Epidemiologic Profile
for
2004 HIV/STD Prevention & Care Planning

N.C. Division of Public Health
N.C. Department of Health & Human Services

(revised January 2004)

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Note: References to regions in this document reflect unique HIV/STD Prevention and Care Branch regional designations. See the inside back cover for a region map.

North Carolina Epidemiologic Profile for 2004 HIV/STD Prevention & Care Planning

September 2003
(revised January 2004)

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EXECUTIVE SUMMARY

North Carolina ranks as the 11th most populous state in the nation and experienced rapid growth from the 1990 to the 2000 Census. It has the 7th largest non-white population in the nation. In 2000, the racial/ethnic make-up of the of the state was about 22 percent black or African American (non-Hispanic), 71 percent white (non-Hispanic), and 5 percent Hispanic, with the remaining proportion consisting of primarily American Indians and Asians or Pacific Islanders. Although American Indians only comprise just over 1 percent of the state's population, this group represents the largest population of American Indians in the eastern part of the nation. The state was ranked 33rd in the nation for per capita income in 2000 and 22 percent of its children were at or below the federal poverty level. Recognizing North Carolina's diverse make-up is important to understanding the impact of HIV/AIDS and other STDs on the state because these diseases are disproportionately represented among minorities and those economically disadvantaged.

In 2002, 1,692 new individuals were reported with an HIV and/or AIDS diagnosis (HIV disease). This represents the second year of increased reports. The overall infection rate was 20.3 per 100,000 persons. HIV is disproportionately distributed among the state's population. The 2002 rate of HIV infection for non-Hispanic blacks (64.3 per 100,000) was over 9 times greater than for whites (6.8 per 100,000). The rate of infection for Hispanics (22.7 per 100,000) was over 3 times that for whites, and the rate for American Indians (12.6) is almost twice that for non-Hispanic whites. The highest rate of infection is found among black males at 87.8 per 100,000. The largest disparity is found in comparing white and black females. The HIV infection rate for black females (42.9 per 100,000) is 18 times higher than that for white (non-Hispanic) females (2.4 per 100,000).

Because risk of transmission is very different for males and females, it is important to discuss the risk separately for each. Also, in order to properly discuss risk, the mode of transmission assignment for cases must also be adjusted to include all available risk information and to take in to account cases reported without risk information. In 2002, new HIV disease reports for men who have sex with men (MSM) and MSM/IDU(injecting drug use) accounted for 58 percent of adult and adolescent male reports, while heterosexual contact accounted for 29 percent. For adult and adolescent females, heterosexual contact accounted for about 86 percent of HIV disease reports in 2002, while injecting drug use accounted for about 10 percent.

Indicators of the risk of infection for HIV vary considerably for different behavior groups. Most estimates of this risk are based on a variety of direct and indirect measures. Men who have sex with men continue to account for a substantial proportion of all HIV disease reports even as the risk has spread to other groups. This risk is not evenly spread among races as black MSM account for a larger proportion of reports than do white MSM (29% vs. 22% respectively for 2002 male HIV disease reports). For younger or adolescent (13-24 years) male HIV disease reports, 84 percent were attributed to MSM or MSM/IDU behavior in 2002. Among people reporting risk factors in Counseling and Testing System (CTS) data, those reporting MSM and MSM/IDU risk have consistently had the highest percent of HIV positive test results. In 2002, MSM reports have increased among patients interviewed through field services follow-up (partner counseling and referral services or PCRS) for both HIV and syphilis reports. Also in

2002, male reports for hepatitis A increased significantly from earlier years, indicating a likely increase in MSM activity among these hepatitis patients.

Injecting drug use (IDU) risk accounted for about 13 percent of HIV disease reports in 2002. Since 1998, there has been a decrease in reported IDU among PCRS patients, but HIV positivity rates for IDU in CTS data (first-time testers) have remained fairly stable over the last five years. Among HIV cases (PCRS interviewees), males are 1.5 times more likely than females to have IDU risk. IDU risk is identified among a relatively older population of PCRS interviewees for both HIV and syphilis, with almost 46 percent being 40-49 years of age.

Heterosexual contact as a primary risk accounts for nearly half of new HIV disease reports. It is the principal risk for female cases, especially younger female cases, and accounts for over 85 percent of female reports. Heterosexual HIV reports are higher among non-white males (31%-38 %) than among white males (10%). The vast majority of first-time testers in CTS data report heterosexual risk (78% of 11,279 males tested and 78% of 17,386 females tested). Indications of heterosexual risk-taking behavior can be found in the high rates of infection for other sexually transmitted diseases. In 2001, North Carolina ranked 7th in the nation for gonorrhea. The male-to-female ratio for gonorrhea has remained stable and near 1.0, indicating the predominance of heterosexual transmission. Additionally, over 95 percent of female syphilis cases and 80 percent of male syphilis cases (PCRS data) reported heterosexual activity.

While trends among new HIV disease reports can indicate prevention needs, estimates of persons living with HIV or AIDS can indicate service and care needs. Further, trends among AIDS cases may indicate the areas of most severe needs. As of December 31, 2002, an estimated 22,500 persons were living with HIV or AIDS in the state, including those who may have been unaware of their infection. Of the persons who have been reported and are listed as living, 68 percent are males and 32 percent are females. With respect to race/ethnicity, 72 percent are black (non-Hispanic), 24 percent are white (non-Hispanic). Most of these persons living with HIV are older, with over half being at least 40 years of age. In 2002, 1,014 new AIDS cases were reported in North Carolina, a 16 percent increase from the previous year. New AIDS cases in the state have increased substantially in the last two years. The reasons for the reported increases in AIDS reports are varied and likely represent several factors, including variations in access to medical care, changes in HIV treatment effectiveness over time, the expected progression of disease for the high number of individuals infected in the mid-1990s, and enhanced surveillance efforts to capture report information. The case rate for new AIDS cases in 2002 is ten times higher for blacks than whites. Increases have been noted for both black males and black females over the last five years.

Twelve consortia, along with other agencies and the state, provide Ryan White Title II services to HIV-infected persons across North Carolina. According to summary reports provided by service agencies, about 5,443 Ryan White Title II clients received or accessed funded services in 2002. In December 2002, about 2,762 individuals were enrolled in the AIDS Drug Assistance Program (ADAP). The demographics of Ryan White Title II clients and ADAP enrollees are very similar to the observed demographics of all persons listed as living in North Carolina with HIV or AIDS at the end of 2002.

INTRODUCTION

The 2004 version of North Carolina's HIV/STD Epidemiologic Profile describes the HIV (human immunodeficiency virus) and STD (sexually transmitted disease) epidemics among various populations in North Carolina. As in previous versions, the majority of the data presented are drawn from surveillance systems maintained by the HIV/STD Prevention and Care Branch. We have also integrated other appropriate sources in the analysis and discussion.

This profile is divided into three sections. Section I describes general population demographics and social characteristics, the HIV epidemic, and indicators of HIV transmission risk in North Carolina. Section II describes HIV/AIDS treatment and care in North Carolina. Section III describes the epidemics and impact of other bacterial STDs in North Carolina including syphilis, chlamydia, and gonorrhea. Throughout the profile, we address the following questions:

1. What are the sociodemographic characteristics of the general population in North Carolina?
2. What is the scope of the HIV/AIDS and STD epidemics in North Carolina?
3. What are the indicators of risk for HIV/STD infection in North Carolina?
4. What are the patterns of utilization of HIV services of persons in North Carolina?

The HIV and STD epidemics in North Carolina are related in that many of the same populations at high risk for one disease may be at increased risk for others as well. Public health activities at the state level aimed at controlling these epidemics have long been integrated to make optimum use of limited resources. While AIDS cases reflect HIV infections that occurred in earlier years, examination of trends in AIDS cases can draw attention to other aspects of the epidemic. Treatment advances have delayed progression from HIV to AIDS and from AIDS to death. This pattern has been demonstrated to some extent in surveillance data. Thus, "from 1996 on, cases of AIDS and deaths will provide a valuable measure of the continuing impact of treatment, as well as describe populations for whom treatment is either not accessible or not effective." (CDC, 1998, *Trends in the HIV & AIDS Epidemic,* Atlanta, GA.)

The profile content reflects a broad spectrum of information about sexually transmitted diseases to support the integrated activities of the HIV/STD Prevention and Care Branch. This document seeks to add information to existing knowledge concerning HIV and other STD incidence in North Carolina. Along with prevention activities, the HIV Prevention and Care Branch facilitates several key HIV care and services programs across the state. This profile's information on HIV care and services for patients should assist various community-based organizations in assessing the need to provide or expand services in their service area. Some information in the profile is displayed or organized by HIV/STD Prevention and Care Regions. These regional designations represent assignments as of 12/31/2002 (see map on inside back cover).

DATA SOURCES

In order to properly interpret this profile, it is critical to consider data limitations when evaluating identified trends and patterns. Data collection systems vary in completeness and relevancy. Listed below are the main data sources used in this profile.

1. Core HIV/AIDS Surveillance

HIV/AIDS Surveillance Data

Diagnosis of AIDS became reportable in North Carolina in 1984 and diagnosis of HIV infection (name-based) was made reportable in 1990. By state law, morbidity reports of HIV and AIDS from health providers are submitted to local health departments on confidential case report forms and communicable disease report cards. Surveillance reports include demographic and clinical information for the patient as well as mode of exposure and vital status. These surveillance reports are forwarded to the state's HIV/STD Prevention and Care Branch, which maintains the data from the 100 counties in the electronic HARS (HIV/AIDS Reporting System) surveillance system. In addition to providers, laboratories that provide diagnostic services must also report HIV positive results directly to the state.

Morbidity surveillance data represent the most complete and comprehensive single source of information available about HIV/AIDS in the state, but can only provide estimates of HIV infection because not all persons who are infected are tested and reported. Further surveillance data may not provide reliable information about newly acquired infections because there may be a significant delay between infection and testing.

Enhanced Perinatal Surveillance

As part of the routine surveillance of HIV-infected individuals, an ongoing and systematic surveillance program was developed to collect comprehensive information on HIV-infected pregnant women and perinatally exposed babies. The dataset includes mother-infant pairs for births to infected mothers from 1999 forward. This supplemental HIV/AIDS surveillance project began in early 2002 and involves the extraction of medical records for all HIV-exposed babies and their mothers. Information collected includes testing, counseling, and treatments administered during pregnancy and delivery. Children are followed until their HIV status can be confirmed. Because this program is relatively new, limited information is available at this time.

2. Behavioral Surveys

BRFSS

The Behavioral Risk Factor Surveillance System (BRFSS) is a random telephone survey of health behaviors and preventive health practices of state residents aged 18 years and older in households with telephones. North Carolina's BRFSS, conducted by the State Center for Health Statistics, is part of the national program which was developed in the early 1980s by the Centers for Disease Control and Prevention (CDC) in collaboration with state health departments. Some questions about basic HIV/AIDS knowledge are part of this survey, and in 2001 additional specific questions were added that addressed sexual behaviors.

3. STD Surveillance

STD Surveillance Data

Like other communicable diseases, diagnoses of certain bacterial STDs in North Carolina must be reported to local health departments, who in turn report the information to the state. The HIV/STD Prevention and Care Branch is responsible for receiving and aggregating surveillance reports for syphilis, chlamydia, gonorrhea, nongonococcal urethritis (NGU), pelvic inflammatory disease (PID), chancroid, granuloma inguinale, and lymphogranuloma vernereun. Data on these diseases are maintained in the electronic surveillance system STD-MIS (STD Management Information System). Information collected includes complete demographic and clinical information for diagnosed cases. Periodic surveillance reports about STDs are published to assist public health officials across the state in monitoring morbidity and planning prevention activities. For a more complete description of chlamydia, gonorrhea, and syphilis reporting, please see Appendix A.

4. Supplemental HIV/STD surveillance

Gonococcal Isolate Surveillance Project (GISP)

GISP is a collaborative project between selected STD clinics, five regional laboratories, and the CDC. It was established in 1986 to monitor trends in antimicrobial susceptibilities of strains of *Neisseria gonorrhoeae* in the United States in order to establish a rational basis for the selection of gonococcal therapies. *N. gonorrhoeae* isolates are collected from the first 25 men with urethral gonorrhea attending STD clinics each month in 26 cities in the United States. The men are asked a number of behavioral questions and the samples are tested for resistance to a variety of antibiotics. The project includes one site in North Carolina, located at Fort Bragg.

Partner Counseling and Referral System (PCRS)

The HIV/STD Prevention and Care Branch's Field Services Unit has responsibility for conducting patient interviews of persons newly diagnosed with HIV or syphilis. The interviews are conducted to counsel patients on prevention of subsequent risk, assist with referrals for treatment and services, and help with partner notification. This program is referred to as the partner counseling and referral system (PCRS). Information is collected on clinical status and treatment, patient demographics and detailed mode of exposure risk. The information is maintained in local STD-MIS and referred to as PCRS data. Information is limited to interviewed patients.

5. HIV counseling and testing data

Counseling and Testing System (CTS)

The HIV/STD Prevention and Care Branch of North Carolina supports confidential HIV testing and counseling through its CTPRN (Counseling Testing and Partner Referral and Notification) Program. This program began in 1985 and offered confidential and anonymous HIV testing; the anonymous testing was discontinued in 1997. HIV testing sites are available across the state (n=135) at county health departments or community-based organization (CBO)s. In addition, 13 non-traditional test sites offer testing at facilities that are more convenient for high-risk

individuals such as CBOs or may be offered at health departments, sometimes outside of normal business hours. Along with testing results, information is collected about risk behaviors and reasons for testing. Results and information from counseling and testing data reflect the characteristics of the testing population and may not be applicable to other populations.

6. Substance abuse data

National Household Survey of Drug Abuse (NHSDA)
The NHSDA is an annual survey, conducted by the Federal Government since 1971, to gather information on trends in illicit drug use among the general U.S. population. The survey is administered by SAMHSA (the Substance Abuse and Mental Health Services Administration). Non-institutionalized persons over age 12 are interviewed using CAPI (Computer Assisted Personal Interview) technology in which survey responses are recorded directly into the computer. A trained interviewer is present to assist with the computer but does not know the responses given. The survey is designed to be large enough to provide estimates for each of the 50 states and the District of Columbia. Youth and young adults are over-sampled. Statistical estimates of results are available for North Carolina.

7. Vital Statistics data

Birth and death data
All births, deaths, fetal deaths, marriages, and divorces that occur in North Carolina are reported to the state. The process involves a statewide system of hospitals, funeral directors, registers of deeds, local health department staff, and others who register vital events. Statewide vital events are registered and maintained by the Vital Records Unit of the N. C. Division of Public Health. Vital Records staff code information according to specific guidelines in order to produce statistical data that subsequently are used to characterize specific areas such as infant mortality and communicable disease. Reporting of deaths is nearly 100 percent complete. Death information includes the cause and underlying causes of death, but some causes of deaths, including HIV/AIDS may be under-reported.

Abortion data
Beginning in 1978, abortion providers in the state of North Carolina began voluntarily reporting abortion data to the State Center for Health Statistics. Reports include demographics and basic medical information on the mothers, but no identifying information. Many sites report 100 percent of the procedures they perform. For those sites unable to report 100 percent, data are extrapolated from the cases they do report. Abortions provided for North Carolina residents are also reported by providers in other states, the largest number coming from those states directly bordering North Carolina.

Pregnancy Risk Assessment Monitoring System (PRAMS)
North Carolina PRAMS data comes from an ongoing mail/telephone survey of women who have recently given birth. Approximately 200 women have been randomly selected each month since the survey began in July 1997. The women were asked questions about their behavior during and after pregnancy, the intention and timing of their pregnancy, and demographic information.

8. Population data

U.S. Census Bureau

The U.S. Census Bureau completes an official enumeration of the national population every 10 years, the most recent in 2000. The data are used to provide timely information about the people and economy of the United States. Questionnaires are sent to all households, most often by mail but in some cases in person by Census personnel. Making questionnaires available in different languages, advertising campaigns, and canvassing door-to-door are employed to increase the census count. The final response rate for the entire U.S. population in 2000 was 67 percent. Data available include population counts and demographics for the state, county and smaller geographic units. Information is also available on family structure, education attainment, income level and housing status.

North Carolina State Data Center

The North Carolina State Data Center (SDC) is a consortium of state and local agencies established in cooperation with the U.S. Bureau of the Census to provide the public with data about North Carolina and its component geographic areas. The State Demographics unit is primarily responsible for producing population estimates and projections. County and state population projections — available by age, race (white/other) and sex — are used for long range planning. To produce these estimates and projections, the unit develops and enhances complex mathematical computer models, and collects and reviews a variety of data from federal, state and local government sources. It annually surveys North Carolina municipalities for annexation data, municipalities and counties for selected institutional data, and military bases for barracks population data.

Kaiser Family Foundation: State Health Facts Online

The Henry J. Kaiser Family Foundation (KFF) is an independent philanthropy organization focusing on the major health care issues facing the nation. The KFF provides information and analysis on a broad range of policy issues, emphasizing those that most affect low-income and vulnerable populations. Data presented on State Health Facts Online are a selection of key health and health policy issues collected from a variety of public and private sources, including original Kaiser Family Foundation reports, data from public websites, and information purchased from private organizations.

9. Ryan White CARE Act data

In 1990, Congress enacted the Ryan White CARE Act to provide funding for states, territories and eligible metropolitan areas (EMAs) to offer primary medical care and support services for persons livings with HIV disease who lack health insurance and financial resources for their care. The state administers the Title II program and provides funding for services to care consortia and other local service providers. The purpose of Title II funding is to improve the quality, availability and organization of health care and support services for individuals and families with, or affected by, HIV disease in each state or territory. Some Title II-funded services in North Carolina are administered and provided through local consortia. Most of the data about Care Act services is generated from summary reports prepared by local consortia. Because clients can be served by more than one provider, there is some degree of duplication of data.

SECTION 1: CORE EPIDEMIOLOGIC QUESTIONS

QUESTION 1: WHAT ARE THE SOCIODEMOGRAPHIC CHARACTERISTICS OF THE GENERAL POPULATION IN NORTH CAROLINA?

QUESTION 2: WHAT IS THE SCOPE OF THE HIV/AIDS EPIDEMIC IN NORTH CAROLINA?

QUESTION 3: WHAT ARE THE INDICATORS OF RISK FOR HIV INFECTION IN NORTH CAROLINA?

QUESTION 1: WHAT ARE THE SOCIODEMOGRAPHIC CHARACTERISTICS OF THE GENERAL POPULATION IN NORTH CAROLINA?

Highlights/Summary

- North Carolina ranks 9th in the nation in percentage population growth and is the 11th most populous state.
- North Carolina's population grew by 21.4 percent from 1990 to 2000.
- Among the top 50 metropolitan population growth areas in the nation, Raleigh/Durham/Chapel Hill ranked 12th, Wilmington ranked 14th, Charlotte/Gastonia/Rock Hill ranked 26th and Greenville ranked 40th.
- North Carolina has the 7th largest non-white population in the nation.
- North Carolina has the 15th largest Hispanic and Latino population in the nation.
- The median age for North Carolinians in 2000 was 35.3 years.
- Twenty-four percent of North Carolinians were 18 years and younger in 2000, and 12 percent 65 years and older.
- The per capita income for North Carolinians in 2000 was $27,418 (U.S. Dept. of Commerce).
- North Carolina was 33rd in the nation in per capita income in 2000.
- Twenty-two percent of North Carolina's children were at or below the federal poverty rate in 2000.
- Fourteen percent of adults and 19 percent of North Carolina's elderly were at or below the federal poverty level in 2000-2001 (Kaiser Family Foundation).
- During 2001, 16.8 percent of North Carolinians were eligible for Medicaid coverage, with a monthly average of one out of eight people.

Population

According to the 2000 Federal Census, the United States population grew by 13.4 percent between 1990 and 2000 (1990: 248,709,873--2000: 281,421,906). During this same period, North Carolina's population grew by 21.4 percent, ranking 9th in percentage growth among the states and 6th in the number of persons added to the state. North Carolina is ranked as the 11th most-populous state. According to the North Carolina State Demographer, the total projected population for North Carolina in 2002 was 8,336,829 with the population among the counties ranging from 4,184 (Tyrrell) to 734,390 (Mecklenburg). Population projections for 2002 listed five counties with populations under 10,000 (Clay: 9,139, Graham: 8,108, Camden: 7,170, Hyde: 5,784 and Tyrrell: 4,184). According to the 2000 Census, over half of North Carolina's population lives in only sixteen of the state's one hundred counties (Mecklenburg, Wake, Guilford, Cumberland, Forsyth, Durham, Buncombe, Gaston, New Hanover, Onslow, Davidson, Catawba, Pitt, Cabarrus, Randolph, and Alamance). Figure 1 displays the population distribution among the counties in North Carolina.

The U.S. Office of Management and Budget (OMB) defines metropolitan areas (MAs) as areas with specific social and economic links that have a central city of at least 50,000 persons. The OMB metropolitan/non-metropolitan designation recognizes commonly used political boundaries such as "counties" and applies to the entire county. MAs can be subdivided into areas of different sizes based on population. Defined metropolitan areas are displayed in figure 2. The 2000 Census also recorded substantial growth in North Carolina metropolitan areas. In 2001, 70 percent of North Carolinians lived in metropolitan areas and 30 percent lived in non-metropolitan areas (Urban Institute and Kaiser Family Foundation). Four North Carolina areas were among the top 50 metropolitan population growth areas in the United States: Raleigh/Durham/Chapel Hill ranked 12th; Wilmington ranked 14th; Charlotte/Gastonia/Rock Hill ranked 26th; and Greenville ranked 40th. Three metropolitan areas ranked among the top 50 in the country for numerical population growth: Charlotte/Gastonia/Rock Hill; Raleigh/Durham/Chapel Hill; and Greensboro/Winston-Salem/High Point.

The designation of metropolitan areas versus non-metropolitan areas is commonly used as a delineation of urban and rural by many government agencies, including the Centers for Disease Control and Prevention. It should be noted, however, that there are other definitions of urban versus rural areas. For example, the U.S. Census Bureau has definitions based in part on person density. In that case, individual counties may contain both urban and rural components. The U.S. Census Bureau does prepare ranking of the states by applying its rural and urban definitions to individual households. For more information on the Census Bureau's rural versus urban definitions, please visit its web site, http://www.census.gov/. In this document, the discussion of rural versus urban will be limited to the OMB designations since its smallest component is a county.

Figure 1. North Carolina Individual County Populations, 2002

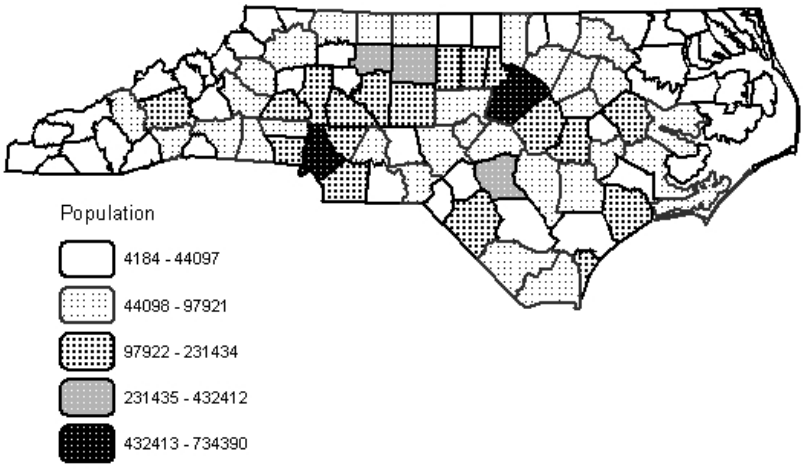
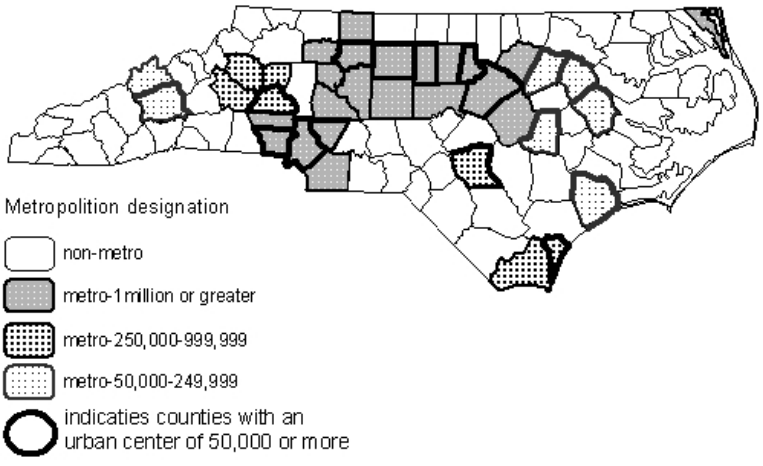


Figure 2. North Carolina Metropolitan Designations



Demographic Composition

Race/Ethnicity and Gender

North Carolina varies in demographic composition from region to region. Figures 3, 4, and 5 display the racial and ethnic make-up of North Carolina counties as reported in the 2000 Federal Census. North Carolina has the 7th largest non-white population (2,141,397) in the United States. In 2000, 11 counties had populations consisting of more than 50 percent non-white residents (Robeson: 66.7 percent; Bertie: 63.5 percent; Hertford: 62.2 percent; Warren: 60.8 percent; Northampton: 60.7 percent; Edgecombe: 59.7 percent; Hoke: 54.5 percent; Halifax: 57.1 percent; Vance: 51.4 percent; Washington: 51.4 percent; and Anson: 50.2 percent).

Table 1 displays the percentage of males and females for the major race/ethnicity categories in North Carolina, according to the bridged race categories for the 2000 Census (please see pg. 94 for more information about Census data and the bridged race categories used to calculate rates). Note the high ratio of Hispanic males to females for North Carolina and the high ratio of black females to males. Figure 5 displays the proportion of Hispanic population in 2000, by county. In 2000, North Carolina had the 15th largest Hispanic/Latino population in the nation. Within North Carolina, Duplin County had the highest proportion of Hispanic residents (15 percent), followed by Lee County (11.7 percent), Sampson County (10.8 percent), and Montgomery County (10.4 percent). Table 2 displays race/ethnicity by gender for the HIV/STD Prevention and Care Branch regions. Note the larger proportion of white non-Hispanics in region one, American Indians in region five, and black non-Hispanics in region six. A North Carolina map with the regional designations displayed can be found on the inside back cover.

Table 1. North Carolina race/ethnicity proportions by gender, 2000

Gender	Amer. Indian / Hawaiian*	Asian/Pacific Islander*	Black*	White*	Hispanic	Total
Males	0.61%	0.76%	10.21%	34.60%	2.82%	48.98%
Females	0.64%	0.80%	11.54%	36.15%	1.89%	51.02%
Total	1.25%	1.56%	21.75%	70.75%	4.71%	100.0%

* non-Hispanic

Table 2. North Carolina race/ethnicity proportions by gender and HIV/STD Prevention and Care Branch Regions, 2000

	Amer. Indian/ Hawaiian*		Asian/Pacific Islander*		Black*		White*		Hispanic		Total %
	M%	F%	M%	F%	M%	F%	M%	F%	M%	F%	
Region 1	0.6	0.6	0.4	0.5	2.6	2.5	43.4	46.7	1.6	1.1	100
Region 2	0.2	0.2	1.1	1.0	8.7	10.0	36.2	37.7	3.0	2.0	100
Region 3	0.2	0.2	0.6	0.6	8.4	9.8	36.5	39.0	2.7	1.9	100
Region 4	0.2	0.2	1.3	1.3	11.9	13.6	32.0	33.5	3.7	2.3	100
Region 5	3.6	3.9	0.5	0.7	14.6	15.8	27.4	27.6	3.4	2.5	100
Region 6	0.3	0.3	0.3	0.4	17.2	19.7	28.8	30.1	1.7	1.2	100
Region 7	0.4	0.4	0.4	0.6	9.2	9.8	37.7	36.9	2.8	1.8	100

* non-Hispanic

Age and Gender

Table 3 displays the percentage of the population in each age group, by gender. The trend in North Carolina follows the typical age trend of slightly more males under 12 years old and more females 40 and older.

Table 3. North Carolina Age Groups by Gender, 2000

Gender	0-12 yrs	13-19 yrs	20-29 yrs	30-39 yrs	40-49 yrs	50+ yrs	Total
Females	8.74%	4.55%	7.06%	7.85%	7.62%	15.20%	51.02%
Males	9.16%	4.80%	7.59%	7.90%	7.31%	12.22%	48.98%
Total	17.9%	9.35%	14.65%	15.75%	14.93%	27.42%	100.0%

Table 4 displays the proportion of males and females, by age group, for the HIV/STD Prevention and Care Branch regions. Note the greatest proportion of children ages 0-12 years in region five, and adults ages 50 and older in region one. Region seven has the highest proportion of 20-29 year old males.

Table 4. North Carolina characteristics of age by gender and HIV/STD Prevention and Care Branch Regions, 2000

Regions	0-12 yrs		13-19 yrs		20-29 yrs		30-39 yrs		40-49 yrs		50+ yrs		Total
	M%	F%	M%	F%	M%	F%	M%	F%	M%	F%	M%	F%	%
Region 1	8.1	7.6	4.5	4.1	6.2	5.8	7.1	6.9	7.2	7.5	15.6	19.3	100
Region 2	9.6	9.1	4.6	4.4	7.3	7.1	8.6	8.4	7.5	7.7	11.5	14.2	100
Region 3	8.9	8.5	4.6	4.5	6.9	6.9	7.8	7.8	7.4	7.7	12.9	16.1	100
Region 4	9.3	8.9	4.8	4.6	8.4	8.0	8.7	8.6	7.6	7.9	10.4	12.9	100
Region 5	10.2	9.7	5.2	4.9	8.6	7.3	7.7	7.6	6.7	7.1	11.1	13.9	100
Region 6	9.1	8.7	5.1	4.9	7.0	6.7	7.0	7.2	7.3	7.8	12.8	16.4	100
Region 7	8.7	8.3	5.1	4.6	9.9	7.0	7.2	7.1	6.8	7.2	12.8	15.3	100

The median age for persons living in North Carolina in 2000 was 35.3 years, with 24.4 percent 18 years and younger and 12.0 percent 65 years and older. Figure 6 displays the median ages for each county in North Carolina according to the 2000 Census. Note that the counties with median age in the 24-31 year old category typically have special populations of young adults in college or in the United States military. Additionally, these highlighted counties have smaller populations (except Cumberland County), and thus this younger age grouping makes up a greater proportion of the total population.

Poverty, Income and Education

According to the U.S. Department of Commerce's Bureau of Economic Analysis, the per capita income (preliminary) for 2000 in North Carolina was $27,418 or 91 percent of the national average of $30,271. This places North Carolina 33rd in the U.S. for personal per capita income and 4th in the Southeast. Preliminary data suggest 250,700 North Carolinians were unemployed as of January 2003, or 6 percent of the state's civilian, non-institutional population. This rate is down from January 2002, when 289,900 North Carolinians were unemployed, or 6.9 percent.

The national unemployment rate was 5.7 percent in January 2003 and 5.6 percent in January 2002 (Kaiser Family Foundation).

In 1999, nine percent of North Carolina's families were below the federal poverty level. Of families with female head of household (no husband present), with children under five years old, 45.9 percent were below the federal poverty level. For individuals 18 years and older living in North Carolina, 12.3 percent were below the federal poverty level at some point during 1999. Table 5 displays the individual poverty rate by age and gender for the state and the nation during 2000-2001. Table 6 displays the individual poverty rate for N.C. and the U.S. during 2000-2001. Figure 10 (see page 17) displays the individual poverty level as a percent by county for 2000.

Table 5. North Carolina and U.S. poverty rates by age & gender, 2000-2001

Age in Years	NC (N)	NC (%)	US (N)	US (%)
Children 0-18	490,180	22%	16,392,920	21%
Adults 19-64	673,790	14%	24,371,680	14%
Elderly 65+	183,120	19%	4,495,450	13%

Source: Urban Institute and Kaiser Family Foundation

Table 6. North Carolina and U.S. income and poverty rate, 2000-2001

Race/Ethnicity	Individual Poverty Rate (% of each group at or below the federal poverty level)		Median Family Income	
	NC (%)	US (%)	NC	US
White*	11%	11%	$31,540	$33,170
Black*	27%	30%	$18,750	$18,000
Hispanic	31%	29%	$15,560	$18,000
Other	30%	19%	$16,470	$27,940

* non-Hispanic Source: Urban Institute and Kaiser Family Foundation

According to the 2000 Census, of North Carolinians 25 years and older, 7.8 percent had less than a 9th grade education; 14 percent had some high school but no diploma; 28.4 percent were high school graduates, including equivalency; 20.5 percent had some college, but no degree; 6.8 percent had an associate's degree; 15.3 percent had a bachelor's degree; and 7.2 percent had a graduate or professional degree. The state's dropout rate declined in 2001-2002 for the third consecutive year; at the same time, the standards and requirements for students have increased. The number of students dropping out of school fell to 21,046 from 22,365 in 2000-2001, an 8.8 percent decrease from the previous year. (See http://www.ncpublicschools.org/ for further information.)

Public Aid

Approximately $5.6 billion was spent on health services for roughly 1.3 million Medicaid recipients, or $4,175 per recipient per year, for the 2001 state fiscal year. During 2001, a total of 1,307,593 North Carolinians, or 16.8 percent of the total population, were eligible for Medicaid coverage at some point during the year. The Elderly and Disabled recipients numbered 31.4 percent of the total recipients, yet their expenditures amounted to $4 billion, or 45.5 percent of the total service expenditures (see figure 7). Recipients from the Families and Children group

Figure 3. North Carolina African American or Black Population, 2000

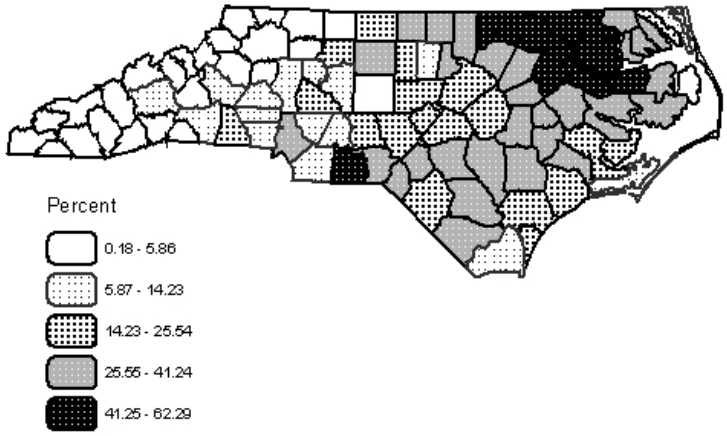


Figure 4. North Carolina American Indian Population, 2000

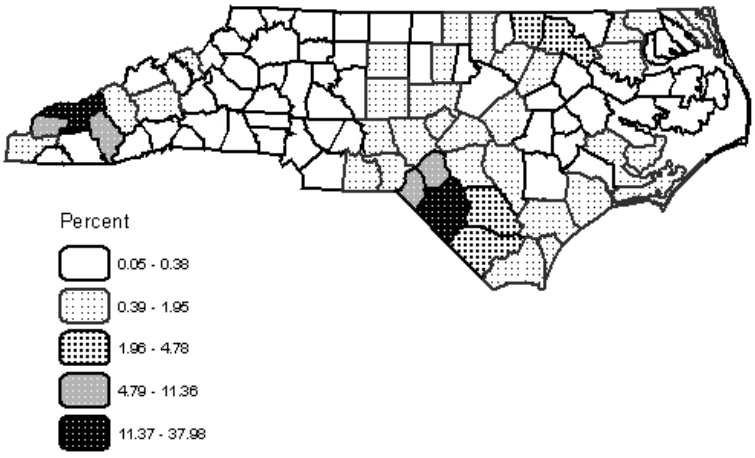


Figure 5. North Carolina Hispanic Population, 2000

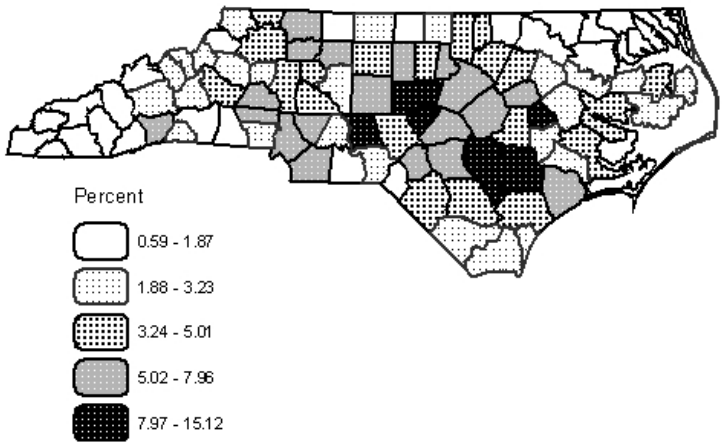
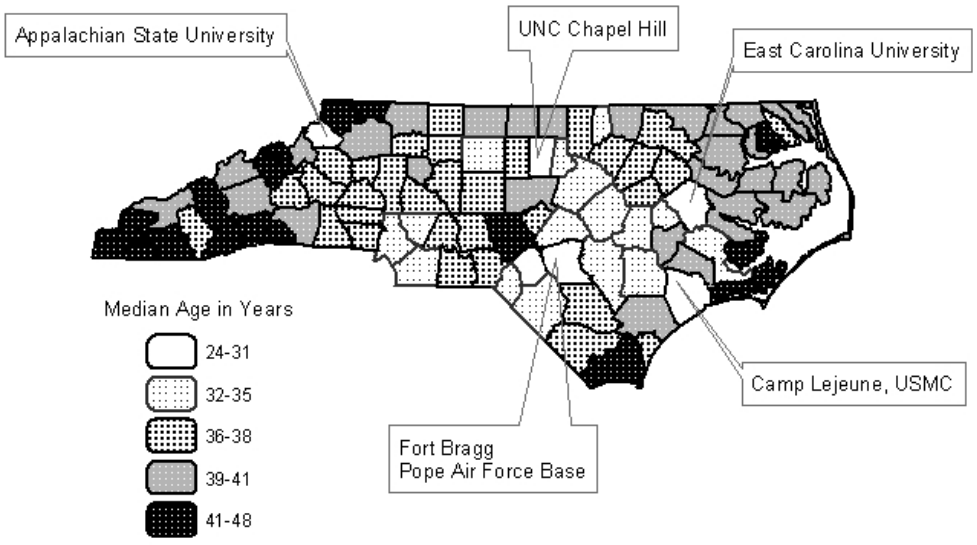


Figure 6. North Carolina Median Ages by County, 2000



represented 67.9 percent of all recipients; however they accounted for only 26.6 percent of total service expenditures, or $1.5 billion. Figure 8 displays the percentage of North Carolinians who received Medicaid in 2000-2001, by race. Figure 9 displays the thirteen-year history of the number of monthly Medicaid eligibles in North Carolina. The monthly average number of eligibles was roughly one out of eight people in 2001 (state fiscal year). Of those eligible, 96.5 percent received Medicaid services. Figure 11 displays the percent of Medicaid eligibles by county for 2001. Compared with 2000, the number of Medicaid eligibles increased by 10.9 percent in 2001. (Division of Medical Assistance, see also *Medicaid in North Carolina Annual Report State Fiscal Year* 2001, also available at www.dhhs.state.nc.us/dma/annreport).

Health Indicators

There are a variety of ways to measure the health of different populations, especially in regard to sexual activity and access to health care. In 2001, North Carolina ranked 21st in the nation for reported chlamydia cases, 7th for reported gonorrhea cases, and third for reported primary and secondary syphilis cases (CDC, *Sexually Transmitted Disease Surveillance*, 2001, available at http://www.cdc.gov/std/stats/). Another health indicator is to compare the state infant death rate to the national rate. The 1999 infant death rate for North Carolina was 9.1 per 1,000 live births, as compared to the national average of 7.1 per 1,000 live births (see the National Center for Health Statistics, available at http://www.cdc.gov/nchs/data/nvsr/nvsr51/nvsr51_02.pdf). Birth rates for young women can be an indirect marker for sexual activity. The teen birth rate (women ages 15-19) for North Carolina in 2001 was 55.2 per 1,000, while the national teen birth rate in 2001 was 45.8 per 1,000 young women. Table 7, below, displays the teen birth rate, low birth weight percentage and the infant death rate for North Carolina, for race/ethnicity categories (note that data was not uniformly available for each year and for all race/ethnicity groupings). Note the high teen birth rate for Hispanic women in the state as compared both to the national teen birth rate for Hispanic women and to the other race categories in N.C.

