Executive Summary

Since 1986, more than 22,400 persons have been diagnosed with HIV infection (including AIDS) in South Carolina through December 2007. During 1985 – 1990, an average of 848 cases were diagnosed each year. In the subsequent three years (1991 – 1993), newly diagnosed HIV/AIDS cases averaged 1,310. 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 805. Many more persons 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.

Figure 1. South Carolina HIV/AIDS Incidence, Prevalence and Deaths



Number of Cases Diagnosed in SC only; excludes out of state cases returning to SC.

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 249 deaths in 2005, a 58% drop from the 590 deaths in 1994. 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 persons estimated to be

living with HIV/AIDS) is significantly increasing. The number of persons living with HIV/AIDS at the end of each year has increased 67% from 1997 to 2007. 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. Figure 1 shows total incidence (the number of new cases within a specified time period), deaths and prevalence of HIV/AIDS cases in South Carolina since 1988.

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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.

Overview of Chapter

The purpose of this Epidemiologic Profile is to provide information to the SC HIV Prevention Community Planning Group (CPG) on the number and characteristics of persons becoming HIV infected in order to target and prioritize HIV prevention activities.

This chapter of the SC HIV Prevention Plan 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:

- 1. What are the socio-demographic characteristics of the population?**
- 2. What is the impact of HIV/AIDS on the population?**
- 3. Who is at risk for becoming infected with HIV?**
- 4. What is the geographic distribution of HIV infection? ***
- 5. What are the patterns of service utilization of people living with HIV/AIDS?**
- 6. What are the characteristics of persons who know they are HIV-positive but who are not in HIV primary care?**

These questions will be explored through analyses of cumulative living (prevalent) and newly diagnosed (incident) 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.

**Note: geographic distribution will be discussed within questions 2 and 3 for each population/risk described.*

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.

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

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

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 (e.g. new HIV/AIDS cases) occurs in a population over a period of time. It is also a measure of risk of getting the disease.

Prevalence- The number or proportion of persons 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 persons in a population who have a particular disease or attribute at a specified point in time (or specified period of time).

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. 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 persons with STD or HIV who seek treatment, or data on estimated condom use among women can not 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 working group to complete the South Carolina Epidemiologic Profile of HIV/AIDS.

Selected Data Source

Description and Limitations:

Department of Alcohol and Other Drug Abuse Services (DAODAS) SC Treatment Needs Assessment: Household Telephone Survey Data

The purpose of the survey was to collect data on the prevalence of use of alcohol, marijuana, hallucinogens, cocaine, and heroin; to identify treatment needs related to use of these substances; and to determine the background characteristics associated with different patterns of use. The state was stratified into four regions and within each stratum a random sample of telephone numbers were selected using random digit dialing (RDD). The questionnaire was based largely on the National Technical Center's Telephone Substance Dependence Needs Assessment Questionnaire, which is "designed to be the centerpiece of a needs assessment of treatment services that state or territories may conduct as part of their substance abuse planning activities. Trained staff conducted interviews. A total of 10,324 interviews were completed as part of the study by residents 18 years of age and older.

Advantages to conducting a telephone survey compared to face-to-face interviews are as follows:
1) it costs three times less; 2) able to collect data from a significantly large number of

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individuals, resulting in smaller standard errors for the overall estimates of use of various substances and a larger number of individuals with rare characteristics.

Limitations include: population coverage—collecting data by telephone limits the potential respondents to those living in households and excludes individuals, such as the homeless, those in correctional facilities, and those in treatment facilities who may be more likely to experience problems with alcohol and other drugs. Moreover, according to 2000 census data, 4.2% of households in South Carolina do not have telephones and, consequently, had no chance of being included in the study. Secondly, underreporting—in general, respondents’ concerns over confidentiality produce underestimates of reports of sensitive behaviors such as those considered in this study. Despite these limitations, telephone surveys can provide comparatively reliable estimates of substance use and characteristics associated with such use and they have been regarded as an effective means for collecting such data from the general population.

HIV Counseling and Testing Program Data from SC-DHEC Clinics

Counseling and testing data, while highly informative about persons 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 persons 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 include 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.

Note: in 2001 counseling and testing was also provided by community organizations but data from these sites were not available for this report.

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. Persons who received multiple tests during the report period are only counted once. It includes persons tested in family clinics, maternity clinics, TB, STD clinics and persons voluntarily requesting services or referred through partner counseling services. Approximately one third of the total of newly diagnosed and reported persons with HIV infection each year are from SC-DHEC counseling and testing sites. Persons 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 (e.g. injecting drug use, male to male sex, heterosexual with known risk). 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. 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.

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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. For example, the annual percentage of HIV positive tests is consistently 0.1% in DHEC maternity clinics where an estimated 80-90% of clients receive HIV testing. This rate is very similar to the blinded childbearing women seroprevalence survey rate of 0.19%, which tests a representative sample of all live births in the state.

SC-DHEC, HIV/AIDS Reporting Surveillance System (HARSS)

All health care providers, hospitals, and laboratories in South Carolina are required to report persons 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. HARS monitors the incidence and demographic profile of HIV/AIDS; describes the modes of HIV transmission among persons with HIV/AIDS; guides the development and implementation of public health intervention and prevention programs; and assists 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 persons. It includes persons 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 persons. AIDS surveillance data do not represent persons 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 all HIV-infected persons in the population might not have had the infection 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 (persons 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 persons seeking or receiving HIV testing early in their infection stages, provide an

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opportunity to compare persons 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 33% of adult/adolescent HIV infection/AIDS cases reported in 1998 did not have risk categories reported. These cases are defined as “No Identified Risk”- NIR). The proportion of NIR cases has been increasing nationally as well. The primary reason for incomplete risk information (NIRs) 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, persons 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”. South Carolina has received funding from CDC to conduct a special project to collect and define indicators of behavioral risk, particularly to define high risk heterosexual behaviors. Indicators include multiple heterosexual and same sex partners, drug use, evidence of blood transfusion or hepatitis, history of sexually transmitted disease, or exchange of money or drugs for sex. This project will provide more useful risk information for prevention planning in the future.

SC-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 SC-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 persons with these infections have no symptoms or do not recognize symptoms. Most studies of STDs are conducted in health-care settings specifically for persons who do recognize symptoms; therefore, these studies usually overestimate the proportion of infected persons who are symptomatic. Studies of STD screening in nonhealth-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) suggest that most persons 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,

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where screening of asymptomatic persons 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 disparity 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.

South Carolina Statistical Abstract, 2006

An annual publication of the South Carolina State Budget and Control Board, Office of Research and Statistics. This state document provides a comprehensive, single-source reference of demographic and economical data pertinent to South Carolina. Statistics providing information on factors impacting the state's social and economical development are compiled from in-house data bases as well as a variety of federal, state, local, and private sources. In order to complete the epidemiologic profile, sociodemographic data from sections State and County Rankings, Education, Employment, Housing, Income, and Population were used. The abstract depends heavily on the US Bureau of the Census data from 2000. As a result of this, data may not represent the current situation in South Carolina.

South Carolina Vital and Morbidity Statistics, 2006

Its purpose is to provide basic reference data for a variety of users. The primary uses of the report were 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.

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 survey is a 99-item questionnaire administered to 6th-12th graders in the public school system. Samples are randomly selected based on school size (small, medium and large). Of the 99 items, 11 are on tobacco use, 5 on alcohol use, 4 on marijuana use, 9 on cocaine use, 8 on sexual behaviors for pregnancy, HIV/AIDS and other STD risk, 2 on HIV/AIDS Education, 1 on HIV/AIDS testing and 2 on HIV/AIDS risk perceptions. There are 367 private K-12 schools in South Carolina (SC Statistical Abstract, 2003). However, none of them are included in the survey. Also, while schools are randomly selected for participation some may choose not to participate.

This survey relies heavily on surveillance methods and self-reports; so it really depends on how well respondents understand the question and how well they can accurately and honestly answer the question. However, the data are edited, checked and weighted. These data are representative of only public high school students in grades 6-12 in South Carolina.

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 HRSA.

Question #1: 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 persons 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 30,111 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 in the southeast. There are 46 counties and they are divided into 8 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. The state is crisscrossed by interstate highways that link it with every part of the country, including I-95 extending north-south across the center of the state from New York to Florida and I-26 from Asheville, North Carolina to Charleston, South Carolina, and I-20 that extends east-west across the state from Florence, South Carolina to Atlanta, Georgia. Manufacturing is the state's leading industry, followed by tourism and forestry.

Populations

Based on projected population estimates, in 2007, the total number of South Carolinians was 4,299,600. Of this total, 65% were Caucasian, 29% were African-American, 0.3% was Native American/Alaskan, 1.1% was Asian and Pacific Islander, and 4% were of Hispanic origin. Fifty-one percent were female and forty-nine percent were male. Sixty-five percent of the population distribution in South Carolina is defined as metropolitan, 35% is non-metropolitan. The proportion of persons who completed a bachelor’s degree or higher is 23%, lower than the U.S. proportion of 28%. (Figure 2)

Figure 2: Selected Demographic Information South Carolina and United States

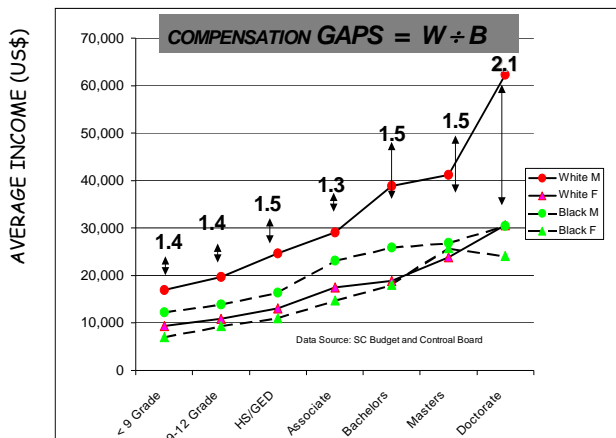
	South Carolina	United States
Population (2007 estimates)	4,299,600	298,215,360
Proportion of Persons Living in Non-Metropolitan Areas	35%	16%
Median Age	37.1	36.4
Racial/Ethnic Distribution of Pop.		
% White	65	66
% Black	29	12
% Hispanic	4	15
% Other	3	7
Educational Attainment		
% High school grad. or higher	81	84
% Bachelor’s degree or higher	23	27
Unemployment Rate, November 2007	5.8%	4.7%
Median Household Income, 2007	\$42,561	\$49,901

Sources: U.S. Census Bureau, Kaiser Family Foundation

Education & Earnings

Despite the economic strides it has made in recent years, South Carolina remains among the states with the highest percentage of persons who live below the poverty level (11th of fifty states and District of Columbia). Educational attainment is strongly correlated with poverty, and South Carolina continues to rank low in percent of persons over 25 years of age who have bachelors’ degrees or higher (36th of fifty states and District of Columbia). Nearly twenty percent (19.2%) of the population has less than a high school education.