Table 7. N.C. and U.S. teen birth rate, low birth weight and infant death rate, by race/ethnicity

Race/Ethnicity	Teen Birth Rate, per 1,000 births (1999)		Percentage of Low Birth Weight** Infants (2001)		Infant Death Rate, per 1,000 births (1999)	
	NC	US	NC	US	NC	US
White*	43	34	7.6%	6.8%	6.9	5.8
Black*	80.2	81	13.8%	13.1%	15.5	14.6
Hispanic	219	93.4	6.1%	6.5%	-	-
Asian/ Pacific Islander	49.1	22.3	-	-	-	-
American Indian	87.4	67.8	-	-	-	-

* non-Hispanic Source: Kaiser Family Foundation

**Low birth weight is birth weight of less than 2,500 grams (5 lb. 8 oz.)

Figure 7. N.C. Medicaid percentage of recipients and service expenditures, State Fiscal Year (SFY) 2001

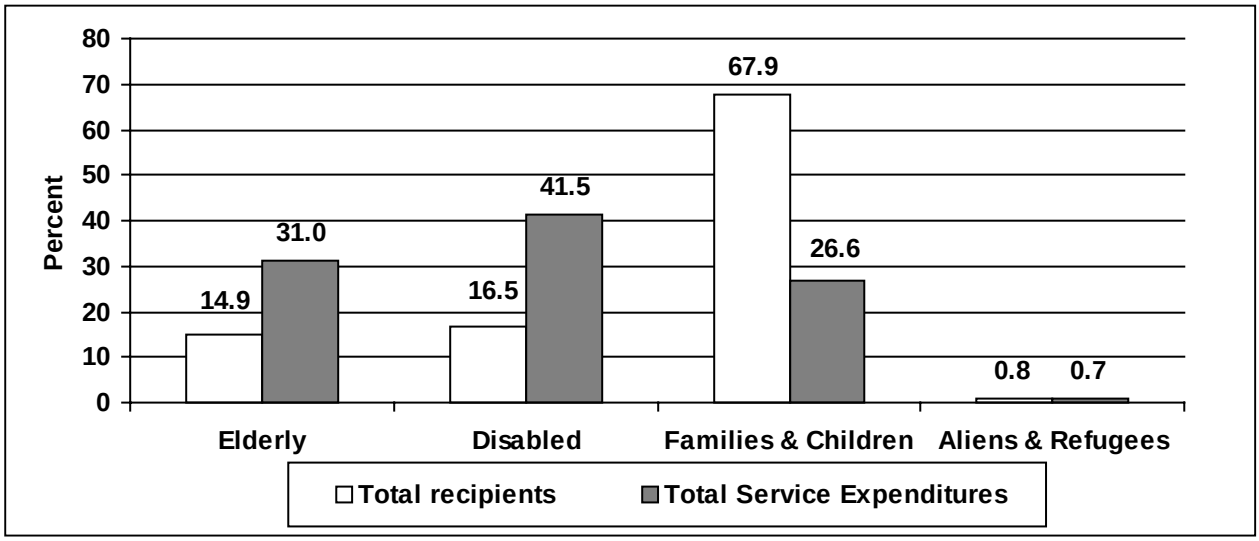


Figure 8. N.C. Medicaid recipients by race/ethnicity, 2000-2001

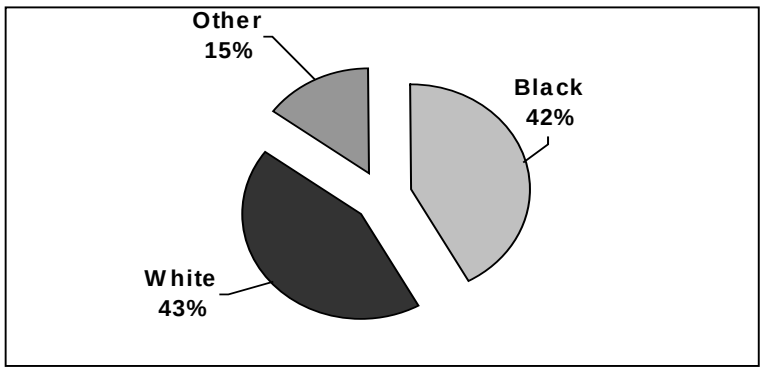


Figure 9. N.C. Medicaid history of average monthly Medicaid eligibles, by year

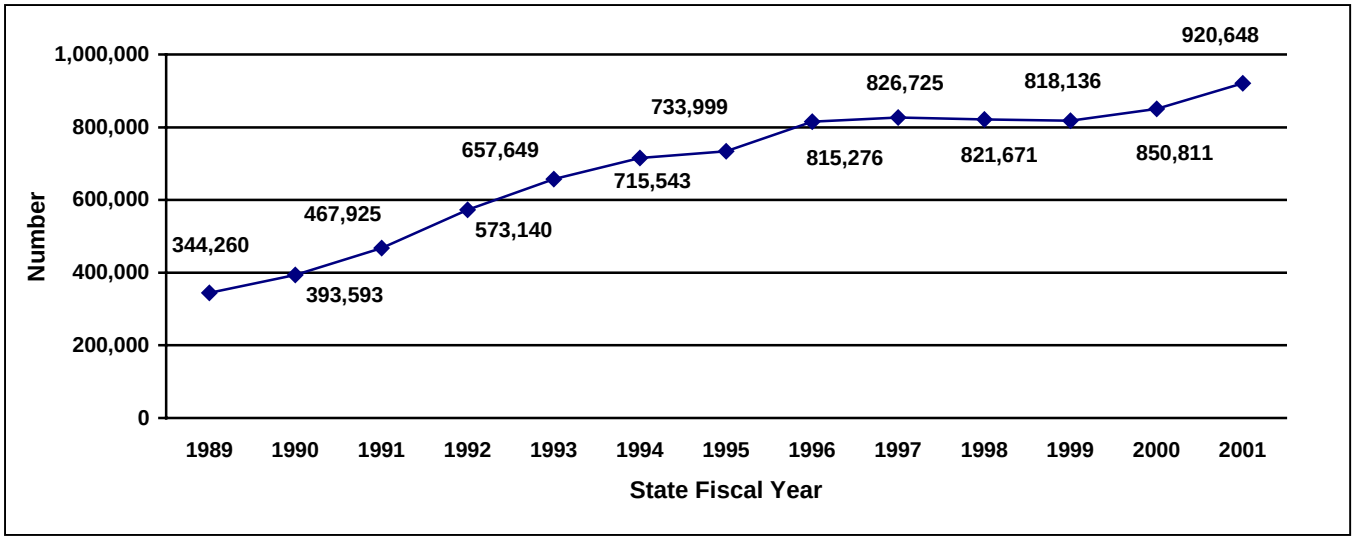


Figure 10. Percent of North Carolina Residents
Below the Federal Poverty Level (Individual), 2000

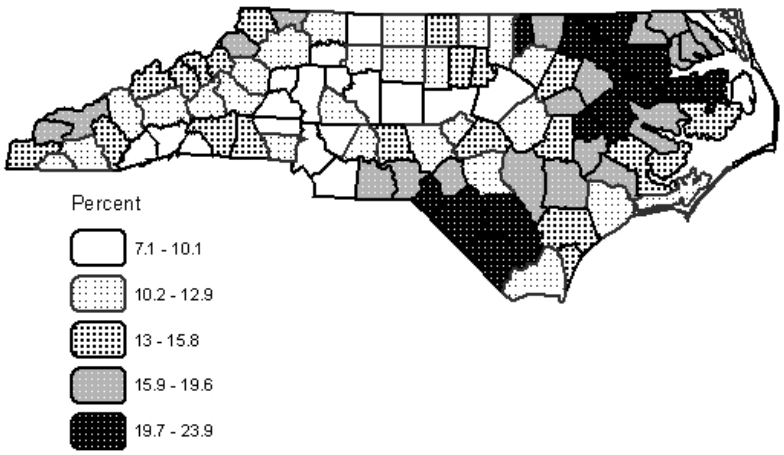
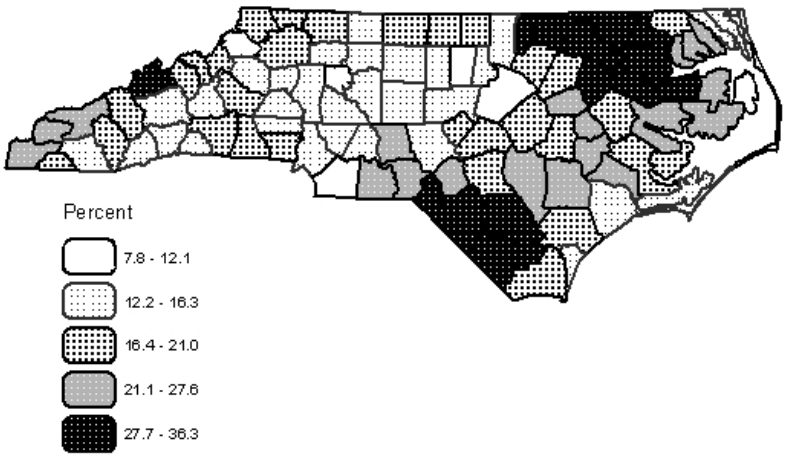


Figure 11. Percent of Medicaid Eligibles in North Carolina, 2001



QUESTION 2: WHAT IS THE SCOPE OF THE HIV/AIDS EPIDEMIC IN NORTH CAROLINA?

Special note: Unless otherwise noted, references to all racial groups in surveillance data exclude Hispanics. Hispanics are counted as a separate group. Thus "white" refers to white non-Hispanics, "blacks" refers to black non-Hispanics, etc.

Highlights/summary

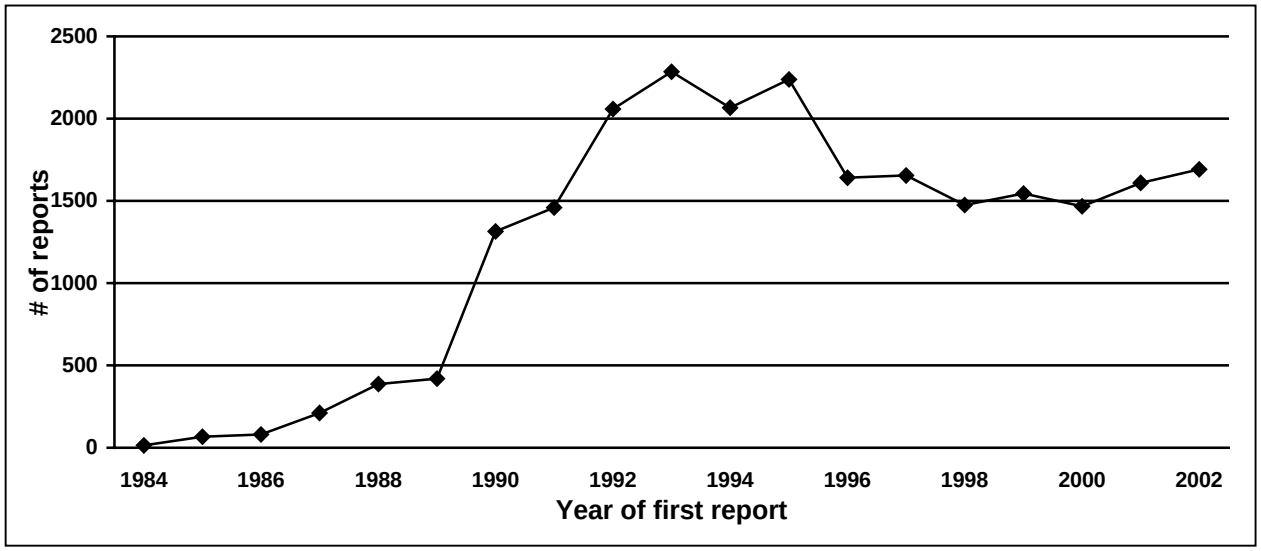
- In 2002, 1,692 new individuals were reported with an HIV diagnosis (HIV disease). N.C. has had increases in reports for the last two years.
- North Carolina's overall rate of HIV infection in 2002 was 20.3 per 100,000.
- The cumulative number of individuals reported with HIV through December 31, 2002 was 23,770 persons.
- An estimated 22,500 persons were living with HIV or AIDS in North Carolina (including persons who may have been unaware of their infection) as of December 31, 2002.
- In 2002, the rate of HIV infection for non-Hispanic blacks (64.3 per 100,00) was over 9 times greater than for non-Hispanic whites (6.8 per 100,000). The rate of infection for Hispanics (22.7 per 100,000) was over 3 times greater than that for whites, and the rate of infection for American Indians (12.6 per 100,000) was almost twice that for whites.
- The highest rate of HIV infection in 2002 was among black non-Hispanic males, at 87.8 per 100,000. This was almost 8 times that for white non-Hispanic males.
- The largest disparity observed was for black non-Hispanic females with a rate of HIV infection (42.9 per 100,000) that was 18 times higher than that for white non-Hispanic females (2.4 per 100,000).
- Adults aged 30-39 years accounted for the greatest proportion (35%) of HIV reports in 2002.
- For 2002 adult/adolescent HIV disease reports, heterosexual transmission risk was indicated in 47 percent of all reports, men who have sex with men (MSM) was indicated in 40 percent of reports, and injecting drug use (IDU) was indicated in 13 percent of reports.
- In 2002, MSM and MSM/IDU accounted for 58 percent of new HIV disease reports among adult/adolescent males. Heterosexual contact accounted for 29 percent.
- In 2002, heterosexual contact accounted for about 86 percent of HIV disease reports and injecting drug use accounted for about 10 percent among adult/adolescent females.

- Nationally, in 2001, North Carolina was among one of five states with the highest number of HIV infection reports (excluding AIDS cases), from non-metropolitan areas.
- Since the early 1990s, about 25 percent of North Carolina's HIV disease reports have consistently come from rural, or non-metropolitan, areas.
- In 2002, Durham County had the highest in-state HIV infection rate (based on a 3-year average for 2000-2002) of 45.7 per 100,000 population. This was more than twice the state's 3-year average rate of 19.4 per 100,000 population. Bertie County ranked second with an HIV rate of 42.1, followed by Hertford County (41.8), Wilson County (39.8) and Lenoir County (36.4).
- In 2001, HIV/AIDS was listed as the 6th leading cause of death for adults aged 25- 44 years old.
- In 2001, HIV/AIDS was listed as the 7th leading cause of death for blacks overall. The crude HIV death rate for blacks is about 14 times higher than for whites.

Overall HIV/AIDS Trends

HIV Incidence

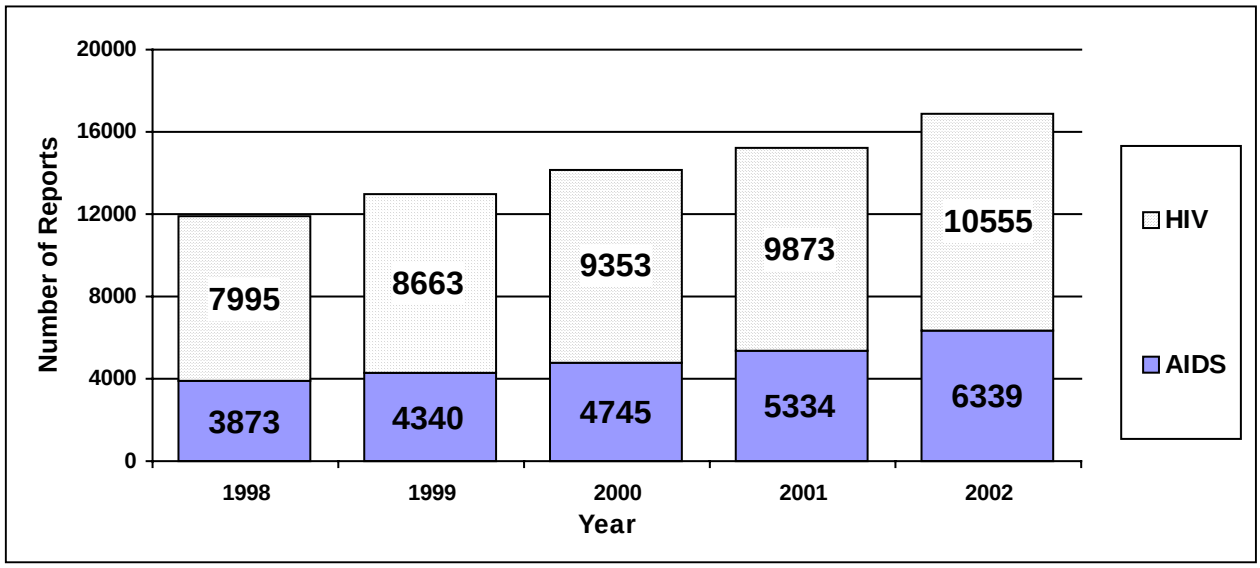
Figure 12. HIV disease reports over time



Although HIV surveillance reports do not reflect the true incidence of all new infections since not everyone infected is tested and reported, it is important to follow surveillance reporting trends to estimate whether reported incidence is increasing or decreasing. In 2002, 1,692 new individuals were reported with an HIV diagnosis (*HIV disease*). This brings the total number of individuals reported with *HIV disease* (through December 31, 2002) to 23,770. [*HIV disease*

includes not only persons diagnosed with HIV but also persons diagnosed with HIV and AIDS at the same time. Thus *HIV disease* includes all new individuals reported as infected by the date of their first report. More information about this designation of *HIV disease* can be found in the appendix on page 92.] Figure 12 shows all HIV disease cases (HIV/AIDS) reported, by year of first report for the individual. The addition of state-required HIV infection reporting in 1990 accounts for the dramatic increase in reports beginning at that time. The number of cases

Figure 13. Persons living with HIV in North Carolina, 1998-2002



reported was highest from 1992 through 1995, representing a time when HIV incidence was likely at its peak. It is important to note that some of this spike in reporting was also probably a result of better reporting from providers due to enhanced awareness about HIV/AIDS issues. This likely occurred because of the implementation of required HIV infection reporting, changes in the AIDS case definition and/or as a result of enhanced active surveillance activities by staff. Thus, part of this 1992 to 1995 spike was likely a reflection of prevalent cases being reported. An interesting correlation to note is that 1992 was the peak year for HIV seropositivity among women who gave birth in North Carolina (data from the Survey in Childbearing Women) and was also the peak year for syphilis cases reported in North Carolina.

Although the number of new HIV disease reports per year has been relatively stable since 1996, yearly report totals have increased over the last two years. Reporting by type of initial case (HIV or AIDS) has been fairly consistent since the mid-1990s. Roughly 30 percent of new individuals reported each year with HIV disease also represented new AIDS cases (i.e. HIV and AIDS were reported at the same time for the individual.)

HIV Prevalence

As stated earlier, the cumulative number of HIV disease cases reported through December 31, 2002 was 23,770, of whom 6,876 have either died or have an unknown vital status. Therefore, the total number of persons living with HIV and reported to the HIV/STD Prevention and Care Branch is 16,894. Figure 13 displays the cumulative number of persons living with HIV or AIDS from 1998 to 2002.

One method for estimating HIV prevalence is based upon the CDC estimate that two-thirds to three-fourths of the persons living with HIV and AIDS have been tested and know their status. Applying this technique to our current surveillance total of 16,894 persons living in North Carolina with HIV/AIDS would increase the prevalence estimate to about 22,500. This estimate, however, may be overstated because some people reported in the surveillance data with HIV/AIDS are listed as living but are, in fact, not.

HIV Demographics

Table 8 displays demographics of HIV disease reports for persons newly reported with HIV during 2002 and those persons living with HIV/AIDS as of December 31, 2002. The comparison of the two groupings (new reports vs. persons living) is very similar demographically, an indication that in a broad sense, the epidemic has not changed meaningfully in 2002 as compared to recent years. It is important to keep in mind that, because there can be significant delay between HIV infection and testing (reporting), changes in the epidemic will take longer to be observed in surveillance data. Two differences are noteworthy between the 2002 cases only and all persons living with HIV/AIDS. As expected, there is a larger representation of older persons among the persons living with HIV/AIDS as many persons live several years with a diagnosis. Note too, that there is a larger representation of Hispanics in new reports. This is not unusual, given the dramatic increase in the Hispanic population in North Carolina over the 1990s. Please refer to pages 12,15 and figure 5 in Question 1 for more information about North Carolina's Hispanic population.

In 2002, the rate of HIV infection among males (28.5 per 100,000 population) was over twice that of females (12.5 per 100,000). The rate of HIV infection among non-white populations was much greater than that among whites (6.8 per 100,000). The rate for blacks (64.3 per 100,000) was over 9 times greater; the rate for Hispanics (22.7) was over three times greater; and the rate for American Indians (12.6) was almost twice that for whites.

Table 8. North Carolina HIV/AIDS Demographics, 2002

	HIV disease (HIV/AIDS) reports (2002)			Persons living with HIV/AIDS[#] (as of 12/31/2002)		
	No.	Pct.	Rate (per 100,000)	No.	Pct.	Rate (per 100,000)
Total	1,692		20.3	16,894		202.6
Gender						
Male	1,162	68.7%	28.5	11,560	68.4%	283.1
Female	530	31.3%	12.5	5,334	31.6%	125.4
Race/ethnicity						
White*	403	23.8%	6.8	4,011	23.7%	68.0
Black*	1,166	68.9%	64.3	12,154	71.9%	670.5
Am Indian/ Al Native*	13	<1%	12.6	149	<1%	143.9
Asian/PI*	12	<1%	9.3	62	<1%	47.8
Hispanic	89	5.3%	22.7	411	2.4%	104.7
* non-Hispanic						
Age group						
00-12	9	<1%	0.6	116	<1%	7.8
13-19	50	3.0%	6.4	113	<1%	14.5
(13-24)	211	(12.5%)	15.4	-	-	-
20-29	365	21.6%	29.9	1,806	10.7%	147.9
30-39	597	35.3%	45.5	5,808	34.4%	442.5
40-49	463	27.4%	37.2	6,145	36.4%	493.6
50 and over	208	12.3%	9.1	2,875	17.0%	125.8

[#] includes HIV disease reports for 2002

Recent or New Infections

Serologic studies that identify true new infections (as opposed to newly identified individuals who are infected) can be difficult to implement and may not be generalizable to all populations. Some such studies have been initiated in various areas of the United States, but these studies are of limited use to North Carolina because its communities are inherently different in make-up. Although morbidity surveillance data is limited or prone to testing patterns of the population, which can change over time, it is the most complete information available about HIV for the population in North Carolina. Certain adjustments can be made to the surveillance data to eliminate reports that are known to reflect older infections. For analysis of recent infections, we exclude any new individuals reported if that individual's first report of infection included an AIDS diagnosis or if that individual developed AIDS within two years of first being reported. Tables E-G (pp. 100-102) display the demographics of such reports. As expected, this group of recent infections reflects a slightly younger population, but it also reflects proportions and trends that are very similar to the overall morbidity surveillance data which can be found in tables A-D on pp. 96-99. In comparing cases and rates for the two sets of tables, note that the same demographic trends for gender are represented in both the more recent reports and the overall reports, and there are about the same levels of disparities among racial/ethnic groups. Finally, mode of transmission categories in the recent reports (table E) were proportionately similar to the

categories in the overall morbidity tables (table D). All these comparisons lead us to the conclusion that the recent reports from the surveillance data do not substantially differ from the overall surveillance data. Thus, subsequent discussions in the profile will be limited to examining the trends identified in overall surveillance data, which includes recent reports and contains more complete information.

HIV/AIDS by Race/Ethnicity and Gender

Table 9. 2002 North Carolina HIV disease by race/ethnicity and gender (adult/adolescent only)

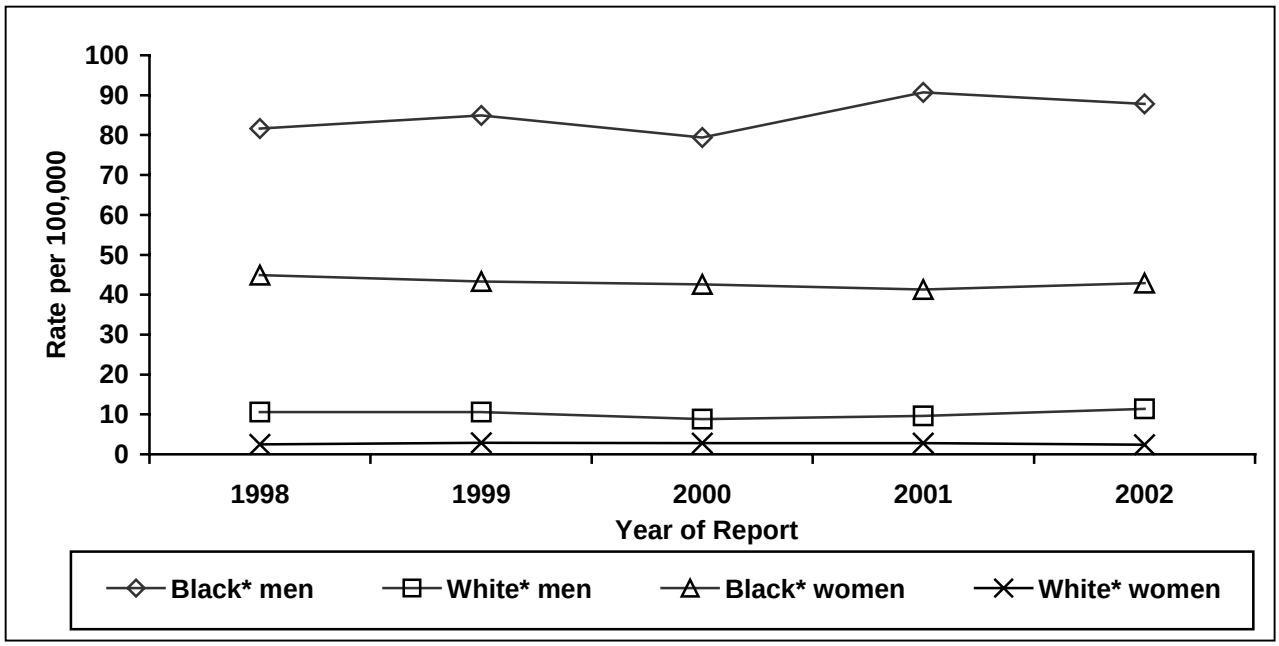
Gender	**Males**			**Females**			**Total**		
Race/ethnicity	**No.**	Pct.	Rate*	No.	Pct.	Rate*	No.	Pct.	Rate*
White (non-Hispanic)	329	20%	11.4	73	4%	2.4	402	24%	6.8
Black(non- Hispanic)	747	44%	87.8	413	25%	42.9	1,160	69%	64.0
Hispanic	58	3%	24.7	29	2%	18.4	87	5%	22.2
Other or unknown	24	2%		11	-		34	3%	--
Total	1,158	69%	28.3	525	31%	12.3	1683	100%	20.2

* per 100,000

Table 9 above indicates that the highest rate of HIV infection among racial/ethnic grouping by gender in 2002 is among black males (87.8 per 100,000), at almost eight times that for white males (11.4 per 100,000). The second highest rate of HIV infection is for black females (42.9 per 100,000), almost 18 times higher than the rate for white females (2.4 per 100,000). This disparity between white and black women represents the largest disparity noted within gender for race/ethnicity. Disparities also exist for Hispanics as compared to whites with the rate for Hispanic men (24.7 per 100,000) is over twice that for white men and the rate for Hispanic women is almost eight times that of white women. Rates for other race/ethnic groups are based on numbers too small for meaningful comparisons but are displayed in table B pg. 97.

Table A on pg. 96 displays the gender distribution of HIV disease reports from 1998 through 2002. The gender distribution of reports is about two male reports for each female report. This trend has been fairly constant over time, with a slight increase noted for male reports in the last two years. Table B on page 97 also displays the race/ethnicity of reports stratified by gender from 1998 through 2002. Notable trends include the increase in white and black report rates (per 100,000) for males (10.6 to 11.4 and 82.4 to 88.1 respectively) and the general increase in reports for Hispanic males and females combined (9.5 to 22.7). Figure 14 gives a graphical depiction of HIV disease rates from 1998 through 2002 for black and white males and for black and white females.

Figure 14. HIV/AIDS by race/ethnicity and gender over time



* non-Hispanic

In addition to routine surveillance data, comparisons or trends can be isolated among persons tested at HIV counseling and testing system (CTS) sites. The North Carolina Division of Public Health collects information from clients seeking HIV testing at one of 149 publicly funded HIV CTS sites across the state. Information on client demographics, risk behaviors, and testing history is collected, but no personal identifying information is included. The risk information provided can be used to classify clients according to a risk hierarchy similar to the one that is used to classify reported cases; however, the self-reported risk may not be accurate. Because clients that use CTS services are self-selected, they do not represent a random sample of the state population. Also, because no personal identifying information is collected, it is impossible to know how many times an individual client is represented in the dataset. However, clients are asked if they have ever been tested for HIV before. Those who say they have could be in the dataset one, two, three, or more times in a single year, depending on their testing frequency. Those who report that they have not been tested before the current test therefore represent a group with each person represented only once and comprise the most stable group from which to make estimates. (For a detailed description, please see appendix A, page 81 and HIV testing discussion beginning on page 85.)

Although the CTS data is limited to persons who test at public clinics, it is very useful because information is available for persons who test HIV negative as well as persons who test HIV positive, and positivity rates can be calculated. Percent positivity among persons testing for the first time at HIV counseling and testing (CTS) sites in North Carolina is displayed in figures 15 and 16. The relative rankings of positivity for males and females and among racial/ethnic groups are similar to those seen in routine surveillance data, but note the slight decrease in positivity for males in 2002 and slight increase in positivity among females. Also notable is the decrease in positivity for American Indians tested for the first time at CTS sites; however, the decrease is based on just a few cases and may not be reliable.

Figure 15. Percent positivity among persons tested (CTS) for the first time by gender

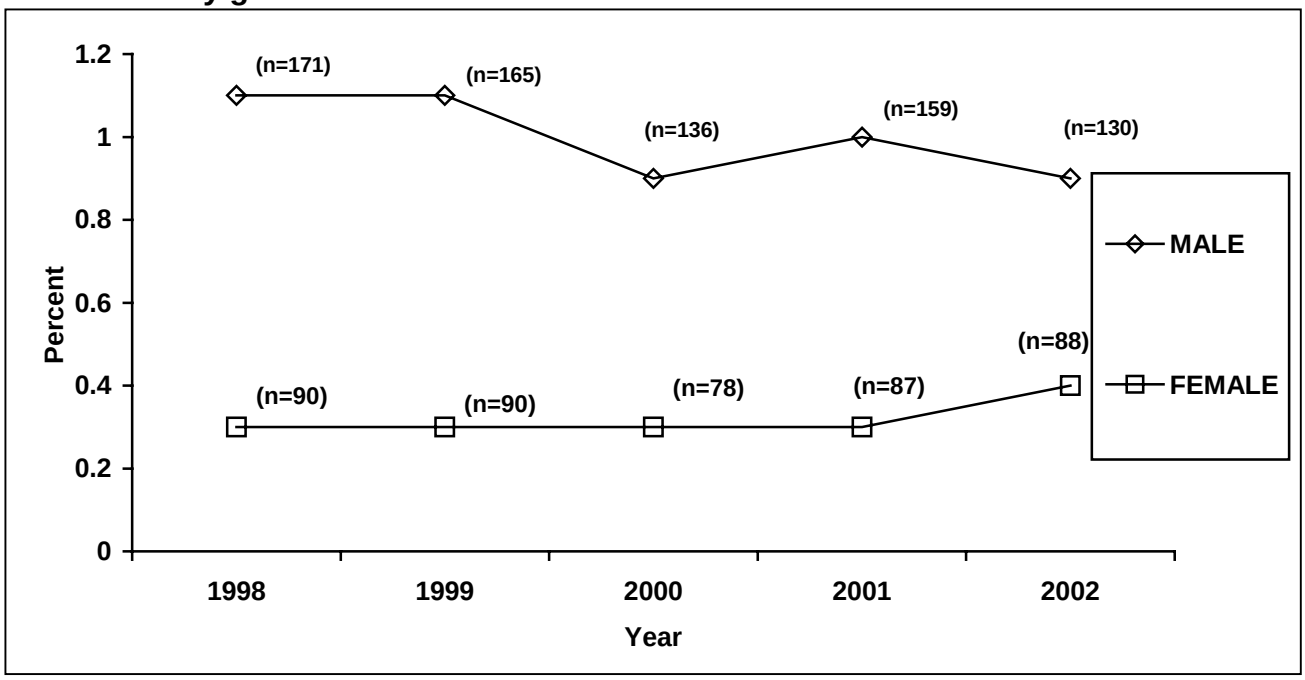
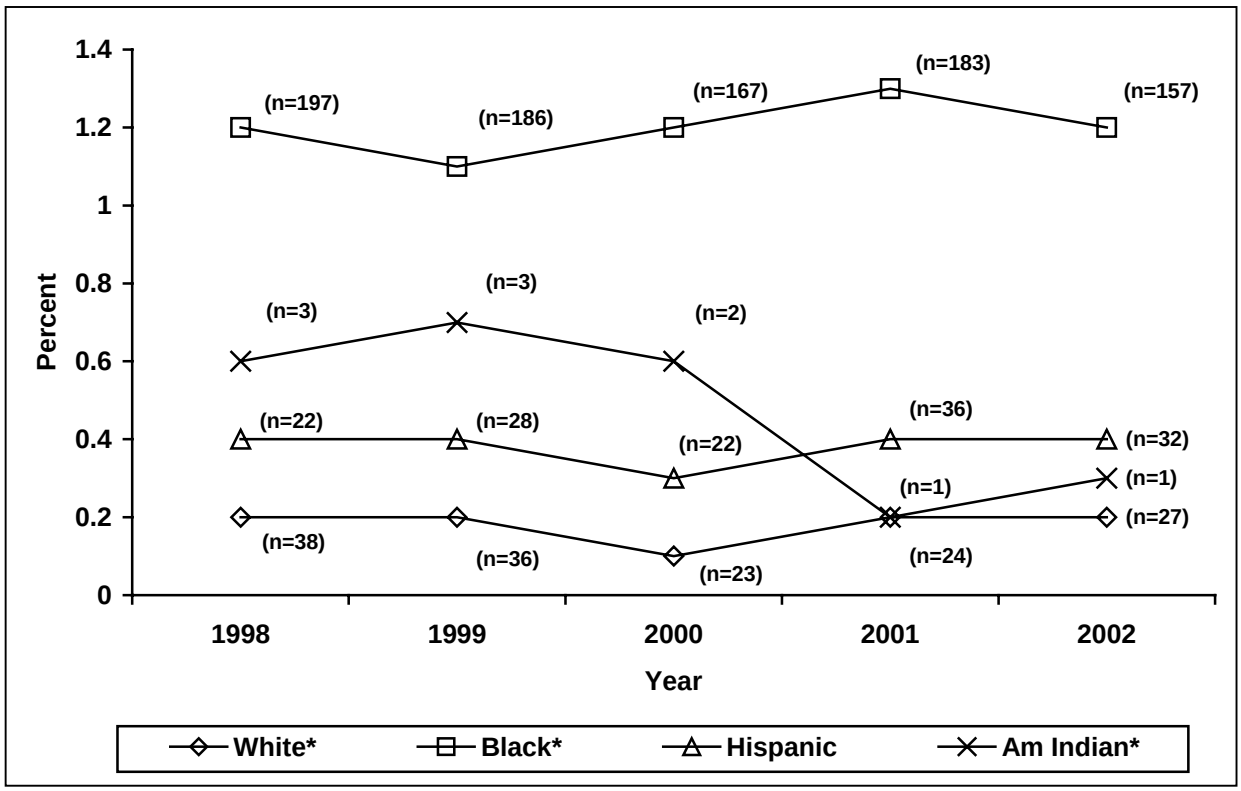


Figure 16. Percent positivity among persons tested for the first time, by race/ethnicity



* non-Hispanic

HIV/AIDS by Age group

Most HIV disease reports are for adults and adolescents, as only 256 of the total of 23,770 reports represent infants or children younger than 13 (table A, pg. 96). In 2002, adults aged 30 to 39 years accounted for the greatest proportion of reports (see table 10 below). Together, reports for 20 to 49 year olds accounted for 84 percent of all reports. HIV is reported among an older population when compared to other sexually transmitted diseases like gonorrhea and chlamydia. However, the age distribution of HIV cases is similar to that of syphilis reports (see section 3). Figure 17 displays the trend of age groups from 1998 to 2002 by rate per 100,000 population. Note that rates have increased for 40 to 49 year olds overall, with slight increases noted for those aged 50 and above and for 13 to 19 year olds. A closer look at rates over time for individual genders (table 10) shows that the increase among 13 to 19 year-olds is attributed to males, while the increase for those aged 50 and older occurred for both sexes. Figure 18 displays the percent positivity for persons tested for the first time at CTS sites from 1998 to 2002. Positivity is highest for 40 to 49 year-olds. Decreases for positivity were noted in 2002 for 30-39 year olds and those aged 50 years or older. Conversely, a slight increase was noted for persons aged 20-29 years. Readers are reminded that CTS data only represent the testing population at public clinics and may not be generalizable to larger populations.

Table 10. 2002 North Carolina HIV disease by age group and gender, 1998-2002

	Males			Females			**TOTAL**		
	No.	Pct.	Rate	No.	Pct.	Rate	No.	Pct.	Rate
0-12	4	0.3%	0.5	5	0.9%	0.7	9	.8%	0.6
13-19	32	2.8%	8.0	18	3.4%	4.7	50	3.0%	6.4
20-29	241	20.7%	38.1	124	23.4%	21.1	365	21.6%	29.9
30-39	417	35.9%	63.3	180	34.0%	27.5	597	35.3%	45.5
40-49	326	28.1%	53.5	137	25.9%	21.6	463	27.4%	37.2
50 & over	142	12.2%	13.9	66	12.4%	5.2	208	12.3%	9.1
Total	1,162	100%	28.4	530	100%	12.3	1,692	100%	20.2

Adult/Adolescent HIV/AIDS by Exposure categories

As part of HIV surveillance activities, a great deal of importance is placed on determining the key HIV risk factors associated with each case. This is achieved by interviewing the patient, their sex and drug-using partners, and the treating physician. Ultimately, each case is assigned to a primary risk category based on a hierarchy of disease transmission developed by the CDC and others. Table 11 displays the mode of transmission for adult/adolescent HIV disease cases for 2002. Three principal risk categories are evident: men who have sex with men (MSM), injection drug use (IDU) and heterosexual contact. Note that the proportion of cases for which there is no identified risk (NIR) is substantial and is higher among females than among males, when proportions are compared for each gender separately. Part of these NIR cases are classified as such not because of missing or incomplete information, but because reported risks do not meet one of the CDC-defined risk classifications. Consequently, inferring trends from exposure category or risk data should be done with extreme caution. NIR cases have been reevaluated and reassigned to a "presumed heterosexual" risk category based on information from follow-up interviews with newly diagnosed individuals, such as the exchange of sex for drugs or money,

Figure 17. HIV/AIDS by age group and gender, 1998-2002

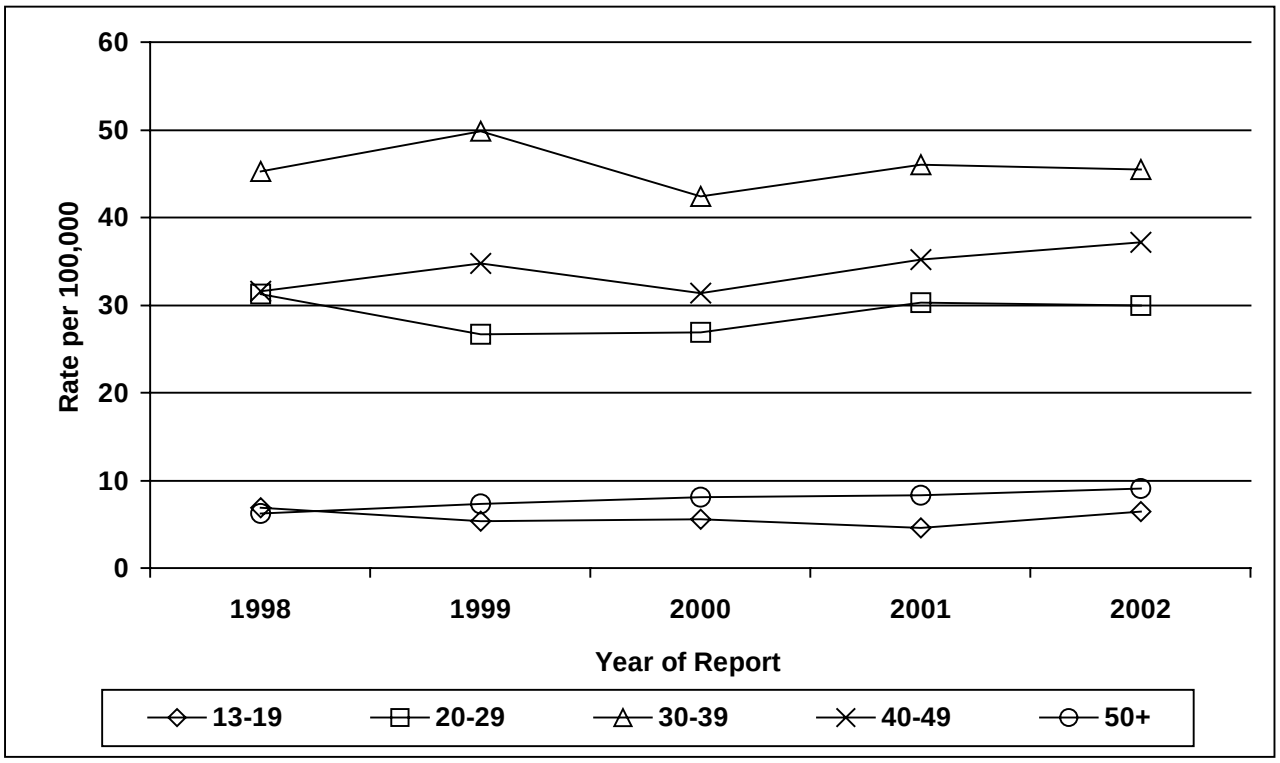
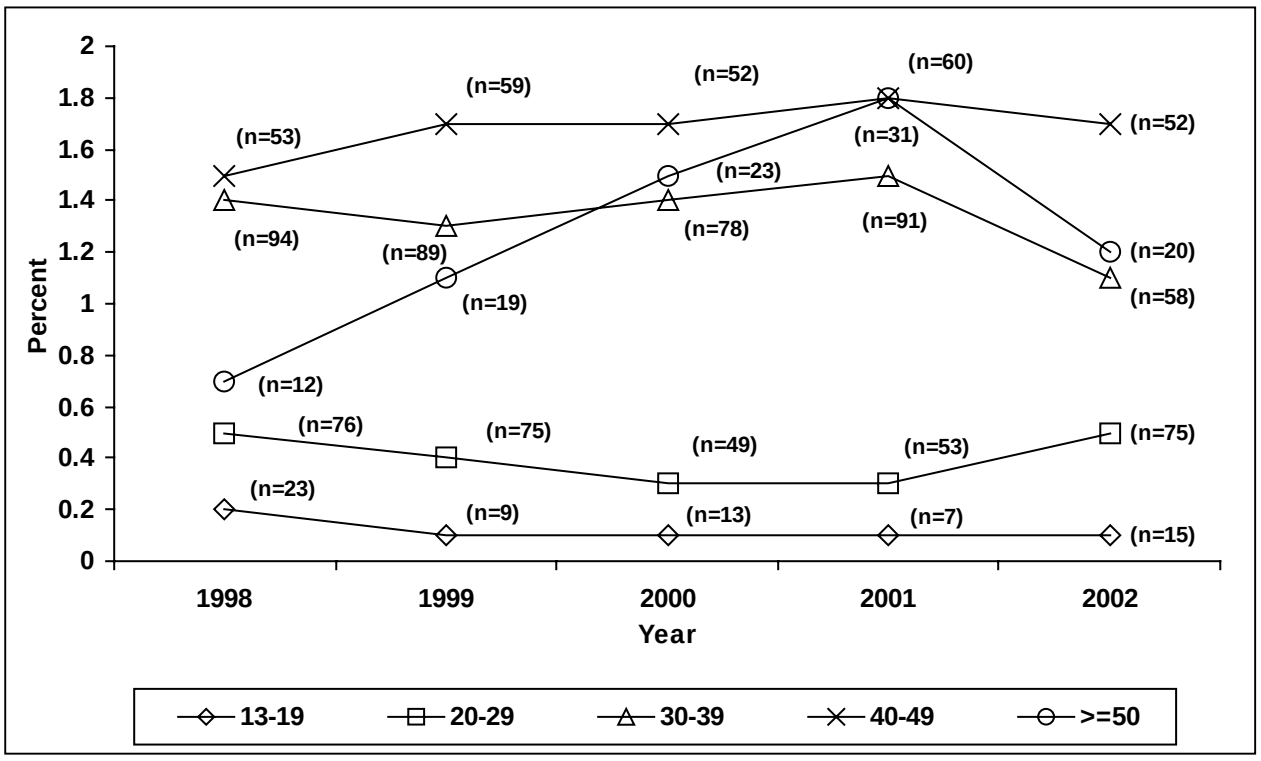


Figure 18. Percent positivity among persons tested (CTS) for the first time by age group, 1998-2002.



previous diagnoses with other STDs, multiple sexual partners, etc.. More information on this NIR reassignment can be found in the appendix on page 93. Even with this assignment of presumed heterosexual risk for some NIR reports, a substantial proportion of NIR reports remain, and it is somewhat difficult to follow changes in the proportions among the risk groups. To simplify the discussion and better describe the overall changes, the remaining NIR cases have been assigned a risk based on the proportionate representation of the various risk groups within the surveillance data (see table 12 below). More explanation of this general risk reassignment of NIR cases can be found in the appendix on page 93. **Further discussions of risk or exposure categories in this profile will be based on the fully redistributed risk of all HIV/AIDS cases.**

Table 11. 2002 Adult/adolescent HIV disease by exposure category, NIRs included

	Males		Females		Total	
	No.	Pct.*	No.	Pct.*	No.	Pct.*
MSM	489	29.1%			489	29.1%
IDU	91	5.4%	27	1.6%	118	7.0%
MSM/IDU	20	1.2%			20	1.2%
Blood Products/ Hemophilia/other	16	1.0%	12	0.7%	28	1.7%
Heterosexual	107	6.4%	186	11.1%	293	17.4%
NIR (presumed heterosexual)	149	8.9%	115	6.8%	264	15.7%
NIR	286	17.0%	185	11.0%	471	28.0%
Total	1,158	68.8%	525	31.2%	1,683	100%

* percent of total persons infected

Table 12. 2002 Adult/adolescent HIV disease by exposure category, NIRs redistributed

	Males		Females		Total	
	No.	Pct.*	No.	Pct.*	No.	Pct.*
MSM	634	37.7%			634	37.7%
IDU	130	7.7%	55	3.3%	185	11.0%
MSM/IDU	32	1.9%			32	1.9%
Blood Products/ Hemophilia/other	22	1.3%	20	1.2%	42	2.5%
Heterosexual	340	20.2%	450	26.7%	790	46.9%
Total	1,158	68.8%	525	31.2%	1,693	100%

* percent of total persons infected

For 2002 adult/adolescent HIV disease reports, heterosexual transmission risk represents about 47 percent of all reports, MSM and MSM/IDU (men who have sex with men and inject drugs) represent about 40 percent of all reports, and IDU represents about 13 percent (including MSM/IDU). This gives a very broad look at how the HIV epidemic is spread among risk groups. However, it is difficult to apply this broad information to effective prevention strategies because risk is very different for males and females. Thus it is necessary to discuss risk for each gender separately. Figures 19 and 20 display risk for each gender. For males, MSM and MSM/IDU together account for about 58 percent of HIV disease reports; heterosexual contact cases account for about 29 percent of reports; and IDU account for about 11 percent. For females, heterosexual contact accounts for about 86 percent of reports and IDU about ten percent.

Tables H and I (pp. 103-104) display the risk categories for the sexes for reports from 1998 to 2002. For males, MSM reports have been fairly consistent as a proportion, with a noted increase in 2002 (49.6% to 54.3%). IDU reports (1998-2002) for males and females have continued to decline as a proportion of reports (17.5% to 11.3% and 17.6% to 10.3%, respectively). As a proportion of reports, heterosexual contact has been less constant for males, but has increased slightly for females (78.1% to 85.9).

Figure 19. 2002 Adult/adolescent female HIV disease reports

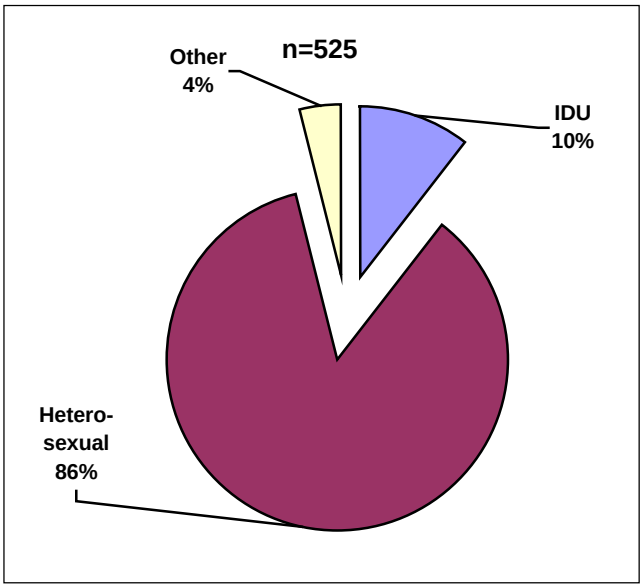


Figure 20. 2002 Adult/adolescent male HIV disease reports

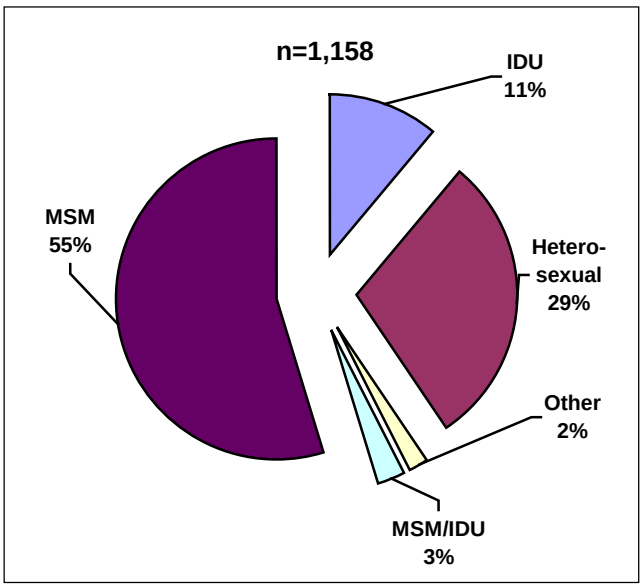


Table 13. 2002 HIV adult/adolescent disease reports by exposure category (N=1674)

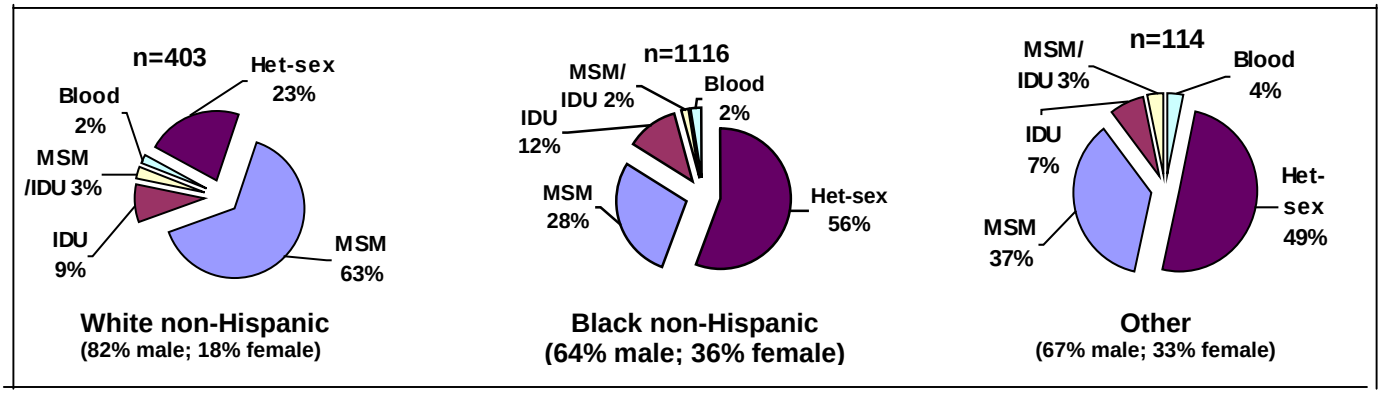
	White*		Black*		Other	
Exposure Category	No.	Pct.	No.	Pct.	No.	Pct.
MSM	255	15.2%	328	19.6%	42	2.5%
IDU	36	2.2%	139	8.3%	9	0.5%
MSM/IDU	10	0.6%	22	1.3%	3	0.2%
Blood Products/ Hemophilia+	9	0.5%	27	1.6%	5	0.3%
Heterosexual	92	5.5%	644	38.7%	55	3.3%
Total	402	24.0%	1,160	69.3%	112	6.7%

* non-Hispanic

Just as HIV is distributed differently among racial/ethnic groups, it is also distributed differently with respect to risk categories for racial/ethnic groups. Table 13 displays the 2002 HIV risk information for racial/ethnic groups. Figure 21 displays the exposure categories for racial/ethnic groups, with the proportions calculated separately for each group. Note that for whites, MSM represented 63 percent of reports, heterosexual risk about 23 percent of reports, and IDU about nine percent of reports. For blacks, heterosexual risk represented about 56 percent of reports, MSM about 28 percent of reports, and IDU about 12 percent of reports. The risk breakdown for other races/ethnicities (Hispanics, American Indians, and Asian/Pacific Islanders) are grouped

together because of low counts. Within this aggregated group, heterosexual risk was reported for 49 percent of reports, MSM for 37 percent of reports and IDU for seven percent of reports. Much of the difference observed across racial/ethnic groups can be accounted for by the difference in risk for males and females and how this risk is defined for each of the racial/ethnic groups.

Figure 21. 2002 HIV disease report by exposure category by race/ethnicity



Geographic Distribution of HIV/AIDS

According to the Centers for Disease Control and Prevention (CDC) in the United States most HIV and AIDS reports are from large metropolitan areas (greater than 500,000 population) in all regions of the country. The South, as a region, has the greatest proportion of reports from small metropolitan areas (50,000-500,000 population) and non-metropolitan areas (less than 50,000). North Carolina's HIV epidemic, like that of other states in the South, is more rural in nature than compared to the national epidemic. According to the CDC, more than 25 percent of North Carolina's AIDS reports in 2001 were from non-metropolitan areas. North Carolina was among five states (including Florida, Mississippi, Texas and New York) that reported the most HIV infection (not AIDS) cases from non-metropolitan areas, at that time. It is important to note that HIV was not consistently reported in all states; thus the region/state HIV (not AIDS) comparisons are only for those states that reported HIV.

The distribution of HIV disease (HIV & AIDS) is uneven across North Carolina, as can be seen in figures 22 and 23. This distribution can be partly explained by the population distribution (see figure 1, pg. 9 in section one), as the epidemic tends to be concentrated in urban areas, though it reaches rural areas as well. North Carolina's epidemic has a significant rural component. Since the early 1990s, roughly 25 percent of North Carolina's HIV disease reports have consistently come from rural or non-metropolitan counties. This trend seems fairly steady and reflects the demographics of the state (figure 2, pg. 9). Tables L-N (pp. 107-109) give individual county totals of HIV disease and AIDS cases reported, cases listed as living at the end of 2002, and a ranking of case rates (per 100,000) based on a three-year average [rate was calculated using the average number of cases for the three previous years ending in 2002]. Readers are cautioned to view rates carefully, as rates based on small numbers (generally less than 20) are considered unreliable. Durham County ranked number one with the highest 3-year average rate (per 100,000 population) of HIV in 2002 (45.7), followed by Bertie County (42.1), Hertford County (41.8), Wilson County (39.8), and Lenoir County (36.4).

Figure 22. North Carolina HIV Disease Cases, 2002

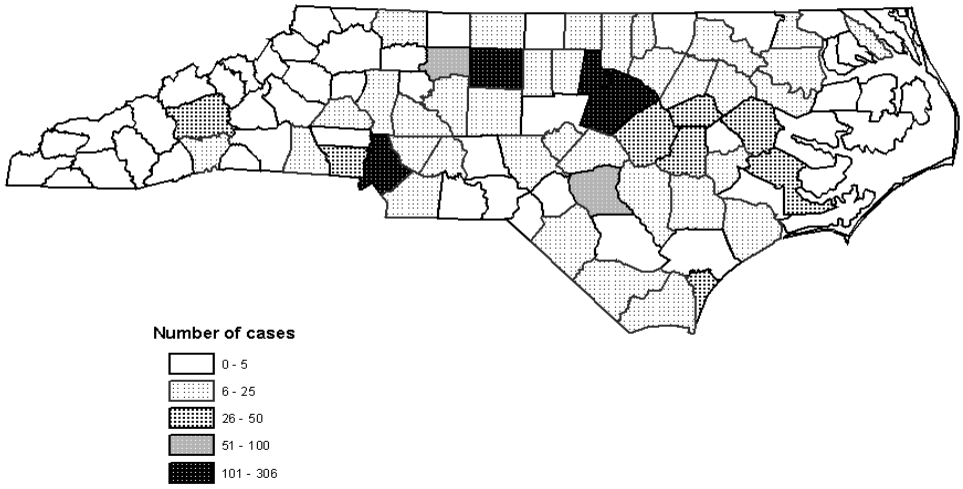
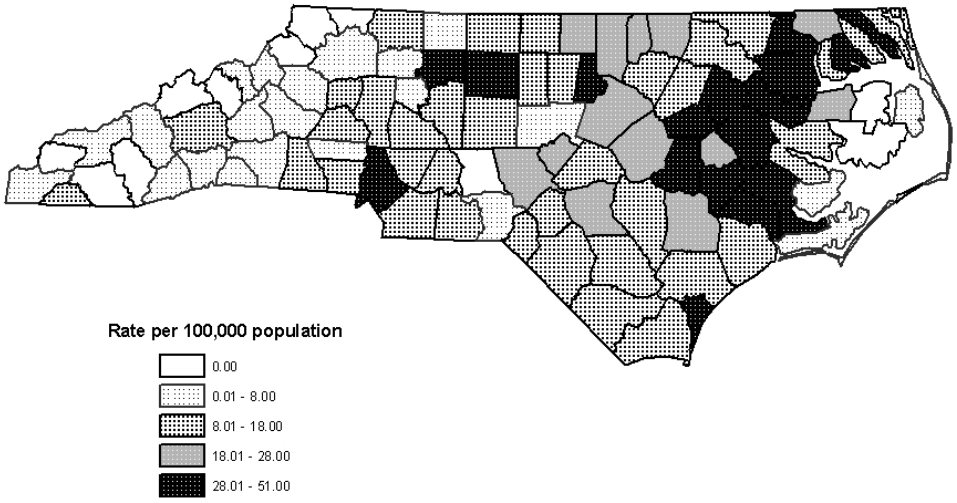


Figure 23. North Carolina HIV Disease Rates, 2002



HIV/AIDS-related deaths

Unlike chronic diseases with high death rates, such as cancer or cardiovascular diseases, HIV/AIDS death rates are concentrated among the young and middle-aged. The case fatality rate for cumulative AIDS cases reported through 2002 is 48 percent; however, for those cases diagnosed and reported before 1990, that rate is 88 percent. Unfortunately, sometimes we only learn of the diagnosis at the time the person dies.

According to the North Carolina Center for Health Statistics, 459 HIV/AIDS deaths were reported in 2001, slightly fewer than the 462 HIV/AIDS-related deaths reported in 2000. Although the ranking of HIV/AIDS among all causes of death for all ages was not among the top 10, it was listed as 10th for ages 15-24 and 6th for ages 25-44 (see table 14). HIV/AIDS was also listed as the 7th leading cause of death among blacks. Table 15 below displays HIV/AIDS deaths by race for each gender from vital records data maintained by the North Carolina State Center for Health Statistics. The crude death rate per 100,000 is about 14 times higher for blacks than for whites.

Table 14. Leading causes of death for North Carolina residents, 2001

15-24 years			25-44 years		
Rank	**Cause**	**No.**	**Rank**	**Cause**	**No.**
1	Motor vehicle injuries	380	1	Cancer	633
2	Homicide & legal intervention	163	2	Diseases of the heart	553
3	Suicide	134	3	Motor vehicle injuries	507
4	Other unintentional injuries	106	4	Other unintentional injuries	439
5	Cancer	37	5	Suicide	367
6	Diseases of the heart	34	6	HIV disease	283
7	Congenital anomalies	20	7	Homicide & legal intervention	265
8	Cerebrovascular diseases	7	8	Cerebrovascular diseases	120
9	Chronic lower respiratory diseases	7	9	Chronic liver disease/ cirrhosis	95
10	HIV disease	6	10	Diabetes mellitus	82
	All other causes	115		All other causes	896
Total deaths		1,009	Total deaths		4,240

Table 15. N.C. HIV/AIDS-related deaths by race/ethnicity and gender, 2001

	Males			Females			Total		
Race/ ethnicity	No.	Pct.	Rate#	No.	Pct.	Rate#	No.	Pct.	Rate#
White	81	17.6%	2.7	8	1.7%	0.3	89	19.4%	1.5
Black	248	54.0%	29.2	113	24.6%	11.8	361	78.6%	20.0
Other	5	1.1%		4	0.9%		9	2.0%	
Total	334	72.8%	8.3	125	27.2%	3.0	459	100%	5.6

crude death rates per 100,000 using bridged race data--see appendix for more information about rates

Figure 24. 2002 Male HIV disease reports (13-24 yrs) that likely represent adolescent exposures

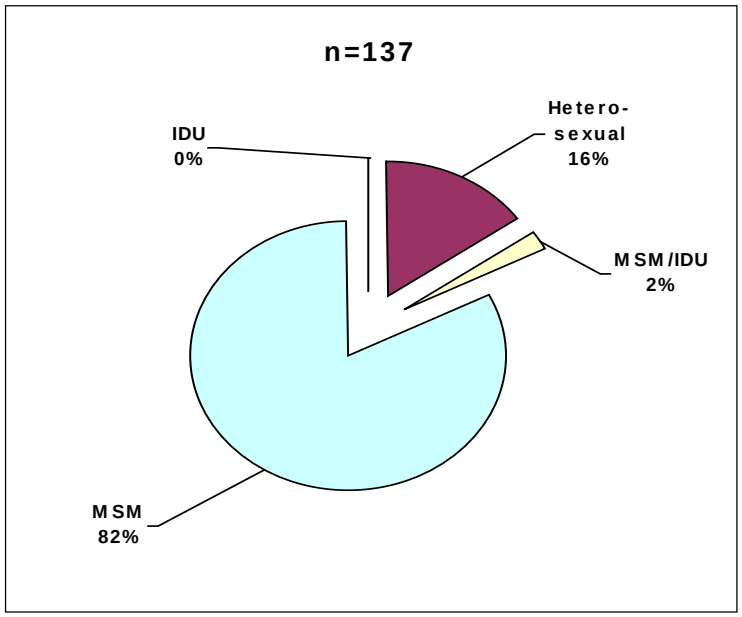
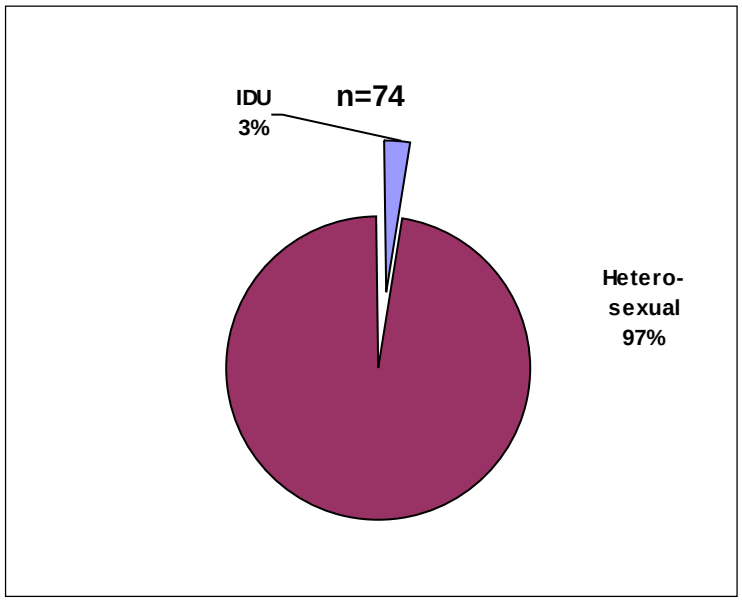


Figure 25. 2002 Female HIV disease report (13-24 yrs) that likely represent adolescent exposures



Adolescent Acquired HIV/AIDS

Tables J and K (pp. 105-106 and figures 24 and 25) display the percentage of new HIV disease reports by risk and demographic categories for each gender for individuals aged 13-24 years at time of report. Because there can be significant delay between infection and subsequent testing and reporting, it is felt that the age group 13-24 years better describes infections that likely occurred during adolescence. In 2002, while only just under 3 percent of reports are found among teenagers aged 13 to 19, the percentage increases to over 12 percent of all cases if 20-24 year olds are included (see table 8 pg. 22).

The exposure or risk categories for male adolescents and for female adolescents are very different. This difference is even more pronounced than for older adults. For adolescent females, the proportion of HIV disease reports attributed to heterosexual contact has been increasing and in 2002 accounted for over 97 percent of the cases. For adolescent males, the proportion of HIV disease reports attributed to MSM risk accounted for 81 percent of the 2002 reports, up from the 70 percent of reports in 1998.

Pediatric HIV/AIDS

Between 1983 and 2002, 256 pediatric HIV cases were identified in North Carolina. Figure 26 displays the race/ethnicity of these cumulative reports where 75 percent were black, 19 percent were white, four percent were Hispanic and two percent were classified as unknown/other race. The transmission risk reported for the majority of pediatric HIV cases (table 16) was perinatal transmission (82 %), while the least common mode of pediatric HIV transmission was transfusion/transplants (3%). Six of the eight cases (75%) where transfusion/transplant was the primary reported risk factor occurred before 1990.

Table 16. Pediatric HIV Cases by Mode of Transmission over time

Expanded Mode of Transmission	Reports	Percent
Mother with/at risk for HIV infection	209	82%
Hemophilia	16	6%
Transfusion/Transplant	8	3%
Other	23	9%
Total	256	100%

Figure 26. Cumulative pediatric HIV cases by race/ethnicity

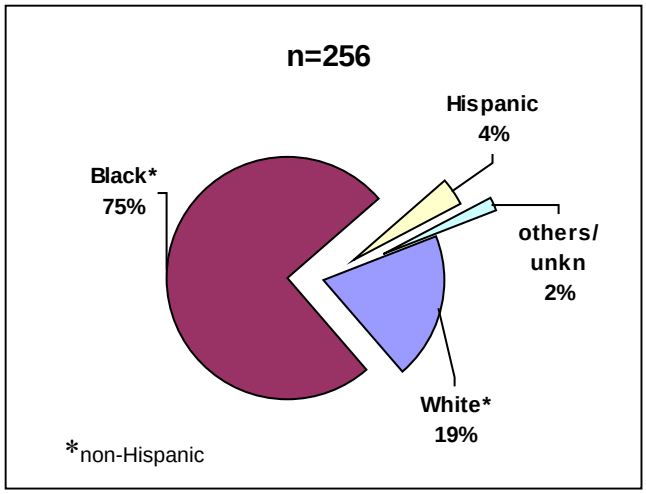
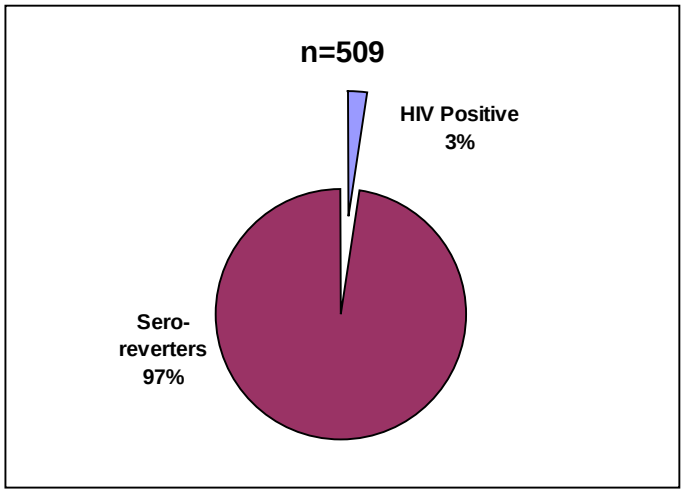


Figure 27. Perinatal HIV exposure cases 1999-2001



Enhanced Perinatal Surveillance Project

The North Carolina Enhanced Perinatal Project focuses on retrospective data collection from patient records for infants born to HIV positive women from 1999 to the present. In addition, data are collected on HIV positive pregnant women who deliver. Data for the mother-infant pair are abstracted from medical records, prenatal records, adult and pediatric HIV clinic records, labor and delivery records, and birth records. Demographic and clinical information—including illicit drug use during pregnancy, antiretroviral use, reason for discontinuing antiretrovirals, mother's disease status and type of delivery— are abstracted from the records. HIV-exposed

children are followed until adequate laboratory information can classify them as infected or uninfected (approximately 6 months). As of June 2002, the Enhanced Perinatal Surveillance project has identified 509 perinatally HIV-exposed infants. Of these, 13 (3%) are HIV positive. We have abstracted 206 Enhanced Perinatal forms, and have completed 88% of the abstractions for 1999, 21 percent for 2000 and 23 percent for 2001. By the end of 2003, the majority of the historical abstractions will be completed**.**

Table 17. Number of HIV-exposed infants by year of birth

Year of Birth	Number of HIV Exposed Infants
1999	144
2000	165
2001	200
Total	509

Reports of perinatally HIV-exposed infants went from 144 in 1999 to 200 in 2001, a 28 percent increase (table 17). This increase may be due to the growing number of women now living with HIV or better reporting of HIV-exposed infants. Table 18 displays the number of pediatric reports that likely represent a perinatal transmission based on exposure categories. While there has been an increase in the number of infants exposed to HIV perinatally, the number of infants that are perinatally infected has remained stable.

Table 18. N.C. HIV disease reports that were likely perinatal transmissions

Year of Birth	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Reports	23	18	11	13	10	3	5	4	5	5

QUESTION 3: WHAT ARE THE INDICATORS OF RISK FOR HIV/AIDS INFECTION IN NORTH CAROLINA?

Special note

Relative risk for HIV among various groups defined by exposure or risk categories is extremely difficult to ascertain because rate information is unavailable for some groups. In order to calculate rates, we must have estimates of the number of persons infected and estimates of the uninfected population. Part of the difficulty in estimating these populations is that risk behavior is highly stigmatized, so surveys that attempt to estimate risk behaviors can be biased. When estimates have been made, they are often times not generalizable to local populations. Since we do not have reliable population estimates for some of the groups defined by risk behaviors, the best information may be limited to the representation of these groups in surveillance data.

In order to frame a discussion of populations at risk for exposure to HIV, it is important to first understand what we know about HIV and AIDS cases from surveillance data since a great deal of effort is placed on determining key HIV risk factors associated with each case. (Readers should keep in mind that surveillance data is based on a hierarchical assignment of risk. More detailed descriptions of surveillance data and the assignment of risk or exposure categories can be found in appendix A [pg. 81] and appendix B [pg. 93]). We will begin the discussion of risk indicators for each primary risk group by summarizing pertinent surveillance information about individual risk groups. Changes in overall surveillance proportions can isolate trends for these groups if the populations are stable, but these simple proportions don't measure relative risk among the groups. ***It is important to keep in mind that the relative risk of infection within these groups may vary greatly depending on the size of the uninfected population for that group.*** Groups that represent the smallest population may represent the greatest relative risk. To better ascertain HIV exposure risk, the discussion in this part of the profile will rely heavily on direct and indirect measures of risk found in other data sources for each group.

Highlights/summary

Men who have sex with men (MSM)

- MSM have continued to account for a substantial proportion of all HIV disease reports even as HIV has spread to other risk groups. In 2002, MSM and MSM/IDU represented 40% of all indicated risks for HIV reports.
- Among males, MSM and MSM/IDU risk represent almost 58% of reports. The proportion is even higher among younger or adolescent males (84%).
- Black MSM account for a larger proportion of male HIV disease reports than non-Hispanic white MSM (29% vs. 22%, respectively).
- Among people reporting risk factors, those people reporting MSM and MSM/IDU risk consistently have the highest percent of HIV positive test results in CTS data.
- In 2002, MSM reports have increased among patients interviewed through field services follow-up.

- Reported injecting drug use among interviewed MSM (for both HIV and syphilis cases) has decreased in the last five years.

- In 2002, male reports for hepatitis A increased significantly, indicating a likely increase in MSM activity.

Injecting Drug Use (IDU)

- Reported IDU risk accounted for about 13% of HIV disease reports in 2002.

- HIV positivity rates for IDU in CTS data (first-time testers) have remained fairly stable over the last 5 years.

- Since 1998, there has been a decrease in reported IDU use among patients interviewed through field services follow-up.

- Among HIV cases interviewed through field services, males are 1.5 times more likely than females to have IDU risk.

- IDU risk is identified among a relatively older population among interviewed HIV and syphilis cases. Almost 46% are 40-49 years old.

- Among interviewed people reporting IDU risk, 40% also reported exchanging sex for drugs or money.

Heterosexual Contact

- Nearly half of all HIV disease reports indicate heterosexual contact as their main risk.

- Heterosexual contact is reported as the main risk for over 85% of all female HIV cases, and the proportion is even higher among younger women.

- Heterosexual HIV reports are higher among non-white males (31-38%) than among white males (10%). Female heterosexual reports remain stable at 81-87% across racial categories.

- The vast majority of first-time testers in CTS data report heterosexual risk (78% of 11,279 males tested and 78% of 17,386 females tested).

- The male-to-female ratio for gonorrhea has remained stable and near 1.0, indicating the predominance of heterosexual transmission.

- Over 95% of female syphilis cases and 80% of male syphilis cases interviewed by state DIS (disease intervention specialists) reported heterosexual activity.

- In the 2001 BRFSS survey, 12% of males and 5% of females reported that they had 2 or more sexual partners during the previous year.

Men Who Have Sex with Men (MSM)

Surveillance Data Background

In the early part of the HIV epidemic (1983-1989), MSM cases accounted for almost 65 percent of all morbidity. By the mid 1990s, the epidemic in North Carolina had spread to other risk groups and MSM accounted for a smaller proportion (~38%) overall. MSM have, however, continued to account for a substantial proportion of all reports, even as HIV has spread to other risk groups. While white MSM accounted for a larger portion of male reports in the early part of the epidemic, black MSM have accounted for a larger proportion of male reports since the early 1990s and continued to do so through the 1998 to 2002 period. This represents a significant disparity, because blacks as a racial group represent less than one-fourth of the general North Carolina population. If HIV occurrence was equal among MSM, then white MSM should outnumber black MSM by the same proportion as their representation by race in the population. Although the proportion of MSM cases among HIV-positive males has remained fairly stable from 1998 to 2002 (see table I), with reports for MSM (including MSM/IDU) consistently accounting for well over 50 percent, it should be noted that reports for MSM did increase in 2002. Another important fact is the high prevalence of MSM risk among young males. In 2002, MSM risk (including MSM/IDU) was indicated on almost 84 percent of male adolescent reports (see figure 24 on pg. 33). The consistent and significant representation of MSM risk in HIV morbidity data suggests that efforts to minimize risk in the gay community should continue, especially among younger men.

Direct Measures of MSM Risk Behavior

Counseling and Testing System Data (CTS)

Because risk information is collected on all persons having an HIV test, using the North Carolina counseling and testing system (CTS), this is one of the few sources of data for which rates can be calculated for MSM. CTS data only represent the testing population at public clinics and may not be generalizable to the public. More detailed information about CTS data can be found on pages 18 – 25.

Among CTS risk groups, MSM and MSM/IDU consistently have the highest percent of people testing HIV-positive. Table 19 below displays the proportion of positivity for MSM and MSM/IDU in CTS data for persons tested for the first time. Positivity for MSM is typically about 5 percent and for MSM/IDU about 7 percent. No discernable change is noted for MSM positivity in the five-year period; values remained fairly constant. However, values were too small to make meaningful comments about positivity of MSM/IDU over time.

Table 19. Number and percent of positive reports (CTS) among persons with MSM risk tested for the first time, 1998-2002

	1998		1999		2000		2001		2002	
Risk group	n	Pct.	n	Pct.	n	Pct.	n	Pct.	n	Pct.
MSM	41	4.9%	52	6.1%	38	4.7%	48	5.2%	52	5.6%
MSM/IDU	2	6.1%	4	10.0%	1	2.1%	2	8.3%	2	8.7%

Partner Counseling and Referral Services Data (PCRS)

All persons newly diagnosed with HIV and syphilis are interviewed by Disease Intervention Specialists (DIS). The DIS work with the Field Services Unit of the HIV/STD Prevention and Care Branch. Part of the interview includes the collection of risk information for patients. Risk information collected includes type of sexual or risk behavior, condom use, substance abuse, and number of sexual partners. Approximately 98 percent of reported syphilis cases and 85-90 percent of reported new HIV cases are ultimately interviewed regarding risk behaviors and partners. This data is referred to as the PCRS data. A few patients diagnosed with other STDs are included in the data set. For our discussion, patients will be divided into two groups: those interviewed as a result of an HIV diagnosis and all others grouped together. Readers should keep in mind that the reference to syphilis cases in PCRS data does include a few cases with other diagnoses, but this inclusion does not significantly change any of the reported results. More information about the Field Services and the PCRS data source can be found in the appendix on page 85.

MSM behavior

Among the interviewed male cases, MSM activity was identified in over 40 percent of HIV reports and over 10 percent of syphilis reports. Over time, increased MSM activity was noted in 2002 for both HIV and syphilis reports interviewed. Table 20 below displays identified MSM behavior among interviewed cases.

Table 20. Interviewed patients – number and proportion of males with identified MSM risk by disease category, 1998-2002

	1998		1999		2000		2001		2002	
	n	Pct.	n	Pct.	n	Pct.	n	Pct.	n	Pct.
HIV	413	43.1 %	323	42.6 %	346	42.7 %	428	43.9 %	507	46.7 %
Syphilis	75	8.9 %	76	11.6 %	72	11.5 %	841	13.3 %	90	16.8 %

Condom use

Condom use is asked about during the interview of newly identified HIV and syphilis cases, and is available for more than 75 percent of the cases with MSM risk. Condom use is described by three categories: always, never, and sometimes used. Proportionately, the HIV interviewees and the syphilis interviewees indicated similar results. Of MSM with HIV, 8.8 percent indicated that they "always" used a condom, 20.9 percent indicated that they "never" used a condom and 70.3 percent indicated that they "sometimes" used a condom. Among the MSM with syphilis, 9.2 percent indicated "always", 23.5 percent indicated "never" and 66.9 percent indicated "sometimes" (see figures 28 and 29).

Multiple sexual partners

Among the interviewed MSM cases (PCRS), about 34 percent of those with an HIV diagnosis indicated that they had multiple sexual partners within the last year. About 53 percent of those with syphilis indicated that they had multiple sexual partners. These proportions may not be directly comparable because of differences in time between infection and testing/diagnosis for the two groups; however these proportions indicate substantial risk activity for each group.

Figure 28. Condom use among MSM with HIV, 1999-2002

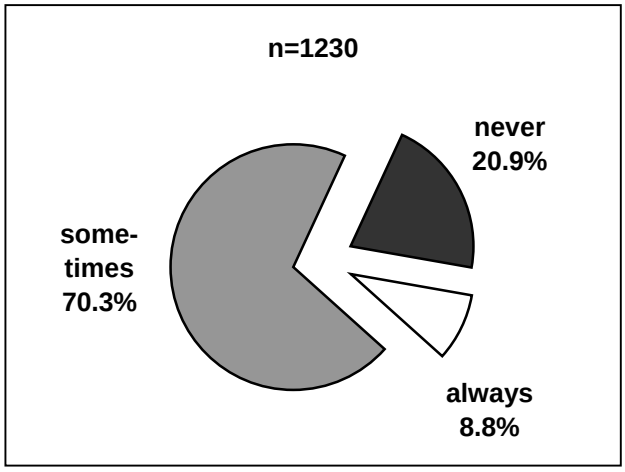
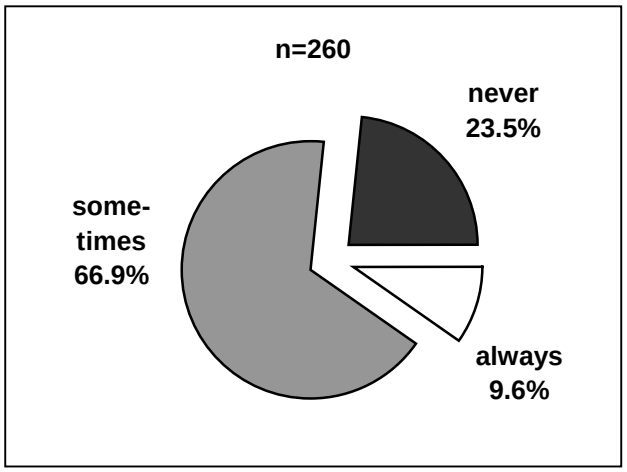


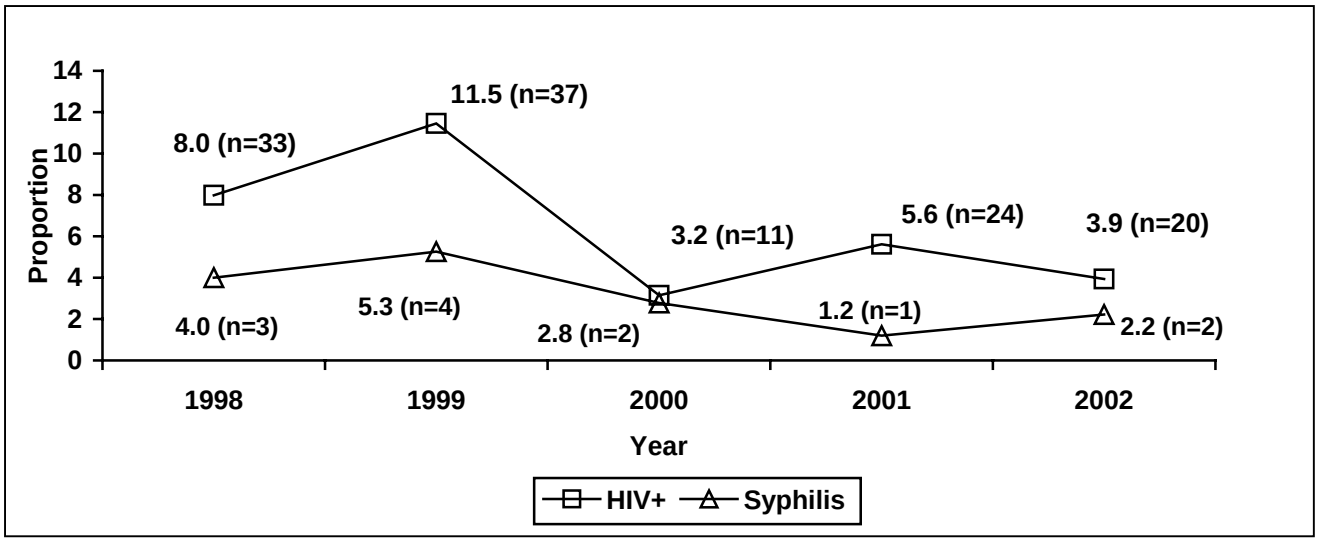
Figure 29. Condom use among MSM with syphilis, 1999-2002



IDU among MSM

Information regarding injecting drug use (IDU) is also asked during the interview of newly infected persons and is available for most persons. Because of the data structure, IDU is better identified among field records for HIV interviewees than syphilis interviewees, so direct comparison of proportions should not be made. However, comparing the trends or changes from year to year for each group is appropriate. Figure 30 displays the proportion of reported IDU within interviewed MSM patients from 1998 to 2002. Among MSM patients interviewed as a result of an HIV diagnosis, the proportion that have an identified IDU risk has decreased from a high of 11 percent in 1999 to about four percent in 2002. Among those MSM interviewed with syphilis diagnosis, identified IDU risk has decreased from about five percent in 1999 to about two percent in 2002. This decrease in IDU risk among HIV interviewees reporting MSM risk is substantial, at over 65 percent.