Figure 3: Income by Educational Attainment by Race & Gender: SC, 1990



Educational attainment and earnings are directly related. The more education a South Carolinian has, the more money he/she is likely to earn. However, if we compare across gender and racial lines, there are inconsistencies.

White males clearly attain the highest incomes. The income gap between whites and blacks is higher for each education level, but particularly increases for persons with bachelors degrees or more. Income for whites is 1.5 times greater than blacks for persons with bachelors and masters degrees, and is 2.1 times greater than blacks for persons with doctorates. (Figure 3)

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**Figure 4: SC Per Capita Income in 1999
by Race and Hispanic Origin**

	INCOME GAPS	Rel to Blacks
• For Whites	\$22,095	1.9
• Native Hawaiian/ Other Pacific Islander	\$21,638	1.8
• For Asian	\$20,541	1.7
• For American Indian/ Alaskan Native	\$15,325	1.3
• Of Hispanic Origin	\$12,143	1.0
• For Other Races	\$10,473	0.9
• For Blacks	\$11,776	1.0
• OVERALL	\$18,795	1.6

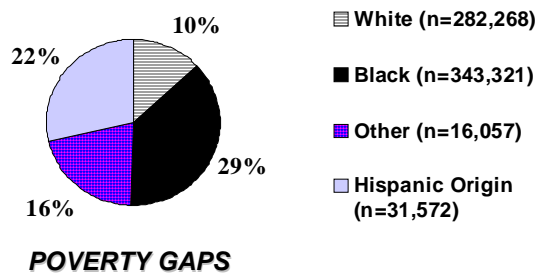
In comparison, Blacks, people of Hispanic origin, and other races earned the least per capita income, averaging 39% below the state's average. Whites earned 18% above the state's average per capita income. (Figure 4)

Data Source: SC-Budget & Control Board, Office of Research & Statistics

Poverty Level

Based on 2006 Census data, approximately 15.7% of South Carolinians lived below the poverty level (ranking 12th in the US); and 11.9% of South Carolinian families lived below the poverty level.

Figure 5: Percent of Each Racial/Ethnic Pop Living Below Federal Poverty Level; SC, 2006



Twenty-nine percent of Black South Carolinians were below poverty in 2006, compared to 22% of persons of Hispanic descent, 10% among Whites and close to 16% of persons categorized as other, which includes Asian, Pacific Islanders, and Native Americans. (Figure 5)

Data Source: 2006 American Community Survey

Insurance/Access to Primary Care

Sixteen percent (16%) of South Carolinians do not have health insurance coverage. A significantly higher proportion of persons in the state do not have access to a primary care provider (35.8%) compared to the total U.S. population (17.1%) (Figure 6). Over 95% of counties are designated all or part medically underserved areas and all or part health profession shortage areas (1999).

Figure 6: Selected Access Indicators, SC and US

	South Carolina	United States
Total Pop. Uninsured, 2006-2007	16.2%	15.3%
Below 200% Poverty Level, 2006	39.5%	34.6%
Counties Designated All/Part Medically Underserved Areas, 1999	95.7%	80.5%
Without Access to Primary Care Provider, 1996	35.8%	17.1%
Women Receiving 1 st Trimester Prenatal Care, 2003	83.6%	89%

Source: U.S. Dept. of Health and Human Services, HRSA, Kaiser Family Foundation

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Employment

South Carolina's average unemployment rate for 2007 was 6.9%, higher than the US rate of 6.3%. The median household income in 2007 was \$42,561 vs. the US median income of \$49,901.

Housing

According to the US Census, in 2007, 70% of the state's homes were owned. The SC Council on Homelessness estimates 6,759 persons are homeless 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.

Question #2: 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 2007. Current surveillance provides 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 2006, according to the CDC HIV/AIDS Surveillance Report, South Carolina ranked 9th among states and the District of Columbia with an AIDS case rate of 16.3 per 100,000 population. During this same time period, South Carolina also ranked seventh among states and the District of Columbia with an AIDS case rate of 12.5 per 100,000 for female adolescent/adult AIDS cases. The epidemic is continuing to grow with an average of 65 cases of HIV infection reported each month during the past year. As of December 31, 2007, there were 22,489 persons cumulatively reported with HIV, and of them, 17,394 have been diagnosed with AIDS.

South Carolina has experienced a 67% increase of all persons living with HIV/AIDS from 1997 to 2007. More dramatic, there has been an increase of 81% in the number of women living at the end of 2007 compared with the number living in 1997.

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

Figure 7: Disproportionate HIV Impact by Gender, South Carolina

SEX	No. (%) SC Total Population*	No. (%) of Total Estimated Living With HIV/AIDS, 2007	No. (%) of Total HIV-Only Diagnosis, 2006-2007
Male	1,948,929 (49%)	10,144 (69%)	675 (69%)
Female	2,063,083 (51%)	4,552 (31%)	299 (31%)
Total	4,012,012	14,696 (100%)	978 (100%)

*Source: 2000 US Census Data; SCDHEC HARS

Figure 8 shows the rate per 100,000 population for males and females diagnosed with HIV/AIDS each year. During 1997 – 2007 the case rate for females appears to be slightly decreasing. For males, the rate had declined prior to 1998, when the rate increased due to screening in the state correctional facilities. With the exception of 1998, the ratio of men to women has averaged about 2 to 1 during the past three years, where previously it was more than 3 to 1.

Race/Ethnicity

African-Americans are disproportionately impacted by HIV/AIDS in South Carolina. They comprise 30% of the state’s total population, yet 73% of the total persons living with HIV are African-American. Two percent (2%) of total cases are Hispanic, who comprise the same proportion of the state’s population (Figure 9).

Gender

Figure 7 shows the impact of HIV on the men and women in South Carolina. Men unequivocally are disproportionately affected by HIV/AIDS. They make up 49% of South Carolina’s total population, but comprise 69% of persons living with HIV (prevalence). HIV-only diagnosed cases during the two-year period 2006-2007 gives an estimate of more recent infections or potentially emerging populations.

Figure 8 : HIV/AIDS Case Rate per 100,000 for Males and Females, 1991 - 2007

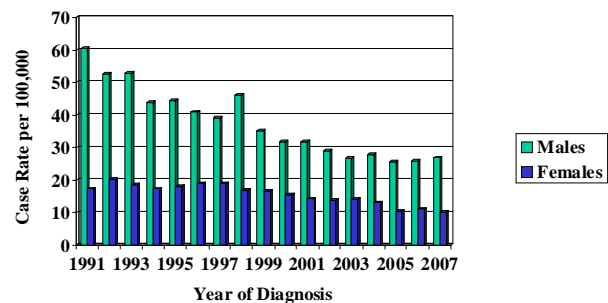
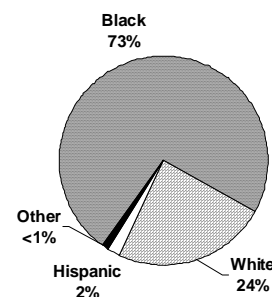


Figure 9: Proportion of Persons Living with HIV/AIDS by Race/Ethnicity, 2007



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African-American men comprise 15% of the state's population, yet 47% of the total prevalent HIV/AIDS cases in 2007. African-American women, similarly, comprise 17% of the population, yet 26% of prevalent cases. More recent infections (HIV-Only Diagnosis) during 2006 - 2007 reflect a slight increase among African-American men and a slight decrease among African-American women relative to the proportion of persons living with HIV in 2007 (Figure 10).

Each year the number of all persons 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 11 shows, the rate per 100,000 population in 2007 is six times higher for black males than for white males, and twelve times higher for black females compared to white females. An increase in the case rate for black men in 1998 reflected a large number of new cases reported as a result of a Department of Corrections screening.

While the overall number and rate of newly diagnosed persons with HIV/AIDS each year is stable, there are differences among race/gender populations. (Figure 12) The case rate per 100,000 population among white men in South Carolina has on average remained relatively stable during the past five years (2003-2007). Recently, the rate for African-American women in S.C. decreased 30% from 2003 to 2007. As stated previously, the case rate among African-American males increased in 1998-1999 due to correctional facility screening; however, overall the rate have remained stable during the past five years.

Figure 10: Disproportionate HIV Impact by Race/Ethnicity/Gender, SC

Gender & Race/Ethnicity	No. (%) SC Total Pop.	No. (%) of Total Persons Living With HIV/AIDS, 2007	No. (%) of Total HIV Only Diagnosis, 2006-2007
Black Males	593,707 (15%)	6963 (47%)	486 (50%)
Black Females	668,799 (17%)	3777 (26%)	235 (24%)
White Males	1,355,222 (34%)	2856 (19%)	166 (17%)
White Females	1,394,284 (35%)	669 (5%)	50 (5%)
Hispanic Males	23,978 (0.6%)	282 (2%)	17 (2%)
Hisp. Females	22,296 (0.6%)	79 (.5%)	14 (1%)

Figure 11: HIV/AIDS Prevalence Rates by Race/Gender, SC

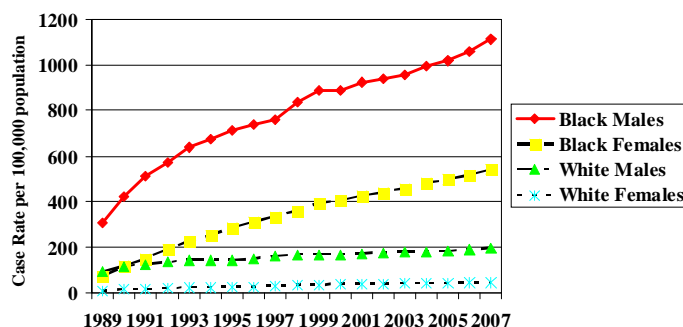
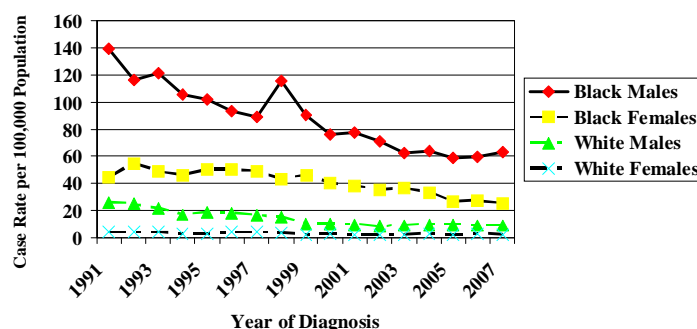


Figure 12: HIV/AIDS Case Rates by Race/Gender and Year of Diagnosis, SC



Age

When looking at age groups, persons between the ages of 20 and 44 are disproportionately impacted. They make up 37% of the total population yet they represent about 52% of prevalent and 69% of HIV-only diagnosed cases. (Figure 13)

Figure 13: Disproportionate HIV Impact by Age, SC

Age Range	No. (%) SC Population	No. (%) of Total Persons Living with HIV/AIDS, 2007	No. (%) of Total HIV-Only Diagnosis, 2006-2007
< 13 Years	724,209 (18%)	52 (<1%)	7 (<1%)
13 – 19 Years	411,579 (10%)	127 (<1%)	54 (6%)
20 – 44 Years	1,467,669 (37%)	7,610 (52%)	677 (69%)
45+ Years	1,408,565 (35%)	6,907 (47%)	240 (25%)

Figure 14: S.C. HIV/AIDS Case Rate per 100,000 by Age by Year of Diagnosis, 1991-2007

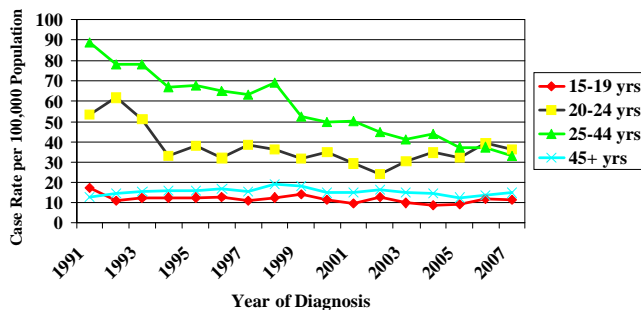
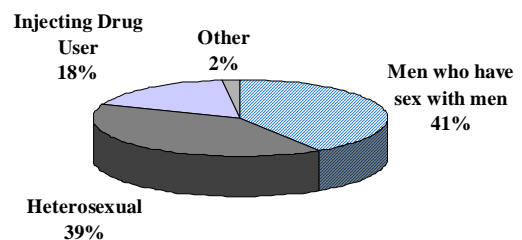


Figure 14 shows the HIV/AIDS case rates per 100,000 population by year of diagnosis for selected adult/adolescent age groups for the past seventeen years. The rates are highest for persons 20-24 years of age, followed by those 25-44 years.

Risk Exposure

Men who have sex with men (MSM) comprise the greatest proportion of persons living with HIV/AIDS at the end of 2007 with known risk factors (41%), followed closely by heterosexuals (39%). Eighteen percent (18%) are injecting drug users (Figure 15). Other risks include blood transfusions, hemophilia, and perinatal transmission. Of the total estimated number of persons living with HIV/AIDS in 2007, 24% had no risk identified (not reflected in Figure 15).

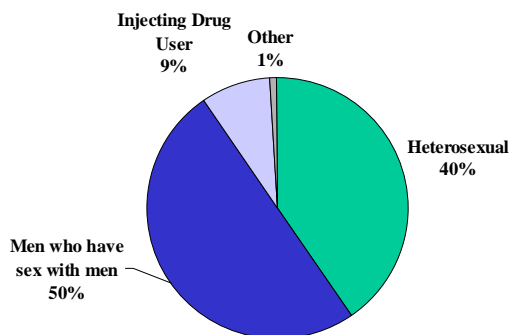
**Figure 15: Proportion of Persons Living with HIV/AIDS by Risk Exposure, 2007
N=11,123**



Note: Total Excludes Cases with No Risk Identified

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Figure 16: Proportion of HIV/AIDS Cases by Risk Exposure, 2006-2007
N= 1,066



Note: Total Excludes Cases with No Risk Identified

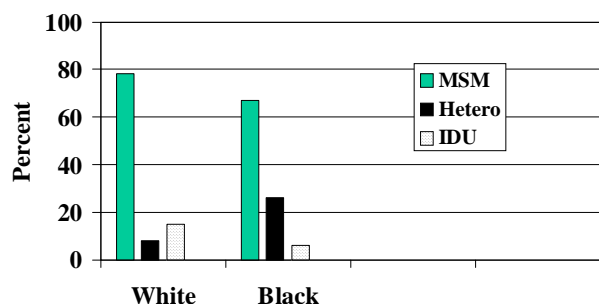
Note: The primary reasons for risk exposure information not reported were explained in the Introduction, South Carolina HIV/AIDS Surveillance System section. Over time, the proportion of cases with no risk identified in a given year decreases when risks are determined through follow-up surveillance activities. For example, during 2000 there were 312 cases originally reported with no risk; as of December 2001, risks were determined for 249 of the 312 cases. The race/gender profile of 2007 cases originally reported with no risks is relatively close to the total proportion of HIV/AIDS cases by race/gender (Figure 17).

Figure 16 shows a slight shift in risk exposure categories among persons diagnosed with HIV/AIDS during 2006–2007 with known risk exposures compared to the prevalent cases in Figure 15. The proportion of cases due to heterosexual transmission was 40%, men who have sex with men accounted for 50% and IDUs made up 9%. Thirty-two percent (32%) of these cases had no risk identified (not reflected in figure 16).

Figure 17: Comparison of No Risk Identified Cases with Total S.C. HIV/AIDS Reported Cases, 2007

Race/Gender (Adult/Adolescent Cases)	% Total Cases with No Risk Identified, 2007 N=256	% Total HIV/AIDS Cases Reported, 2007 N=780
Black Male	52%	50%
Black Female	25%	22%
White Male	11%	17%
White Female	5%	4%
Other	8%	6%

Figure 18: Proportion of White and Black Male HIV/AIDS Cases By Exposure Category, Diagnosed 2006-2007



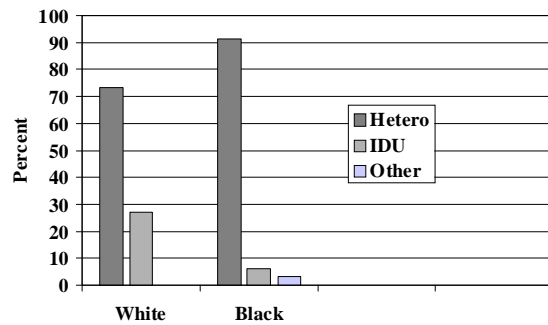
Total Males, All Ages; Excludes Persons with No Risk Reported; N=729

During 2006 – 2007, 70% of males diagnosed with HIV/AIDS were African-American. Among African-American males with reported risk factors, most cases were attributed to male to male sexual contact (67%) and heterosexual contact (26%). Injecting drug use is more commonly reported among white males (15%) than among black males (6%). Among white men, 78% were men who have sex with men. Only 8% reported heterosexual risk (Figure 18).

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Among women diagnosed during 2006 – 2007, 79% of cases were among African-American women. Heterosexual contact was the most common reported risk for all women (89%). Injecting drug use is more commonly reported among white women (27%) than among black women (6%). (Figure 19)

Figure 19: Proportion of White and Black Female HIV/AIDS Cases By Exposure Category, Diagnosed 2006-2007



Total Females, All Ages; Excludes Persons with No Risk Reported; N=283

Figures 20 and 21 show the proportion of total HIV/AIDS cases diagnosed during four periods from 1996 – 2007 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 risk reported among injecting drug users. During 1996 – 1998 to 2005 – 2007, there was a 62% decrease in the proportion among injecting drug use among men and a 36% decrease among women. The proportion of heterosexual risk increased 5% for men and increased 7% for women during the same time periods.

Figure 20: Proportional Distribution of Male HIV/AIDS Cases, by Exposure Category, Diagnosed 1996-2007

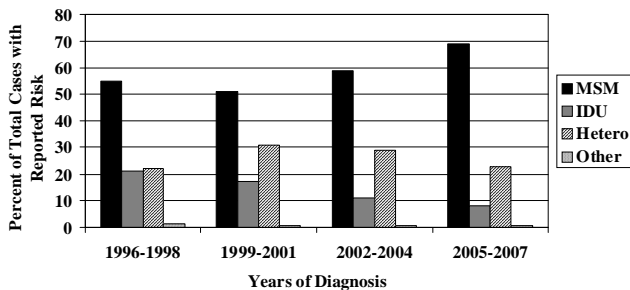
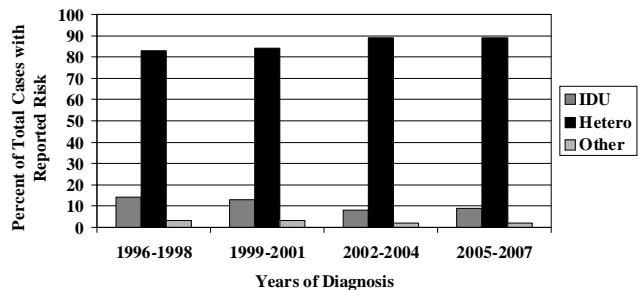


Figure 21: Proportional Distribution of Female HIV/AIDS Cases, by Exposure Category, Diagnosed 1996-2007



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Residence

Persons living with HIV/AIDS are widespread throughout the state. Over 60% of counties have prevalence rates >600 per 100,000 for African-Americans, as reflected in Figure 22. Annual case rates in counties of more recently diagnosed African-American persons during 2005 – 2007 reflect essentially the same counties as highest prevalence rates. Richland County has the highest annual case rate (Figure 23).

Figure 22: SC HIV Prevalence Rates (per 100,000 population) Cases Currently Living, 2007 African-American

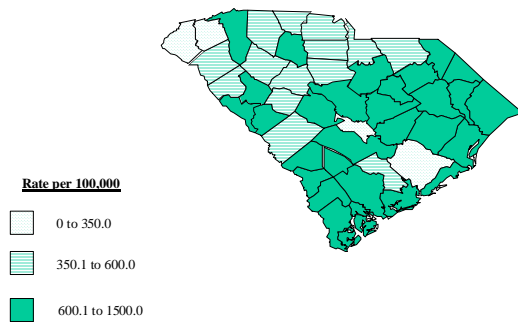
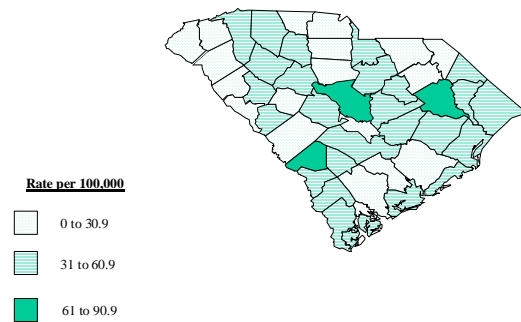


Figure 23: SC HIV/AIDS Incidence Rates (per 100,000 population) 2005-2007 Average of Cases African-American



Counties with highest prevalence rates among white persons include more urban areas of Greenville, Spartanburg, Richland and Lexington (Columbia), Charleston, Horry (Myrtle Beach), as well as Orangeburg, Florence, Marlboro, Fairfield, McCormick, Colleton, Jasper, Dillon and Lee (Figure 24). Figure 25 shows counties with highest rates of more recently diagnosed white persons are Richland, Charleston, Horry, Orangeburg, Fairfield, Lee, and Bamberg.