Figure 30. Number and proportion of IDU risk among interviewed MSM by disease category (1998-2002)



Indirect Measures of MSM Risk Behavior

Hepatitis data

Some other measures of MSM risk behavior include the identification of possible MSM transmission of other communicable diseases, such as hepatitis, which can be spread through sexual activity. Even if MSM risk is not directly identified through surveillance, monitoring changes in male-to-female ratios can provide an indirect measure. If diseases are spread primarily through heterosexual sexual contact, the ratios generally are close to one. Increases in the male to female ratio could indicate increased MSM activity. It should be noted however, that these ratios can be affected by other risks, such as IDU or screening practices; thus it is an imperfect measure of MSM risk.

Table 21 displays hepatitis cases for the 1998 to 2002 period. Note the ratios for hepatitis B have been fairly stable, while the ratios for hepatitis A have changed from year to year. Hepatitis A is primarily spread person-to-person through the fecal-oral route. Many outbreaks can be traced to food-borne transmission, but some can be linked to sexual contact. Hepatitis C is generally associated with IDU activity.

Table 21. Male:Female ratios for hepatitis A, B (chronic and acute) , and C (1998-2002)

	1998	1999	2000	2001	2002
Hepatitis A	1.7 (80/48)	2.9 (124/43)	1.0 (76/77)	2.1 (164/78)	3.3 (160/48)
Hepatitis B acute	1.4 (142/101)	1.7 (142/82)	1.9 (169/87)	1.7 (139/82)	1.7 (145/87)
Hepatitis B chronic	1.4 (350/255)	1.2 (404/328)	1.3 (360/268)	1.5 (388/255)	1.3 (500/379)
Hepatitis C	n/a	0.9 (16/17)	0.8 (9/11)	1.8 (14/8)	1.1 (15/14)

The increase in the male-to-female ratio among hepatitis A cases in 2002 prompted a review of surveillance data by the Epidemiology Section of the Division of Public Health. The review suggested a likely increase in MSM activities among cases in 2002, as it showed a 4.5-fold increase in the number of men self-reporting recent sexual contact with men compared to the average over the 1997-2001 time period. (More information about the review can be found at http://www.epi.state.nc.us/epi/gcdc/pdf/HepatitisA.pdf.)

Injecting Drug Use (IDU)

Surveillance Data Background

While almost 46 percent of all HIV surveillance reports were attributed to IDU and MSM/IDU in the early 1990s, this proportion has declined to about 13 percent of all cases in 2002 (see table D). For males, IDU risk in 2002 (including MSM/IDU) represented about 14 percent of reports. For females, IDU risk represented about 10.3 percent of reports (see tables H and I). IDU as a risk has declined as a proportion for both sexes over the 1998 to 2002 period.

Direct Measures of IDU Risk Behavior

National Household Survey on Drug Abuse (NHSDA)

The National Household Survey on Drug Abuse (NHSDA) makes estimates of drug abuse among the national population, states and some metropolitan areas. The survey of illicit drug use includes marijuana, cocaine, heroin, hallucinogens, inhalants, and non-medical use of prescription-type pain relievers, tranquilizers, stimulants, and sedatives, and is not unique to injecting drug use. Among persons aged 12 years or older in North Carolina interviewed in NHSDA (1999-2000), about 6.7 percent reported having used an illicit drug at least once during the last month, compared to the national estimate of 6.3 percent. Comparison of illicit drug use by age is part of the NHSHA survey. Responses are available for three age groups: 12-17 years of age, 18-25 years of age, and 26 years of age and older. The 26 years and older age group reported the highest proportion of illicit drug use, at 16.7 percent in North Carolina in 1999-2000.

Counseling and Testing System Data (CTS)

Rates of HIV positivity among first-time testers with IDU risk, using CTS data, are displayed below in table 22. Although the proportion of IDU represented in surveillance data has been decreasing in recent years, the percent positivity in CTS shows a trend that has been more constant. This might indicate that because IDU reports are relatively small in number, surveillance reporting issues could be under-emphasizing risk. It is also important to keep in mind that CTS data only represent the testing population at public clinics and may not be generalizable to other populations. More detailed information about CTS data can be found on pages 18 – 25.

Table 22. HIV Positive reports (CTS) among persons tested for the first time, IDU, 1998-2002

	1998		1999		2000		2001		2002	
	n	Pct.	n	Pct.	n	Pct.	n	Pct.	n	Pct.
IDU	15	2.2%	17	2.3%	19	2.7%	13	2.6%	8	1.9%

Partner Counseling and Referral Services Data (PCRS)

Persons newly diagnosed with HIV or syphilis are asked about drug use in two general categories: intravenous drug use (IDU), and non-intravenous drug use. Only IDU will be discussed below. Because of the data structure, IDU is better identified among field records for HIV interviewees than syphilis interviewees, so direct comparisons of proportions should not be made. Comparing trends (changes) within the groups, however, is appropriate. From 1998 to 2002, IDU risk was reported by 10.9 percent of interviewed HIV cases and 2.5 percent of interviewed cases with syphilis. Among HIV cases, IDU risk decreased between 1998 and 2000, but remained fairly constant from 2000 to 2002 (see table 23). Among syphilis cases interviewed, the proportion of IDU risk has been consistent.

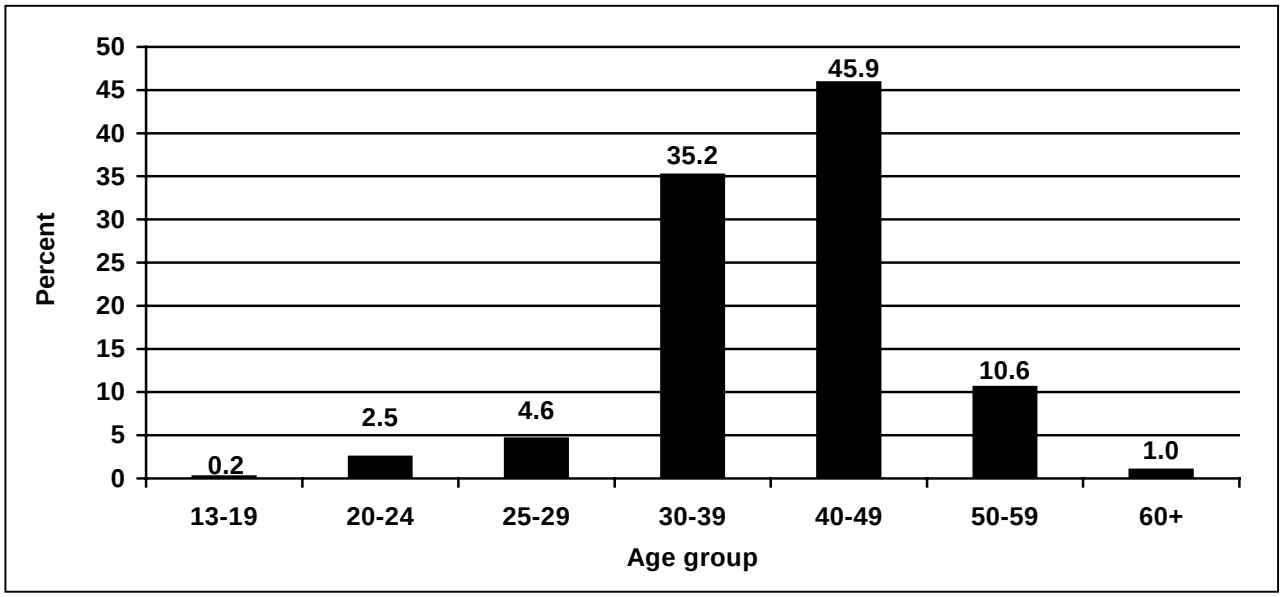
Table 23. Number and proportion of injecting drug use (IDU) among interviewed cases by disease category, 1998-2002

	1998		1999		2000		2001		2002	
	n	Pct.	n	Pct.	n	Pct.	n	Pct.	n	Pct.
HIV	258	18.3%	161	14.1%	97	7.8%	106	7.3%	122	7.6%
Syphilis	39	2.4%	34	2.7%	27	2.4%	31	2.7%	15	1.6%

Gender and Age

Gender differences don't appear to be substantial among those identified with IDU risk in field service interview data with syphilis. Among HIV cases, though, males (560 IDU/4,594 total males cases) are 1.5 times more likely to be have IDU risk as compared to females (184 IDU/2255 total female cases). IDU risk varies by age similarly for HIV cases and syphilis cases: thus the proportions of drug use by age category are presented for both case groups combined (figure 31). IDU risk is identified among a relatively older population; specifically, 45.9 percent of self-identified intravenous drug users in this data set were 40-49 years old.

Figure 31. Proportion of IV drug use by age for all interviewed cases, 1998-2002



Race

Among American Indians, IDU is a prominent risk when compared to other races— 18.5 percent of all HIV positive American Indians interviewed through field services follow-up report IDU as a risk factor, compared to 11.5 percent of all HIV positive white cases and 11.1 percent of HIV positive black cases. Among those interviewed and diagnosed with syphilis, however, whites appear to have the greatest IDU risk (table 24).

Table 24. Proportion of IDU by race/ethnicity by disease category (1998-2002)

	White		Black		Am. Indian		Hispanic		Unknown	
	n	Pct.	n	Pct.	n	Pct.	n	Pct.	n	Pct.
HIV	163	11.5	532	11.1	12	18.5	17	4.6	20	12.9
Syphilis	34	3.9	97	2.3	6	1.9	2	0.5	7	2.8

Condom Use

Condom use data (1999-2002) are available for 348/426 HIV cases with identified IDU risk (72%) and 79/107 syphilis cases with identified IDU risk (74%). Condom use among those interviewed and diagnosed with syphilis is much less frequent than among HIV cases. (This is true for both male and female cases.) Interviewee with syphilis reported 1.4 more often than HIV cases that they "never" use condoms. Furthermore, none of the syphilis cases reporting IDU risk said that they "always" use condoms compared to 5.5 percent of all HIV cases with IDU risk. There was also a smaller proportion of "sometimes" condom users among those with syphilis (50.6%) than those diagnosed with HIV (59.2%).

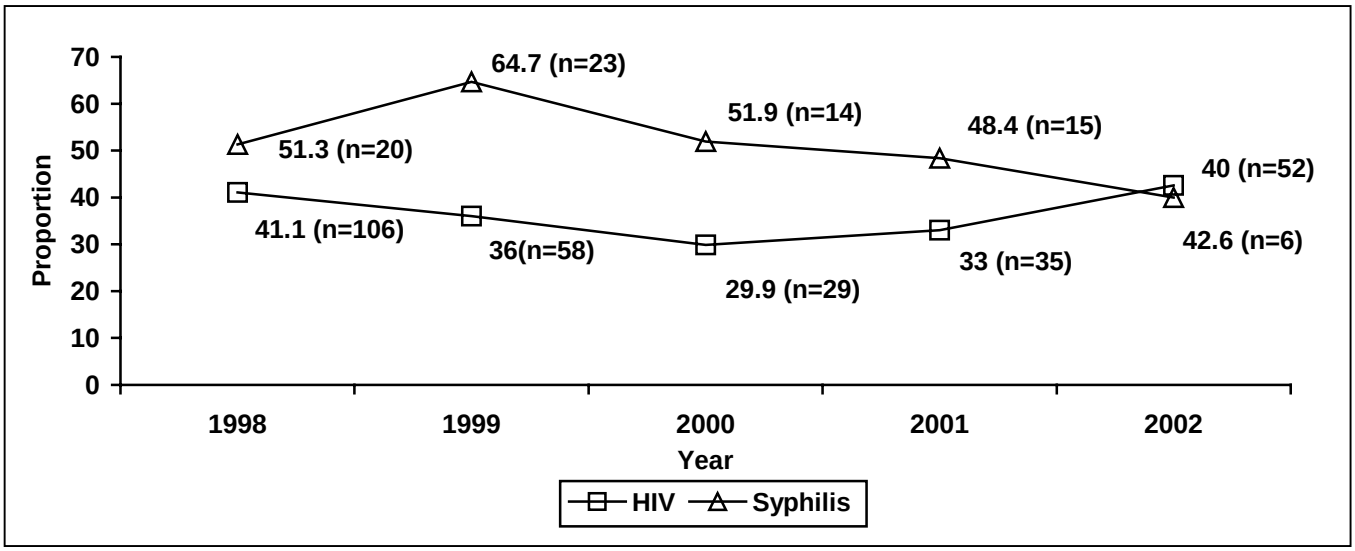
Multiple Sex Partners

Among those interviewed and identified as IDU, the risk of having multiple sex partners in the last year was reported more among those with syphilis (59.8%) than those with HIV diagnoses (22.0%). While the proportion of multiple sex partners doesn't differ by gender among HIV IDU, 71.4 percent of females versus 52.3 percent of males reported multiple sex partners among IDU with syphilis diagnoses. (Note that risk regarding multiple sex partners was not uniformly collected until 1999, thus the measures above were calculated using data from 1999-2002.)

Sex for Drugs or Money

Exchanging sex for drugs or money is a fairly common risk factor identified among interviewed IDU (40.1%). This risk is equal among females with HIV diagnoses and females with syphilis diagnoses (50.0% each). In contrast, 54.9 percent of males with syphilis diagnoses reported exchanging sex for drugs or money, while only 33.6 percent of males with HIV diagnoses reported the same risk. It is noteworthy that this risk has been generally decreasing among those with syphilis, but may be increasing among HIV cases as shown in figure 32.

Figure 32. Number and proportion of interviewed IDU cases reporting exchange of sex for drugs or money, 1998 - 2002

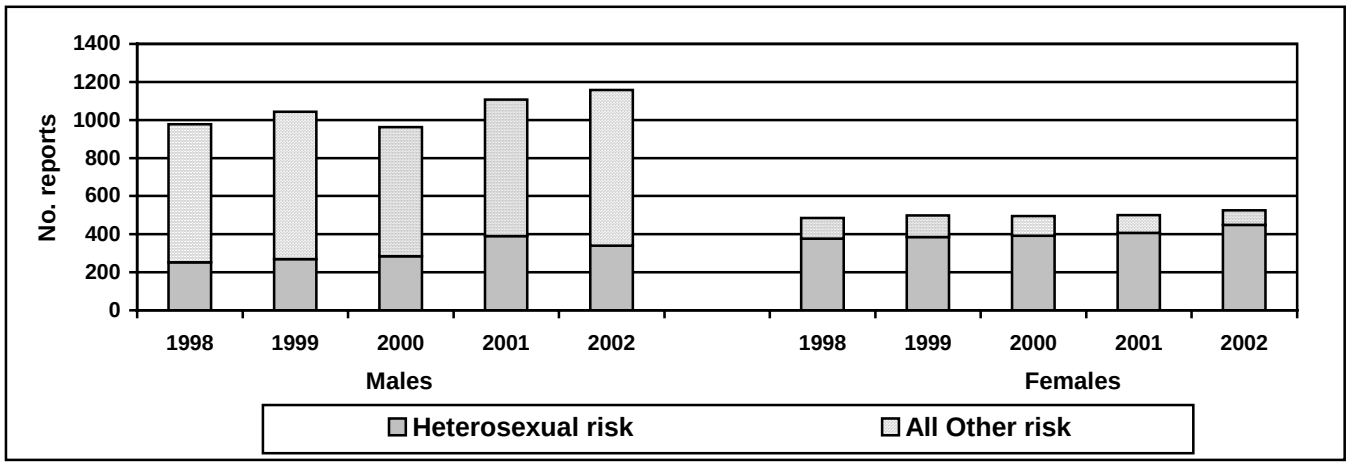


Heterosexual Contact

Surveillance Data Background

Although the number of HIV disease surveillance cases reported each year is nearly twice as high for males as females, the number of cases reported with a primary risk of heterosexual transmission is only slightly higher for females. However, these heterosexual risk reports consistently represent over three-quarters of the female cases, whereas they represent only one-quarter to one-third of the male reports. Taken together, male and female HIV disease reports with primary heterosexual risk make up 40-50 percent of all HIV disease reports (table D, pg. 99).

Figure 33. HIV disease reports – heterosexual risk vs. all other risks 1998-2002

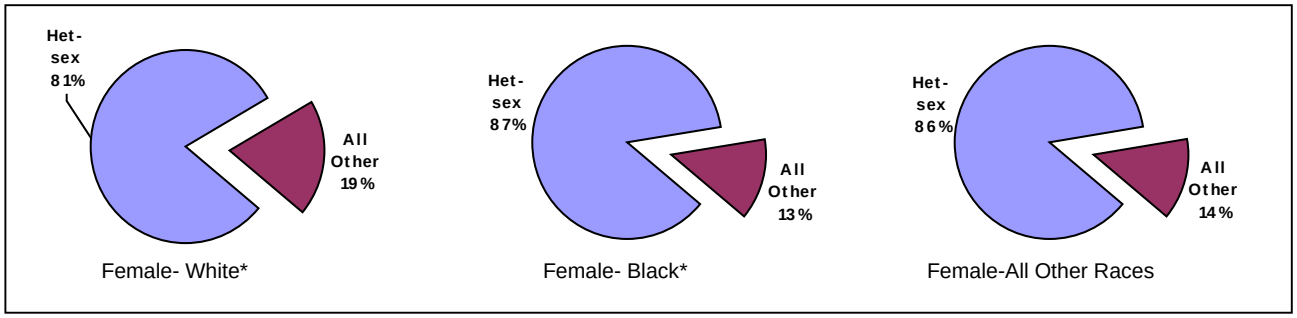


The proportion of total HIV disease reports with heterosexual transmission risk classification has remained quite stable over the past five years (figure 33). This pattern is nearly identical for recent infections (table E, pg. 100), which indicates that North Carolina continues to experience an HIV epidemic in which close to half of the cases are among persons for whom heterosexual sex is their primary risk. For more information on 'recent infections' methodology, please see appendix B on page 91.

The pattern is slightly different for young people. HIV disease reports among persons 13-24 years of age indicate that a slightly smaller proportion of the male cases are attributed to heterosexual transmission, as compared to all males. Among young females, a slightly higher proportion of cases are attributed to heterosexual transmission, compared to all female cases (see table D, pg. 99; table I, pg. 104). This indicates that young females may be at particular high risk of heterosexually acquired HIV infection compared to young males.

The most dramatic gender differences can be seen when the data are stratified by race. For females of all racial categories, about the same proportion of cases are classified with heterosexual risk (81-87% in 2002). (See table H, pg. 103; figure 34.)

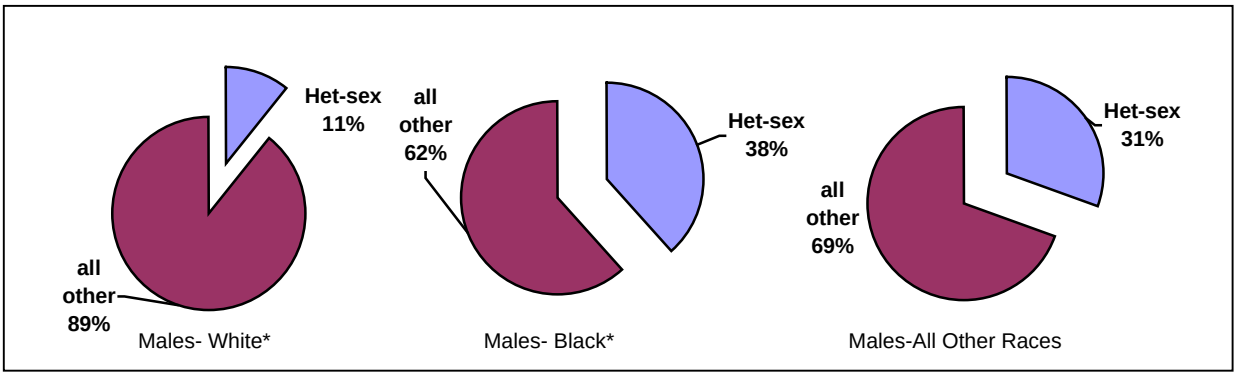
Figure 34. Proportion of HIV disease cases with heterosexual risk classification for females, 2002



*non-Hispanic

But for males, the pattern differs dramatically by race. For white males in 2002, heterosexual risk classification is listed for 10 percent of cases compared to 38 percent for blacks and 31 percent for all other racial groups (table I, pg. 104; figure 35). This is largely due to the much larger proportion of MSM cases among white males but it does indicate that the heterosexual HIV epidemic is of particular concern among non-white males.

Figure 35. Proportion of HIV disease cases with heterosexual risk classification for males, 2002



*non-Hispanic

Direct Measures of Heterosexual Risk Behavior

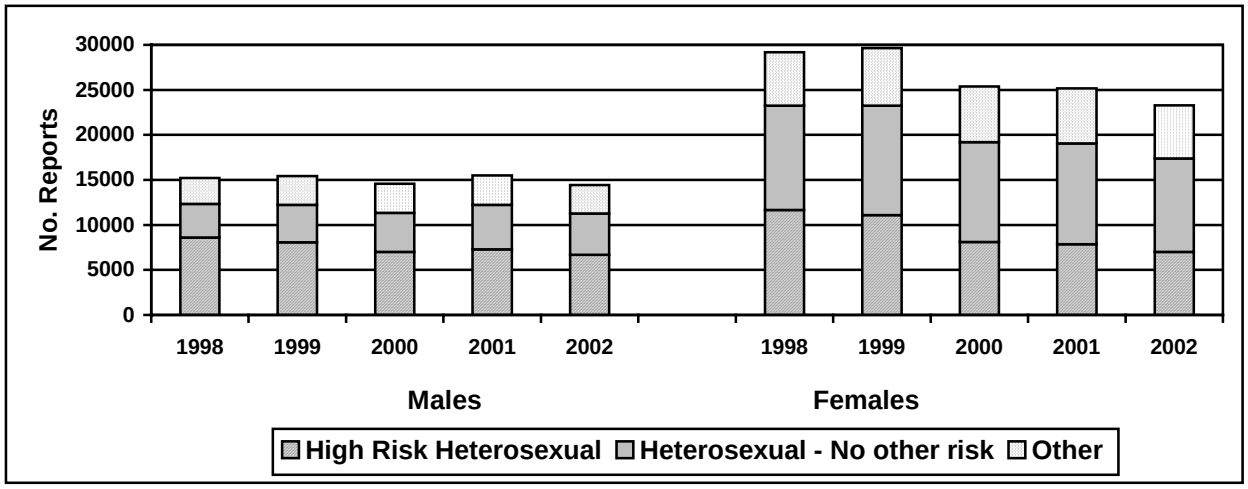
Counseling and Testing System Data (CTS)

Because clients who use HIV counseling and testing system (CTS) services are self-selected, they do not represent a random sample of the state population or the state heterosexual population. Those who report that they had not been tested before the current test represent a group with each person represented only once and comprise the most stable group from which to make estimates. First-time testers represented 40.6 percent of all male tests and 33.8 percent of all female tests in 2002.

The vast majority (75-80%) of first time testers at CTS sites are either high-risk heterosexuals (includes clients reporting previous STDs, risky sexual partners, sex for drugs or money, sex

using non-injecting drugs, victim of sexual assault) or heterosexuals with no other reported risk. The proportions are nearly the same for males and females, although many more females are tested due to testing in prenatal care and family planning clinics (figure 36).

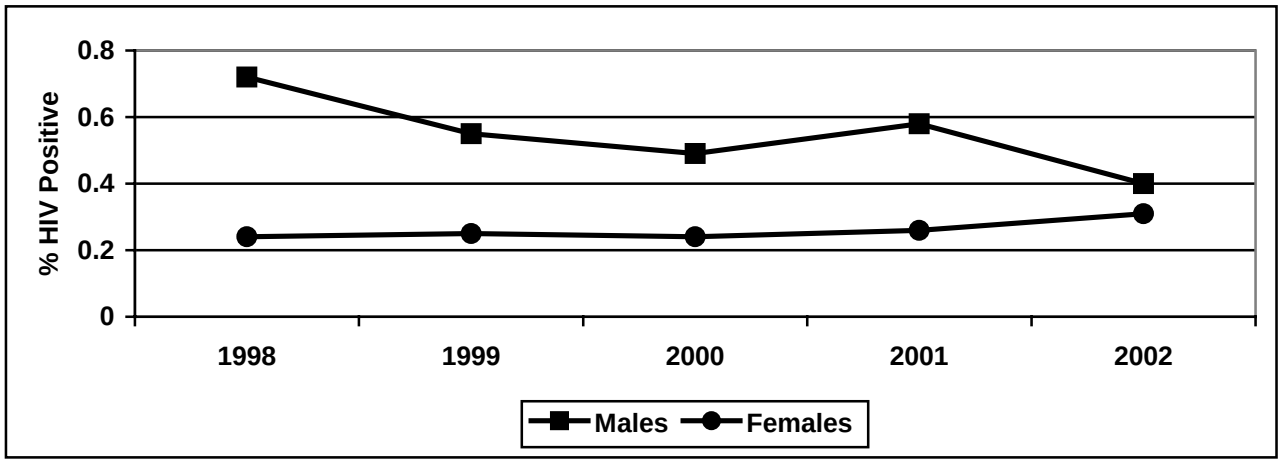
Figure 36. HIV risk among first-time HIV testers at N.C. CTS sites, 1998-2002



The number of self-identified heterosexual males seeking HIV testing for the first time at CTS sites has remained stable over the past five years, while the number of females has dropped slightly. In 2002, there were 11,279 males and 17,386 females tested for HIV for whom heterosexual activity was their primary HIV risk. This represents a group who either perceive themselves to be at risk for HIV infection (those who seek voluntary testing) or agree to testing when offered by health care or other professionals (e.g., prenatal care).

Percent HIV positivity among this group has remained stable among females and appears to be dropping slightly among males (figure 37). Males and females together represent approximately 150 new HIV cases per year.

Figure 37. Percent positivity (heterosexual risk), first-time testers at N.C. CTS sites 1998-2002



Indirect Measures of Heterosexual Risk Behavior

Behavioral Risk Factor Surveillance System (BRFSS)

The Behavioral Risk Factor Surveillance System (BRFSS) is collaborative project of the Centers for Disease Control and Prevention (CDC) and U.S. states and territories. Interviewers conduct monthly telephone surveys in order to collect various information on health behaviors from adults age 18 and older. (For a more detailed description and strengths and limitations, please see appendix A on page 82.)

The survey is designed to include core sections (data collected by all areas), CDC-designed optional modules, and state-added questions. In 1999, North Carolina added its own questions on sexual assault and continued them through 2002. In 2001, some sexual behavior questions were added and used in that year only.

Sexual Assault
The proportion of adults reporting sexual assault within the last 12 months may represent a population at risk for HIV infection as a result of these sexual exposures. In particular, the proportion of women reporting sexual assault during the last 12 months may represent a population at risk for heterosexual exposure to HIV, assuming that few female sexual assaults are perpetuated by other females.

In the 2002 survey, 1.4 percent of women reported that they had been sexually assaulted in the last 12 months by a stranger, a partner or ex-partner, or an acquaintance. Extrapolated to the North Carolina female population age 18-64, this represents over 34,000 women who are at possible risk of heterosexual HIV exposure.

Sexual Partners and Condom Use
For the 2001 survey only, several questions about sexual behavior were added. Adults age 18-64 were asked how many different people they had sexual intercourse with over the past 12 months. Twelve percent of males and five percent of females reported that they had two or more sexual partners over the past year. This extrapolates to over 295,000 men and 128,000 women in North Carolina. The gender of the sexual partners was not specified so it is not possible to know exactly what proportion of the respondents were referring to heterosexual partners, but it is likely to be large (see condom use data below).

Only 20 percent of respondents reported that they had used a condom during their last sexual intercourse. A much higher proportion (50.7%) agreed that a properly used condom would be effective in preventing an individual from getting infected with HIV. Another 37.8 percent thought condoms would be somewhat effective.

Among those who had used a condom during their last intercourse, 35.9 percent did so specifically to prevent pregnancy and another 51.6 percent to prevent both pregnancy and disease. These represent over 739,000 North Carolina heterosexuals. Note: condom use is most certainly effective in preventing HIV infection. However, condom use data should be interpreted with caution. Those who report condom use are often a mixture of those at the very lowest risk (because they consistently use the condoms and are protected) and those at the very highest risk (using condoms due to their high-risk behavior and possibly inconsistent condom use).

Pregnancy Risk and Monitoring System (PRAMS)

The North Carolina Pregnancy Risk and Monitoring System (PRAMS) is an ongoing random survey of women who delivered a live infant in North Carolina. Data are currently available from 1997-2000 (n=5,943). For a further description and strengths and limitations of this study, please see appendix A on page 88. The survey includs questions designed to determine if the woman wanted to be pregnant someday but not at this time (pregnancy mistimed) or if the woman never wanted to be pregnant (pregnancy unwanted). All pregnancies represent unprotected heterosexual sex. However, such sexual activity that results in a planned pregnancy is more likely to be among low-risk heterosexuals with only one partner. Mistimed or unwanted pregnancies may be a more reasonable proxy for unprotected heterosexual sex among possible high-risk partners.

The 1997-2000 PRAMS data show that 45 percent of the pregnant women interviewed had unintended pregnancies (11 percent completely unwanted and another 34 percent mistimed). Extrapolated to all births in North Carolina, this represents 12,000 unwanted and 37,000 mistimed pregnancies per year. With respect to HIV risk, this represents 49,000 women and 49,000 men engaged in unprotected heterosexual sex per year who may be at risk for HIV infection.

The study indicates that pregnancies among black women are the most likely to be unintended (67.5% compared to 37.1% among white women). Black women also make up the majority of female HIV disease reports (table B, pg. 97). It is also noteworthy that approximately 75 percent of these unintended pregnancies are to women age 20 and older, which is precisely the age group representing the largest proportion of HIV disease reports (see table A, pg.96). Other factors that increase the likelihood of unintended pregnancy include high school education or less, eligibility for WIC, eligibility for Medicaid, unmarried status, and household income less than $14,000 per year, all of which may be coupled with HIV risk.

Abortion Data

As discussed above, unwanted pregnancies may be used as a proxy for heterosexual populations at risk for HIV. PRAMS estimates the number of such pregnancies that come to term. Another way of measuring unwanted pregnancies (possible high-risk, unprotected sex) is to use the number of reported abortions in the state. Abortion data are voluntarily reported to the State Center for Health Statistics by abortion providers. (For more information and strengths and limitations of the data, please see appendix A on page 87.)

Abortion data closely mirror the unwanted pregnancy data presented above. Non-whites comprise only 29.1 percent of the state population (2000 Census), but approximately half of the abortions are performed on non-white women. This proportion has risen slightly in the past five years, from 45.7 percent in 1997 to 53.3 percent in 2001. This is the same population making up the greatest proportion of HIV disease reports. Over the past 5 years of available data (1997 – 2001), over three-quarters of North Carolina resident abortions have been to women age 20 and older, again the population comprising the majority of HIV disease reports (table A, pg. 96). With respect to HIV risk, this represents approximately 27,000 women and 27,000 men engaged in unprotected heterosexual sex per year who may be at risk for HIV infection.

Table 24. North Carolina residents who received abortions 1997 - 2001

	1997	1998	1999	2000	2001
Total abortions	28,592	29,868	28,136	26,944	27,096
% age 20 and over	77.5	77.6	79.2	79.0	79.8
% non-white	45.7	48.9	50.0	52.1	53.3
% unmarried	69.7	74.9	73.6	72.1	64.6

STD Morbidity Data

Trends

Sexually transmitted disease (STD) surveillance data provide information on the degree to which various populations are practicing unprotected sex. In some cases it is quite possible to infer that STDs are being acquired through heterosexual sex. North Carolina law requires that cases of chlamydia, gonorrhea, and syphilis be reported to the HIV/STD Prevention & Care Branch at the State Division of Public Health. However, not all persons infected with STDs are diagnosed and not all diagnosed individuals are reported, so the data must be interpreted with caution. (For more information on the details of case reporting and the strengths and limitations of the data for each STD, please see appendix A on page 81.)

Chlamydia – Case Reports

Chlamydia is the most frequently reported bacterial STD and is easily treated with antibiotics. Most people infected with *Chlamydia trachomatis* experience no symptoms (approximately 75 percent of infected females and 50 percent of infected males). Since the disease can severely damage the reproductive systems of women, sometimes resulting in infertility, screening is recommended for all sexually active women age 24 and under and all pregnant women in the state. There are no comparable screening programs for young men. For these reasons, most reported chlamydia cases are found through screening and most are, therefore, female. For example, in 2002 there were 20,388 female cases reported and only 4,348 male cases.

The biology of *C. trachomatis* infection dictates that nearly all female cases can be assumed to have been acquired through heterosexual contact. The data on females can therefore provide some information about levels of unprotected heterosexual sex in the community. The number of total reported female cases remained relatively steady from 1998 to 2001, rising slightly in 2002 to 20,388. This represents a minimum number of cases of unprotected heterosexual sex that may also be at risk for HIV. As with HIV disease, reported chlamydia cases are disproportionately black (table 3.18). However, chlamydia tends to affect a much younger age population than HIV. Part of this may be due to the practice of screening younger women but there is also evidence that younger women may be more susceptible to infection (Critchlow et. al. *American Journal of Obstetrics and Gynecology* 1995).

Table 25. Reported female chlamydia cases 1998-2002

	1998	1999	2000	2001	2002
Reported Cases	18,646	18,416	18,800	18,689	20,388
% White (non-Hispanic)	27.5	26.3	25.8	25.8	26.4
% Black (non-Hispanic)	65.8	66.1	65.5	64.7	64.8
% <age 20	49.0	46.0	45.1	43.2	44.4
% age 20-39	48.1	49.2	53.7	55.7	54.5

Gonorrhea – Case Reports

Gonorrhea is the second-most frequently reported bacterial STD and it, too, can be treated with antibiotics. Infection with *Neisseria gonorrhoeae* produces symptoms in the majority of cases (nearly all males and over 75% of females) and cases are primarily identified when a patient presents with symptoms. Gonorrhea can cause female reproductive tract damage much like chlamydia so screening for asymptomatic cases is recommended for females in prenatal care, family planning and STD clinics and for males in STD clinics. Gonorrhea case reporting is slightly skewed, with more males than females reported each year. Part of this may be due to the slightly greater likelihood of symptoms in males and part may be due to cases contracted through MSM activity. As with chlamydia, nearly all gonorrhea cases in females can be assumed to have been aquired through heterosexual sex.

The total number of both female and male gonorrhea cases has declined steadily since 1998. The ratio of male-to-female cases, however, has remained virtually the same, indicating no major shifts from heterosexually acquired disease patterns (table 26).

Table 26. Male/Female ratio of reported gonorrhea cases 1998-2002

	1998	1999	2000	2001	2002
Male	10095	10339	9458	8857	7835
Female	9126	9089	8543	7875	7522
M/F Ratio	1.11	1.14	1.11	1.12	1.04

Gonorrhea tends to affect a slightly younger population than HIV, but like HIV, reported cases are disproportionately high among blacks (table 27). Part of this may be due to reporting bias (reporting is better from public clinics) and part may be due to health care access. Gonorrhea cases, particularly among females, indicate a population experiencing unprotected heterosexual sex that may also be at risk for HIV infection.

Table 27. Reported female gonorrhea cases 1998-2002

	1998	1999	2000	2001	2002
Reported Cases	9126	9089	8543	7875	7522
% White (non-Hispanic)	17.8	18.3	17.8	17.0	17.2
% Black (non-Hispanic)	79.2	78.2	78.1	79.1	79.1
% <age 20	40.2	38.1	38.4	39.7	38.9
% age 20-39	55.3	55.0	58.6	57.1	58.4

Syphilis – Case Reports

Despite the fact that syphilis infection is far less common than chlamydia or gonorrhea, case reporting trends for syphilis may provide more information about HIV risk than the other STDs. Syphilis affects a slightly older population that more closely mirrors HIV disease reports, and the race and gender distributions are similar. There is also evidence that the presence of syphilis lesions may increase the likelihood of HIV transmission (Wasserheit, *Sexually Transmitted Diseases* 1992, Fleming & Wasserheit, *Sexually Transmitted Infections* 1999). Syphilis reporting is also the most reliable reporting of the bacterial STDs because, like HIV, each suspected case is investigated and confirmed cases undergo complete contact tracing and partner notification. Cases have dropped dramatically since 1998 due to the efforts of the Syphilis Elimination Project.

As with the other bacterial STDs discussed so far, essentially all female cases can be assumed to be the result of heterosexual transmission. The male-to-female ratio of early syphilis cases remained stable for 1998-2000 and gradually rose in 2001 and 2002 (table 28). This may indicate increased MSM-acquired syphilis but it could also indicate increased transmission via females who exchange sex for drugs or money with many male partners.

Table 28. Reported primary, secondary & early latent syphilis cases 1998-2002

	1998	1999	2000	2001	2002
Male	789	623	551	503	342
Female	780	581	550	438	274
M/F Ratio	1.01	1.07	1.00	1.15	1.25

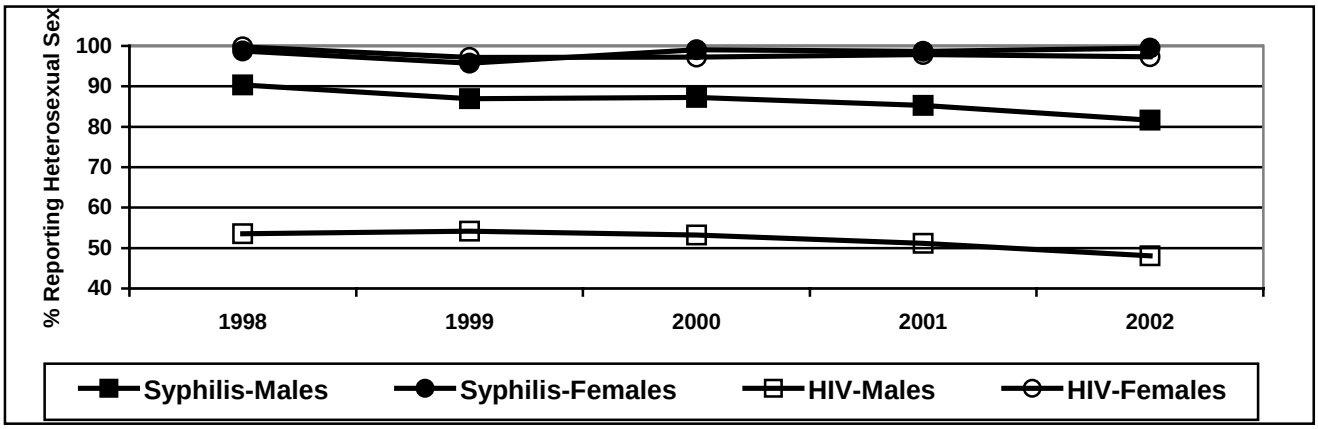
Partner Counseling and Referral Services Data (PCRS)

As part of contact tracing and partner notification, reported cases of STDs (primarily syphilis and HIV) are interviewed in depth by Disease Intervention Specialists (DIS) working for the health department. Interviews are attempted on all reported cases but occasionally the DIS are unable to locate a patient, the patient is located but refuses to answer questions, or the patient dies before the interview can take place.