Figure 24: SC HIV Prevalence Rates (per 100,000 population) Cases Currently Living, 2007 Whites

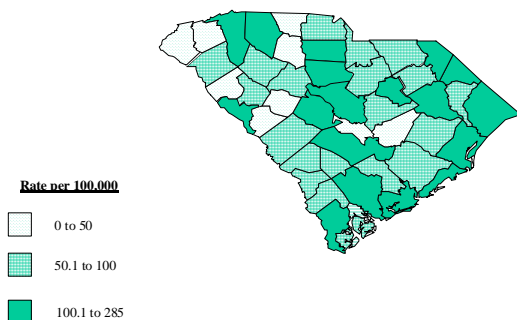
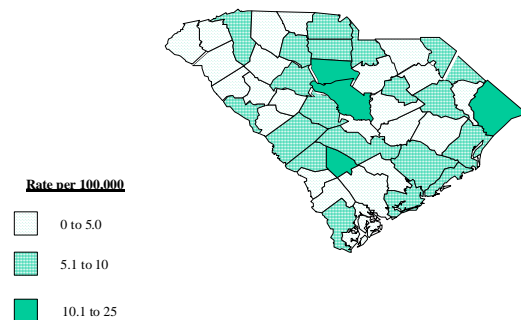


Figure 25: SC HIV/AIDS Incidence Rates (per 100,000 population) 2005-2007 Average of Cases Whites

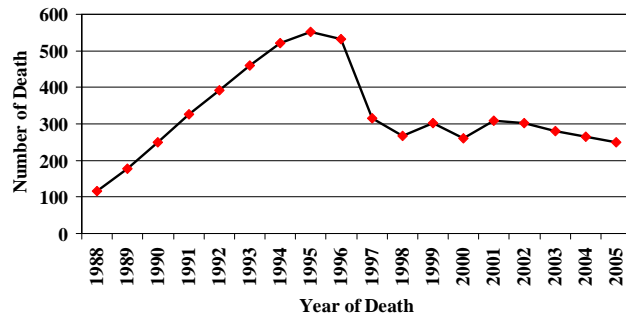


Mortality

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

Large declines in HIV 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 anti-retrovirals, 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

Figure 26: Deaths Among Persons with AIDS in South Carolina, 1988-2005



Source – SCDHEC, Vital Records, SC Residence Data

Figure 26 shows largest declines in deaths in South Carolina were in 1997, dropping to 317 from 532 the previous year. In recent years, death among persons with AIDS has remained fairly stable, which may indicate diminishing efficacy of therapies among some patients. 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 27: Characteristics of Persons who died of AIDS, 2005

	No.	%
Race/Sex		
Black Male	128	51
Black Female	65	26
White Male	45	18
White Female	11	4
Age Group		
<15	---	0
15-24	5	2
25-44	124	50
45+	120	48

Although black males represent 47% of persons living with HIV/AIDS, in 2005, they accounted for the majority of persons dying from AIDS (51%). African-American females accounted for 26% of AIDS related deaths followed by white males (18%). By age group, the majority of deaths occurred among persons 25-44 years (50%). (Figure 27)

Figure 28: Number of Persons who died of AIDS by Health Region, 2005

Health Region	No.	%
Region 1	18	7
Region 2	41	16
Region 3	55	22
Region 4	49	20
Region 5	18	7
Region 6	16	6
Region 7	35	14
Region 8	17	7
TOTAL	249	100

Region 3 and Region 4 represent the highest number of deaths from AIDS in South Carolina in 2005 (Figure 28). These areas are also among those that have the highest prevalence of AIDS in the state.

Question #3: Who is at risk for becoming infected with HIV?

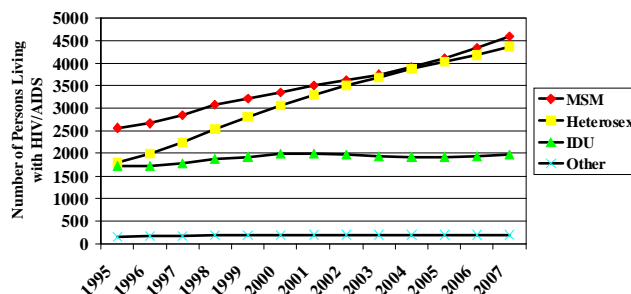
The persons most likely to become infected with HIV are those who engage in high-risk behaviors with persons in communities with a high number/rate of persons living with HIV infection, i.e. prevalence. As mentioned previously, growing numbers of people with HIV in South Carolina are living more healthy lives, including sexual activity. The frequency of high-risk behavior combined with the 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 persons who become newly infected with HIV and persons 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 Persons at Highest Risk

Analysis of characteristics of persons with HIV/AIDS helps identify persons 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.

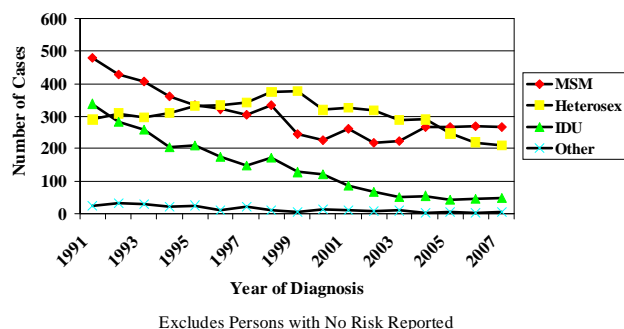
Figure 29 shows the number of persons in South Carolina living with HIV/AIDS at the end of each year by reported risk. Men who have sex men (MSM) comprise the greatest number of living persons, followed closely by heterosexuals. Injecting drug users (IDUs) and other risks (e.g. hemophilia, blood transfusion, perinatally acquired infection) comprise fewer numbers.

Figure 29: Number of Persons Presumed Living with HIV/AIDS at End of Year by Risk, 1995-2007



Number Excludes Persons with No Risk Reported; MSM/IDU included in IDU category

Figure 30: Number of HIV/AIDS Cases by Year of Diagnosis and Risk, 1991 -2007



While men who have sex with men comprise the greater proportion of persons living with HIV, newly diagnosed HIV/AIDS cases each year indicate that beginning in 1997, more persons report heterosexual risk than male to male sex, except in 2004 and 2005 where the number reporting heterosexual risk and male to male sex were almost equal and in 2006, the number reporting male to male sex slightly exceed heterosexual risk. While not validated, many local experts believe that 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 has remained stable over the past five years (Figure 30).

Based on data in this profile, the following primary populations have been identified as being the highest risk of HIV/AIDS: men who have sex with men (MSM), high-risk heterosexuals, and injecting drug users (IDUs). Women will be described in the heterosexual and injecting drug user section, and teenagers/young adults will be described within each population category. Since African-Americans are disproportionately impacted across each risk category, this impact will be described for each risk population rather than as a separate population. Infants and children and prison populations will be described separately.

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 approximately 1,436,281 males in South Carolina between the ages of 15-64, which is the age range when persons 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% to 10.1%, with the average at 2.7%. This would mean that the number of MSM in South Carolina could be estimated to be 38,780, although the estimated range is much broader.

Characteristics

Note: for purposes of this analysis, cases that are both men who have sex with men (MSM) and injecting drug users (IDU) are included in the injecting drug user category.

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The largest proportion of persons living with HIV/AIDS in South Carolina at the end of 2007 was men who have sex with men (41% of total prevalent adult/adolescent cases with identifiable risk). MSM account for a slightly higher proportion (50%) of the more recently diagnosed adult/adolescent cases during 2006-2007. The number of MSM cases diagnosed each year increased 16% from 2003 to 2007.

As Figure 31 demonstrates, the majority of MSM cases diagnosed during 2006 - 2007 were African-Americans (66%). White men accounted for 30% of the new cases and 4% were Hispanic or other races.

Figure 31: Proportion of Men with HIV/AIDS Who Have Sex With Men by Race/Ethnicity, Diagnosed 2006-2007
N=536

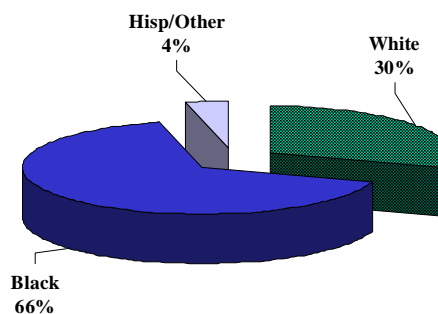
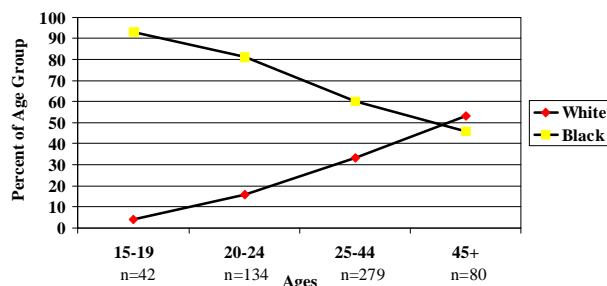


Figure 32 : Percent MSM HIV/AIDS Cases Diagnosed 2006-2007 by Age Group & Race
N=536

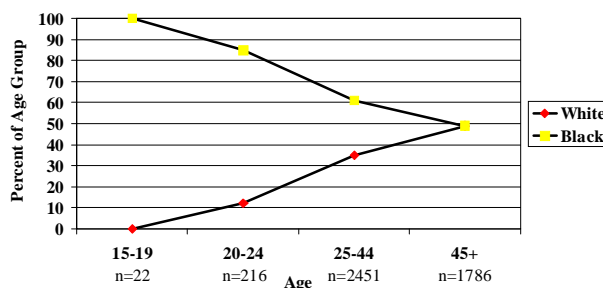


Total N includes 24 Other Men Not Included in Graph Due to Small Numbers

Of the men who have sex with men presumed living with HIV in 2007, 69% were African-American, 28% were white and 3% were Hispanic/other men. As Figure 33 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 equal for white and African-American men (50%).

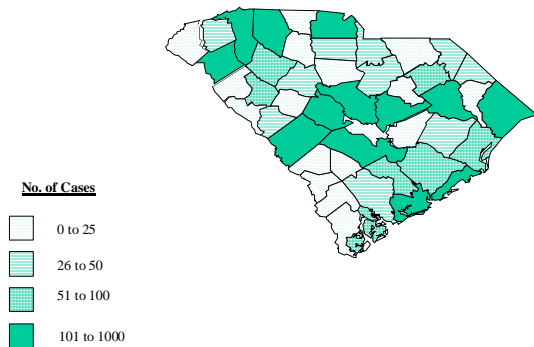
The majority of men who have sex with men diagnosed during 2006 – 2007 were 25 – 44 years of age (52%); 25% were 20 – 24 years old and 15% were 45+ years. For men more recently diagnosed, African-Americans accounted for the highest proportion for each age group except for those 45 and older (Figure 32).