During the past five years, over 95 percent of interviewed females infected with HIV (mean n = 451/year) or syphilis (mean n = 656/yr) have reported heterosexual activity (figure 38). Because some males are exclusively MSM, a smaller proportion of males report heterosexual activity and

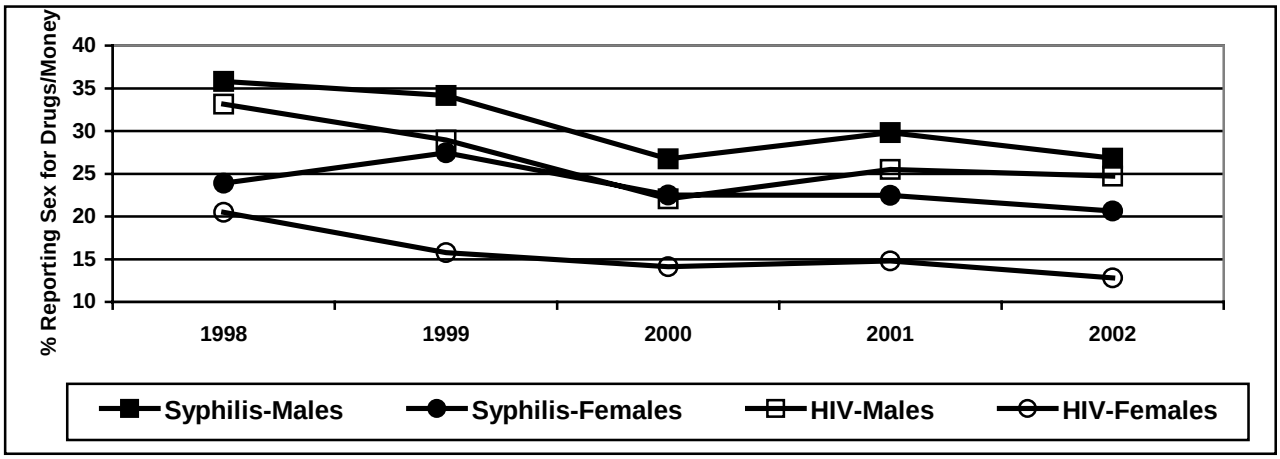
the proportion differs by disease. Over 80 percent of interviewed syphilis cases (mean n = 561) and over 40 percent of interviewed HIV cases (mean n = 919) report sexual contact with females.

Figure 38. Interviewed syphilis & HIV cases reporting heterosexual sex, 1998-2002



Restricting the analysis to those who reported heterosexual sex partners in 2002 less than one-third of interviewed HIV cases reported multiple sexual partners in the last year while around half of the interviewed syphilis cases reported multiple partners. The exchange of sex for drugs or money is also frequently reported among this infected heterosexual population. Proportions were highest in 1998, when over 30 percent of interviewed males and over 20 percent of interviewed females reported the activity (figure 39).

Figure 39. Interviewed syphilis and HIV cases (heterosexual) reporting exchange of sex for drugs or money, 1998-2002



HIV TESTING

HIV Counseling, Testing and Referral (CTR)

Testing for HIV infection is provided at no charge to clients in all local health departments and a number of community-based organizations in North Carolina through the Counseling, Testing and Referral component of cooperative agreements for prevention of HIV and sexually

transmitted diseases. The testing program is more typically known in North Carolina as CTS (Counseling and Testing System) in reference to the data management system used for the collection and analysis of the data. The North Carolina Commission for Health Services' ruling to discontinue anonymous testing for HIV in May 1997 raised concern that, by removing the anonymous test option, testing among persons at high risk for HIV infection would be reduced. Before the option for anonymous testing was removed, the HIV/STD Prevention and Care Branch implemented procedures to make HIV testing available in nontraditional settings. Nontraditional HIV test sites (NTS) operate as either stand-alone test sites that deliver HIV testing in non-routine settings and times through a community-based organization (CBO) or local health department (LHD), or are physically located in a local health department but have hours of operation other than the normal working hours for the health department. The sites other than NTS have been designated as traditional test sites (TTS) in this chapter. Traditional test sites are predominately local health departments and some CBOs. While the CTS data does not provide a true monitoring of seroprevalence, it is a useful tool to evaluate voluntary testing for HIV in the public sector.

The raw number of tests, number of positives and positivity rate for the most recent five years for publicly funded HIV testing in North Carolina is presented in table 29. While there has been some fluctuation in the number of tests processed by the State Laboratory of Public Health, the raw positivity rate (calculated as proportion of positive tests) has remained relatively constant at between 0.68 percent and 0.73 percent.

Table 29. HIV testing in publicly funded sites in N.C.

Year of Test	Tests	Positives	Positivity (%)
1998	108,120	730	0.68
1999	103,275	702	0.68
2000	105,860	739	0.70
2001	109,176	802	0.73
2002	105,686	754	0.71

Readers should be aware that some clients are tested multiple times for various reasons. Table 30 presents tests (and proportions) by previous test status.

Table 30. HIV counseling and testing by previous test result 1998 - 2002

	Year of Test									
Previous Test	1998		1999		2000		2001		2002	
Result	Test	%	Test	%	Test	%	Test	%	Test	%
No Previous Test	44,479	41.1	45,402	44.0	40,318	38.1	41,219	37.8	38,297	36.2
Negative	60,594	56.0	56,278	54.5	63,734	60.2	65,828	60.3	65,473	62.0
Positive	232	0.2	211	0.2	252	0.2	274	0.3	246	0.2
Inconclusive	100	0.1	78	0.1	91	0.1	85	0.1	89	0.1
Unknown/ Missing	2,715	2.5	1,306	1.3	1,465	1.4	1,770	1.6	1,581	1.5
Total	108,120	100	103,275	100	105,860	100	109,176	100	105,686	100

In general, there has been a decline in the proportion of all tests performed where the client indicates no previous HIV testing history. The resulting increase in proportion of repeat tests has been in the category of having had a previous negative test.

In order to provide a meaningful analysis of testing and positivity trends, when calculating positivity rates, one must take into account the previous test status. Earlier parts of this section of the *Profile* address the use of the CTS data in the evaluation of HIV incidence. For some parts of this discussion, repeat tests will be included in the total test denominator but for other discussions previous positive tests or any previous test may be excluded.

Table 31 presents the corrected overall positivity where reports that indicated the client had a previous positive test were removed from consideration. The denominator used in the positivity calculation in this table does include other previous tests (for example, previous negative tests are included). All subsequent discussions of testing and positivity rates in this section are based on these corrected values where previous positive tests are removed from consideration.

Table 31. Corrected CTS positivity

Year of Test	Positives	Positivity (%)
1998	557	0.52
1999	539	0.52
2000	530	0.50
2001	584	0.54
2002	554	0.53

The first year during which the number of HIV tests conducted in public sites did not increase was 1997. The long-term trend of decreasing positivity rate noted during the 1990s has continued through 2000. The positivity rate (number of positives per 100 tests performed) has been less than 1 percent since 1994. High-risk clients (MSM, MSM/IDU, IDU, persons who exchange sex for drugs or money, persons who have sex while using non-injecting drugs and persons who are sex partners of persons at risk or persons infected with HIV) continue to seek testing through publicly funded test sites. However, HIV testing in nontraditional test sites continues to identify a greater *proportion* of positives than testing in other publicly funded sites. The NTS positivity rate was 1.06 percent, compared to 0.48 percent for all other public site testing for CY 2002 (table 32). Since its inception, NTS positivity has been at least twice that of traditional test sites.

Table 32. Number of positive tests and positivity (%) venue and year of test

	Year of Test									
Testing Venue	1998		1999		2000		2001		2002	
	Tests	%	Tests	%	Tests	%	Tests	%	Tests	%
Nontraditional	38	1.02	38	1.25	47	0.96	81	1.20	81	1.06
Traditional	519	0.50	501	0.50	483	0.48	503	0.49	473	0.48

The major difference noted between clients seen in NTS and other sites is the proportion of tests comprising high-risk clients. Men who have sex with men (MSM), injecting drug users (IDU) and clients reporting both MSM and IDU risks made up approximately 18 percent of the clients

tested in NTS during 2002, compared to approximately 5 percent of the traditional venue clients during the same time (table 33). High-risk heterosexual activity (sex partner at risk for, or infected by HIV, exchange of sex for drugs or money, having sex while using non-injecting drugs, multiple sexual partners or a recent STD diagnosis) made up 44 percent of the NTS clients and 47 percent of the traditional venue clients. These proportions of tests have varied somewhat over time, but without a clear trend. However, there are differences in testing behavior within the high-risk heterosexual groups in the two venues. At NTS during 2002, testers with a sex partner at risk or who had a recent STD diagnosis each comprised approximately 14 percent of the tests. In comparison, in traditional sites these risk groups accounted for approximately 20 percent each of tests during the same time period. During 2002, testers with exchange of sex for drugs or money or use of non-injecting drugs while having sex as risks were both found more often in NTS (4% and 11%, respectively) than traditional sites (<1% and 5%, respectively).

Table 33. HIV CTS tests mode of transmission for 1998 – 2002 by venue (previous positives removed)

	Year of Test									
Nontraditional Venue	1998		1999		2000		2001		2002	
Mode of Transmission	Tests	%	Tests	%	Tests	%	Tests	%	Tests	%
MSM IDU	19	0.5	21	0.7	38	0.8	44	0.7	55	0.7
MSM	394	10.6	371	12.2	502	10.3	647	9.6	730	9.5
IDU	261	7.0	152	5.0	389	8.0	533	7.9	569	7.4
High-Risk Heterosexual	1777	47.9	1254	41.3	2310	47.3	3350	49.6	3373	44.1
Heterosexual, No Other Risk	814	21.9	663	21.8	1024	20.9	1441	21.3	1812	23.7
All Other	448	12.1	578	19	625	12.8	744	11	1106	14.5
Total	3713	100	3039	100	4888	100	6759	100	7645	100
Traditional Venue (LHD)										
Mode of Transmission										
MSM IDU	155	0.1	142	0.1	155	0.2	120	0.1	94	0.1
MSM	2455	2.4	2082	2.1	2252	2.2	2588	2.5	2699	2.8
IDU	2631	2.5	2439	2.4	2698	2.7	1965	1.9	1871	1.9
High-Risk Heterosexual	55141	52.9	49529	49.5	47299	47	48098	47.1	45856	46.9
Heterosexual, No Other Risk	30588	29.4	31385	31.4	32391	32.2	33716	33	32092	32.8
All Other	13205	12.7	14448	14.4	15925	15.8	15656	15.3	15183	15.5
Total	104175	100	100025	100	100720	100	102143	100	97795	100

In 2002, males were tested more often than females in NTS (60% vs. 38%), while in traditional test sites 67 percent of the tests were for females (table 34). The male: female ratio for testing in NTS changed from a 1:1 ratio in 1998 to a 1.8:1 ratio by 2002, while the gender ratio remained essentially unchanged in traditional sites. It is important to note that NTS do not have prenatal/OB or family planning services that are found in the local health department sites. During the first years of NTS availability, approximately the same proportion of clients seen in local health departments (LHD) and NTS sites were white, with 46% reported white in 1998 and 42-44% reported white in 1999 (table 35). An increase in proportion of tests for blacks in NTS was noted from 1998 through 2002. From 1998 through 2002, an increase in the proportion

of tests for Hispanics was seen in LHD sites, while the proportion of Hispanics tested at NTS sites remained largely unchanged.

Table 34. HIV CTS tests by gender for 1998 – 2002 (previous positives removed)

	Year of test									
Nontraditional Venue	1998		1999		2000		2001		2002	
Gender	Tests	%	Tests	%	Tests	%	Tests	%	Tests	%
Male	1859	50.1	1610	53	2902	59.4	4349	64.3	4575	59.8
Female	1836	49.4	1399	46	1922	39.3	2324	34.4	2912	38.1
Missing	18	0.5	30	1.0	64	1.3	86	1.3	158	2.1
Total	3713	100	3039	100	4888	100	6759	100	7645	100
Traditional Venue (LHD)										
Gender										
Male	31892	30.6	30419	30.4	31240	31.0	32053	31.4	30821	31.5
Female	71889	69.0	68891	68.9	68694	68.2	68868	67.4	65839	67.3
Missing	394	0.4	715	0.7	786	0.8	1222	1.2	1135	1.2
Total	104,175	100	100,025	100	100,720	100	102,143	100	97,795	100

Table 35. HIV CTS testing for 1998 – 2002 by race/ethnicity (previous positives removed)

	Year of Test									
Nontraditional Venue	1998		1999		2000		2001		2002	
Race/Ethnicity	Tests	%	Tests	%	Tests	%	Tests	%	Tests	%
White	1694	45.6	1265	41.6	1819	37.2	2237	33.1	2408	31.5
Black	1512	40.7	1289	42.4	2404	49.2	3382	50	4076	53.3
Hispanic	422	11.4	393	12.9	516	10.6	953	14.1	854	11.2
Asian/ Pacific Islander	24	0.6	16	0.5	26	0.5	31	0.5	38	0.5
American Indian	16	0.4	10	0.3	32	0.7	47	0.7	109	1.4
other/not known	45	1.3	66	2.1	91	1.9	109	1.6	160	2
Total	3713	100	3039	100	4888	100	6759	100	7645	100
Traditional Venue (LHD)										
Race/Ethnicity										
White	48005	46.1	43573	43.6	41529	41.2	40125	39.3	37668	38.5
Black	45738	43.9	44002	44	43856	43.5	44067	43.1	42312	43.3
Hispanic	7666	7.4	9363	9.4	12401	12.3	14222	13.9	14641	15
Asian/ Pacific Islander	707	0.7	741	0.7	723	0.7	726	0.7	731	0.7
American Indian	1093	1	1083	1.1	1020	1	1273	1.2	1039	1.1
other/not known	966	0.9	1263	1.2	1191	1.1	1730	1.7	1404	1.4
Total	104,175	100	100,025	100	100,720	100	102,143	100	97,795	100

Some unexpected positivity rates were found among the various risk group populations tested in the two venues. While MSM and MSM/IDU testing represents a higher proportion of tests in NTS sites, the positivity rate for these groups is about two times greater in LHD sites than NTS sites (table 36). The positivity rates for IDU clients are the same in both venues, although IDU testing proportions are about three times greater in NTS sites than LHD sites. Repeat test behavior is equivalent in the two test sites (about 60% of clients were previously tested with negative results). Among the clients who were tested and found to be positive, between 50 and 55 percent of the clients in both venues had a previous negative test. We believe all of these findings, taken together, indicate that the NTS are serving a population at higher risk even though the seroprevalence in this population does not appear to be higher than that found in the population visiting LHD sites. The NTS model may provide a testing venue where clients are more likely to return for repeat testing. In terms of the recent recommendations by the Centers for Disease Control regarding multiple/ongoing risk reduction message delivery, NTS venues might present opportunities for such risk reduction message activity to occur.

Table 36. HIV CTS positivity by mode of transmission for 1998 – 2002 (previous positives removed)

	Year of Test									
Nontraditional Venue	1998		1999		2000		2001		2002	
Mode of Transmission	Tests	%	Tests	%	Tests	%	Tests	%	Tests	%
MSM IDU	0	0	0	0	0	0	1	2.3	2	3.6
MSM	11	2.8	14	3.8	13	2.6	15	2.3	19	2.6
IDU	3	1.1	4	2.6	5	1.3	9	1.7	6	1.1
High-Risk Heterosexual	15	0.8	15	1.2	25	1.1	38	1.1	33	1
Heterosexual, No Other Risk	6	0.7	3	0.5	3	0.3	17	1.2	10	0.6
All Other	3	0.7	2	0.3	1	0.2	1	0.1	11	1
Total	38	1	38	1.3	47	1	81	1.2	81	1.1
Traditional Venue										
Mode of Transmission										
MSM IDU	3	1.9	9	6.3	4	2.6	4	3.3	2	2.1
MSM	84	3.4	105	5	100	4.4	120	4.6	129	4.8
IDU	32	1.2	37	1.5	38	1.4	17	0.9	16	0.9
High-Risk Heterosexual	289	0.5	241	0.5	223	0.5	226	0.5	212	0.5
Heterosexual, No Other Risk	84	0.3	69	0.2	77	0.2	90	0.3	68	0.2
All Other	27	0.2	40	0.3	41	0.3	46	0.3	46	0.3
Total	519	0.5	501	0.5	483	0.5	503	0.5	473	0.5

Positivity rates by race/ethnicity are presented in table 37. The positivity for blacks tested in NTS is approximately 2-3 fold that for whites. In the traditional sites, the differential between these two groups is four-fold.

Table 37. HIV CTS positivity by race/ethnicity for 1998 – 2002 (previous positives removed)

	Year of Test									
Nontraditional Venue	1998		1999		2000		2001		2002	
Race/Ethnicity	Tests	%	Tests	%	Tests	%	Tests	%	Tests	%
White	8	0.5	10	0.8	11	0.6	13	0.6	19	0.8
Black	25	1.7	25	1.9	32	1.3	62	1.8	57	1.4
Hispanic	5	1.2	3	0.8	4	0.8	5	0.5	2	0.2
Asian/Pacific Islander	0	0	0	0	0	0	0	0	0	0
American Indian	0	0	0	0	0	0	0	0	0	0
Undetermined	0	0	0	0	0	0	1	1.5	3	2.5
Total	38	1	38	1.3	47	1	81	1.2	81	1.1
Traditional Venue										
Race/Ethnicity										
White	87	0.2	80	0.2	81	0.2	72	0.2	70	0.2
Black	403	0.9	376	0.9	362	0.8	379	0.9	349	0.8
Hispanic	23	0.3	33	0.4	29	0.2	40	0.3	44	0.3
Asian/Pacific Islander	1	0.1	0	0	0	0	1	0.1	0	0
American Indian	4	0.4	5	0.5	5	0.5	4	0.3	4	0.4
Undetermined	1	0.2	7	1	6	8.4	7	0.9	6	1
Total	519	0.5	501	0.5	483	0.5	503	0.5	473	0.5

We found that an equally high proportion of the positive tests found in both testing venues were among persons who had previously tested and persons who were positive on their first HIV test. Twenty of 101 positives (20%) reported through NTS testing in 2002 said that they were previously tested with a positive result. One hundred eighty of 653 (28%) of the positives reported from traditional test sites in 2002 reported a previous positive result. These previous positive reports are self-reports from clients and should be viewed with some caution, however. Of the NTS clients reporting a previous positive test, 19 percent (5/26) and 35 percent (11/31) were found to be negative on their tests reported in 2001 and 2002, respectively. Among the clients tested in LHD, 21 percent (51/248) and 15 percent (32/215) of the clients reporting a previous positive test were found to be negative for the tests reported in 2001 and 2002. We believe these results suggest either client recall errors or unclear pretest counseling questions about previous test status.

SECTION 2: HIV/AIDS TREATMENT & CARE QUESTIONS IN NORTH CAROLINA

(Including Ryan White HIV/AIDS Care Act Special Questions and Considerations)

Question 1: What is the impact of AIDS in North Carolina?

Question 2: What are Ryan White HIV/AIDS Care Act Considerations?

Highlights/Summary

- As of December 31, 2002, the cumulative total of AIDS cases reported in the state was 12,177.
- 1,014 new AIDS cases were reported in North Carolina in 2002. This represents a 16% increase from the previous year and is the second year of an increase in reported cases.
- The AIDS case rate in 2002 is ten times higher for blacks than whites. Increases in AIDS case rates were noted for both black males and black females over the last five years.
- 5,443 Ryan White Title II clients received or accessed funded services in 2002.
- In December 2002, about 2,762 individuals were enrolled in N.C.'s ADAP (AIDS Drug Assistance Program).
- The demographics of Ryan White Title II clients and ADAP enrollees are very similar to the observed demographics of all persons listed as living in North Carolina with HIV or AIDS at the end of 2002.

QUESTION 1: WHAT IS THE IMPACT OF AIDS IN NORTH CAROLINA?

AIDS

This section focuses on information that pertains specifically to AIDS in North Carolina. AIDS cases represent HIV-infected individuals who have reached a later, more serious, stage of disease and who meet the case definition for an AIDS diagnosis. This case definition includes confirmation of HIV infection along with CD4+ T-lymphocyte counts of less than 200 cells/μL or HIV infection with the presence of one of 23 clinical conditions indicating an impaired immune system. The date of AIDS report represents the date that an individual is reported as an AIDS case. Individuals are usually reported with an HIV diagnosis and then later with an AIDS diagnosis. However, some individuals are reported with both an HIV diagnosis and an AIDS diagnosis at the same time.

Monitoring changes in AIDS cases helps provide a valuable measure of the continuing impact of treatment as well as describing those who may not have access to care. Increases in reports may indicate that more individuals are not receiving effective treatments or that current treatments are not as effective as they were earlier. Close attention should be paid to the demographic changes in AIDS cases, especially by agencies that provide care services for clients.

As of December 31, 2002, a total of 12,177 cases of AIDS had been reported in the state since 1983 with North Carolina as residence at the time of diagnosis. In 2002, 1,014 new AIDS cases were reported. About 49 percent of these new AIDS cases represented new individuals reported (*HIV disease/* HIV and AIDS reported concurrently); the remaining 51 percent represented individuals who had been previously reported as infected with HIV but who subsequently had an AIDS diagnosis in 2002 (table O, pg. 115). The 1,014 reports for 2002 represented a 16 percent increase in AIDS reports from 2001. 2002 was the second year for which an increase in AIDS cases had been reported in North Carolina; the new 871 AIDS reports received in 2001 represented a 28 percent increase from the previous year. The reasons for the reported increases in AIDS reports are varied and likely represent several factors. These factors include variations in access to medical care, changes in HIV treatment effectiveness over time, the expected progression of disease for the high number of individuals infected in the mid-1990s, and enhanced surveillance efforts to capture report information. It is important to remember that reporting delays can cause changes in the report totals for recent years. In North Carolina, diagnosed cases are sometimes not reported to the HIV/STD Prevention and Care Branch in a timely manner. For instance, for cases reported between 1990 and 1994, 47 percent were reported within 3 months of diagnosis, and 78 percent were reported within 12 months of diagnosis. By comparison, CDC reports nationally that 50 percent of cases are reported to CDC within 3 months and 80 percent within one year.

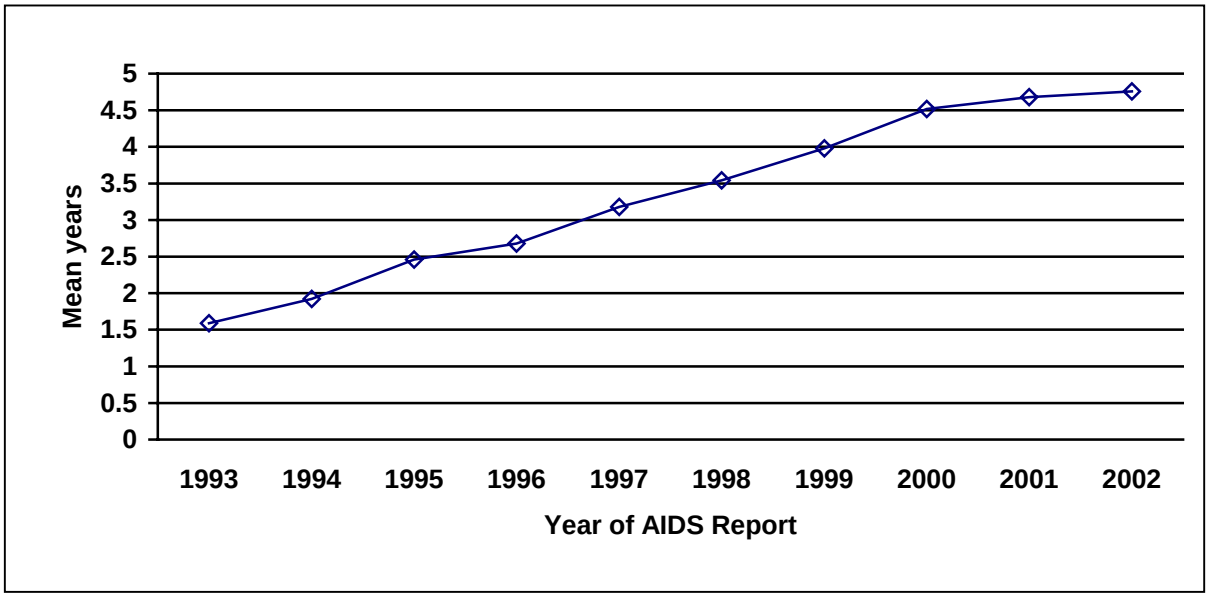
Tables P and Q (pp.116-117) display the AIDS report cases and rates for the last 5 years. Changes in rates may indicate changes in anticipated care need for certain groups. In 2002,

black males represented 47 percent of AIDS cases, black females represented 24 percent of cases, and White males represented 19 percent of cases. The case rate for AIDS among blacks was ten times higher than for whites. AIDS cases for black males increased from 49 per 100,000 in 1998 to 56 per 100,000 in 2002 ,while AIDS cases for black females have increased from 19 per 100,000 in 1998 to 26 per 100,000 in 2002. This represents significant increases in case rates for both groups.

TREATMENT

As mentioned earlier, the introduction of new more effective AIDS treatments such as antiretroviral therapy (ART) has made a tremendous impact on delaying the progression of HIV to AIDS. This was evident in national surveillance data, as AIDS incidence and deaths dropped for the first time in 1996. North Carolina surveillance data also suggest that these treatments are having an impact. Figure 40 shows the average number of years between a report with HIV and a report with AIDS in surveillance data. The increase in the time between reports indicates that these new treatments are likely slowing the progression from HIV to AIDS. It should be noted that the rate of increase has slowed since 2000. This, like the increase in AIDS reports, could indicate changes in treatment effectiveness or delivery of AIDS care. It will be important to monitor these trends closely in the near future.

Figure 40. Average Number of Years Between First HIV Test (reported) and AIDS Diagnosis (reported)



QUESTION 2: WHAT ARE RYAN WHITE HIV/AIDS CARE ACT CONSIDERATIONS?

RYAN WHITE

This section focuses on information that pertains to Health Resources and Services Administration (HRSA) HIV/AIDS care planning groups. Specifically, this section characterizes some patterns in the use of HIV care services by a number of populations in North Carolina. Some of the information provided is based on surveys of HRSA-funded programs in the state.

In 1990, Congress enacted the Ryan White CARE Act to provide funding for states, territories, and eligible metropolitan areas (EMAs) to offer primary medical care and support services for persons livings with HIV disease who lack health insurance and financial resources for their care. Congress reauthorized the Ryan White CARE Act in 1996 and in 2000 to support Titles I-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. Title program support varies from state to state depending on program requirements and mandates.

The purpose of Title II funding is to improve the quality, availability, and organization of health care and support services for individuals and families with, or affected by, HIV disease in each state or territory. The state administers the Title II program and provides funding for services to care consortia and other local service providers. Some Title II-funded services in North Carolina are administered and provided through local consortia. Descriptions of the clients and services provided through consortia are below. Readers should note that this information is based on summary reports from the consortia. Individual clients may be served by more than one consortium over time or by different programs within the consortium; thus, there is some level of duplication in estimating the number of clients served.

In calendar year (CY) 2002, a total of 5,443 HIV-positive clients received services funded through Ryan White Title II awards in North Carolina. During 2002, the distribution of Title II CARE Act clients by race/ethnicity, sex and age was similar to the distribution of these characteristics among persons known to be living with HIV/AIDS in North Carolina at the end of 2002 (see table 38).

Table 38. N.C. Living HIV/AIDS Cases, Ryan White Title II Clients, and ADAP Clients Demographics, 2002

	Ryan White Title II clients (2002)	ADAP enrollees (December 2002)	Persons living with HIV/AIDS (as of 12/31/2002)
	(n=5,443)	(n=2762)	(n=16,894)
Gender			
Male	64%	72.2%	68.4%
Female	35%	27.8%	31.6%
Transgender	<1%		-
Race/ethnicity			
White*	26%	31%	23.7%
Black*	69%	59.8%	71.9%
Am Indian/ Al Native*	1%	1.2%	<1%
Asian/PI*	<1%	<1%	<1%
Hispanic	3%	7.0	2.4%
Unknown	3%		
* excludes Hispanics for case reports only			
Age Group			
<2	<1%	<1%	0%
2-12	1%	<1%	<1%
13-24	3%	2.8%	4%
25-44	58%	63.9%	62%
45-64	29%	31.7%	31%
65 and over	1%	1.5%	2%
Unknown	7%		

Most of the visits of the 5,443 Title II clients who received services during 2002 involved case management (n=2,124), followed by emergency financial fund assistance (n=2,021). A separate survey of Title II medical and dental care providers indicated that services were provided for 2,489 clients. In order to better monitor access to Ryan White services and assist projects with required reporting, a computer software program, CAREWare, has been recently provided to each consortium by HRSA. At its core, CAREWare collects and stores data for completion of the annual Care Act Data Report (CADR). Moreover, CAREWare is a tool used to move programs beyond mere data reporting and into information management and continuous quality improvement (CQI). Using the various components of CAREWare allows programs to monitor a number of clinical and psychosocial indicators in a way that satisfies both CQI initiatives and CADR requirements. CAREWare level data reports are expected to be available in the latter part of 2003.

State estimates of the number of persons reported with HIV/AIDS and listed as living by county of residence and sorted by consortia are found in table N on pages 112-114. This estimation of reported persons living with HIV can be used to approximate care needs or anticipated care need within the consortia.

AIDS DRUG ASSISTANCE PROGRAM (ADAP)

Since 1987, Congress has appropriated funds to assist states in providing AIDS patients antiretroviral therapy (ART) approved by the Federal Drug Administration (FDA. With the initial passage of the Ryan White CARE Act in 1990, the assistance programs for ART were incorporated into Title II and became commonly known as ADAP. ADAP now provides FDA-approved HIV-related prescription drugs to underinsured and uninsured persons living with HIV/AIDS. For many people with HIV, access to ADAP serves as a gateway to a broad array of health care and supportive services as well as other sources of coverage, including Medicaid, Medicare and private insurance.

North Carolina's HIV Medications Program (or ADAP) uses a combination of state and federal funds to provide low-income residents with assistance in purchasing medications to fight HIV/AIDS and the opportunistic infections which often accompany the disease. In order for someone to be eligible for ADAP in North Carolina, the individual must have a net family income that is at or below 125 percent of the federal poverty level, not have third-party coverage (e.g., private insurance or Medicaid), and meet other program criteria. In December 2002, about 2,762 individuals were enrolled in N.C. ADAP. Table 38 above displays the demographics on enrollees at that time. ADAP enrollees represent a population that is very similar demographically to the total number of persons who were living with HIV or AIDS at the end of 2002.

SECTION 3: SEXUALLY TRANSMITTED DISEASES OTHER THAN HIV/AIDS IN NORTH CAROLINA

Question: What is the impact of sexually transmitted diseases other than HIV/AIDS in North Carolina?

QUESTION: WHAT IS THE IMPACT OF STDS OTHER THAN HIV/AIDS IN NORTH CAROLINA – 2002 ?

Highlights/Summary

- Gonorrhea rates have decreased 27% among males and 23% among females from 1998 to 2002. Large decreases among black and Hispanic males and black females account for the major part of the decline.

- Severe racial disparities in gonorrhea incidence rates are on the decline among males. In 1998, rates among black males were 36 times the rates for white males. The disparity decreased to 27 times higher in 2002. Disparities among females have remained relatively steady, with black female gonorrhea rates approximately 14 times higher than rates for white females during the five-year period.

- Chlamydia reported cases and rates have increased among 20-29 year old females from 1998 to 2002, reflecting changes in recommended screening protocols that have added more screened women in this age group.

- Racial disparities in female chlamydia reports have remained stable over the past five years with 7-8 times more cases reported among black females than whites and 3-5 times more cases among American Indian/Alaska Native and Hispanic females.

- Chlamydia prevalence among women tested in publicly funded clinics has declined 27%, from 8.4% prevalence in 1998 to 6.1% prevalence in 2002. This reflects changing screening protocols that have added older women who are at lower risk for chlamydial infection than younger women.

- All reportable syphilis stages are on the decline with primary/secondary syphilis down 65%, early latent syphilis down 62%, and late syphilis down 28% from 1998 to 2002. Congenital syphilis cases have remained stable at about 20 cases per year, by year of report.

- Durham, Guilford, Mecklenburg, Robeson and Wake counties accounted for 48.4% of early syphilis reports (primary, secondary, early latent) and ranked as the top five counties in number of syphilis reports for 2002.

- Racial disparities in syphilis rates are larger among males than females. Relative rates among males have declined from 1998 to 2002 because minority rates are dropping faster than white male rates. The opposite trend is true for females where minority rates are dropping more slowly than white rates, widening the disparity between them.

Reportable STDs in North Carolina

In addition to HIV and AIDS, 18 other sexually transmitted conditions are reportable to the North Carolina Department of Health and Human Services (NCDHHS). Cases of syphilis (8 possible stages), gonorrhea (genito-urinary/non-PID or opthalmia neonatorum), chancroid, and granuloma inguinale must be reported to the local health department within 24 hours of diagnosis. Lab-confirmed chlamydia, lymphogranuloma venereum (LGV), nongonococcal urethritis (NGU – usually assumed to be non-lab confirmed chlamydia; in females this is referred to as mucopurulent cervicitis or MPC), and pelvic inflammatory disease (PID – due to any cause, usually gonorrhea or chlamydia, females only) must be reported within seven days. Hepatitis A and B can be transmitted through sexual contact, but the HIV/STD Prevention and Care Branch does not provide surveillance for those reports. Acute cases are reportable within 24 hours to the local health department and statewide surveillance is directed by the Communicable Disease Branch at N.C. DHHS.

Table 39 describes all STD cases reported to the HIV/STD Prevention and Care Branch in 2002. The remainder of this report will focus on the three most commonly reported conditions: lab-confirmed chlamydial infection, gonorrhea and syphilis. Although NGU and MPC are reported in relatively high numbers, they will not be discussed in detail because they are difficult to interpret. Each is a diagnosis of exclusion, with given physical characteristics and the documented absence of *Neisseria gonorrhoeae*. Though they can be caused by several different organisms, most cases of NGU and MPC are assumed to be *Chlamydia trachomatis*, but since they are not laboratory confirmed it would not be accurate to group these diagnoses with the chlamydia cases. Similarly, PID is a syndromic diagnosis with multiple possible causes, the most common being gonorrhea and chlamydia. In 2002, there were only 9 cases of PID reported to N.C. DHHS. Since the CDC estimates that a minimum of 10 percent of female gonorrhea and chlamydia cases will lead to PID, this represents a drastic under-reporting of PID cases. Other reportable STDs are almost non-existent in the state of North Carolina. In 2002 there was one case of granuloma inguinale reported (and one the previous year), zero cases of chancroid (three the previous year), zero cases of LGV (four the previous year), and zero cases of opthalmia neonatorum (opthalmic infection with *N. gonorrhoeae* in infants) for the past two years.

Table 39. North Carolina Reportable STDs - 2002

	Sex			
	Male	Female	Unknown	Total
Chlamydia (lab-confirmed)	4348	20388	2	24738
Gonorrhea	7835	7514	4	15353
Syphilis				
Primary Syphilis	76	25	0	101
Secondary Syphilis	84	86	0	170
Early Latent Syphilis	182	163	0	345
Late Syphilis	84	71	0	155
Late Latent Syphilis	167	88	0	255
Late Syphilis w. symptoms	3	0	0	3
Neurosyphilis	13	4	0	17
Congenital Syphilis	8	12	0	20
Syndromic Diagnoses				
Nongonococcal Urethritis (NGU)	5526	n/a	1	5527
Mucopurulent Cervicitis (MPC)	n/a	83	0	83
Pelvic Inflammatory Disease (PID)	n/a	9	0	9
Other STDs				
Chancroid	0	0	0	0
Granuloma Inguinale	1	0	0	1
Lymphogranuloma Venereum (LGV)	0	0	0	0
Opthalmia Neonatorum (gonorrhea)	0	0	0	0

Hepatitis A virus (HAV) is spread from person to person by the fecal-oral route. Many outbreaks are due to food or waterborne transmission but others can be traced to sexual contact. Increases in the male-to-female ratio of cases may indicate sexual transmission among men who have sex with men (MSM). Hepatitis B (HBV) is a bloodborne virus, spread from person to person through sharing injection equipment, accidental needle sticks, and sexual activity. Transmission via donated blood products is also possible but rare, due to careful screening of the blood supply. As with hepatitis A, changes in the male to female ratio may indicate MSM transmission. However, it should be noted that a greater percentage of injection drug users may also be male, making this interpretation less clear than that for HAV. Both HAV and HBV infection can be prevented through vaccination.

Hepatitis C (HCV) is also a bloodborne infection but, unlike HBV, there is no available vaccine. It also differs from HBV in that transmission is most commonly associated with sharing needles, syringes or other injection equipment, or sharing other personal items that may have blood on them (e.g. razors, toothbrushes). The efficiency of sexual transmission of HCV appears to be low compared to HBV but nonetheless, the CDC estimates that 20-30 percent of cases nationwide may have been acquired through sexual transmission.

Table 40 shows Hepatitis A, B, and C cases and male-to-female ratios for 1998-2002. For the most part, the pattern remains consistent with more male HAV and HBV cases than female, and the trend appears to be increasing. The number of HCV cases reported is quite small, making interpretation difficult, but for most years the ratio is near 1.0.

Table 40. Hepatitis A , B, and C Male:Female ratios and cases

	1998	1999	2000	2001	2002
Hepatitis A	1.7 (80/48)	2.9 (124/43)	1.0 (76/77)	2.1 (164/78)	3.3 (160/48)
Hepatitis B acute	1.4 (142/101)	1.7 (142/82)	1.9 (169/87)	1.7 (139/82)	1.7 (145/87)
Hepatitis B chronic	1.4 (350/255)	1.2 (404/328)	1.3 (360/268)	1.5 (388/255)	1.3 (500/379)
Hepatitis C	N/a	0.9 (16/17)	0.8 (9/11)	1.8 (14/8)	1.1 (15/14)

Non-Reportable STDs in North Carolina

It is worth noting that there are a number of important sources of sexually transmitted illnesses that are not reportable in the state of North Carolina. There are approximately 30 strains of human papillomavirus (HPV) that can be sexually transmitted. Most strains produce no symptoms in infected individuals, but there are a few strains associated with genital warts and others associated with the development of cervical cancer in females. Because most infected people are asymptomatic, extensive screening would be required to diagnose most infections. Screening is costly and most infected people have no serious health outcomes associated with HPV infection. Therefore, the available screening efforts focus on the detection of cervical cancer rather than HPV infection. On average, over 500 cases of cervical cancer are reported in North Carolina each year. Infection with HPV is not reportable, but the CDC estimates that 50-75 percent of sexually active adults will acquire HPV at some point during their lives (approximately 5.5 million new infections per year in the U.S.).

Most cases of genital herpes are caused by type 2 herpes virus (HSV-2), though some are also caused by type 1 virus (HSV-1) which also causes oral cold sores. Symptoms are worst immediately following infection and subsequent outbreaks decrease in severity. The most severe consequence of genital herpes is transmission to newborns during birth, a rare event. Herpes is not reportable for a number of reasons. Historically, there have not been good diagnostic tests available. Also, many incident cases are likely to be missed and reporting therefore would largely represent prevalent cases of unknown duration. This may change in the future, given that testing procedures have improved and new evidence indicates that HSV-2 infection may increase susceptibility to HIV infection.

Trichmoniasis is an STD caused by infection with the parasite *Trichomonas vaginalis*. Most males and some females are asymptomatic. Identified cases (primarily females) can be treated with antibiotics. The CDC estimates approximately 2 million new infections per year in the U.S. Like herpes, diagnostic testing issues and underestimation of the seriousness of the disease kept *T. vaginalis* infection off the reportable disease lists.

Bacterial vaginosis (BV) is the most common vaginal infection in women of childbearing age. It can be caused by a number of different bacteria. The role of sexual transmission is not well understood and no single causal organism has been isolated. Women can be treated for the infection but there is no evidence that treatment of partners prevents it. However, women who have not had sexual intercourse rarely have BV. The condition is not reportable largely because it is syndromically diagnosed and it is unclear how reporting will aid in case reduction.

Chlamydia

Chlamydia Disease

Chlamydia is the most frequently reported bacterial STD, and it is easily treated with antibiotics. When symptoms occur, they include discharge and painful urination. However, the majority of people infected with *Chlamydia trachomatis* have no symptoms at all (approximately three-quarters of infected females and half of infected males). Nevertheless, the infection can cause severe damage to the female reproductive tract, including infertility and PID. For this reason, the CDC and the N.C. HIV/STD Prevention and Care Branch currently recommend that all sexually active females age 24 and under be screened for asymptomatic chlamydia, as well as all pregnant women. There are no comparable screening programs for young men.

Chlamydia Reporting

North Carolina law states that all cases of chlamydial infection must be reported to the local health department within 7 days. Laboratory confirmation of chlamydia cases takes place at a number of private labs; most public clinics send their samples to the State Laboratory of Public Health. Results are returned to the provider, who reports them to the local health department. Infected patients are treated and encouraged to bring their partners in for treatment but there is no formal partner notification procedure. When a new case is diagnosed, the provider sends a morbidity report to the HIV/STD Prevention & Care Branch at the State Division of Public Health where information on patient demographics and disease diagnosis are compiled for analysis.

Chlamydia cases for males are severely underreported and are of little use in estimating prevalence or incidence of disease. The data for females is better, although cases are still underreported and may be biased toward public clinics that are more likely to both screen and report cases found. Case information is collected in aggregate so it is possible for accidental duplicates to occur.

Chlamydia Trend Analysis

Chlamydia is predominantly found in younger age groups. For males, the highest rates are consistently found in the 20-29 age group followed by 13-19. For females the trend is reversed, with 13-19 year olds having the highest rates, followed by 20-29 year olds (table Z-1). Both the number of cases reported and the age-specific rates for female 13-19 year olds have remained quite stable over the past five years, while the number of cases and rates for 20-29 year olds have been on the rise, increasing 17 percent from 1998 to 2002. This is most likely due to changing standards for screening. Prior to January 1, 2000, chlamydia screening of all asymptomatic women age 19 and under receiving care at publicly funded clinics was recommended. On that date the age was raised to 22 and then on July 1, 2000 it was raised again to women aged 24 and under. Correspondingly, both the number of women screened and the number of cases identified has increased in the 20-29 age group.

Chlamydia case reports reflect severe racial disparities that have remained relatively consistent over the past five years. The rates among black, non-Hispanic males are 9-10 times the rates for

whites, and the rates for Hispanics are 4-5 times the rates for whites (table Z-2). The data for females, which are slightly more reliable, is nearly as severe, with black chlamydia rates 7-8 times higher than white rates, American Indian/Alaska Native and Hispanic rates each 3-5 times higher. It is very likely that these disparities are due, at least in part, to reporting bias.

Prevalence Data

Most county health departments do not have adequate laboratory facilities to process chlamydia tests and therefore must use the State Laboratory of Public Health in Raleigh. Information is collected on both positive and negative tests for estimating prevalence and for program evaluation. This data is subject to a certain degree of bias because it reflects testing that occurred only in publicly funded clinics and does not include the five counties with the largest health departments. Most of the women tested came to the clinic for family planning, prenatal, or other regular services and met the age criteria for screening. Around a fourth of the women tested came to the clinic for a medical problem (which could include STDs) or to request testing. Over 70 percent of the women screened were in the recommended age group of age 24 and under.

The overall prevalence of chlamydial infection among women tested under this program has declined over the past five years from 8.4 percent to 6.1 percent (table 41). The decline has occurred essentially across all age and racial groups. Each year, prevalence remains highest among the 10-14 age group (11.2% in 1998 and 9.9% in 2002), then 15-19 (11.1% in 1998 and 9.2% in 2002), then 20-24 (8.3% in 1998 and 5.8% in 2002), and continues to drop with each older age group.

Racial disparities exist in the screening data but are not as severe as those posed in the data for reported cases. Over the past four years, the positivity rate for white females screened was 4.4 percent while the average positivity rate for black females screened was 11.6 percent (3.7 times higher than for whites). To some extent this may be due to the fact that more black women use the publicly funded sites. As an example, in the census year of 2000, 70.6 percent of the females in North Carolina were white but only 53.4 percent of those screened for chlamydia at these public clinics were white, while 36.5 percent of tested patients were black even though they represented only 22.6 percent of the state female population. A more thorough study would be needed to determine if there could also be a genuine difference in prevalence among these different racial groups.

Table 41: Women tested for chlamydia in publicly funded clinics

	1998	1999	2000	2001	2002
Women tested (N)	81,250	83,364	95,570	97,930	99,026
Positive (N)	6,851	6,572	6,963	6,433	5,991
Positive (%)	8.4%	8.0%	7.4%	6.7%	6.1%

NGU and MPC

Nongonococcal urethritis (NGU) in males and mucopurulent cervicitis (MPC) in females are both clinical diagnoses of exclusion. Although the CDC does have a specific case definition for MPC, in North Carolina it is not listed as a reportable disease. Rather, female NGU cases are

recoded and listed as MPC in table 39. The NGU case definition requires a certain set of physical symptoms to be present along with documented absence of infection with *N. gonorrhoeae.* This leaves the most likely cause of such infections as *C. trachomatis*. This diagnosis is often made locally without having to send samples to an outside lab for *C. trachomatis* testing. Antibiotics appropriate for chlamydia infection are most often used to treat the patient. However, there are other possible causes for NGU and MPC, making it inappropriate to group them with laboratory-confirmed cases of *C. trachomatis*.

There were 5,526 cases of NGU reported in 2002 (table 39). It is likely that a large number of these are actually unconfirmed chlamydia cases. In fact, the age and race distributions of male chlamydia and NGU cases are virtually identical. There were only 83 female NGU cases reported, which may reflect the widespread use of chlamydia testing in females.

Gonorrhea

Gonorrhea Disease

Gonorrhea is the second-most commonly reported STD, behind chlamydia. Nearly all (approximately 95%) infected males experience symptoms, including discharge and burning on urination. Many women also experience symptoms, though they may be mild. Like chlamydia, untreated gonorrhea can cause severe damage to the female reproductive tract, including PID and infertility.

Gonorrhea Reporting

North Carolina law states that all cases of gonorrhea must be reported to the local health department within 24 hours. Laboratory confirmation of cases generally takes place at the local level and is reported directly to the local health department. Infected patients are treated and encouraged to bring their partners in for treatment, but there is no formal partner notification procedure. When a new case is diagnosed, a morbidity report is sent to the HIV/STD Prevention & Care Branch at the State Division of Public Health, where information on patient demographics and disease diagnosis are compiled for analysis.

Gonorrhea is often symptomatic in males and slightly less so in females. Females entering publicly-funded prenatal care, family planning, and STD clinics are screened for asymptomatic gonorrhea. Males are screened at STD clinics only. Since males are more likely to have symptoms that would bring them to the STD clinic, the gender bias in gonorrhea reporting is not as severe as that for chlamydia reporting. Required laboratory reporting may also reduce some private vs. public provider bias in reporting.

Public clinics and local health departments are more likely to screen for asymptomatic infection and may do a better job of reporting gonorrhea cases than private doctors. This may contribute to racial bias in the data because larger proportions of public patients than private clinic patients are minorities. Case information is collected in aggregate, so it is possible for accidental duplicates to occur.

Gonorrhea Trend Analysis

For most age, race, and gender groups, gonorrhea reports are on a steady decline (table Z-3, pg. 144, table Z-4, pg.145). Among males, rates dropped 27 percent from 1998 to 2002 and females experienced a similar decline of 23 percent. Drecreasing rates among black males, Hispanic males and black females accounted for the largest decreases. Rates among white males and females were comparatively low in 1998 and did not change much over the five-year period. Because gonorrhea reporting is of reasonable quality (at least, compared to chlamydia reporting), it is safe to assume that at least in part, this represents a true decline in incidence.

Gonorrhea is predominantly found in younger age groups, and the relative rates mirror the chlamydia trends with respect to age. For males, the highest rates are consistently found in the 20-29 age group followed by 13-19; for females the trend is reversed, with 13-19 year olds having the highest rates followed by 20-29 year olds (table Z-3, pg.144).

Overall rates for males are consistently a bit higher than the rates for females and the overall male-to-female case ratio has remained stable at 1.1 to 1.0 for the last five years. In general, this would indicate a lack of large amounts of MSM transmission. However, examination of male and female trends by race and gender indicates that while the black male-to-female ratio of cases is around 1.2 each year, among whites and Native Americans there are actually more cases among females. This may indicate some MSM transmission of gonorrhea among black males or it may simply reflect some aspect of case detection or reporting. Detailed surveillance of rectal gonorrhea would assist in understanding this type of trend.

Gonorrhea case reports reflect severe racial disparities. The differences are most dramatic among males, where gonorrhea rates among blacks are 27-36 times higher than whites, rates for Native Americans (AI/AN) are about 4-5 times higher, and for Hispanics 3-5 times higher than whites (figure 41). Among females, the trends are similar but less severe (note the scale on the two charts) with black rates 13-14 times higher than whites and Native American rates 4-6 times higher (figure 42). Notably, the gonorrhea rates for Hispanic females are only slightly higher than white rates (table Z-4, pg.145). Rate ratios for Asian/Pacific Islanders (A/PI) are lowest of all for most years.

Figure 41: Gonorrhea Race Rate Ratios - Males

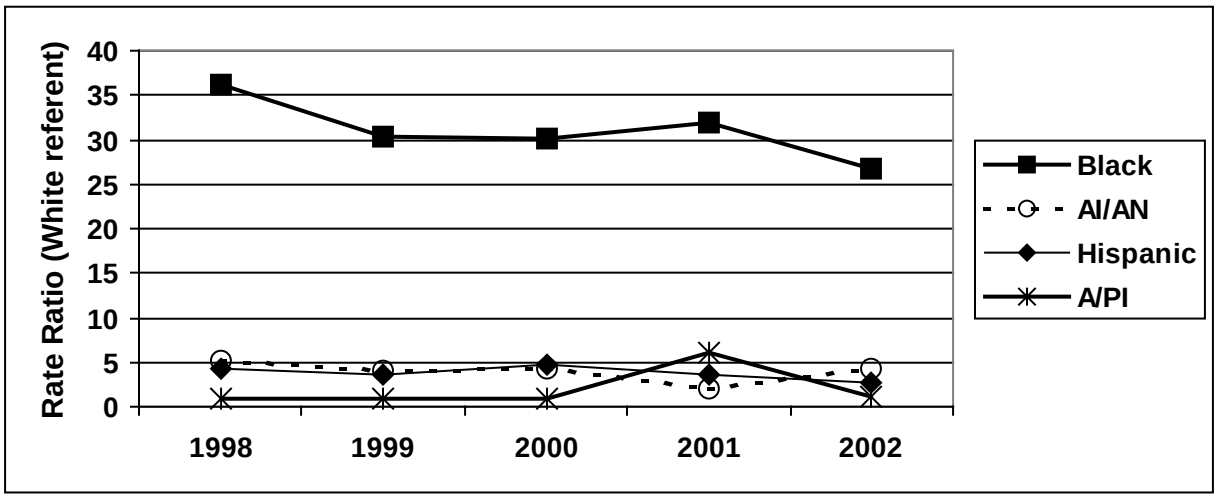
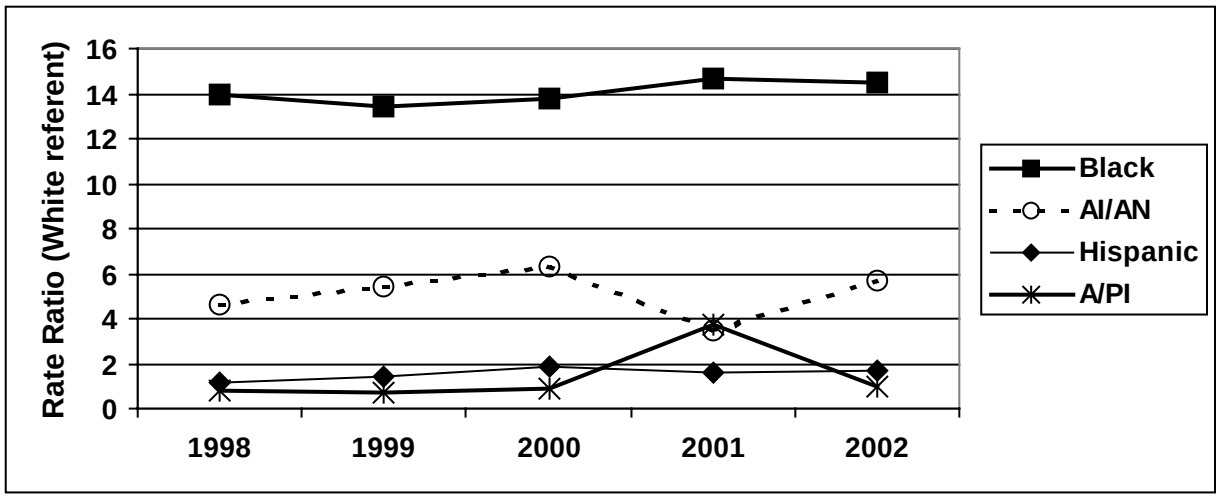


Figure 42: Gonorrhea Race Rate Ratios - Females



Gonococcal Isolate Surveillance Project - GISP

GISP is a collaborative project between selected STD clinics, five regional laboratories, and the CDC. The project was established in 1986 to monitor trends in antimicrobial susceptibilities of strains of *N. gonorrhoeae* in the United States in order to establish a rational basis for the selection of gonococcal therapies. *N. gonorrhoeae* isolates are collected from the first 25 men with urethral gonorrhea attending STD clinics each month in 26 cities in the United States. The men are asked a number of behavioral questions and the samples are tested for resistance to a variety of antibiotics. The project includes one site in North Carolina located at Fort Bragg. The samples are collected from men who were going to have a gonorrhea test anyway so the project does not artificially inflate gonorrhea reports from the site.

Over the past four years, around 80 percent of GISP participants have been black and about 50 percent have been age 20-24. Approximately one -quarter of the isolates tested exhibit resistance to penicillin and/or tetracycline.

Syphilis

Syphilis Disease

Syphilis is a complex disease with a natural history encompassing a number of different stages. When a syphilis case is identified, the stage must be determined and reported because the different stages have different implications for continued spread of the disease. Patients in the primary or secondary stages are the most likely to have noticeable symptoms and may present for treatment. They are also of the greatest concern for sexual transmission because they are the most infectious. Cases in the asymptomatic early latent stage may also be infectious to their sexual partners, although less so than primary or secondary cases. Such cases are generally found through screening or partner notification since the patient does not have symptoms. Primary, secondary and early latent stages all occur within the first year of infection and can be

transmitted to sexual partners. Hence, they are often grouped together when discussing infectious syphilis and called 'early syphilis'.

If a case progresses past the early latent stage, the person will move into late syphilis. There are several different ways to report late syphilis cases but, again, they may be grouped if the important distinction is that the cases were infected more than a year prior to diagnosis. Some patients with late syphilis will develop symptoms while others will be detected through screening or partner notification. Patients of either sex are not likely to be infectious to their sexual partners beyond the early latent stage, but finding them is still important in terms of morbidity and care. In addition, females can pass the infection to their infants well past the early latent stage (congenital syphilis). In this report, patients reported with late syphilis of unknown duration, late latent syphilis, late syphilis with symptoms, or neurosyphilis are grouped together as 'late syphilis.' Congenital syphilis is reported separately.

Syphilis Reporting

North Carolina law states that all cases of syphilis must be reported to the local health department within 24 hours. However, syphilis testing and case diagnosis require multiple stages and can take several weeks. Each individual with a reactive syphilis test must be investigated thoroughly to determine (a) if the person is genuinely infected and, if so, (b) if the infection is new or failed treatment of an old infection, and, if new, (c) the stage of the disease. This investigation, conducted by local or regional health department personnel, can take days or weeks, and in some cases the patient is treated for a probable infection before the investigation is complete. Contact tracing and partner notification are also initiated for all probable syphilis cases because often partner information can aid in diagnosing the stage of the infection. Laboratories are required to report certain positive test results to local health departments within 24 hours, speeding up this process by initiating investigations earlier. When a new case is diagnosed, a morbidity report is sent in to the HIV/STD Prevention & Care Branch at the state Division of Public Health, where information on patient names, demographics, and disease diagnoses are compiled for analysis.

Thorough contact tracing and partner notification activities greatly reduce bias in reporting by locating and reporting partners with asymptomatic infections that may not have been found otherwise. Due to the severity and comparative rarity of syphilis compared to other STDs, it is believed that syphilis reporting, even from private providers, is quite good. Data on primary and secondary syphilis cases is particularly good because diagnosis of these stages of syphilis requires documentation of specific physical symptoms. Because syphilis cases are reported to the Division of Public Health by name, accidental duplicates in the database are unlikely.

Many latent cases of syphilis are asymptomatic and hence are found only through screening. This may bias latent syphilis case reporting toward groups that receive syphilis screening (pregnant women, jail inmates, others). It is also slightly more difficult to distinguish between the various latent stages of syphilis (early latent, late latent, latent of unknown duration) than primary and secondary, so the stage may be misdiagnosed in some cases.

Syphilis Elimination

The CDC examined 1998 data and determined that over 50 percent of all U.S. primary and secondary (P&S) syphilis cases were reported from just 28 counties. This concentration of disease and the fact that rates were at all-time lows provided an opportunity for the possible elimination of U.S. syphilis transmission. In 1999, CDC announced the beginning of The Syphilis Elimination Project (SEP), which provides funding to the 28 high-morbidity areas (HMAs) for enhancements in surveillance, outbreak response, clinical and laboratory services, health promotion and community involvement.

Nearly all of the 28 counties mentioned above are in major cities and in most cases, a state has just one SEP county. North Carolina is the only state with more than 2 counties (we have 5: Forsyth, Guilford, Mecklenburg, Robeson, and Wake). The State of North Carolina receives extra funding to prevent syphilis in these counties. The HIV/STD Prevention and Care Branch in the Division of Public Health coordinates many of the SEP activities and has several CDC assignees designated to the project. The team determined that a 6th county (Durham) should be included in the SEP work because syphilis is a significant problem there, even though it did not make the CDC list of 28.

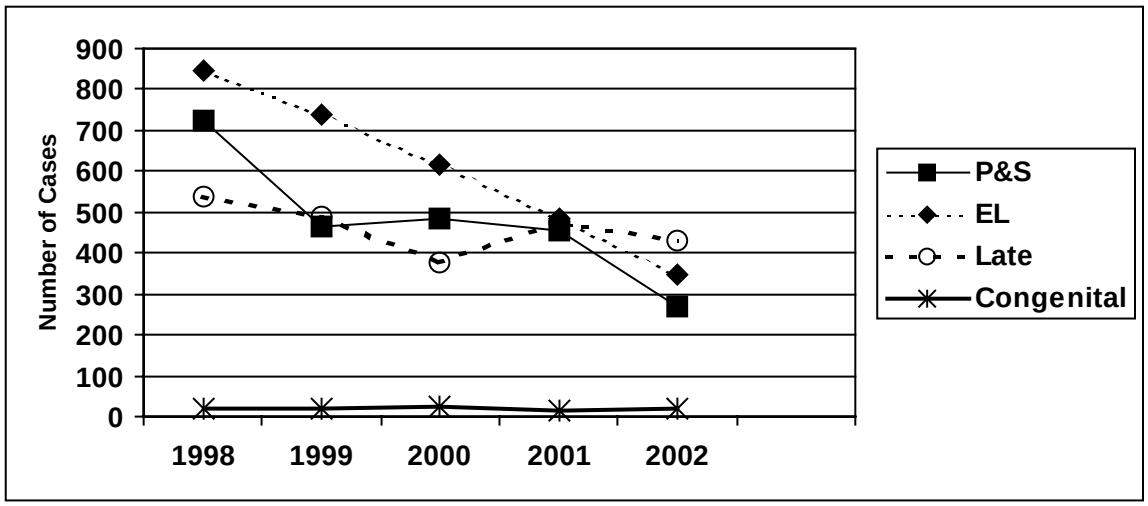
Syphilis Trend Analysis

Most reportable syphilis stages have seen a steady decline over the past five years (figure 43). Specifically, primary/secondary syphilis rates declined 64.5 percent from 1998 to 2002. Early latent rates declined 62.0 percent and late syphilis rates declined 27.5 percent over the same period. Congenital syphilis rates remained essentially the same at about 20 cases per year.

In large part, the decline noted is likely due to the enhanced efforts of the Syphilis Elimination Project. The SEP focuses primarily on infectious syphilis, which may explain the fact that primary/secondary and early latent cases are dropping rapidly while cases of late syphilis are declining only slowly. In addition, cases of congenital syphilis remain extremely stable. Again, this may be due to the fact that prevention efforts are focused on early syphilis, which can be transmitted via sexual contact. However, women with syphilis can transmit the infection to their newborns well after the early latent stage (potentially for up to 8 years). Syphilis testing is recommended for all pregnant women, so the continued presence of congenital syphilis in North Carolina reflects inadequacies in prenatal care. Continued declines in syphilis rates are expected as the SEP efforts continue for 2003-2004.

Syphilis cases in North Carolina are generally found in a much older population than that affected by gonorrhea and chlamydia. For the past five years, the highest rates of early syphilis (primary, secondary, and early latent syphilis) have been primarily found in the 30-39 age group (table Z-5, pg. 146) for both males and females. The trend remains essentially the same when P & S syphilis and early latent syphilis are examined separately. Late syphilis cases also predominate in this age group. The 30-39 age group has also experienced the greatest five-year declines in early syphilis cases, down 65 percent for males and 75 percent for females since 1998.

Figure 43: Reported Syphilis Cases 1998-2002



Syphilis disproportionately affects minority communities. Syphilis rates for blacks, American Indians/Alaska natives, and Hispanics are up to 40 times higher than for corresponding white groups (table Z-6). Syphilis reporting is generally very good, so it is unlikely that this is due to reporting or testing bias. Rather, a complex combination of health care access, poverty, racism, and the composition of sexual networks produces these differences in syphilis rates.

Figure 44 shows the relative early syphilis (PSEL) rates for males; figure 45 shows the corresponding rate ratios for females. For males, the racial disparity in rates is much larger than for females (note the scale on the two charts), but the disparity for black and Hispanic men appears to be narrowing because the rates for black and Hispanic males are dropping twice as fast as the rates for white males. The trend for American Indians/Alaska natives is less clear. There was a spike in 2001 due to an increase in cases from Robeson and Columbus counties, which have large Native American populations. However, even after the 2001 surge, the rate ratio for AI/AN males compared to white males still reflects an increase in disparity over 2000 and prior years.

The trend is the opposite for females. While syphilis rates for all of these groups have been on the decline, the racial disparity reflected in the rate ratios is on the rise for black, Hispanic, and most notably American Indian women. This is due to the fact that the rates among white females are dropping faster than rates among other groups. For example, the rate among white females dropped 76 percent from 1998 to 2002, while the rate for AI/AN dropped only 41 percent, widening the disparity between them.

Please note that some of the rate ratios in figures 44 and 45 are based on very small numbers and may be unstable. Please see table Z-6 for the actual rates.

All of the six Syphilis Elimination Project counties were among the top 10 counties in the number of cases reported in 2002 (table Z-7). Five (all but Forsyth) accounted for 48.4 percent of the early syphilis cases reported in the state for 2002.

Figure 44: PSEL Syphilis Race Rate Ratios - Males

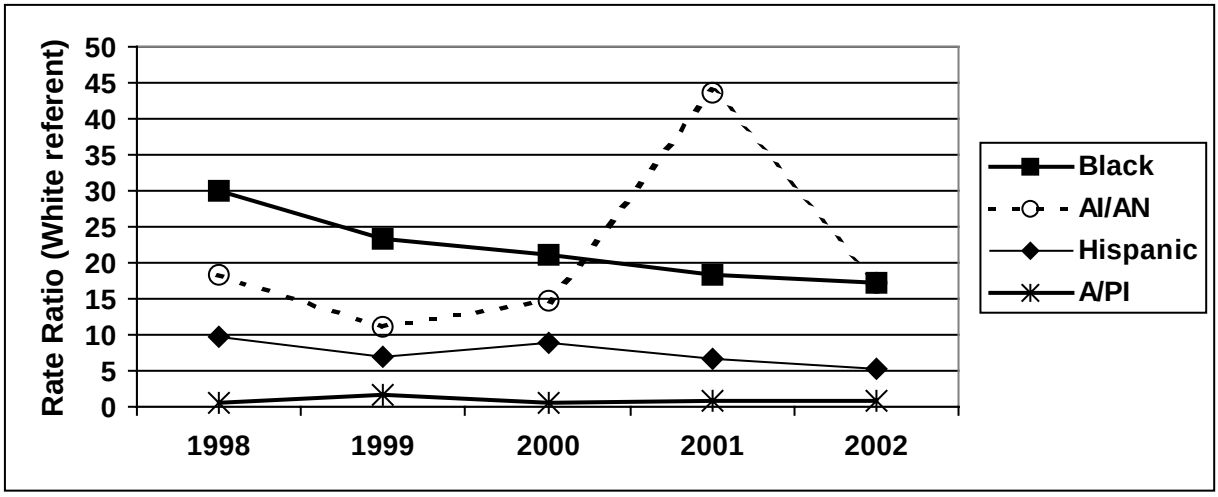
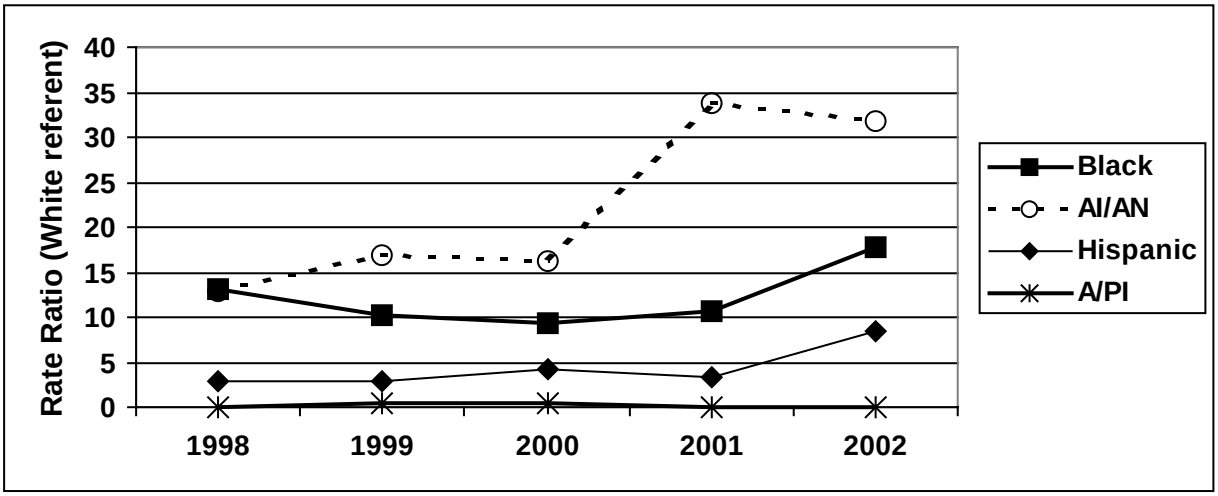


Figure 45: PSEL Syphilis Race Rate Ratios - Females



Jail Syphilis Screening

As part of the Syphilis Elimination Project, syphilis screening was initiated in the seven county jails in the six SEP counties. Inmates are given counseling on syphilis and other STDs and blood is collected for screening by a nurse or trained phlebotomist. Data collection began in 2002. Preliminary analysis shows that screening is effective in locating cases. The program screened 8,809 inmates between February 2002 and March 2003. There were 331 seropositives which yielded 58 new cases of syphilis (the remainder were largely old cases and a small number of false positives). Male inmates have a PSEL syphilis rate 27 times the state rate and female inmates have a rate over 100 times the state rate (table 42). Screening female inmates seems to have particular value, because females are more likely to be new cases, and even late syphilis cases pose a risk for congenital syphilis.

Table 42: Inmates Screened for Syphilis in SEP County Jails 2/02-3/03

	Male	Female	Total
Screened	7434	1375	8809
Seropositive	199 (2.7%)	132 (9.6%)	331 (3.8%)
New Cases			
PSEL	17	9	26
Late	24	8	32
Total	41	17	58
Jail PSEL (cumulative) Rate/100,000	228.7	654.5	295.2
State PSEL (2002) Rate/100,000	8.4	6.4	7.4

APPENDIX A: DATA SOURCES

Core HIV/AIDS surveillance

HIV/AIDS surveillance

Overview: Diagnosis of AIDS became reportable in North Carolina in 1984 and diagnosis of HIV infection (name-based) was made reportable in 1990. By state law, morbidity reports of HIV and AIDS from health providers are submitted to local health departments on confidential case report forms and communicable disease report cards. Surveillance reports include demographic and clinical information for the patient as well as mode of exposure and vital status. These surveillance reports are forwarded to the state's HIV/STD Prevention and Care Branch, which maintains the data from the 100 counties in the electronic HARS (HIV/AIDS Reporting System) surveillance system. In addition to provider diagnoses of HIV and AIDS, laboratories that provide diagnostic services must also report HIV-positive results directly to the state.

Population: All persons who meet the CDC surveillance case definition for HIV infection or AIDS and who are reported to the North Carolina Division of Public Health.

Strengths: Morbidity surveillance data represent the most complete and comprehensive single source of information available about HIV infection and AIDS in the state. AIDS reporting is likely more complete than HIV reporting because of state-mandated laboratory reporting, which identifies AIDS cases that may not have been reported earlier as HIV cases.

Limitations: The data can only provide estimates of HIV infection because not all persons who are infected are tested and reported. Further, surveillance data alone may not provide reliable information about newly acquired infections because there may be significant delay between infection and testing.

Enhanced perinatal surveillance

Overview: In 1999 the CDC received $10 million from the U.S. Congress to fund perinatal HIV elimination efforts. These funds were distributed to various state and local health departments to fund prevention efforts, Enhanced Perinatal Surveillance, and professional education/training. North Carolina is funded as an Enhanced Perinatal Surveillance site.

Enhanced Perinatal Surveillance is a continuous collection of information on HIV positive women and their perinatally exposed infants. For each mother-baby pair, demographic as well as clinical information is obtained from medical records, prenatal records, mother's HIV clinic records, labor and delivery records, the child's birth record, and the child's HIV clinic records. Enhanced Perinatal Surveillance also collects information on illicit drug use during pregnancy, antiretroviral use, reason for discontinuing antiretrovirals, mother's disease status, and type of delivery. Exposed children are followed until adequate laboratory information is available to classify them as infected or uninfected. Lab information for HIV-exposed infants in North Carolina is obtained from a central laboratory which processes most of the blood work for HIV-exposed infants.

Population: HIV-exposed children and their mothers in North Carolina

Strengths: Previous comparisons of the number of tests performed by this laboratory and the number of exposed infants derived from the SCBW data indicated a greater than 90 percent capture by this laboratory. Data collected by the Enhanced Perinatal Surveillance Project could be used to characterize recent trends in perinatal HIV/AIDS transmission and to identify maternal risk factors.

Limitations: Because some women may not know that they are HIV-positive, perinatal data may underestimate the number of HIV-exposed infants that are born each year. Women with little or no prenatal care may also not be recorded.

Behavioral Surveys

BRFSS – Behavioral Risk Factor Surveillance System

Overview: BRFSS is a collaborative project of the Centers for Disease Control and Prevention (CDC) and U.S. states and territories. The BRFSS, administered and supported by CDC's Behavioral Surveillance Branch, is an ongoing data collection program designed to measure behavioral risk factors in the adult population 18 years of age or older living in households. The BRFSS was initiated in 1984, with 15 states collecting surveillance data on risk behaviors through monthly telephone interviews. The number of states participating in the survey increased, so that by 2001, 50 States, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands were participating in the BRFSS.

The survey is designed to include core sections (data collected by all participants), CDC-designed optional modules, and state-added questions. In 1999, North Carolina added its own questions to collect information on sexual assault and continued them through the 2002 survey. The proportion of adults reporting sexual assault within the last 12 months may represent a population at risk for HIV or STD infection as a result of these sexual exposures. In the 2001 survey only, a sexual behavior module was added that included questions on number of sexual partners and condom use. Data reported here can be found on the website for the State Center for Health Statistics at http://www.schs.state.nc.us/SCHS/about/programs/brfss/index.htm.

Population: Adults (age 18 and over) who are members of households with telephones (n = 6,748 for 2002, n=6,205 for 2001).

Strengths: The survey is well designed to attain a representative sample of North Carolina adults.

Limitations: The survey is generalizable only to North Carolinians with telephones. For the purpose of estimating populations at risk for HIV or STD infection, there are limitations to using the sexual assault data. The type of sexual assault is not described and information on condom use is not provided. Therefore not all reports may actually represent possible HIV/STD exposures. Likewise, the information on sexual partners does not indicate the gender of the partners or whether or not condoms were used. The condom use questions should be interpreted with caution due to the inherent problem that those who report condom use are often a mixture of those at the very lowest risk (because they consistently use the condoms and are protected) and

those at the very highest risk (using condoms due to their high risk behavior and possibly inconsistent condom use).

STD Surveillance

Chlamydia case reporting

Overview: North Carolina law states that all cases of chlamydial infection must be reported to the local health department within 7 days. Laboratory confirmation of chlamydia cases takes place at a number of private labs and most public clinics send their samples to the State Laboratory of Public Health. Results are returned to the provider, who reports them to the local health department. Infected patients are treated and encouraged to bring their partners in for treatment, but there is no formal partner notification procedure. When a new case is diagnosed, the provider sends a morbidity report to the HIV/STD Prevention & Care Branch at the State Division of Public Health where information on patient demographics and disease diagnosis are compiled for analysis.

Population: All persons who meet the CDC surveillance case definition for chlamydial infection and who are reported to the North Carolina Division of Public Health.

Strengths: Well-established screening programs for young women attending public clinics does provide relatively good data about the prevalence of disease in this subpopulation.

Limitations: Chlamydia is often asymptomatic in both males and females. It is also a major cause of pelvic inflammatory disease (PID) in females and, for this reason, the N.C. Division of Public Health recommends that all sexually active young women (age 22 and under until July 2002, hereafter age 24 and under) should be screened for chlamydia during any pelvic exam. It is also recommended that all pregnant women should be tested for chlamydia as part of standard prenatal care. There are no comparable screening programs for young men. For this reason, chlamydia case reports are always highly biased with respect to gender. Public clinics and health departments may do a better job of conducting such screening programs and reporting cases, causing the reported cases to be biased toward young women attending public clinics.

Gonorrhea case reporting

Overview: North Carolina law states that all cases of gonorrhea must be reported to the local health department within 24 hours. Laboratory confirmation of cases generally takes place at the local level and is reported directly to the local health department. Infected patients are treated and encouraged to bring their partners in for treatment, but there is no formal partner notification procedure. When a new case is diagnosed, a morbidity report is sent in to the HIV/STD Prevention & Care Branch at the state Division of Public Health, where information on patient demographics and disease diagnosis are compiled for analysis.

Population: All persons who meet the CDC surveillance case definition for gonorrhea infection and who are reported to the North Carolina Division of Public Health.

Strengths: Gonorrhea is often symptomatic in males and slightly less so in females. Females entering publicly-funded prenatal care, family planning, and STD clinics are screened for asymptomatic gonorrhea. Males are screened at STD clinics only. Since males are more likely to have symptoms that would bring them to the STD clinic, the gender bias in gonorrhea reporting is not as severe as that for chlamydia reporting. Required laboratory reporting may also reduce some private vs. public provider bias in reporting.

Limitations: Public clinics and local health departments are more likely to screen for asymptomatic infection and may do a better job of reporting gonorrhea cases than private doctors. This may contribute to racial bias in the data because larger proportions of public patients are minorities compared to private clinic patients. Case information is collected in aggregate, so it is possible for accidental duplicates to occur.

Syphilis case reporting

Overview: North Carolina law states that all cases of syphilis must be reported to the local health department within 24 hours. However, syphilis testing and case diagnosis require multiple stages and can take several weeks. Each individual with a reactive syphilis test must be investigated thoroughly to determine (a) if the person is genuinely infected and, if so, (b) if the infection is new or failed treatment of an old infection, and, if new, (c) the stage of the disease. This investigation, conducted by local or regional health department personnel, can take days or weeks. In some cases, the patient is treated for a probable infection before the investigation is complete. Contact tracing and partner notification are also initiated for all probable syphilis cases because often partner information can aid in diagnosing the stage of the infection. Laboratories are required to report certain positive test results to local health departments within 24 hours, speeding up this process by initiating investigations earlier. When a new case is diagnosed, a morbidity report is sent in to the HIV/STD Prevention & Care Branch at the state Division of Public Health where information on patient names, demographics, and disease diagnoses are compiled for analysis.

Population: All persons who meet the CDC surveillance case definition for syphilis infection and who are reported to the North Carolina Division of Public Health.

Strengths: Thorough contact tracing and partner notification activities greatly reduce bias in reporting by locating and reporting partners with asymptomatic infections that may not have been found otherwise. Due to the severity and comparative rarity of syphilis compared to other STDs, it is believed that syphilis reporting, even from private providers, is quite good. Data on primary and secondary syphilis cases is particularly good because diagnosis of these stages of syphilis requires documentation of specific physical symptoms. Because syphilis cases are reported to the Division of Public Health by name, accidental duplicates in the database are unlikely.

Limitations: Many latent cases of syphilis are asymptomatic and hence are found only through screening. This may bias latent syphilis case reporting toward groups that receive syphilis screening (pregnant women, jail inmates, others). It is also slightly more difficult to distinguish between the various latent stages of syphilis (early latent, late latent, latent of unknown duration) than primary and secondary, so the stage may be misdiagnosed in some cases.

Supplemental HIV/STD surveillance

GISP – Gonococcal Isolate Surveillance Project

Overview: GISP is a collaborative project between selected STD clinics, five regional laboratories, and the CDC. It was established in 1986 to monitor trends in antimicrobial susceptibilities of strains of *N. gonorrhoeae* in the United States in order to establish a rational basis for the selection of gonococcal therapies. *N. gonorrhoeae* isolates are collected from the first 25 men with urethral gonorrhea attending STD clinics each month in 26 cities in the United States. The men are asked a number of behavioral questions and the samples are tested for resistance to a variety of antibiotics. The project includes one site in North Carolina, located at Fort Bragg.

Population: Ongoing sample of 25 men per month from the STD clinic at Fort Bragg, N.C.

Strengths: Random sampling design allows for good estimates of target population.

Limitations: The survey covers a relatively small sample of men from one specific clinic on a military base. Behavioral survey results likely can not be generalized to other populations in the state.

PCRS - Partner Counseling & Referral Services

Overview: The HIV/STD Prevention and Care Branch's Field Services Unit has responsibility for conducting patient interviews of persons newly diagnosed with HIV or syphilis. The interviews are conducted to counsel patients on prevention of subsequent risk, to assist with referrals for treatment and services, and to help with partner notification. Information is collected on clinical status and treatment, patient demographics, and detailed mode of exposure risk. The information is maintained in local STD-MIS. Information is limited to interviewed patients. It is estimated that 98 percent of syphilis cases and 85-90 percent HIV cases are interviewed.

Population: Persons interviewed by Field Services staff as part of HIV or syphilis case follow-up or partner notification

Strengths: A high proportion of new cases are interviewed, so it is likely that the data accurately represent the infected population as a whole.

Limitations: Does not represent all newly infected individuals, as not every person infected is tested and reported. The level of risk information available varies from case to case; so there are limitations in comparing risk among the cases.

HIV Counseling & Testing Data

CTS - Counseling and Testing System

Overview: The North Carolina Division of Public Health provides funds for HIV counseling and testing (CTS) at 149 sites across the state. These include 135 traditional test sites (TTS) in local health departments and CBOs and 13 nontraditional test sites (NTS). NTS sites were added to

the program in response to community concerns in order to remove barriers to HIV testing when anonymous testing was removed in North Carolina in 1997. NTS sites, most often located in CBOs and sometimes through extended health department hours, have a goal of reaching different populations than those served by traditional testing sites (TTS). The CTS collects information on counseling and testing services delivered, client demographics, insurance, risk factor information, and reasons for testing. No personal identifying information is collected.

Population: All clients who receive confidential HIV testing services at a publicly funded counseling and testing site in North Carolina. (In 2002, 105,686 tests were performed in publicly funded sites.)

Strengths: CTS covers all publicly funded clinics in the state and is the only population-level source of information on negative HIV tests. Data on test results is particularly good in North Carolina because the State Laboratory receives the data sheet with each specimen and enters results directly into the database. In other states, results must be sent back to the original HIV counselor before the data sheet is sent in, which can lead to errors and underreporting.

Limitations: CTS covers only publicly funded clinics and therefore does not reflect all the HIV tests done in the state. In fact, only about 40 percent of new HIV cases reported to the state come from the CTS. Estimation of statewide seroprevalence is not possible because clients are either self-selected for HIV testing or agree to testing after presentation to a counselor at a CTS site. Data are collected without names, making it difficult to check for duplicates in the database. Although clients are asked whether or not they have been tested before, the validity of these responses and other self-reported data is questionable.

Substance Abuse Data

NHSDA – National Household Survey of Drug Abuse

Overview: This annual survey has been conducted by the Federal Government since 1971 to provide information on trends in illicit drug use among the general U.S. population. The survey is administered by SAMHSA (the Substance Abuse and Mental Health Services Administration). Non-institutionalized persons over age 12 are interviewed using CAPI (Computer Assisted Personal Interview) technology in which survey responses are recorded directly into the computer. A trained interviewer is present to assist with the computer but does not know the responses given. The survey is designed to be large enough to provide estimates for each of the 50 states and the District of Columbia. Youth and young adults are over-sampled.

Population: Non-institutionalized U.S. population age 12 and older. The 2001 survey interviewed 68,929 people in 50 states. The survey includes persons living in households, dormitories, shelters, civilians on military bases, and other group quarters. The survey excludes persons institutionalized in jails, prisons, and hospitals; active military personnel; and homeless persons who do not use shelters.

Strengths: This is a large survey specifically designed to provide state-level estimates for all 50 states. The use of CAPI technology reduces bias by decreasing the chance that subjects will provide socially desirable responses to please the interviewer.

Limitations: Many of the excluded populations are also those populations at risk for HIV infection.

Vital Statistics Data

Birth and Death Data

Overview: All births, deaths, fetal deaths, marriages, and divorces that occur in North Carolina are reported to the state. The process involves a statewide system of hospitals, funeral directors, registers of deeds, local health department staff, and others who register vital events. Statewide vital events are registered and maintained by the Vital Records Unit of the Division of Public Health. Vital Records staff code information according to specific guidelines in order to produce statistical data that subsequently are used to characterize specific areas such as infant mortality and communicable disease. Reporting of deaths is nearly 100 percent complete. Death information includes the cause and underlying causes of death, but some causes of deaths, including HIV/AIDS may be under-reported.

Population: All births and deaths reported to the North Carolina DHHS.

Strengths: Reporting of deaths is nearly 100 percent complete.