Figure 33: Percent of MSM Living with HIV/AIDS by Age Group & Race, 2007
N=4,587



Total N includes 112 Other Men Not Included in Graph Due to Small Numbers

Figure 34: SC HIV Prevalence by Exposure Category, 2007 Reported Cases, by County MSM



The more urban counties of Greenville/Spartanburg, Anderson, York, Richland, Lexington, Charleston, Sumter, Horry, Florence and Orangeburg have the greatest number of men who have sex with men living with HIV/AIDS in 2007 (Figure 34).

Due to small numbers for many counties, portraying the three-year annual case numbers of men who have sex with men by county is not useful.

Conclusions

These data indicate that prevention efforts targeted to men who have sex with men need to be tailored to both African-American and white men. African-American men account for almost half the proportion of both living cases (47%) and newly diagnosed HIV/AIDS cases (50%). Increased efforts in particular are needed to reach younger African-American MSM <25 years of age; for white men, targeted efforts are needed for those >25 years. Interventions also need to be particularly available for persons living in the more urban areas of the state.

High Risk Heterosexuals

Estimates of High-Risk Heterosexual Behavior in South Carolina

It is difficult to make an assessment of the number of persons 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 persons with HIV/AIDS than for those with a sexually transmitted disease, most experts acknowledge that a diagnosis of an STD would suggest that the individual is engaging in unsafe sexual practices. During 2007, 26,117 cases of chlamydia, 9,932 cases of gonorrhea and 95 cases of infectious syphilis were reported in South Carolina. Women with an STD, in particular, indicate high-risk heterosexual activity. Among the 2007 cases of chlamydia, 20,542 were among women, and 5,453 women were reported with gonorrhea. 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 documented 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 injecting drug user).

Characteristics of High Risk Heterosexuals

Persons with documented high-risk heterosexual contact comprise 30% of the total adult/adolescent persons living with HIV/AIDS at the end of 2007 and 27% of persons more recently diagnosed during 2006-2007 (excluding persons with no risk identified for both new and prevalent cases). The number of heterosexual cases diagnosed each year decreased 34% from 2000 to 2007 (see Figure 30).

Figure 35 shows that over half (58%) of recently diagnosed heterosexual HIV/AIDS cases are women. African-American women account for 50% of recent cases and white women account for 8%. Thirty-two percent (32%) are African-American men. White men account for only 4% of recent cases.

Figure 35: Proportion of Heterosexual HIV/AIDS Cases by Race/Sex, Diagnosed 2006-2007
N=429

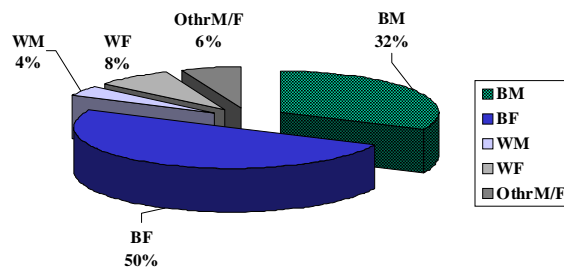


Figure 36: Number of HIV/AIDS Cases Attributed to Heterosexual Transmission, By Sex and Year of Diagnosis

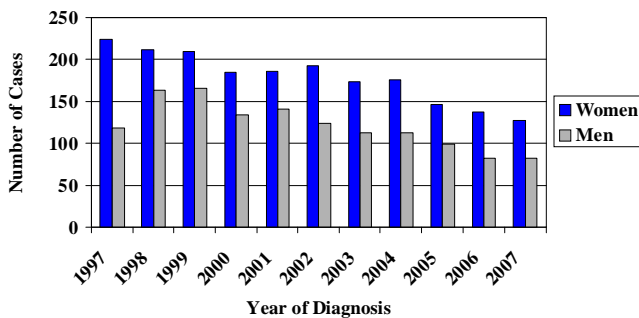
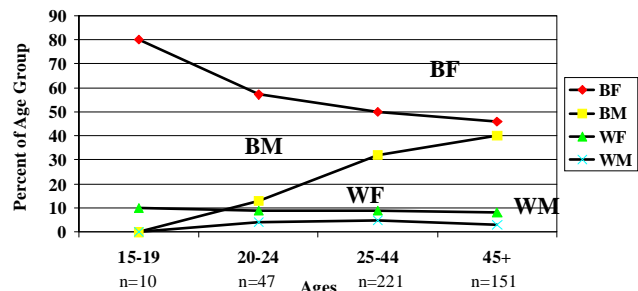


Figure 36 shows the number of heterosexually acquired HIV in women and men in South Carolina from 1997 to 2007. During most of this period, the proportion of female cases outnumbered the male cases by an average of 40%. The number of women reporting heterosexual risk has gradually decreased by 26% in the past five years from 2003 to 2007. Likewise, the number of men reporting heterosexual HIV risk has gradually decreased by 27% in the same time period.

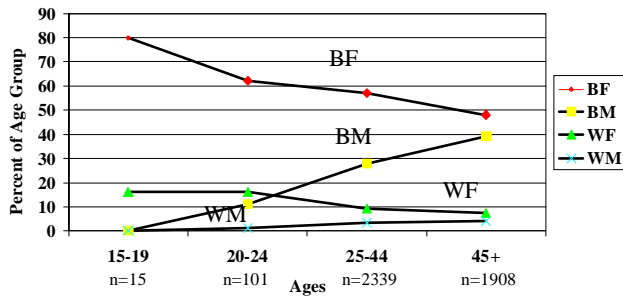
The majority of high risk heterosexuals recently diagnosed were 25 – 44 years of age (52%); 35% were 45 years and older, and 13% under 25 years. With the exception of the 15-19 year old group, African-American women and men comprised the greatest proportion of cases in each age group (Figure 37). Among young women less than 45 years of age, over 8 out of every 10 of the total cases are African-American women. White women and men account for an average of 15% or less of young and older ages.

Figure 37: Percent Heterosexual HIV/AIDS Cases Diagnosed 2006-2007 By Age Group and Race/Sex
N=429



Total N includes 25 Other Race Not Included in Graph Due to Small Numbers

Figure 38: Percent of Heterosexuals Living with HIV/AIDS by Age Group and Race/Sex, 2007
N=4,363



Total N includes 116 Other Race Not Included in Graph Due to Small Numbers

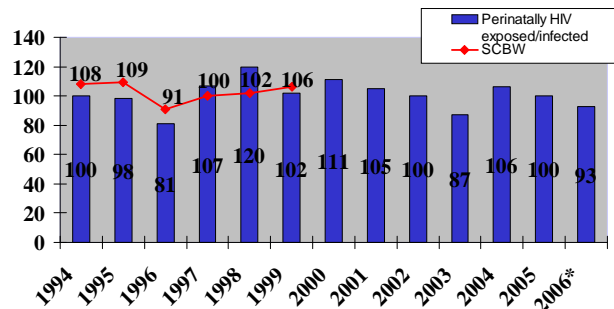
Of the high risk heterosexual persons presumed living with HIV/AIDS in 2007, over half were African-American women (53%), 32% were African-American men; 8% were white women. As Figure 38 shows, over 8 of every 10 young women under age 25 living with HIV/AIDS were African-American; over one half of persons 25 – 44 are African-American women. Similarly, the proportion of persons living with HIV across all age groups is greatest for African-American women followed closely by African-American men. As with more recently diagnosed persons, white women and men account for an average of 12% of persons living with HIV across all age groups.

Estimates of prevalence of HIV among High Risk Heterosexual Women

Estimates of HIV prevalence among women were obtained during 1990 – 1997 through a population-based seroprevalence survey of women who deliver live births at hospitals throughout the state. Recently estimates are obtained by the pediatric surveillance system using reports of HIV infected women delivering live births. While this prevalence is limited to child-age bearing women who have delivered a child, it provides the best overall estimate available for HIV infection among women 15 – 44 years of age.

Figure 39 shows that the number of HIV infection cases among all women delivering live births has been stable during the past seven years, averaging nearly 100 per year. The rate, though, is nearly 9 times higher among African-American women compared to white women.

Figure 39 : Perinatally HIV Exposed Births by Year of Birth Compared to SC Survey of Child Bearing Women



Source: provisional SC STD/HIV Surveillance Program Data

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Figure 40 shows the counties with highest prevalence of persons living with HIV/AIDS due to heterosexual transmission. These are the more urban counties of Florence, Greenville/Spartanburg, Richland, Lexington, Sumter, Orangeburg, Horry and Charleston, as well as Darlington and Aiken counties. Figure 41 shows the case rate for 2005-2007 among women, an indicator for more recent heterosexual risk. Richland, Sumter, Orangeburg, as well as rural Marlboro, Marion, Bamberg, Barnwell and Allendale counties had the highest case rates in the state.

Figure 40: SC HIV Prevalence by Exposure Category, 2007 Reported Cases, by County Heterosexual Contact

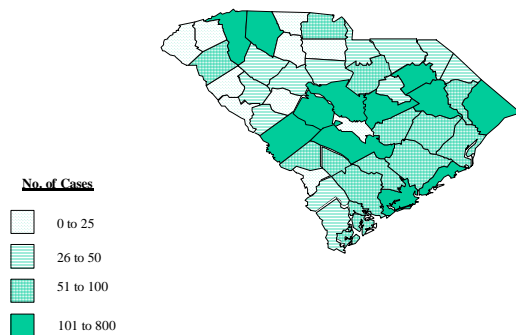
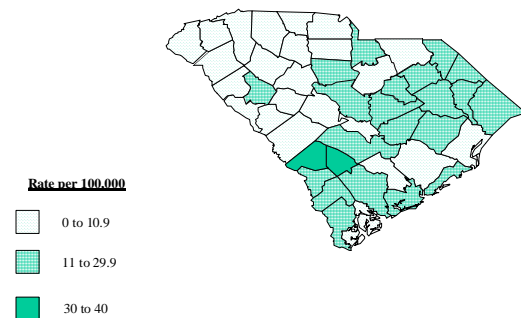


Figure 41: SC HIV Incidence Rates (per 100,000 population) 2005-2007 Average of Cases Females



Conclusions

These data indicate that prevention efforts targeted to high risk heterosexuals need to be tailored to African-Americans, particularly young women under age 25, who account for over six of every ten persons of both living cases and more recently diagnosed cases in this age group. Efforts also need to target African-American men and women 25 – 44 years, who account for over eight out of every ten persons living and more recently diagnosed cases (all ages). Prevention efforts targeting African-American men and women should also be tailored to reach those 45 years and older.