Limitations: Some causes of death, including those associated with HIV/AIDS, may be under-reported as a cause of death.

Abortion Data

Overview: Beginning in 1978, abortion providers in the state of North Carolina began voluntarily reporting abortion data to the State Center for Health Statistics. Reports include demographics and basic medical information on the mothers, but no identifying information. Many sites report 100 percent of the procedures they perform. For those sites unable to report 100 percent, data are extrapolated from the cases they do report. Abortions provided for North Carolina residents are also reported by providers in other states, the largest number coming from those states directly bordering North Carolina.

The information reported here can be found at the State Center for Health Statistics website in the publication "Reported Pregnancies 2001" at
http://www.schs.state.nc.us/SCHS/healthstats/pregnancies/2001/

Population: Abortions performed on North Carolina state residents, 2001.

Strengths: Because no patient-identifying information is reported, providers do not need to worry about confidentiality and therefore may be more inclined to report all of their cases accurately.

Limitations: Data are reported voluntarily and sometimes at less than 100 percent. Therefore, it is safe to assume that the numbers reported are an underestimate of the true number of abortions. There are limitations to using this data for the purpose of estimating a heterosexual population at

risk for HIV and other STDs. The data does not include information on the number of sexual partners, condom use, or other risk factors.

PRAMS – Pregnancy Risk Assessment Monitoring System

Overview: North Carolina PRAMS data in this report comes from a random sample (n = 5,943) of live births for the period 1997-2000. Women were contacted by mail 2-6 months after delivery. If there was no response to the initial mailing, two more mailings and ultimately phone interviews were attempted (overall survey response rate = 75%). The women were asked questions about their behavior during and after pregnancy, the intention and timing of their pregnancy, and demographic information.

The data referenced in this report was analyzed in SUDAAN software and reported in the publication "Unintended Pregnancies in North Carolina: Results from the North Carolina PRAMS Study" by Kevin H. Gross, Ph.D. at the North Carolina State Center For Health Statistics. The report can be found at the website for the State Center for Health Statistics: http://www.schs.state.nc.us/SCHS/pubs/topic.cfm

Population: Mothers who had given birth to a live infant in North Carolina during 1997-2000 (random sample n=5,943)

Strengths: This is a well-designed survey with questions specifically designed to estimate the proportion of pregnancies that were mistimed or unwanted. All pregnancies represent unprotected heterosexual sex. However, not all such sexual activities are among high-risk partners. Mistimed or unwanted pregnancies are a reasonable proxy for unprotected, heterosexual sex that was not intended to produce a pregnancy, which may represent a population at risk for HIV and other STDs.

Limitations: There are limitations to using this data for the purpose of estimating a heterosexual population at risk for HIV and other STDs. The data does not include information on the number of sexual partners, condom use, or other risk factors.

Population Data

U.S. Census Bureau

Overview: For the purpose of allocating congressional seats, the U.S. Census Bureau completes an official enumeration of the national population every 10 years. The most recent census (used for denominator data in this report) was conducted in April, 2000. Questionnaires were sent to all U.S. households, most often by mail but in some cases in person by Census personnel. One in six households was sampled to receive the Census 'Long Form' which has social, economic, and housing questions in addition to seven basic questions including gender, age, race and ethnicity of all household members. The remaining five to six of households receive the 'Short Form' with just the seven basic questions. Making questionnaires available in different languages, advertising campaigns, and canvassing door-to-door are employed to increase the census count. The final response rate for the entire U.S. population was 67 percent. Tables and information

can be obtained from the Census Bureau's Web site (www.census.gov), the N.C. Lookup web site (http://census.osbm.state.nc.us/lookup/), NC LINC (http://linc.state.nc.us) and from the N.C. State Data Center http://sdc.state.nc.us/.

Population: U.S. population as of April, 2000

Strengths: Denominator data on gender, age, race and ethnicity data are highly reliable because the Census attempts to collect this information on every person in the U.S. The 2000 census marked the first time that the mail-in response rate had improved over the previous census.

Limitations: Because the response rate is not 100 percent, the data from the non-responders will have to be estimated using data from those who did respond. Certain groups may be more likely not to respond and, therefore, may be under-represented in the final counts. Such groups include those who speak and read languages other than English, those with unstable or no housing, and illegal immigrants who may avoid contact with Census personnel.

N.C. State Data Center Demographics Unit

Overview: The North Carolina State Data Center is a network of state and local agencies that provide information and data about the state and its component geographic areas. Besides maintaining all the decennial and economic census products, the State Data Center receives many other data products from various federal, state, and private agencies. The State Demographics unit is primarily responsible for producing population estimates and projections. County and state population projections, available by age, race (white/other) and sex, are used for long-range planning. To produce these estimates and projections, the unit develops and enhances complex mathematical computer models and collects and reviews a variety of data from federal, state, and local government sources. It annually surveys North Carolina municipalities for annexation data, municipalities and counties for selected institutional data, and military bases for barracks population data. As a member of the Federal State Cooperative Program for Population Estimates (FSCPE), the unit collects and examines data for the Census Bureau and reviews Census Bureau estimates and methods. Data are available at http://demog.state.nc.us/.

Population: North Carolina State population, all years

Strengths: Population growth estimates are calculated for age, gender and racial groups based on a wide variety of data sources.

Limitations: Projections for racial groups are made available only for whites and non-whites. Projections become less and less reliable the farther they are away from the last census year; denominator data early in the decade is generally more accurate than data towards the end of the decade.

Kaiser Family Foundation: State Health Facts Online

Overview: The Henry J. Kaiser Family Foundation (KFF) is an independent philanthropy focusing on the major health care issues facing the nation. The KFF provides information and analysis on a broad range of policy issues, emphasizing those that most affect low-income and vulnerable populations. Data presented on State Health Facts Online are a selection of key health and health policy issues collected from a variety of public and private sources, including original Kaiser Family Foundation reports, data from public websites, and information purchased from private organizations. Information is available at http://www.statehealthfacts.kff.org/.

Population: Various

Strengths: Data are synthesized from a number of different sources and made available in easy-to-use format.

Limitations: Specifics on each data source are sometimes difficult to obtain.

Ryan White Care Act Data

Overview: In 1990, Congress enacted the Ryan White CARE Act to provide funding for states, territories and eligible metropolitan areas (EMAs) to offer primary medical care and support services for persons livings with HIV disease who lack health insurance and financial resources for their care. Congress reauthorized the Ryan White CARE Act in 1996 and in 2000 to support Titles I-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. Title program support varies from state to state depending on program requirements and mandates. Data are available about services provided.

Population: All persons who received Ryan White Care Act funded services

Strengths: One of the few aggregate sources of care and service information for HIV-infected persons and persons affected by HIV (i.e., family members) that covers the entire state.

Limitations: Current information is based on the summation of annual Care Act Data Reports (CADR) that each consortia or provider receiving funding is required to complete. Because persons can be served by more the one provider or service organization, there is duplication within the summary data. Currently only Title II funded agencies are required to report service provided to the state; others (Titles III, IV, etc.) report directly to HRSA. Thus, the care and service information is incomplete at the state level. In order to better monitor access to Ryan White services and assist projects with required reporting, a computer software program, CAREWare, has been recently provided to each consortium by HRSA. At its core, CAREWare collects and stores data for completion of the annual Care Act Data Report (CADR). Moreover, CAREWare is a tool used to move programs beyond mere data reporting and into information management and continuous quality improvement (CQI). Using the various components of CAREWare allows programs to monitor a number of clinical and psychosocial indicators in a way that satisfies both CQI initiatives as well as CADR requirements. CAREWare level data reports are expected to be available in the latter part of 2003.

APPENDIX B: SPECIAL NOTES

- **HIV Disease**
- **HIV Risk Categories and Distribution**
- **Rate Calculation and Denominator Determination**

HIV DISEASE

"HIV disease" is a term that includes all persons infected with HIV regardless of their stage of disease. Infected persons are counted by the date on which this infection was first diagnosed and reported. Most persons are first diagnosed with just an HIV infection and are reported again later with AIDS. However, some persons are diagnosed with HIV and AIDS at the same time. All of these persons are counted in the description of the HIV epidemic by that date of first report and referred to as "HIV disease" cases. Using the "HIV disease" definition to describe the epidemic over time in North Carolina enables the most comprehensive look at the epidemic because all infected individuals are counted. AIDS cases, on the other hand, include only HIV disease cases that also have an AIDS diagnosis; they are counted by the date of report for an AIDS diagnosis. As a general rule, AIDS case descriptions are used to define treatment and care needs, while HIV disease is used to describe the epidemic.

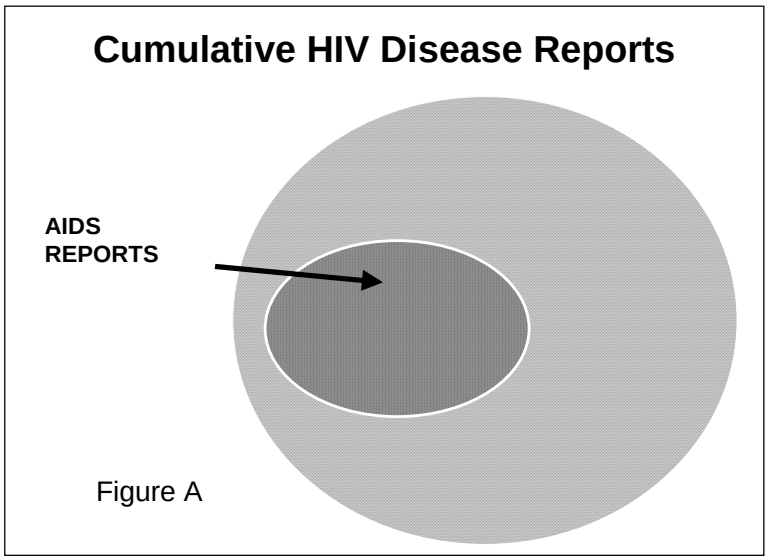


Figure A

Thus, for our discussion in this profile, "HIV disease" references all reports by date of *first report for the individual*. For most "HIV disease" reports, this new report date is determined from the date of an HIV infection report, but for some reports, it is based on the date of report for an AIDS diagnosis because the infected individual was never reported with an HIV infection without an AIDS-defining condition present. The first report for that person was an AIDS diagnosis and represented a new incident case of an HIV-infected individual at that time. "HIV disease" also includes early surveillance reports of individuals when AIDS surveillance was the only reporting of infected individuals (all reports before 1990); these reference the AIDS report date. The reference of age for "HIV disease" is based upon the age at the diagnosis of first report. The discussion of AIDS cases is essentially a subset of HIV disease reports since by definition all AIDS reports are included, but the report date is different for the two. See figures A and B for a visual representation of HIV disease and AIDS reports categories. For AIDS reports, the date of report is based upon when the person was reported *with an AIDS diagnosis* (usually a later date than date of first report). The reference of age will also be different, based on the age when the AIDS diagnosis was made. AIDS cases are presented in the

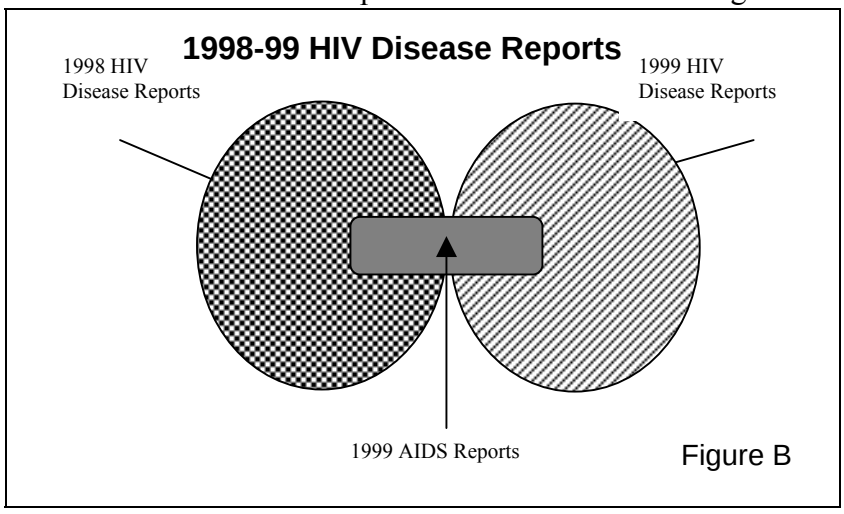


Figure B

same way as they have been presented in earlier surveillance publications. Some AIDS information may be presented by the date of diagnosis rather than by the date of report. When this occurs, it will be labeled as such.

HIV RISK CATEGORIES AND DISTRIBUTION

The assignment to individual cases of HIV risk or mode of transmission is a hierarchical. This hierarchy was developed by the CDC and others based on information about the epidemic during early investigations. All possible risk information is collected for each case and a single risk for the case is assigned. This does not mean that the HIV transmission is known to have occurred via the risk assigned for a single case, but implies a likely mode of transmission based on the hierarchical risk. It is important for readers to understand that this assigned risk or mode of transmission is not absolute. Additionally, some problems with the risk assignment have been noted. First, the hierarchy was developed using methodologies formed early in the epidemic and may under- or over-represent certain groups because the epidemic has evolved since the early years. Second, not all cases are reported with adequate information to assign risk. In this profile, we have attempted to deal with both of these issues.

Many HIV disease cases are classified as non-identified risk (NIR) cases not because of missing or incomplete information, but because reported risks do not meet one of the CDC-defined (hierarchical) risk classifications. In North Carolina, this occurs frequently with female cases (and some male cases) whose only known exposure is through heterosexual contact. The CDC hierarchical definition for "heterosexual contact" requires that the index cases know their partners' HIV status or risk for HIV. Without knowing their partners' HIV status, these cases are categorized as NIR cases. We have reevaluated and reassigned some of these cases to a "presumed heterosexual" risk category based on information from field services follow-up interviews with newly diagnosed individuals such as the exchange of sex for drugs or money, previous diagnoses with other STDs, or multiple sexual partners. Including these reassigned NIR cases as likely heterosexual transmission cases gives a more accurate picture of HIV disease in the state.

Even with this reassignment of cases to "presumed heterosexual contact" we have a group of cases with insufficient information to assign risk. These remaining NIR cases do not appear to differ substantially from the overall risk profile of all HIV disease cases. To simplify the discussion and better describe the overall changes over time, these remaining NIR cases have been assigned to a risk category based on the proportionate representation of the various risk groups within the surveillance data. This reassignment is done separately for males and females because risk differs for each sex.

> For example, if 20 of 100 male cases do not have risk information (NIR), proportions are calculated for the remaining HIV disease cases and the proportions are applied to those with unknown risk. Of the 80 males cases with risk, 60 percent (48/80) were MSM, 5 percent (4/80) were IDU, 2.5 percent(2/80) were MSM/IDU, and 32.5 percent(26/80) were heterosexual contact. These fractions are applied to the 20 NIR cases. For MSM, 20*(.60)=12. Thus, 12 of the 20 NIR cases are reassigned to MSM. For heterosexual contact, 20*(.325)=6.5 or 7 (rounded). Thus, 7 of 20 NIR cases are assigned to heterosexual contact. This process is complete for each risk group. This example is fairly

simple and only an illustration of how the risk is reassigned for NIR cases. Actual reassignment takes into account the differences of racial/ethnic distributions for each risk group as well.

RATE CALCULATION AND DENOMINATOR DETERMINATION

Rates are presented throughout the *Profile* for several categories of race/ethnicity, age groups and gender. Rates are also presented for counties and regions across the state. Rates are expressed as cases per 100,000 population. Rate denominators for gender and age groups were calculated by applying the 2000 U.S Census proportions of each group to North Carolina population estimates for 1998-2001 (U.S. Census Bureau). For the year 2002, the proportions were applied to population projections available from the N.C. Office of State Planning (Demographic Unit). For demographic rates of race/ethnicity groupings, denominators were calculated using bridged race category proportions available from the National Center for Health Statistics. More information about bridged race categories is available at their website, http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm. Rates presented for counties and regions in the state are based on population estimates and projections from the N.C. Office of State Planning (Demographic Unit).

In general, rates should be viewed with caution. This is especially true of rates that are based on small numbers of cases (generally fewer than 20) because these rates have large standard errors and confidence intervals that can be wider than the rates themselves. Thus, it is important to keep in mind that rates based on small numbers of cases should be considered unreliable. For a more complete discussion of rates based on small numbers, please see the North Carolina Center for Statistics' publication, Statistical Primer No.12 : "Problems with Rates Based on Small Numbers" by Paul Buescher. This publication is available at the website, http://www.schs.state.nc.us/SCHS/. In order to better describe county rates for HIV disease, the county rankings for HIV disease pages 110 and 111 are based on three-year averages. This helps improve the reliability of rates for counties with small numbers of cases and provides a better comparison.

TABLES

Table A: North Carolina HIV Disease Reports
Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	00-12 Years	7	1.0	2	0.3	4	0.5	2	0.3	4	0.5
	13-19 Years	19	5.1	13	3.4	25	6.4	13	3.3	32	8.0
	20-29 Years	218	36.8	190	31.5	191	31.2	240	38.6	241	38.1
	30-39 Years	379	61.5	440	70.2	358	56.1	392	60.6	417	63.3
	40-49 Years	259	45.4	288	49.6	267	45.2	330	55.1	326	53.5
	50 and over	103	10.8	113	11.6	122	12.4	133	13.3	142	13.9
	Total	985	25.8	1046	26.9	967	24.4	1110	27.7	1162	28.5
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	00-12 Years	11	1.6	2	0.3	5	0.7	0	0.0	5	0.7
	13-19 Years	31	8.7	27	7.5	17	4.6	22	5.9	18	4.7
	20-29 Years	139	25.2	120	21.4	127	22.3	123	21.3	124	21.1
	30-39 Years	176	28.8	182	29.2	181	28.5	201	31.3	180	27.5
	40-49 Years	109	18.3	125	20.7	112	18.2	100	16.0	137	21.6
	50 and over	29	2.4	45	3.7	58	4.7	53	4.3	66	5.2
	Total	495	12.4	501	12.4	500	12.1	499	11.9	530	12.5
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	00-12 Years	18	1.3	4	0.3	9	0.6	2	0.1	9	0.6
	13-19 Years	50	6.9	40	5.4	42	5.6	35	4.6	50	6.4
	20-29 Years	357	31.3	310	26.7	318	26.9	363	30.3	365	29.9
	30-39 Years	555	45.2	622	49.8	539	42.4	593	46.0	597	45.5
	40-49 Years	368	31.6	413	34.8	379	31.4	430	35.2	463	37.2
	50 and over	132	6.2	158	7.3	180	8.1	186	8.3	208	9.1
	Total	1480	19.0	1547	19.5	1467	18.2	1609	19.7	1692	20.3

*per 100,000 population

Table B: North Carolina HIV Disease Reports
Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	287	10.6	291	10.6	246	8.8	271	9.6	329	11.4
	Black, non Hispanic	656	82.4	690	85.1	658	79.8	760	90.9	750	88.1
	American Indian/ Alaskan Native	9	18.9	10	20.7	9	18.3	11	22.0	9	17.7
	Asian/Pacific Islander	2	3.4	5	8.3	3	4.9	6	9.6	8	12.6
	Hispanic	29	13.2	36	16.1	39	17.1	50	21.7	59	25.1
	Unknown	2	-	14	-	12	-	12	-	7	-
	Total	985	25.8	1046	26.9	967	24.4	1110	27.7	1162	28.5
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	74	2.6	84	2.9	83	2.8	83	2.8	74	2.5
	Black, non Hispanic	411	45.7	399	43.6	400	42.9	390	41.3	416	43.2
	American Indian/ Alaskan Native	1	2.0	7	13.8	3	5.8	6	11.4	4	7.5
	Asian/Pacific Islander	2	3.2	1	1.6	1	1.5	4	6.1	4	6.0
	Hispanic	6	4.1	8	5.3	9	5.9	13	8.4	30	19.0
	Unknown	1	-	2	-	4	-	3	-	2	-
	Total	495	12.4	501	12.4	500	12.1	499	11.9	530	12.5
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	361	6.5	375	6.7	329	5.8	354	6.1	403	6.8
	Black, non Hispanic	1067	62.9	1089	63.1	1058	60.2	1150	64.6	1166	64.3
	American Indian/ Alaskan Native	10	10.3	17	17.2	12	12.0	17	16.7	13	12.6
	Asian/Pacific Islander	4	3.3	6	4.9	4	3.2	10	7.9	12	9.3
	Hispanic	35	9.5	44	11.8	48	12.6	63	16.3	89	22.7
	Unknown	3	-	16	-	16	-	15	-	9	-
	Total	1480	19.0	1547	19.5	1467	18.2	1609	19.7	1692	20.3

*per 100,000 population

Table C: North Carolina Adult/Adolescent HIV Disease Reports
Mode of Transmission by Gender (NIRs included), 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	375	25.7%	384	24.9%	368	25.2%	406	25.3%	489	29.1%
	IDU	137	9.4%	131	8.5%	98	6.7%	90	5.6%	91	5.4%
	MSM/IDU	36	2.5%	60	3.9%	25	1.7%	32	2.0%	20	1.2%
	Blood Products/ Hemophilia/Other	13	0.9%	17	1.1%	18	1.2%	10	0.6%	16	1.0%
	Heterosexual- CDC	140	9.6%	118	7.7%	135	9.3%	171	10.6%	107	6.4%
	Heterosexual- NIR	44	3.0%	75	4.9%	79	5.4%	146	9.1%	149	8.9%
	NIR	232	15.9%	259	16.8%	240	16.5%	253	15.7%	286	17.0%
	Total	977	66.9%	1,044	67.7%	963	66.0%	1,108	68.9%	1,158	68.8%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	61	4.2%	64	4.2%	60	4.1%	42	2.6%	27	1.6%
	Blood Products/ Hemophilia/Other	13	0.9%	16	1.0%	16	1.1%	21	1.3%	12	0.7%
	Heterosexual- CDC	206	14.1%	203	13.2%	196	13.4%	185	11.5%	186	11.1%
	Heterosexual- NIR	34	2.3%	49	3.2%	86	5.9%	107	6.7%	115	6.8%
	NIR	170	11.6%	166	10.8%	137	9.4%	144	9.0%	185	11.0%
	Total	484	33.1%	498	32.3%	495	34.0%	499	31.1%	525	31.2%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	375	25.7%	384	24.9%	368	25.2%	406	25.3%	489	29.1%
	IDU	198	13.6%	195	12.6%	158	10.8%	132	8.2%	118	7.0%
	MSM/IDU	36	2.5%	60	3.9%	25	1.7%	32	2.0%	20	1.2%
	Blood Products/ Hemophilia/Other	26	1.8%	33	2.1%	34	2.3%	31	1.9%	28	1.7%
	Heterosexual- CDC	346	23.7%	321	20.8%	331	22.7%	356	22.2%	293	17.4%
	Heterosexual- NIR	78	5.3%	124	8.0%	165	11.3%	253	15.7%	264	15.7%
	NIR	402	27.5%	425	27.6%	377	25.9%	397	24.7%	471	28.0%
	Total	1,461	100%	1,542	100%	1,458	100%	1,607	100%	1,683	100%

NIR= no identified risk reported

Table D: North Carolina Adult/Adolescent HIV Disease Reports
Mode of Transmission by Gender (NIRs Redistributed), 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	493	33.7%	516	33.5%	490	33.6%	534	33.2%	634	37.7%
	IDU	169	11.6%	166	10.8%	131	9.0%	125	7.8%	130	7.7%
	MSM/IDU	46	3.1%	71	4.6%	35	2.4%	43	2.7%	32	1.9%
	Blood Products/ Hemophilia/Other	17	1.2%	22	1.4%	23	1.6%	15	0.9%	22	1.3%
	Heterosexual- All	252	17.2%	269	17.4%	284	19.5%	391	24.3%	340	20.2%
	Total	977	66.9%	1044	67.7%	963	66.0%	1108	68.9%	1158	68.8%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	86	5.9%	88	5.7%	81	5.6%	63	3.9%	55	3.3%
	Blood Products/ Hemophilia/Other	21	1.4%	24	1.6%	22	1.5%	28	1.7%	20	1.2%
	Heterosexual- All	377	25.8%	386	25.0%	392	26.9%	408	25.4%	450	26.7%
	Total	484	33.1%	498	32.3%	495	34.0%	499	31.1%	525	31.2%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	493	33.7%	516	33.5%	490	33.6%	534	33.2%	634	37.7%
	IDU	255	17.5%	254	16.5%	212	14.5%	188	11.7%	185	11.0%
	MSM/IDU	46	3.1%	71	4.6%	35	2.4%	43	2.7%	32	1.9%
	Blood Products/ Hemophilia/Other	38	2.6%	46	3.0%	45	3.1%	43	2.7%	42	2.5%
	Heterosexual- All	629	43.1%	655	42.5%	676	46.4%	799	49.7%	790	46.9%
	Total	1461	100%	1542	100%	1458	100%	1607	100%	1683	100%

NIR= no identified risk reported

Table E: North Carolina HIV Disease Reports
Recent Infections by Mode of Transmission and Gender (NIRs Redistributed), 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	264	29.0%	296	31.2%	297	31.2%	320	33.0%	384	36.4%
	IDU	94	10.3%	83	8.8%	77	8.1%	54	5.6%	77	7.3%
	MSM/IDU	27	3.0%	37	3.9%	23	2.4%	23	2.4%	17	1.6%
	Blood Products/ Hemophilia/Other	8	0.9%	10	1.1%	15	1.6%	11	1.1%	11	1.0%
	Heterosexual- All	157	17.3%	164	17.3%	172	18.1%	214	22.0%	200	18.9%
	Pediatric	6	0.7%	2	0.2%	3	0.3%	2	0.2%	3	0.3%
	Total	556	61.1%	592	62.4%	587	61.6%	624	64.3%	692	65.5%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	52	5.7%	61	6.4%	52	5.5%	37	3.8%	34	3.2%
	Blood Products/ Hemophilia/Other	13	1.4%	12	1.3%	13	1.4%	13	1.3%	12	1.1%
	Heterosexual- All	279	30.7%	282	29.7%	298	31.3%	297	30.6%	315	29.8%
	Pediatric	10	1.1%	1	0.1%	3	0.3%	0	0.0%	3	0.3%
	Total	354	38.9%	356	37.6%	366	38.4%	347	35.7%	364	34.4%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	264	29.0%	296	31.2%	297	31.2%	320	33.0%	384	36.4%
	IDU	146	16.0%	144	15.2%	129	13.5%	91	9.4%	111	10.5%
	MSM/IDU	27	3.0%	37	3.9%	23	2.4%	23	2.4%	17	1.6%
	Blood Products/ Hemophilia/Other	21	2.3%	22	2.3%	28	2.9%	24	2.5%	23	2.2%
	Heterosexual- All	436	47.9%	446	47.1%	470	49.3%	511	52.6%	515	48.8%
	Pediatric	16	1.8%	3	0.3%	6	0.6%	2	0.2%	6	0.6%
	Total	910	100%	948	100%	953	100%	971	100%	1,056	100%

NIR= no identified risk reported

Table F: North Carolina HIV Disease Reports
Recent Infections by Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	0-12 Years	6	0.8	2	0.3	3	0.4	2	0.3	3	0.4
	13-19 Years	11	2.9	11	2.9	22	5.7	12	3.1	30	7.5
	20-29 Years	159	26.9	141	23.4	144	23.5	168	27.0	180	28.4
	30-39 Years	208	33.8	245	39.1	213	33.4	217	33.5	246	37.4
	40-49 Years	124	21.8	140	24.1	143	24.2	161	26.9	167	27.4
	50 and over	48	5.0	53	5.5	62	6.3	64	6.4	66	6.5
	Total	556	14.6	592	15.2	587	14.8	624	15.6	692	16.9
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	10	1.5	1	0.1	3	0.4	0	0.0	3	0.4
	13-19 Years	29	8.2	25	6.9	17	4.6	19	5.1	17	4.5
	20-29 Years	110	20.0	95	17.0	111	19.5	101	17.5	110	18.7
	30-39 Years	120	19.6	130	20.9	122	19.2	139	21.6	111	17.0
	40-49 Years	67	11.3	81	13.4	80	13.0	58	9.3	80	12.6
	50 and over	18	1.5	24	2.0	33	2.7	30	2.4	43	3.4
	Total	354	8.9	356	8.8	366	8.9	347	8.3	364	8.6
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	16	1.1	3	0.2	6	0.4	2	0.1	6	0.4
	13-19 Years	40	5.5	36	4.9	39	5.2	31	4.0	47	6.0
	20-29 Years	269	23.5	236	20.3	255	21.6	269	22.4	290	23.7
	30-39 Years	328	26.7	375	30.0	335	26.3	356	27.6	357	27.2
	40-49 Years	191	16.4	221	18.6	223	18.5	219	17.9	247	19.8
	50 and over	66	3.1	77	3.5	95	4.3	94	4.2	109	4.8
	Total	910	11.7	948	11.9	953	11.8	971	11.9	1,056	12.7

*per 100,000 population

Table G: North Carolina HIV Disease Reports
Recent Infections by Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	135	5.0	158	5.8	149	5.3	149	5.3	180	6.2
	Black, non Hispanic	401	50.4	414	51.1	413	50.1	435	52.0	466	54.7
	American Indian/ Alaskan Native	6	12.6	6	12.4	7	14.2	6	12.0	5	9.8
	Asian/Pacific Islander	1	1.7	5	8.3	2	3.3	6	9.6	5	7.9
	Hispanic	13	5.9	9	4.0	16	7.0	28	12.1	36	15.3
	Total	556	14.6	592	15.2	587	14.8	624	15.6	692	16.9
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	58	2.1	71	2.5	64	2.2	52	1.8	54	1.8
	Black, non Hispanic	292	32.5	275	30.0	296	31.8	277	29.3	281	29.2
	American Indian/ Alaskan Native	0	0.0	5	9.8	3	5.8	4	7.6	2	3.7
	Asian/Pacific Islander	2	3.2	1	1.6	0	0.0	4	6.1	4	6.0
	Hispanic	2	1.4	4	2.7	3	2.0	10	6.5	23	14.6
	Total	354	8.9	356	8.8	366	8.9	347	8.3	364	8.6
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	193	3.5	229	4.1	213	3.7	201	3.5	234	4.0
	Black, non Hispanic	693	40.9	689	39.9	709	40.4	712	40.0	747	41.2
	American Indian/ Alaskan Native	6	6.2	11	11.1	10	9.9	10	9.8	7	6.7
	Asian/Pacific Islander	3	2.5	6	4.8	2	1.6	10	7.8	9	6.9
	Hispanic	15	4.1	13	3.5	19	5.0	38	9.9	59	15.0
	Total	910	11.7	948	11.9	953	11.8	971	11.9	1,056	12.7

*per 100,000 population

Table H: North Carolina Adult/Adolescent Female HIV Disease Reports
Mode of Transmission by Known Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Race/ Ethnicity	Mode of exposure with additional risk	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.
White, non Hispanic	IDU	16	3.3%	21	4.2%	22	4.5%	18	3.6%	12	2.3%
	Blood Products/ Hemophilia/Other	1	0.2%	4	0.8%	3	0.6%	4	0.8%	2	0.4%
	Heterosexual- All	53	11.0%	58	11.7%	58	11.8%	61	12.3%	59	11.3%
	Total	70	14.5%	83	16.7%	83	16.9%	83	16.7%	73	14.0%
Black, non Hispanic	Mode of exposure with additional risk	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.
	IDU	69	14.3%	64	12.9%	57	11.6%	41	8.3%	39	7.5%
	Blood Products/ Hemophilia/Other	19	3.9%	18	3.6%	18	3.7%	22	4.4%	16	3.1%
	Heterosexual- All	316	65.4%	315	63.5%	322	65.6%	327	65.9%	358	68.5%
	Total	404	83.6%	397	80.0%	397	80.9%	390	78.6%	413	79.0%
All Other	Mode of exposure with additional risk	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.
	IDU	0	0.0%	3	0.6%	1	0.2%	4	0.8%	3	0.6%
	Blood Products/ Hemophilia/Other	0	0.0%	2	0.4%	1	0.2%	2	0.4%	2	0.4%
	Heterosexual- All	8	1.7%	11	2.2%	9	1.8%	17	3.4%	32	6.1%
	Total	9*	1.9%	16	3.2%	11	2.2%	23	4.6%	37	7.1%
Total	Mode of exposure with additional risk	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.
	IDU	85	17.6%	88	17.7%	80	16.3%	63	12.7%	54	10.3%
	Blood Products/ Hemophilia/Other	20	4.1%	24	4.8%	22	4.5%	28	5.6%	20	3.8%
	Heterosexual- All	377	78.1%	384	77.4%	389	79.2%	405	81.7%	449	85.9%
	Total	483*	100%	496	100%	491	100%	496	100%	523	100%

*includes NIR (no identified risk reported) cases that could not be reassigned due to values less than 1

Table I: North Carolina Adult/Adolescent Male HIV Disease Reports
Mode of Transmission by Known Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Race/ Ethnicity	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
White, non Hispanic	**MSM**	209	21.4%	205	19.9%	178	18.7%	193	17.6%	255	22.2%
	IDU	27	2.8%	23	2.2%	24	2.5%	17	1.6%	24	2.1%
	MSM/IDU	17	1.7%	23	2.2%	13	1.4%	14	1.3%	10	0.9%
	BD Prod/Hemoph/Other	6	0.6%	7	0.7%	5	0.5%	4	0.4%	7	0.6%
	Heterosexual- All	26	2.7%	33	3.2%	26	2.7%	43	3.9%	33	2.9%
	Total	285	29.2%	291	28.3%	246	25.9%	271	24.7%	329	28.6%
Black, non Hispanic	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	258	26.5%	271	26.3%	270	28.4%	299	27.3%	328	28.5%
	IDU	137	14.1%	137	13.3%	102	10.7%	100	9.1%	100	8.7%
	MSM/IDU	26	2.7%	45	4.4%	21	2.2%	28	2.6%	22	1.9%
	BD Prod/Hemoph/Other	11	1.1%	14	1.4%	17	1.8%	10	0.9%	11	1.0%
	Heterosexual- All	218	22.4%	221	21.5%	245	25.8%	321	29.3%	286	24.8%
	Total	650	66.7%	688	66.8%	655	68.9%	758	69.2%	747	64.9%
All Other	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	17	1.7%	27	2.6%	26	2.7%	28	2.6%	42	3.6%
	IDU	7	0.7%	6	0.6%	6	0.6%	8	0.7%	6	0.5%
	MSM/IDU	3	0.3%	2	0.2%	1	0.1%	1	0.1%	1	0.1%
	BD Prod/Hemoph/Other	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	0.3%
	Heterosexual- All	13	1.3%	16	1.6%	17	1.8%	30	2.7%	23	2.0%
	Total	40	4.1%	51	5.0%	50	5.3%	67	6.1%	75	6.5%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	484	49.6%	503	48.8%	474	49.8%	520	47.4%	625	54.3%
	IDU	171	17.5%	166	16.1%	132	13.9%	125	11.4%	130	11.3%
	MSM/IDU	46	4.7%	70	6.8%	35	3.7%	43	3.9%	33	2.9%
	BD Prod/Hemoph/Other	17	1.7%	21	2.0%	22	2.3%	14	1.3%	21	1.8%
	Heterosexual- All	257	26.4%	270	26.2%	288	30.3%	394	35.9%	342	29.7%
	Total	975	100%	1030	100%	951	100%	1096	100%	1151	100%

Table J: North Carolina HIV Disease Reports Age 13-24 Years
Mode of Transmission by Gender, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	64	70.3%	62	71.3%	81	75.0%	88	75.2%	111	81.0%
	IDU	0	0.0%	1	1.2%	2	1.9%	1	0.9%	0	0.0%
	MSM/IDU	5	5.5%	5	5.8%	3	2.8%	1	0.9%	3	2.2%
	Blood Products/ Hemophilia/Other	1	1.1%	2	2.3%	0	0.0%	1	0.9%	1	0.7%
	Heterosexual- All	20	21.9%	16	18.4%	22	20.4%	26	22.2%	21	15.3%
	Total	91*	98.8%	87*	99.0%	108	100%	117	100%	137*	99.2%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	4	4.4%	7	9.2%	4	5.6%	3	3.7%	2	2.7%
	Blood Products/ Hemophilia/Other	1	1.1%	1	1.3%	2	2.8%	0	0.0%	0	0.0%
	Heterosexual- All	85	94.4%	67	88.2%	65	91.6%	78	96.3%	72	97.3%
	Total	90	100%	76*	98.7%	71	100%	81	100%	74	100%
Total		**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
		181*	100%	163*	100%	179	100%	198	100%	211*	100%

*includes NIR (no identified risk reported) cases that could not be reassigned due to values less than 1

Table K: North Carolina HIV Disease Reports Age 13-24 Years Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	13	2.9	21	4.6	19	4.1	21	4.5	29	6.1
	Black, non Hispanic	67	51.1	58	43.5	77	56.7	89	64.7	98	70.0
	Other	10	18.5	7	12.7	10	17.9	6	10.6	10	17.3
	Unknown	1		1		2		1		0	
	Total	91	14.5	87	13.6	108	16.6	117	17.7	137	20.4
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	11	2.4	16	3.4	15	3.1	12	2.5	14	2.8
	Black, non Hispanic	79	53.5	56	37.2	55	35.9	61	39.3	51	32.3
	Other	0	0.0	4	9.3	1	2.3	8	18.0	9	19.9
	Unknown	0		0		0		0		0	
	Total	90	13.7	76	11.4	71	10.5	81	11.8	74	10.6
Total		**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
		181	14.1	163	12.5	179	13.5	198	14.7	211	15.4

*per 100,000 population

Table L: HIV Disease Cumulative Reports by County of Residence, 1983-2002

	Year of First Report					
	83-89	90-99	2000	2001	2002	Total
County of First Report						
ALAMANCE	11	192	18	16	18	255
ALEXANDER	1	17	1	0	5	24
ANSON	1	80	2	6	4	93
ASHE	0	4	0	0	0	4
AVERY	2	8	0	0	1	11
BEAUFORT	9	97	13	16	5	140
BERTIE	3	61	6	12	7	89
BLADEN	5	56	3	6	4	74
BRUNSWICK	5	83	7	19	10	124
BUNCOMBE	17	461	38	24	26	566
BURKE	5	58	2	3	4	72
CABARRUS	12	151	10	5	18	196
CALDWELL	3	53	1	3	2	62
CAMDEN	0	9	3	1	3	16
CARTERET	7	51	2	0	2	62
CASWELL	0	17	3	1	2	23
CATAWBA	9	128	23	6	20	186
CHATHAM	5	48	3	6	3	65
CHEROKEE	1	11	0	2	1	15
CHOWAN	2	28	2	1	2	35
CLAY	0	1	0	1	1	3
CLEVELAND	10	166	10	11	9	206
COLUMBUS	10	134	9	17	8	178
CRAVEN	14	193	18	22	26	273
CUMBERLAND	63	869	65	61	59	1117
CURRITUCK	1	13	1	0	2	17
DARE	5	27	2	0	2	36
DAVIDSON	14	157	13	6	16	206
DAVIE	1	28	3	3	2	37
DUPLIN	9	122	6	11	13	161
DURHAM	77	1157	87	108	118	1547
EDGECOMBE	9	209	16	14	23	271
FORSYTH	72	872	92	80	94	1210
FRANKLIN	6	67	3	12	7	95
GASTON	18	479	42	27	34	600
GATES	0	4	0	2	2	8
GRAHAM	0	2	0	1	0	3
GRANVILLE	8	124	10	13	11	166
GREENE	2	66	2	4	4	78
GUILFORD	73	1368	127	133	148	1849
HALIFAX	12	185	9	13	6	225
HARNETT	10	123	7	11	11	162
HAYWOOD	5	43	2	1	4	55
HENDERSON	3	86	6	4	7	106
HERTFORD	8	55	11	7	10	91
HOKE	3	75	5	15	3	101
HYDE	0	5	0	0	0	5
IREDELL	9	102	3	9	17	140

Table L (continued): HIV Disease Cumulative Reports by County of Residence, 1983-2002

	Year of First Report					
	83-89	90-99	2000	2001	2002	Total
County of First Report						
JACKSON	1	15	1	0	0	17
JOHNSTON	16	209	20	29	27	301
JONES	0	15	0	0	5	20
LEE	2	96	14	9	11	132
LENOIR	6	262	26	21	18	333
LINCOLN	3	42	3	3	5	56
MACON	0	21	2	1	0	24
MADISON	0	13	1	2	0	16
MARTIN	2	57	7	10	9	85
MCDOWELL	4	24	1	1	2	32
MECKLENBURG	179	3050	218	258	306	4011
MITCHELL	1	10	0	0	1	12
MONTGOMERY	1	32	8	1	0	42
MOORE	7	86	11	14	16	134
NASH	13	223	21	26	16	299
NEW HANOVER	29	435	42	63	49	618
NORTHAMPTON	6	57	4	7	2	76
ONSLOW	21	150	14	17	20	222
ORANGE	29	179	18	13	12	251
PAMLICO	3	18	2	1	1	25
PASQUOTANK	4	59	9	1	6	79
PENDER	5	58	0	5	5	73
PERQUIMANS	1	22	2	3	4	32
PERSON	1	53	2	5	8	69
PITT	24	464	26	37	50	601
POLK	1	20	2	1	1	25
RANDOLPH	9	78	8	9	16	120
RICHMOND	2	115	7	4	2	130
ROBESON	10	291	17	28	17	363
ROCKINGHAM	5	121	8	9	11	154
ROWAN	13	202	12	15	13	255
RUTHERFORD	3	59	9	7	2	80
SAMPSON	6	143	4	17	8	178
SCOTLAND	4	111	8	0	4	127
STANLY	1	60	7	6	6	80
STOKES	1	13	2	4	1	21
SURRY	3	34	1	8	6	52
SWAIN	3	15	1	1	1	21
TRANSYLVANIA	2	24	6	2	2	36
TYRRELL	0	5	2	1	0	8
UNION	9	117	7	14	11	158
VANCE	5	153	5	17	9	189
WAKE	153	1564	154	155	162	2188
WARREN	0	24	2	7	4	37
WASHINGTON	2	59	3	2	3	69
WATAUGA	3	7	1	0	0	11
WAYNE	25	251	28	23	36	363