Injecting Drug Users

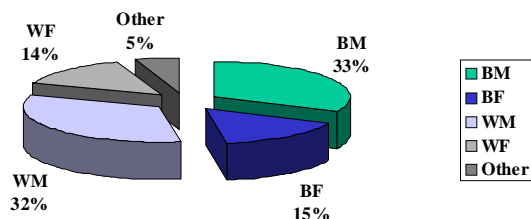
Estimates of Injecting Drug Use Behavior in South Carolina

According to 1999-2000 estimates of heroine use provided by the SC Department of Alcohol and Other Drug Abuse Services (DAODAS), there are 8,000 persons in South Carolina who are injecting drug users in need of treatment services.

Characteristics of Injecting Drug Users

Note: persons who are categorized as both men who have sex with men and injecting drug users are included in this population description.

Figure 42: Proportion of Injecting Drug Users Diagnosed with HIV/AIDS 2006-2007 by Race/Sex N=93



Men are overwhelmingly impacted by HIV transmitted by injecting drug use, averaging 3 cases to every one case reported among women each year. Men show a decrease in number of diagnosed IDU cases since 1998. For most of this same period, the number of diagnosed IDU cases among women was fairly stable. The increase in 1998 cases for men is likely due to targeted screening in corrections facilities, identifying more new cases that year. (Figure 43)

Injecting drug users (IDUs) account for 18% of the persons presumed living with HIV/AIDS in 2007 and 9% of persons more recently diagnosed with HIV/AIDS during 2006-2007. The number of IDU cases diagnosed each year decreased 45% from 2001 to 2007 (See Figure 30).

Figure 42 shows that 33% of recently diagnosed injecting drug use cases are African-American men; white men account for 32% of recent diagnoses. African-American women account for 15% of cases, and the least proportion is among white women (14%).

Figure 43: Number of HIV/AIDS Cases Due to Injecting Drug Use by Sex and Year of Diagnosis, 1989-2007

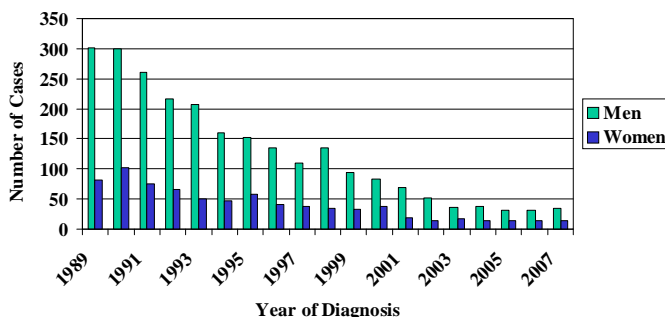


Figure 44: Percent of Injecting Drug Users Diagnosed with HIV/AIDS 2006-2007 by Age Group N=93

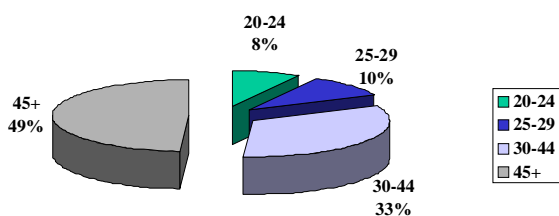
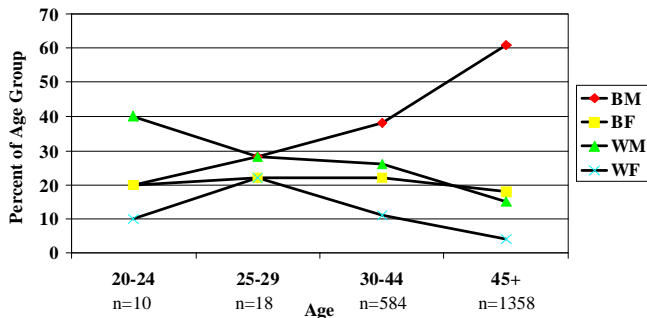


Figure 44 shows that 49% of recently diagnosed IDU cases are 45 years and older; 43% are 25 – 44 years of age. Only 8% of persons diagnosed during 2006-2007 were under 25 years.

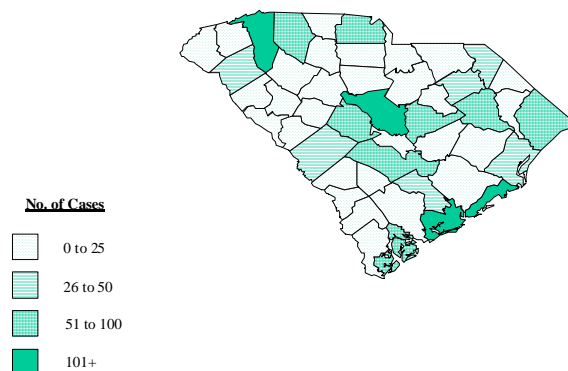
Figure 45: Percent of IDU Persons Presumed Living with HIV/AIDS by Race/Sex and Age Group, 2007
N=1,970



Similarly, persons living with HIV/AIDS due to injecting drug use are largely 25 years of age and older (99%). African-Americans account for the greatest proportion of cases in each age group, with African-American men accounting for over 61% of those older than 25 years. (Figure 45)

Figure 46 indicates the counties with the highest number of persons living with HIV with injecting drug use risk (Richland, Greenville, and Charleston). As with other risks, the more urban counties have the greatest numbers.

Figure 46: HIV Prevalence by Exposure Category, 2007 Reported Cases, by County IDU



Conclusions

Prevention efforts targeting injecting drug users need to be tailored to men, primarily African-American men who comprise a majority of recently diagnosed cases, followed by white men. Efforts should target persons older than 25 years and those who are predominately in more urban counties including Lexington, York, Florence, Spartanburg, Horry, Orangeburg and Sumter.

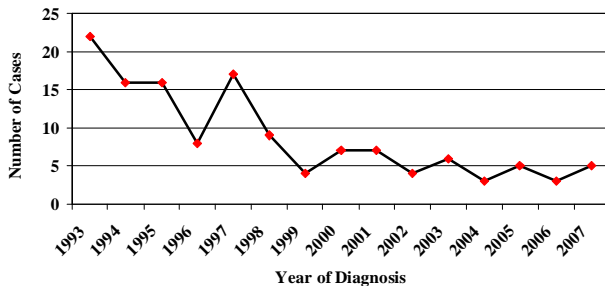
Other Populations

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

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

The majority of infants and children are infected with HIV through exposure to their mother during pregnancy. Through December 2007, there were 105 HIV infection cases diagnosed among children less than 13 years of age, of which 52 had AIDS. This represents less than 1.0 percent of the total reported AIDS and HIV infection cases. The majority of the children with HIV are black.

Figure 47: Number of Children <13 Years Old Diagnosed with HIV/AIDS in South Carolina, 1993-2007



Source: SCDHEC, HARS

There has been significant progress during the past five years in reducing the number of infants with perinatal acquired HIV infection. Figure 47 shows the decline in the number of infants diagnosed from 16 cases in 1997 to 5 cases in 2007.

Persons 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

In 2007, there were 26,117 cases of chlamydia diagnosed in South Carolina. Figure 48 shows the increase of chlamydia as a result of initiating routine screening for all young women attending family planning and STD clinics in health departments statewide. Among those cases with reported race/gender, 57% were African-American women; 18% were white women in 2007. Hispanic men and women accounted for 1% of cases in 2007.

Figure 48: South Carolina Reported Chlamydia Cases by Year of Diagnosis, 1993 - 2007

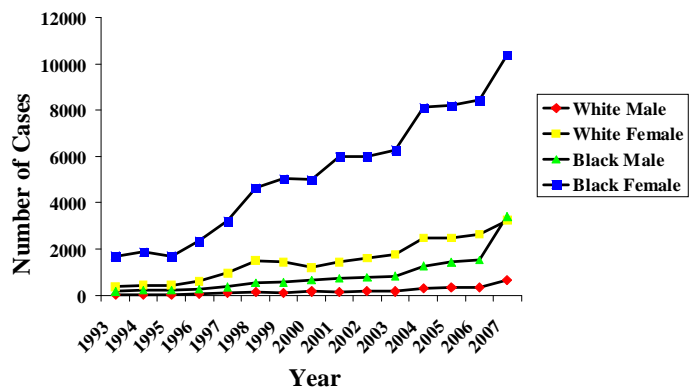
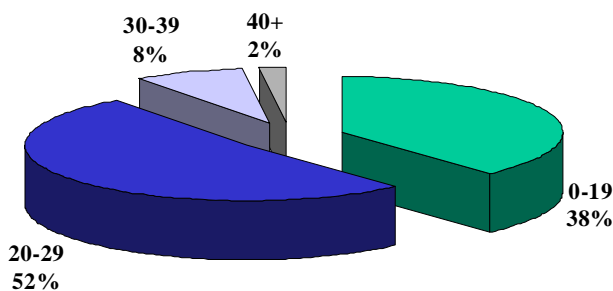


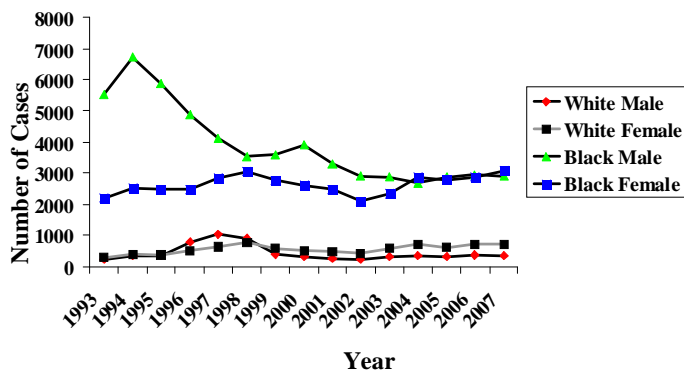
Figure 49: Proportion of 2007 Reported Chlamydia Cases by Year of Diagnosis by Age Group



Excludes persons with no reported age

Figure 49 shows that in 2007 young adults 20-29 have the highest proportion of chlamydia (52%) in the state. Counties with highest chlamydia rates per 100,000 population in 2007 were Bamberg (1,460.6), Allendale (1,358.4) and Richland (1,196.9).

Figure 50: South Carolina Reported Gonorrhea Cases by Year of Diagnosis, 1993 - 2007

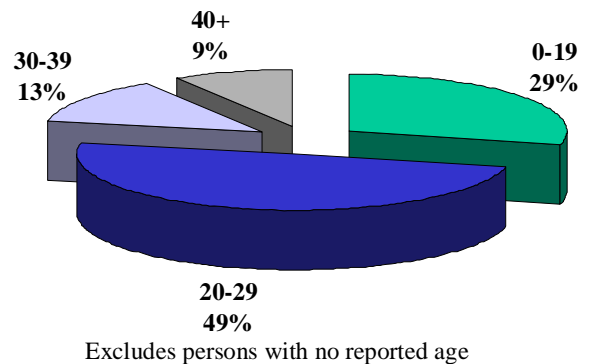


As with chlamydia, gonorrhea cases most affect young adults 20-29 years of age (49% of total) (Figure 51). Counties with highest rates per 100,000 of gonorrhea in 2007 were Lee (481.5); Orangeburg (405.1); and Richland (385.7).

Gonorrhea

In 2007, 9,932 gonorrhea cases were diagnosed. African-American men and women account for 85% of reported cases with known race/gender in 2007. Figure 50 shows trends among race/gender by year.

Figure 51 : Proportion of 2007 Reported Gonorrhea Cases by Year of Diagnosis by Age Group



Infectious Syphilis

In 2007, 95 cases of infectious syphilis were diagnosed. As Figure 52 shows, significant decreases have occurred during the past ten years for all infectious syphilis cases. As with other STDs, African-Americans are most impacted, accounting for 75% of total cases. Unlike other STDs, syphilis most impacts older adults, 30 years and older (59% of total) (Figure 53). Counties with highest infectious syphilis rates per 100,000 population in 2007 were Lee (9.7), Allendale (9.3), Richland (9.2), and Calhoun (6.7).

Figure 52: South Carolina Reported Infectious Syphilis Cases by Year of Diagnosis, 1993-2007

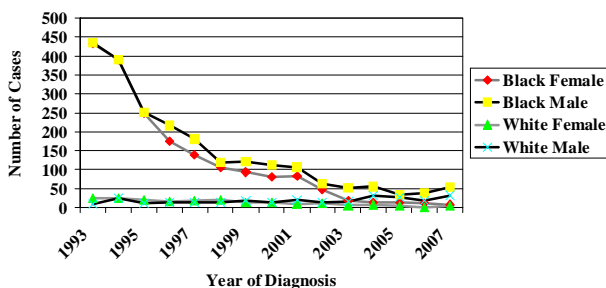
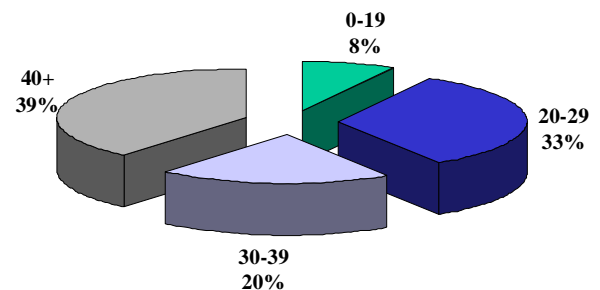


Figure 53: Proportion of 2007 Reported Infectious Syphilis Cases by Year of Diagnosis by Age Group



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 4.2 in 1988 to 1.8 per 1,000 in 2006, respectively.

Teenage pregnancies among 15-17 year old South Carolinians have decreased from a rate of 43.2 per 1,000 live births in 1990 to 28.1 in 2005; a 35% decline (Figure 54). This success is also seen when viewing teen pregnancy by racial/ethnic subgroups. The rate for White 15-17 year old teens was 29.1 in 1990 and 22.1 in 2005, representing a 24% decline. The rate for African-American 15-17 year old teens declined 44% in the same time period from 1990 to 2005. The rate for Others is the only exception to a consistent declining trend where the rate was 21.2 in 1996 and climbed to 30.4 in 1998 and down again to 17.4 in 2005, representing a 18% decrease in the rate over the 1996 to 2005 period. This fluctuation may be due to small numbers and the trend for this subgroup requires further observation.

Figure 54: South Carolina Teenage Live Births Rates, Ages 15 - 17

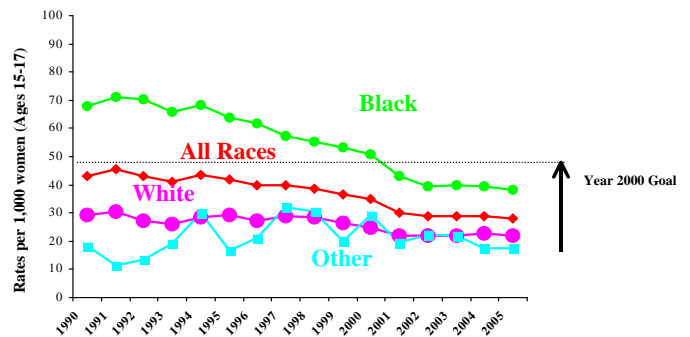
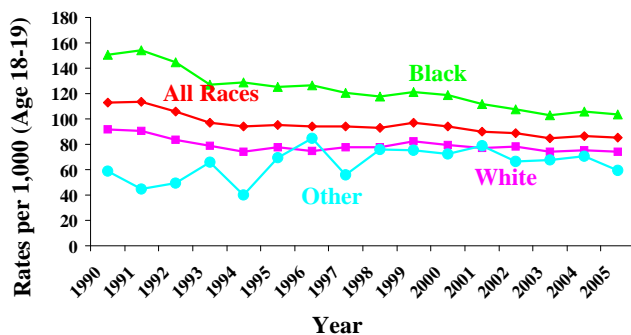


Figure 55: South Carolina Teenage Live Births Rates Ages 18-19



Source – SCDHEC, Vital Records, SC Residence Data

Figure 55 shows the teen pregnancy rates for 18 and 19 year olds. As with the other two age groups, African-American and other teenage girls continue to have higher live birth rates over the 15-year period than all races. But also as seen in the other age groups their rates have decreased from 150.6 to 103.3, 1990 and 2005, respectively.

Persons 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 persons tested voluntarily in local health departments. HIV infected persons diagnosed through counseling and testing sites account for about one-third of the newly diagnosed persons in South Carolina annually. This data reflects number of individuals tested, not the number of tests. In

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2007, African-Americans comprised 64% of the total persons tested, but 77% of the total positive. Men accounted for 38% of persons tested but 70% of total positive. Persons 20-49 years of age had the highest positivity rate and comprised 82% of the total positive persons.

Public Health regions that accounted for the greatest proportion of persons tested who were positive include those with the same urban counties of highest prevalence: Region 3, (includes Richland County)- 28.1% of total positives tested; Region 2, (includes Greenville/Spartanburg County) – 16.2% of total positives; Region 5, (includes Orangeburg County) – 10.8% of total positives; Region 4 (includes Sumter and Florence counties) – 14.3% of total positives; Region 6 (includes Horry County) – 9.1% of total positives; Region 1 (includes Anderson County) – 5.1% of total positives; Region 7, (includes Charleston County)- 9.1% of total positives; and Region 8 (includes Beaufort County) – 4.2% of total positives.

Other Behavioral/Risk Data

Behavioral Risk Factor Surveillance System (BRFSS)

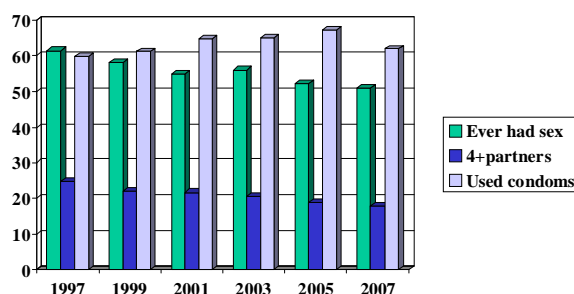
Behavior Risk Factor Surveillance System is the world's largest random telephone survey of non-institutionalized population aged 18 or older that is used to track health risks in the United States. In 1981, the Centers for Disease Control and Prevention (CDC), in collaboration with selected states, initiated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

Results of the 2004 survey suggest most respondents have a fair knowledge of transmission and treatments of HIV/AIDS. Fifty-two percent of respondents said they believed treatments are available to HIV+ women to reduce the chance of transmission to the baby, and 89% believed medical treatments are available to help HIV+ persons live longer. When asked about ever being tested for HIV themselves, only 47% of respondents indicated ever being tested with 67% of those having been tested in the past 4 years. Most respondents who had been tested revealed the main reason for the test was part of a routine check-up or required (51.4%), pregnancy (13.9%), or reasons of personal interest (19.6%). When asked if in the past 12 months if a doctor, nurse, or health professional discussed condom use for preventing STDs, a majority (85.1%) said this had not occurred.

Youth Risk Behavior Survey

The Youth Risk Behavior Survey is administered to students in public high school in South Carolina. Figure 56 shows that over time there have been slight decreases in the proportion of students who have been sexually active, had four or more lifetime partners, and increases in those reporting condom use at last sexual intercourse.

Figure 56: Proportion of YRBS Students Indicating Sexual Risks, 1997 - 2007



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Substance Use

A 1999-2000 household telephone survey of 10,324 adults ≥ 18 yrs was conducted by the SC Department of Alcohol and Other Drug Use Services (DAODAS) to assess substance use practices. Results indicated that 37% of persons used alcohol during past 30 days, 3% used marijuana, and less than 0.5% used cocaine and hallucinogens during past month. General patterns of substance use by persons in the state indicate that more men than women use drugs/alcohol; higher use levels are generally among younger respondents (18 – 44 years of age).

Summary/Recommendations

A review of this epidemiological profile indicates the following primary target populations and recommendations for prevention efforts:

Men Who Have Sex With Men

These data indicate that prevention efforts targeted to men who have sex with men need to be tailored to both African-American and white men. African-American men account for over half of both living cases (58%) and newly diagnosed HIV/AIDS cases (66%) who report MSM risk. Increased efforts in particular are needed to reach younger African-American MSM <25 years of age; for white men, targeted efforts are needed for those >25 years. Interventions also need to be particularly available for persons living in the more urban areas of the state.

Heterosexuals

These data indicate that prevention efforts targeted to high risk heterosexuals need to be tailored to African-American women, particularly young women under age 25, who account for nearly half of both living heterosexual cases and more recently diagnosed persons in this age group. Efforts also need to target African-American men and women 25 – 44 years, who account for over three-fourths of living and more recently diagnosed cases (all ages). Prevention efforts targeting African-American men and women should also be tailored to reach those 45 years and older.

Injecting Drug Users

Prevention efforts targeting injecting drug users need to be tailored to men, primarily African-American men who comprise just under half (48%) of recently diagnosed IDU cases, followed by white men. Efforts should target persons older than 25 years and those who are predominately in more urban counties including Richland, Greenville and Charleston as well as Lexington, York, Florence, Horry, Orangeburg and Sumter.

Question #4: What are the patterns of service utilization of HIV-infected persons?

In 1990, Congress enacted the Ryan White CARE Act to provide funding for states, territories and EMAs to offer medical care and support services for persons living with HIV disease who lack health insurance and financial resources for their care. Congress reauthorized the Ryan

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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. With that reauthorization Titles I-IV were changed to Parts A-D.

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 57: Demographic Characteristics of CARE Act Part B Clients Compared with Characteristics of Persons Living with HIV/AIDS, South Carolina, 2007

	CARE Act Clients, N=8,760, %	Persons Living with HIV/AIDS, N=14,696, %
Race/Ethnicity		
White, not-Hispanic	22%	24%
Black, not-Hispanic	72%	73%
Hispanic	3%	2%
Other	2%	<1%
Sex		
Male	61%	69%
Female	39%	31%
Transgender	<1%	---
Age Group		
<13	1%	1%
13-24	6%	4%
25-44	50%	49%
45+	43%	47%

During 2007, 8,760 clients received services through the Ryan White Part B funds. Figure 57 presents the distribution of Part B clients by race/ethnicity, sex and age as well as for those persons living with HIV/AIDS in South Carolina through December 2007. 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) Case Management.

Figure 58: South Carolina Ryan White Part B Service Utilization by Service Type, 2007

Figure 58 shows a break down of Ryan White Part B clients who received five of the core services through funding and the average number of visits per clients. Utilization of HIV related medications is described in the ADAP section. Among the 8,760 clients who received services, the majority of clients obtained medical case management services (n=6,776) followed by medical care (n=6,470), dental care (n=1035), mental health services (n=660), and substance abuse services (n=547).

	No. of clients receiving service	Avg. no. of visits per client
Medical Care	6,470	4.8
Medication (ADAP)	2,887	N/A
Oral/Dental Care	1035	2.2
Mental Health	660	2.5
Substance Abuse	547	2.0
Case Management	6,776	6.5

Of those services utilized more by clients (visits/clients), case management services were among the highest (6.5 visits per clients), followed by medical care (4.8 visits per client), mental health services (2.5 visits per client), dental care services (2.2 visits per client) and clients receiving substance abuse care averaged about 2.0 visits in 2007.

Additional services obtained by clients in 2007 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 (SC ADAP) was established under the Ryan White CARE Act to provide drugs to treat HIV disease and/or to prevent the serious deterioration of health arising from HIV disease in eligible individuals, including measures for the prevention and treatment of opportunistic infections and document the progress made in making the drugs available. The SC ADAP is operated through a centralized pharmacy and an insurance assistance program located at the Department of Health and Environmental Control. Currently 67 drugs are on the approved formulary. During calendar year 2006, ADAP served 2,887 clients. The SC ADAP has an advisory body of infectious disease (ID) physicians and program staff that meets annually to review the SC ADAP formulary and make recommendations for program improvements.

In the past, once an antiretroviral medication received FDA approval, it was automatically added to the SC ADAP formulary. With the new development of extremely expensive therapies, such drugs are added as appropriate after consultation with the SC ADAP Medical Advisory Committee. Fuzeon, pegylated interferon and ribavirin currently require prior reauthorization for approval. No restrictions or caps on the number of other Antiretroviral medications per client exist.

Eligibility in ADAP includes verified HIV positive status, South Carolina residency, and limited income. The financial requirement is measured according to the Federal Poverty Guidelines. Eligibility remains at 300% of the Federal Poverty Guidelines, and the sliding fee scale includes up to 550% of poverty level. Expenditures are carefully monitored and projections are reviewed monthly.

Figure 59 lists the characteristics of clients enrolled in the ADAP program during 2006. Clients served through ADAP have a similar distribution to that of persons living with HIV/AIDS in South Carolina. The majority of the clients are non-Hispanic African-Americans/Black (69%), male (71%), and in the 25-44 year age group.

Figure 59: 2006 ADAP Patient Profile Compared to Persons Living with HIV/AIDS

Profile	SC HIV/AIDS Prevalence, 12/31/07: 14,696 Persons	Central Pharmacy Total Served: 2,224	Insurance Program Total Served: 663
Male	69%	71%	69%
Female	31%	29%	30%
African American	73%	69%	69%
White	24%	25%	26%
Hispanic/Latino	2%	4%	4%

Question#5: What are the number and characteristics of persons who know they are HIV+ but who are not receiving HIV primary medical care?

To analyze the number of persons living with HIV/AIDS in South Carolina not “in care,” HARS (HIV/AIDS Reporting System) data was used to review all persons diagnosed through December 2007. HARS in South Carolina is a laboratory based reporting system with all CD4 and viral load tests being reportable as of January 1, 2004. Persons who were deceased as of December 31, 2007 were excluded from the analysis. Only current SC residents were included. A person was reported as being “in care” if they had at least one CD4 or viral load test report from January 1, 2007 through December 31, 2007. Persons with no CD4 or viral report in this time frame were defined as “not in care”.

South Carolina conducted the Interstate Duplication Evaluation Project (IDEP) in 2002 assuring that HARS eliminated duplicate cases across states.

Figure 60: SC HIV/AIDS Cases Estimated Not in Care vs. In Care Diagnosed through 2007 (N=15,465)

Figure 60 shows that of the 15,465 patients diagnosed through December 2007, 43% (6,656) patients did not receive a CD4 or viral load test report within the specified time period, therefore are reported as “not in care”. Fifty-seven percent are defined as “in care”.

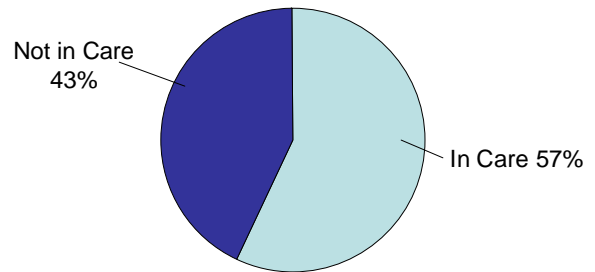
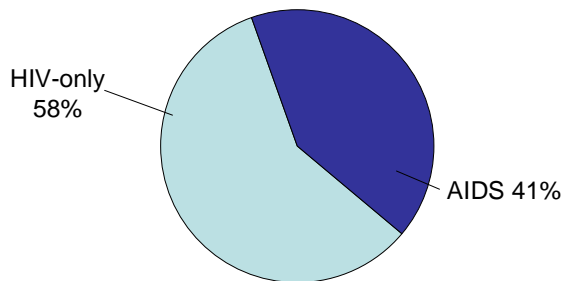


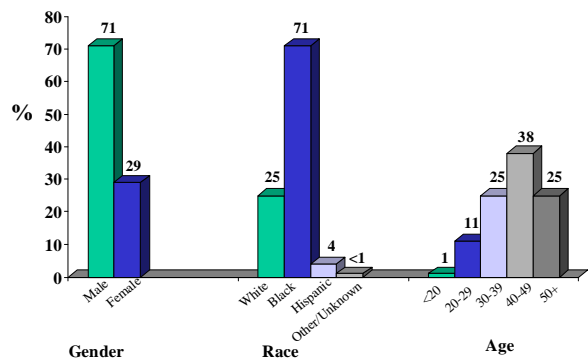
Figure 61: SC HIV/AIDS Cases Estimated NOT In Care Diagnosed through 2007, HIV-only vs. AIDS (N=6,656)



Of the 6,656 clients not in care, 58% are living with HIV-only and 41% are living with AIDS (Figure 61).

Figure 62 demonstrates a comparison of persons not in care by select demographics. By gender, the percent of men not in care (71%) is more than double of the percentage of women not in care (29%). Seventy one percent of those not in care are African-Americans. In addition, a comparison by age groups shows that most persons living with HIV/AIDS and not receiving care are between the ages of 30-49 (63%), followed by those who are 50+ (25%) and 20-29 (11%).

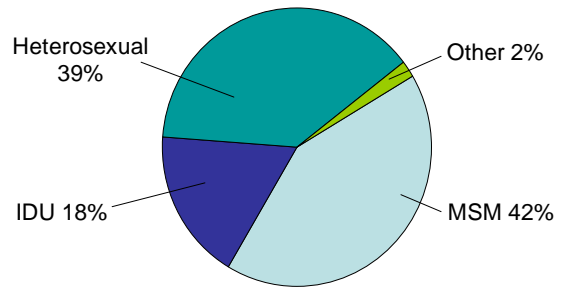
Figure 62: SC HIV/AIDS Cases Diagnosed through 2007, Comparison within Select Demographics Estimated Percentage Not In Care



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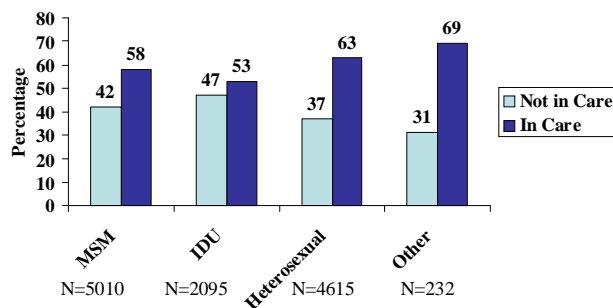
An analysis by mode of exposure of persons living with HIV/AIDS indicates most persons not in care are MSM (42%) and heterosexuals (39%) followed by IDUs (18%) (Figure 63).

Figure 63: SC HIV/AIDS Cases Estimated NOT in Care Diagnosed through 2007 by Mode of Exposure*



*excludes cases with no risk identified, N = 3,513

Figure 64: SC HIV/AIDS Cases Diagnosed through 2007, Comparison within Mode of Exposure In Care vs. Not in Care*



*excludes cases with no risk identified, N = 3,513

Figure 64 goes further to compare those in care versus those not in care within each risk category. Among all MSMs living with HIV/AIDS, more persons are in care (58%) than not in care (42%). Focusing on those persons whose mode of exposure was injecting drug use, the number of those in care (53%) is greater than the number out of care (47%). Likewise, among heterosexuals with HIV/AIDS, 63% are in care compared to 37% not in care.

The location of a person’s residence may have an impact of whether or not they are in care. There are more persons not in care from urban areas (71%) versus rural areas (29%). (Figures 65 and 66).

Figure 65: SC HIV/AIDS Cases Estimated NOT in Care Diagnosed through 2007, by Location (N=6,656)

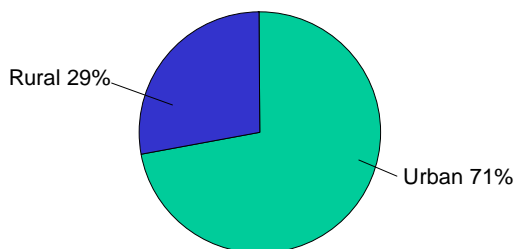


Figure 66: SC HIV/AIDS Cases NOT in Care Diagnosed through 2007, by County