Table L (continued): HIV Disease Cumulative Reports by County of Residence 1983-2002

	Year of First Report					
	83-89	**90-99**	**2000**	**2001**	**2002**	**Total**
County of First Report						
WILKES	2	19	4	1	2	28
WILSON	21	290	27	36	26	400
YADKIN	3	16	2	0	1	22
YANCEY	1	10	0	1	0	12
MISSING	0	21	2	1	1	25
TOTAL	1185	17817	1467	1609	1692	23770

Table M: HIV Disease Cases by County Rank, 2000-2002

COUNTY	CASES			RATES per 100,000 population			AVG. RATE	RANK
	2000	2001	2002	2000	2001	2002		
Durham	87	108	118	38.8	47.4	51.0	45.7	1
Bertie	6	12	7	30.3	60.4	35.4	42.1	2
Hertford	11	7	10	48.9	31.6	45.0	41.8	3
Wilson	27	36	26	36.5	48.4	34.6	39.8	4
Lenoir	26	21	18	43.6	35.4	30.2	36.4	5
Mecklenburg	218	258	306	31.2	36.1	41.7	36.3	6
Martin	7	10	9	27.4	39.5	35.4	34.1	7
Camden	3	1	3	43.3	14.2	41.8	33.1	8
Edgecombe	16	14	23	28.9	25.6	42.1	32.2	9
Guilford	127	133	148	30.1	31.4	34.2	31.9	10
New Hanover	42	63	49	26.1	38.5	29.2	31.3	11
Forsyth	92	80	94	30.0	25.8	29.9	28.5	12
Pitt	26	37	50	19.4	27.4	36.4	27.7	13
Perquimans	2	3	4	17.5	26.0	34.4	26.0	14
Wayne	28	23	36	24.7	20.3	31.5	25.5	15
Beaufort	13	16	5	28.9	35.3	11.0	25.0	16
Tyrrell	2	1	0	48.6	24.1	0.0	24.2	17
Craven	18	22	26	19.7	23.9	28.1	23.9	18
Wake	154	155	162	24.3	23.5	23.8	23.9	19
Nash	21	26	16	24.0	29.4	17.9	23.8	20
Vance	5	17	9	11.6	38.9	20.4	23.6	21
Lee	14	9	11	28.5	18.2	21.9	22.9	22
Granville	10	13	11	20.5	26.2	21.7	22.8	23
Hoke	5	15	3	14.7	43.0	8.3	22.0	24
Warren	2	7	4	10.0	35.0	19.7	21.6	25
Columbus	9	17	8	16.4	31.0	14.4	20.6	26
Cumberland	65	61	59	21.5	20.3	19.4	20.4	27
Duplin	6	11	13	12.2	22.2	25.6	20.0	28
Johnston	20	29	27	16.2	22.7	20.4	19.8	29
Northampton	4	7	2	18.1	31.8	9.0	19.7	30
Washington	3	2	3	21.9	14.7	22.1	19.6	31
NC Total	**1467**	**1609**	**1692**	**18.2**	**19.7**	**20.3**	**19.4**	
Gaston	42	27	34	22.0	14.1	17.7	17.9	32
Moore	11	14	16	14.6	18.3	20.5	17.8	33
Greene	2	4	4	10.5	21.1	20.6	17.4	34
Robeson	17	28	17	13.8	22.6	13.5	16.6	35
Halifax	9	13	6	15.7	22.8	10.5	16.3	36
Jones	0	0	5	0.0	0.0	48.2	16.1	37
Sampson	4	17	8	6.6	27.9	12.8	15.8	38
Anson	2	6	4	7.9	23.7	15.7	15.8	39
Brunswick	7	19	10	9.5	24.7	12.7	15.6	40
Pasquotank	9	1	6	25.8	2.9	17.0	15.2	41
Franklin	3	12	7	6.3	24.6	14.0	15.0	42
Buncombe	38	24	26	18.4	11.5	12.3	14.0	43
Person	2	5	8	5.6	13.8	21.8	13.8	44
Bladen	3	6	4	9.3	18.5	12.2	13.3	45
Alamance	18	16	18	13.7	12.0	13.2	13.0	46
Gates	0	2	2	0.0	18.9	18.9	12.6	47
Orange	18	13	12	15.2	10.7	9.7	11.9	48
Chowan	2	1	2	13.8	6.9	13.7	11.5	49

Table M (continued): HIV Disease Cases by County Rank, 2000-2002

COUNTY	CASES			RATES per 100,000 population			AVG. RATE	RANK
	2000	2001	2002	2000	2001	2002		
Onslow	14	17	20	9.4	11.5	13.4	11.4	50
Transylvania	6	2	2	20.5	6.8	6.7	11.3	51
Catawba	23	6	20	16.2	4.1	13.6	11.3	52
Montgomery	8	1	0	29.8	3.7	0.0	11.2	53
Scotland	8	0	4	22.3	0.0	11.1	11.1	54
Stanley	7	6	6	12.0	10.2	10.1	10.8	55
Pamlico	2	1	1	15.5	7.8	7.7	10.3	56
Cleveland	10	11	9	10.4	11.4	9.2	10.3	57
Harnett	7	11	11	7.7	11.7	11.4	10.3	58
Rockingham	8	9	11	8.7	9.8	11.9	10.1	59
Rowan	12	15	13	9.2	11.4	9.7	10.1	60
Rutherford	9	7	2	14.3	11.0	3.1	9.5	61
Richmond	7	4	2	15.0	8.6	4.3	9.3	62
Caswell	3	1	2	12.7	4.2	8.3	8.4	63
Randolph	8	9	16	6.1	6.8	11.9	8.3	64
Union	7	14	11	5.6	10.6	8.1	8.1	65
Cabarrus	10	5	18	7.6	3.7	12.9	8.0	66
Chatam	3	6	3	6.0	11.8	5.8	7.9	67
Pender	0	5	5	0.0	11.9	11.5	7.8	68
Davidson	13	6	16	8.8	4.0	10.6	7.8	69
Swain	1	1	1	7.7	7.6	7.5	7.6	70
Iredell	3	9	17	2.4	7.0	13.0	7.5	71
Davie	3	3	2	8.5	8.3	5.4	7.4	72
Clay	0	1	1	0.0	11.1	10.9	7.3	73
Polk	2	1	1	10.9	5.3	5.2	7.1	74
Surry	1	8	6	1.4	11.2	8.3	7.0	75
Henderson	6	4	7	6.7	4.4	7.5	6.2	76
Alexander	1	0	5	3.0	0.0	14.4	5.8	77
Lincoln	3	3	5	4.7	4.6	7.5	5.6	78
Currituck	1	0	2	5.5	0.0	10.4	5.3	79
Stokes	2	4	1	4.5	8.8	2.2	5.2	80
Madison	1	2	0	5.1	10.1	0.0	5.1	81
Dare	2	0	2	6.6	0.0	6.3	4.3	82
Haywood	2	1	4	3.7	1.8	7.2	4.3	83
Graham	0	1	0	0.0	12.4	0.0	4.1	84
Cherokee	0	2	1	0.0	8.1	4.0	4.0	85
Wilkes	4	1	2	6.1	1.5	3.0	3.5	86
Burke	2	3	4	2.2	3.4	4.4	3.3	87
Macon	2	1	0	6.7	3.3	0.0	3.3	88
McDowell	1	1	2	2.4	2.3	4.6	3.1	89
Yadkin	2	0	1	5.5	0.0	2.7	2.7	90
Caldwell	1	3	2	1.3	3.9	2.6	2.6	91
Carteret	2	0	2	3.4	0.0	3.3	2.2	92
Mitchell	0	0	1	0.0	0.0	6.3	2.1	93
Avery	0	0	1	0.0	0.0	5.6	1.9	94
Yancey	0	1	0	0.0	5.6	0.0	1.9	95
Jackson	1	0	0	3.0	0.0	0.0	1.0	96
Watauga	1	0	0	2.3	0.0	0.0	0.8	97
Alleghany	0	0	0	0.0	0.0	0.0	0.0	98
Ashe	0	0	0	0.0	0.0	0.0	0.0	99
Hyde	0	0	0	0.0	0.0	0.0	0.0	100

Table N: North Carolina HIV Disease Cases Living as of 12/31/02 by County of Residence and Consortia

N.C. Consortia	County of Residence	Report Category		Total
		HIV (non AIDS)	AIDS	
COASTAL	BRUNSWICK	46	43	89
	CARTERET	20	14	34
	JONES	12	3	15
	NEW HANOVER	266	178	444
	ONSLOW	87	73	160
	PENDER	24	26	50
	TOTAL	**455**	**337**	**792**
DOGWOOD	BLADEN	31	13	44
	COLUMBUS	80	47	127
	CUMBERLAND	565	253	818
	DUPLIN	54	61	115
	HARNETT	70	48	118
	ROBESON	154	127	281
	SAMPSON	75	47	122
	SCOTLAND	63	32	95
	TOTAL	**1092**	**628**	**1720**
DOWNEAST	HYDE	1	3	4
	MARTIN	36	29	65
	TYRRELL	3	2	5
	WASHINGTON	19	24	43
	TOTAL	**59**	**58**	**117**
EASTERN TRIAD	ALAMANCE	127	59	186
	CASWELL	10	6	16
	GUILFORD	823	434	1257
	RANDOLPH	62	21	83
	ROCKINGHAM	71	42	113
	TOTAL	**1093**	**562**	**1655**
ENCHAC	BEAUFORT	47	40	87
	CRAVEN	113	81	194
	GREENE	27	41	68
	JOHNSTON	146	75	221
	LENOIR	128	119	247
	PAMLICO	8	4	12
	PITT	222	214	436
	WAKE	904	694	1598
	WAYNE	133	110	243
	TOTAL	**1728**	**1378**	**3106**
JEFF JONES	CAMDEN	4	10	14
	CHOWAN	14	12	26
	CURRITUCK	7	4	11
	DARE	11	12	23
	PASQUOTANK	38	26	64
	PERQUIMANS	19	8	27
	TOTAL	**93**	**72**	**165**

Table N (continued): North Carolina HIV Disease Cases Living as of 12/31/02 by County of Residence and Consortia

N.C. Consortia	County of Residence	Report Category		Total
		HIV (non AIDS)	AIDS	
NORTHWEST	ALEXANDER	13	6	19
	ALLEGHANGY	0	0	0
	ASHE	1	3	4
	BURKE	29	19	48
	CALDWELL	26	11	37
	CATAWBA	72	48	120
	DAVIDSON	87	46	133
	DAVIE	14	13	27
	FORSYTH	555	285	840
	STOKES	8	10	18
	SURRY	21	20	41
	WATAUGA	2	5	7
	WILKES	9	11	20
	YADKIN	9	11	20
	TOTAL	**846**	**488**	**1334**
PARTNERS IN ACTION	BERTIE	23	42	65
	EDGECOMBE	112	95	207
	GATES	2	5	7
	HALIFAX	90	62	152
	HERTFORD	31	35	66
	NASH	120	95	215
	NORTHAMPTON	21	29	50
	WILSON	170	108	278
	TOTAL	**569**	**471**	**1040**
PIEDMONT	CHATHAM	33	13	46
	DURHAM	685	368	1053
	FRANKLIN	40	24	64
	GRANVILLE	83	40	123
	LEE	81	30	111
	ORANGE	108	60	168
	PERSON	40	16	56
	VANCE	73	55	128
	WARREN	17	13	30
	TOTAL	**1160**	**619**	**1779**
REGIONAL	ANSON	36	35	71
	CABARRUS	82	52	134
	CLEVELAND	102	36	138
	GASTON	288	132	420
	IREDELL	58	29	87
	LINCOLN	30	17	47
	MECKLENBURG	2081	770	2851
	ROWAN	96	72	168
	STANLY	47	15	62
	UNION	75	38	113
	TOTAL	**2895**	**1196**	**4091**

Table N (continued): North Carolina HIV Disease Cases Living as of 12/31/02 by County of Residence and Consortia

N.C. Consortia	County of Residence	Report Category		Total
		HIV (NON AIDS)	AIDS	
SOUTH CENTRAL	HOKE	42	43	85
	MONTGOMERY	20	13	33
	MOORE	70	28	98
	RICHMOND	66	17	83
	TOTAL	**198**	**101**	**299**
WNCHAC	AVERY	4	5	9
	BUNCOMBE	200	198	398
	CHEROKEE	5	5	10
	CLAY	2	1	3
	GRAHAM	2	1	3
	HAYWOOD	16	22	38
	HENDERSON	27	47	74
	JACKSON	5	9	14
	MACON	7	8	15
	MADISON	7	6	13
	MCDOWELL	10	18	28
	MITCHELL	5	4	9
	POLK	6	12	18
	RUTHERFORD	29	31	60
	SWAIN	4	10	14
	TRANSYLVANIA	11	12	23
	YANCEY	5	4	9
	TOTAL	**345**	**393**	**738**
MISSING COUNTY		22	36	58
N.C. TOTAL		**10555**	**6339**	**16894**

Table O: AIDS Reporting Trends, 1983-2002

	Year of AIDS Report									
	83-89		90-92		93-94		95-96		1997	
Reporting Category	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.
AIDS Only	1174	99.9%	1715	98.8%	2017	83.2%	1108	58.7%	472	56.5%
HIV, then AIDS	1	0.1%	20	1.2%	406	16.8%	779	41.3%	363	43.5%
Total	1175	100%	1735	100%	2423	100%	1887	100%	835	100%

	Year of AIDS Report									
	1998		1999		2000		2001		2002	
Reporting Category	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.	Cases	Pct.
AIDS Only	437	55.4%	475	61.9%	378	55.5%	461	52.9%	493	48.6%
HIV, then AIDS	352	44.6%	292	38.1%	303	44.5%	410	47.1%	521	51.4%
Total	789	100%	767	100%	681	100%	871	100%	1014	100%

Table P: North Carolina AIDS Demographic Rates
Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	00-12 Years	0	0	2	0.3	1	0.1	0	0	1	0.1
	13-19 Years	5	1.3	4	1.0	3	0.8	2	0.5	1	0.2
	20-29 Years	66	11.2	65	10.8	62	10.1	68	10.9	86	13.6
	30-39 Years	248	40.3	246	39.2	197	30.9	249	38.5	261	39.6
	40-49 Years	203	35.6	178	30.7	167	28.3	238	39.8	254	41.7
	50 and over	71	7.5	68	7.0	63	6.4	77	7.7	113	11.1
	Missing	0	-	0	-	0	-	1	-	0	-
	Total	593	15.5	563	14.5	493	12.5	635	15.8	716	17.5
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	00-12 Years	1	0.1	1	0.1	2	0.3	0	0.0	2	0.3
	13-19 Years	1	0.3	4	1.1	1	0.3	4	1.1	3	0.8
	20-29 Years	46	8.4	46	8.2	28	4.9	49	8.5	39	6.6
	30-39 Years	86	14.0	73	11.7	86	13.6	94	14.6	125	19.1
	40-49 Years	52	8.8	53	8.8	48	7.8	63	10.1	89	14.0
	50 and over	10	0.8	27	2.2	23	1.9	26	2.1	40	3.2
	Missing	0	-	0	-	0	-	0	-	0	-
	Total	196	4.9	204	5.0	188	4.6	236	5.6	298	7.0
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	00-12 Years	1	0.1	3	0.2	3	0.2	0	0.0	3	0.2
	13-19 Years	6	0.8	8	1.1	4	0.5	6	0.8	4	0.5
	20-29 Years	112	9.8	111	9.5	90	7.6	117	9.8	125	10.2
	30-39 Years	334	27.2	319	25.5	283	22.2	343	26.6	386	29.4
	40-49 Years	255	21.9	231	19.5	215	17.8	301	24.6	343	27.6
	50 and over	81	3.8	95	4.4	86	3.9	103	4.6	153	6.7
	Missing	0	-	0	-	0	-	1	-	0	-
	Total	789	10.1	767	9.7	681	8.4	871	10.6	1014	12.2

*per 100,000 population

Table Q: North Carolina AIDS Demographic Rates
Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	181	6.7	148	5.4	121	4.3	149	5.3	197	6.8
	Black, non Hispanic	390	49.0	387	47.7	339	41.1	456	54.5	479	56.3
	American Indian/ Alaskan Native	4	8.4	4	8.3	4	8.1	8	16.0	7	13.8
	Asian/Pacific Islander	1	1.7	0	0.0	1	1.6	1	1.6	3	4.7
	Hispanic	17	7.7	24	10.7	28	12.3	20	8.7	27	11.5
	Unknown	0		0		0		1		3	
	Total	593	15.5	563	14.5	493	12.5	635	15.8	716	17.5
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	19	0.7	19	0.7	32	1.1	41	1.4	40	1.3
	Black, non Hispanic	170	18.9	177	19.3	147	15.8	186	19.7	246	25.6
	American Indian/ Alaskan Native	1	2.0	3	5.9	2	3.9	4	7.6	5	9.4
	Asian/Pacific Islander	1	1.6	1	1.6	1	1.5	0	0.0	0	0.0
	Hispanic	5	3.4	4	2.7	6	3.9	5	3.2	7	4.4
	Unknown	0		0		0		0		0	
	Total	196	4.9	204	5.0	188	4.6	236	5.7	298	7.0
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	200	3.6	167	3.0	153	2.7	190	3.3	237	4.0
	Black, non Hispanic	560	33.0	564	32.7	486	27.7	642	36.0	725	40.0
	American Indian/ Alaskan Native	5	5.1	7	7.1	6	5.9	12	11.7	12	11.5
	Asian/Pacific Islander	2	1.6	1	0.8	2	1.6	1	0.8	3	2.3
	Hispanic	22	6.0	28	7.5	34	8.9	25	6.5	34	8.7
	Unknown	0		0		0		1		3	
	Total	789	10.1	767	9.7	681	8.4	871	10.6	1014	12.2

*per 100,000 population

Table R: AIDS Cumulative Reports by County of Residence, 1983-2002

	Year of AIDS Report					
	83-89	90-99	2000	2001	2002	Total
County of Residence						
ALAMANCE CO.	11	84	8	7	5	115
ALEXANDER CO.	1	7	1	0	2	11
ANSON CO.	1	38	4	4	5	52
ASHE CO.	0	3	0	0	0	3
AVERY CO.	2	5	0	0	0	7
BEAUFORT CO.	7	58	11	9	4	89
BERTIE CO.	3	41	7	5	7	63
BLADEN CO.	5	26	1	3	4	39
BRUNSWICK CO.	5	48	4	12	5	74
BUNCOMBE CO.	17	276	20	24	16	353
BURKE CO.	5	33	1	1	2	42
CABARRUS CO.	12	72	4	4	9	101
CALDWELL CO.	3	21	1	3	2	30
CAMDEN CO.	0	6	1	1	3	11
CARTERET CO.	7	30	1	1	0	39
CASWELL CO.	0	12	1	0	0	13
CATAWBA CO.	9	71	12	5	12	109
CHATHAM CO.	5	19	2	1	1	28
CHEROKEE CO.	1	7	0	1	1	10
CHOWAN CO.	1	14	1	1	3	20
CLAY CO.	0	0	0	1	0	1
CLEVELAND CO.	10	47	3	6	12	78
COLUMBUS CO.	10	61	3	10	6	90
CRAVEN CO.	14	96	9	9	20	148
CUMBERLAND CO.	63	338	20	32	46	499
CURRITUCK CO.	1	10	0	0	0	11
DARE CO.	5	15	2	0	2	24
DAVIDSON CO.	14	81	5	4	8	112
DAVIE CO.	1	13	3	1	1	19
DUPLIN CO.	9	83	4	5	8	109
DURHAM CO.	77	584	21	38	76	796
EDGECOMBE CO.	9	115	7	11	23	165
FORSYTH CO.	72	432	40	36	44	624
FRANKLIN CO.	6	31	0	5	3	45
GASTON CO.	18	208	20	15	16	277
GATES CO.	0	3	0	1	2	6
GRAHAM CO.	0	1	0	0	0	1
GRANVILLE CO.	8	48	6	6	6	74
GREENE CO.	2	41	1	5	3	52
GUILFORD CO.	73	717	40	65	54	949
HALIFAX CO.	11	94	4	8	4	121
HARNETT CO.	10	61	5	8	7	91
HAYWOOD CO.	5	26	0	3	5	39
HENDERSON CO.	3	55	6	5	5	74
HERTFORD CO.	8	29	12	5	3	57
HOKE CO.	3	40	3	8	7	61
HYDE CO.	0	5	0	0	0	5
IREDELL CO.	9	57	3	2	4	75

Table R (continued): AIDS Cumulative Reports by County of Residence, 1983-2002

	Year of AIDS Report					
	83-89	90-99	2000	2001	2002	Total
County of Residence						
JACKSON CO.	1	10	1	0	0	12
JOHNSTON CO.	16	83	13	7	18	137
JONES CO.	0	7	0	0	0	7
LEE CO.	2	33	4	3	4	46
LENOIR CO.	6	140	21	20	12	199
LINCOLN CO.	3	17	2	1	5	28
MACON CO.	0	12	0	2	1	15
MADISON CO.	0	9	0	0	0	9
MARTIN CO.	2	30	3	6	8	49
MCDOWELL CO.	4	17	1	2	2	26
MECKLENBURG CO.	174	1091	68	106	150	1589
MITCHELL CO.	1	3	0	2	1	7
MONTGOMERY CO.	1	17	3	2	0	23
MOORE CO.	7	34	4	7	6	58
NASH CO.	13	120	9	14	8	164
NEW HANOVER CO.	28	203	17	50	39	337
NORTHAMPTON CO.	6	41	1	6	2	56
ONSLOW CO.	21	74	7	15	13	130
ORANGE CO.	29	71	8	8	3	119
PAMLICO CO.	3	9	2	0	1	15
PASQUOTANK CO.	4	27	5	1	4	41
PENDER CO.	5	36	0	6	2	49
PERQUIMANS CO.	1	9	2	0	0	12
PERSON CO.	1	19	0	2	6	28
PITT CO.	24	276	23	21	29	373
POLK CO.	1	17	0	0	0	18
RANDOLPH CO.	9	39	2	1	4	55
RICHMOND CO.	2	42	4	0	2	50
ROBESON CO.	10	134	8	27	22	201
ROCKINGHAM CO.	5	60	3	5	7	80
ROWAN CO.	13	115	9	8	8	153
RUTHERFORD CO.	3	41	4	3	2	53
SAMPSON CO.	6	52	5	13	8	84
SCOTLAND CO.	4	45	5	2	6	62
STANLY CO.	1	19	2	4	1	27
STOKES CO.	1	10	1	2	0	14
SURRY CO.	3	16	1	3	6	29
SWAIN CO.	3	14	0	1	1	19
TRANSYLVANIA CO.	2	15	3	1	2	23
TYRRELL CO.	0	3	1	0	0	4
UNION CO.	9	52	3	5	6	75
VANCE CO.	5	77	3	11	11	107
WAKE CO.	153	784	99	91	107	1234
WARREN CO.	0	11	1	3	3	18
WASHINGTON CO.	2	36	2	2	4	46
WATAUGA CO.	3	6	0	0	0	9
WAYNE CO.	25	149	12	14	25	225
WILKES CO.	2	13	3	2	0	20

Table R (continued): AIDS Cumulative Reports by County of Residence, 1983-2002

	Year of First Report					
	83-89	**90-99**	**2000**	**2001**	**2002**	**Total**
County of Residence						
WILSON CO.	21	119	17	20	27	204
YADKIN CO.	3	9	2	0	1	15
YANCEY CO.	1	5	0	1	0	7
MISSING	0	3	0	0	1	4
TOTAL	1175	8436	681	871	1014	12177

Table S1: Region One† HIV Disease Reports
Gender and Mode of Transmission, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	40	51.3%	28	41.8%	32	44.4%	29	52.7%	19	34.5%
	IDU	5	6.4%	8	11.9%	7	9.7%	4	7.3%	1	1.8%
	MSM/IDU	3	3.8%	6	9.0%	3	4.2%	2	3.6%	2	3.6%
	Heterosexual- All	6	7.7%	4	6.0%	2	2.8%	5	9.1%	6	10.9%
	Blood Products/ Hemophilia/Other	3	3.8%	0	0.0%	0	0.0%	1	1.8%	1	1.8%
	Pediatric	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	NIR	4	5.1%	6	9.0%	6	8.3%	6	10.9%	13	23.6%
	Total	61	78.2%	52	77.6%	50	69.4%	47	85.5%	42	76.4%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	2	2.6%	3	4.5%	1	1.4%	2	3.6%	4	7.3%
	Heterosexual- All	10	12.8%	5	7.5%	12	16.7%	3	5.5%	3	5.5%
	Blood Products/ Hemophilia/Other	0	0.0%	2	3.0%	0	0.0%	0	0.0%	0	0.0%
	Pediatric	0	0.0%	1	1.5%	0	0.0%	0	0.0%	0	0.0%
	NIR	5	6.4%	4	6.0%	9	12.5%	3	5.5%	6	10.9%
	Total	17	21.8%	15	22.4%	22	30.6%	8	14.5%	13	23.6%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	40	51.3%	28	41.8%	32	44.4%	29	52.7%	19	34.5%
	IDU	7	9.0%	11	16.4%	8	11.1%	6	10.9%	5	9.1%
	MSM/IDU	3	3.8%	6	9.0%	3	4.2%	2	3.6%	2	3.6%
	Heterosexual- All	16	20.5%	9	13.4%	14	19.4%	8	14.5%	9	16.4%
	Blood Products/ Hemophilia/Other	3	3.8%	2	3.0%	0	0.0%	1	1.8%	1	1.8%
	Pediatric	0	0.0%	1	1.5%	0	0.0%	0	0.0%	0	0.0%
	NIR	9	11.5%	10	14.9%	15	20.8%	9	16.4%	19	34.5%
	Total	78	100.0%	67	100.0%	72	100.0%	55	100.0%	55	100.0%

†See the inside back cover for a Region Map.

Table S2: Region One† HIV Disease Reports Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	0-12 Years	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	13-19 Years	0	0.0	0	0.0	2	5.2	1	2.6	2	5.1
	20-29 Years	12	23.2	8	15.3	7	13.2	12	22.3	5	9.2
	30-39 Years	28	47.3	28	46.6	20	32.8	16	26.0	21	33.7
	40-49 Years	17	28.3	11	18.1	14	22.7	12	19.2	8	12.6
	50 and over	4	3.1	5	3.8	7	5.2	6	4.4	6	4.4
	Total	61	15.0	52	12.6	50	12.0	47	11.1	42	9.8
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	0	0.0	1	1.6	0	0.0	0	0.0	0	0.0
	13-19 Years	2	5.8	2	5.8	2	5.7	0	0.0	0	0.0
	20-29 Years	2	4.1	3	6.1	6	12.1	2	4.0	3	5.9
	30-39 Years	8	13.9	5	8.6	7	11.8	2	3.3	4	6.6
	40-49 Years	5	8.0	3	4.7	5	7.8	3	4.6	4	6.1
	50 and over	0	0.0	1	0.6	2	1.2	1	0.6	2	1.2
	Total	17	4.0	15	3.5	22	5.0	8	1.8	13	2.9
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	0	0.0	1	0.8	0	0.0	0	0.0	0	0.0
	13-19 Years	2	2.8	2	2.7	4	5.4	1	1.3	2	2.6
	20-29 Years	14	14.0	11	10.8	13	12.6	14	13.5	8	7.6
	30-39 Years	36	30.8	33	27.9	27	22.5	18	14.8	25	20.3
	40-49 Years	22	17.9	14	11.3	19	15.1	15	11.8	12	9.3
	50 and over	4	1.4	6	2.0	9	3.0	7	2.3	8	2.6
	Total	78	9.4	67	7.9	72	8.4	55	6.3	55	6.3

*per 100,000 population †See the inside back cover for a Region Map.

Table S3: Region One† HIV Disease Reports Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	50	13.8	34	9.3	33	8.9	35	9.3	27	7.1
	Black, non Hispanic	10	46.1	14	63.6	15	67.2	8	35.5	9	39.4
	Other	1	4.6	4	18.2	2	9.0	4	17.8	6	26.3
	Total	61	15.0	52	12.6	50	12.0	47	11.2	42	9.8
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	13	3.3	7	1.8	11	2.7	4	1.0	7	1.7
	Black, non Hispanic	4	19.2	7	33.1	11	51.3	4	18.5	5	22.8
	Other	0	0.0	1	5.9	0	0.0	0	0.0	1	5.7
	Total	17	4.0	15	3.5	22	5.0	8	1.8	13	2.9
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	63	8.4	41	5.4	44	5.7	39	5.0	34	4.3
	Black, non Hispanic	14	32.9	21	48.7	26	59.4	12	27.2	14	31.2
	Other	1	2.6	5	12.8	2	5.1	4	10.0	7	17.3
	Total	78	9.4	67	7.9	72	8.4	55	6.4	55	6.3

*per 100,000 population †See the inside back cover for a Region Map.

Table T1: Region Two† HIV Disease Reports
Gender and Mode of Transmission, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	91	24.9%	93	25.3%	79	23.5%	84	23.7%	140	31.5%
	IDU	46	12.6%	30	8.2%	18	5.4%	16	4.5%	23	5.2%
	MSM/IDU	13	3.6%	12	3.3%	7	2.1%	4	1.1%	6	1.4%
	Blood Products/ Hemophilia/Other	3	0.8%	3	0.8%	5	1.5%	2	0.6%	4	0.9%
	Heterosexual- All	35	9.6%	49	13.4%	54	16.1%	64	18.1%	72	16.2%
	Pediatric	2	0.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	NIR	60	16.4%	57	15.5%	52	15.5%	54	15.3%	68	15.3%
	Total	250	68.3%	244	66.5%	215	64.0%	224	63.3%	313	70.5%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	18	4.9%	16	4.4%	8	2.4%	8	2.3%	5	1.1%
	Blood Products/ Hemophilia/Other	2	0.5%	0	0.0%	2	0.6%	5	1.4%	3	0.7%
	Heterosexual- All	54	14.8%	55	15.0%	74	22.0%	88	24.9%	77	17.3%
	Pediatric	4	1.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	NIR	38	10.4%	52	14.2%	37	11.0%	29	8.2%	46	10.4%
	Total	116	31.7%	123	33.5%	121	36.0%	130	36.7%	131	29.5%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	91	24.9%	93	25.3%	79	23.5%	84	23.7%	140	31.5%
	IDU	64	17.5%	46	12.5%	26	7.7%	24	6.8%	28	6.3%
	MSM/IDU	13	3.6%	12	3.3%	7	2.1%	4	1.1%	6	1.4%
	Blood Products/ Hemophilia/Other	5	1.4%	3	0.8%	7	2.1%	7	2.0%	7	1.6%
	Heterosexual- All	89	24.3%	104	28.3%	128	38.1%	152	42.9%	149	33.6%
	Pediatric	6	1.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	NIR	98	26.8%	109	29.7%	89	26.5%	83	23.4%	114	25.7%
	Total	366	100.0%	367	100.0%	336	100.0%	354	100.0%	444	100.0%

†See the inside back cover for a Region Map.

(corrected January 2004)

Table T2: Region Two† HIV Disease Reports
Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	0-12 Years	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0
	13-19 Years	5	6.3	5	6.1	5	6.0	3	3.5	8	9.2
	20-29 Years	48	38.6	48	37.6	42	32.2	47	35.3	76	55.8
	30-39 Years	98	66.8	105	69.6	81	52.5	84	53.3	108	67.1
	40-49 Years	71	55.1	63	47.6	67	49.5	69	49.9	81	57.3
	50 and over	27	13.7	23	11.4	20	9.7	21	10.0	40	18.6
	Total	250	29.8	244	28.3	215	24.4	224	24.9	313	34.0
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	4	2.6	0	0.0	0	0.0	0	0.0	0	0.0
	13-19 Years	5	6.7	10	13.1	7	8.9	11	13.8	7	8.6
	20-29 Years	24	19.8	24	19.3	29	22.8	23	17.7	24	18.1
	30-39 Years	47	32.7	49	33.1	50	33.1	54	35.0	46	29.2
	40-49 Years	29	22.1	34	25.2	24	17.4	27	19.2	38	26.4
	50 and over	7	2.9	6	2.4	11	4.3	15	5.8	16	6.0
	Total	116	6.8	123	7.0	121	6.7	130	7.1	131	7.0
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	5	1.6	0	0.0	0	0.0	0	0.0	0	0.0
	13-19 Years	10	6.5	15	9.5	12	7.4	14	8.5	15	8.9
	20-29 Years	72	29.3	72	28.5	71	27.5	70	26.6	100	37.2
	30-39 Years	145	49.9	154	51.5	131	42.9	138	44.3	154	48.3
	40-49 Years	100	38.5	97	36.3	91	33.3	96	34.4	119	41.7
	50 and over	34	7.7	29	6.4	31	6.7	36	7.6	56	11.6
	Total	366	21.4	367	20.9	336	18.7	354	19.3	444	23.7

*per 100,000 population †See the inside back cover for a Region Map.

Table T3: Region Two† HIV Disease Reports
Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	78	12.6	76	12.0	68	10.5	51	7.7	95	14.0
	Black, non Hispanic	170	113.8	163	106.2	144	91.7	164	102.4	195	119.1
	Other	2	2.8	5	6.8	3	4.0	9	11.7	23	29.2
	Total	250	29.8	244	28.3	215	24.4	224	24.9	313	34.0
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	13	2.0	24	3.6	18	2.7	21	3.0	18	2.5
	Black, non Hispanic	103	60.2	98	55.7	102	56.7	108	58.9	99	52.8
	Other	0	0.0	1	1.8	1	1.7	1	1.7	14	23.4
	Total	116	0.1	123	0.1	121	0.1	130	0.1	131	0.1
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	91	7.2	100	7.7	86	6.5	72	5.3	113	8.2
	Black, non Hispanic	273	85.2	261	79.3	246	73.0	272	79.1	294	83.7
	Other	2	1.6	6	4.6	4	3.0	10	7.4	37	26.7
	Total	366	21.4	367	20.9	336	18.7	354	19.3	444	23.7

*per 100,000 population †See the inside back cover for a Region Map.

Table U1: Region Three† HIV Disease Reports
Gender and Mode of Transmission, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	51	20.4%	94	28.9%	83	29.4%	70	25.9%	126	39.7%
	IDU	20	8.0%	25	7.7%	17	6.0%	23	8.5%	11	3.5%
	MSM/IDU	4	1.6%	9	2.8%	3	1.1%	6	2.2%	1	0.3%
	Blood Products/ Hemophilia/Other	1	0.4%	5	1.5%	4	1.4%	1	0.4%	3	0.9%
	Heterosexual- All	37	14.8%	32	9.8%	36	12.8%	54	20.0%	51	16.1%
	Pediatric	4	1.6%	0	0.0%	1	0.4%	0	0.0%	0	0.0%
	NIR	38	15.2%	50	15.4%	48	17.0%	40	14.8%	44	13.9%
	Total	155	62.0%	215	66.2%	192	68.1%	194	71.9%	236	74.4%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	8	3.2%	12	3.7%	11	3.9%	5	1.9%	2	0.6%
	Blood Products/ Hemophilia/Other	1	0.4%	4	1.2%	2	0.7%	2	0.7%	1	0.3%
	Heterosexual- All	43	17.2%	55	16.9%	49	17.4%	44	16.3%	55	17.4%
	Pediatric	1	0.4%	0	0.0%	2	0.7%	0	0.0%	0	0.0%
	NIR	42	16.8%	39	12.0%	26	9.2%	25	9.3%	23	7.3%
	Total	95	38.0%	110	33.8%	90	31.9%	76	28.1%	81	25.6%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	51	20.4%	94	28.9%	83	29.4%	70	25.9%	126	39.7%
	IDU	28	11.2%	37	11.4%	28	9.9%	28	10.4%	13	4.1%
	MSM/IDU	4	1.6%	9	2.8%	3	1.1%	6	2.2%	1	0.3%
	Blood Products/ Hemophilia/Other	2	0.8%	9	2.8%	6	2.1%	3	1.1%	4	1.3%
	Heterosexual- All	80	32.0%	87	26.8%	85	30.1%	98	36.3%	106	33.4%
	Pediatric	5	2.0%	0	0.0%	3	1.1%	0	0.0%	0	0.0%
	NIR	80	32.0%	89	27.4%	74	26.2%	65	24.1%	67	21.1%
	Total	250	100.0%	325	100.0%	282	100.0%	270	100.0%	317	100.0%

†See the inside back cover for a Region Map.

(corrected January 2004)

Table U2: Region Three† HIV Disease Reports
Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	0-12 Years	4	2.9	0	0.0	1	0.7	0	0.0	0	0.0
	13-19 Years	2	2.8	2	2.8	5	6.8	2	2.7	7	9.3
	20-29 Years	36	33.7	35	32.2	44	40.0	46	41.5	53	47.0
	30-39 Years	58	48.6	91	75.1	73	59.4	68	54.9	95	75.5
	40-49 Years	36	31.6	64	55.4	48	41.0	49	41.5	58	48.3
	50 and over	19	9.6	23	11.4	21	10.3	29	14.1	23	11.0
	Total	155	20.8	215	28.4	192	25.0	194	25.0	236	30.0
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	1	0.8	0	0.0	2	1.5	0	0.0	0	0.0
	13-19 Years	5	7.2	5	7.1	2	2.8	3	4.2	5	6.8
	20-29 Years	38	35.5	28	25.8	33	30.0	20	18.0	20	17.7
	30-39 Years	27	22.5	47	38.5	26	21.0	32	25.7	29	22.9
	40-49 Years	17	14.4	23	19.1	16	13.1	16	13.0	17	13.6
	50 and over	7	2.8	7	2.8	11	4.3	5	1.9	10	3.8
	Total	95	12.0	110	13.6	90	11.0	76	9.2	81	9.7
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	5	1.9	0	0.0	3	1.1	0	0.0	0	0.0
	13-19 Years	7	5.0	7	4.9	7	4.8	5	3.4	12	8.1
	20-29 Years	74	34.6	63	29.0	77	35.0	66	29.7	73	32.4
	30-39 Years	85	35.5	138	56.7	99	40.2	100	40.2	124	49.1
	40-49 Years	53	22.8	87	36.9	64	26.8	65	27.0	75	30.7
	50 and over	26	5.8	30	6.6	32	7.0	34	7.3	33	7.0
	Total	250	16.2	325	20.8	282	17.8	270	16.9	317	19.5

*per 100,000 population †See the inside back cover for a Region Map.

Table U3: Region Three† HIV Disease Reports Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	45	8.0	64	11.2	56	9.7	52	8.9	82	13.8
	Black, non Hispanic	105	81.0	137	104.2	120	90.0	121	90.0	136	99.6
	Other	5	9.2	14	25.3	16	28.5	21	37.1	18	31.3
	Total	155	20.8	215	28.4	192	25.0	194	25.0	236	30.0
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	14	2.3	16	2.6	18	2.9	12	1.9	16	2.5
	Black, non Hispanic	80	53.0	91	59.4	67	43.2	60	38.3	61	38.4
	Other	1	2.4	3	7.0	5	11.5	4	9.1	4	9.0
	Total	95	12.0	110	13.6	90	11.0	76	9.2	81	9.7
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	59	5.1	80	6.8	74	6.2	64	5.3	98	8.0
	Black, non Hispanic	185	66.0	228	80.1	187	64.8	181	62.2	197	66.7
	Other	6	6.2	17	17.3	21	21.1	25	24.9	22	21.6
	Total	250	16.2	325	20.8	282	17.8	270	16.9	317	19.5

*per 100,000 population † See the inside back cover for Region map.

Table V1: Region Four† HIV Disease Reports Gender and Mode of Transmission, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	79	24.5%	67	20.6%	87	25.2%	103	25.1%	97	24.4%
	IDU	29	9.0%	32	9.8%	21	6.1%	22	5.4%	21	5.3%
	MSM/IDU	7	2.2%	13	4.0%	5	1.4%	8	2.0%	5	1.3%
	Blood Products/ Hemophilia/Other	3	0.9%	2	0.6%	3	0.9%	2	0.5%	5	1.3%
	Heterosexual- All	34	10.6%	37	11.3%	54	15.7%	76	18.5%	44	11.1%
	Pediatric	0	0.0%	0	0.0%	2	0.6%	0	0.0%	3	0.8%
	NIR	63	19.6%	81	24.8%	66	19.1%	73	17.8%	74	18.6%
	Total	215	66.8%	232	71.2%	238	69.0%	284	69.3%	249	62.6%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	18	5.6%	13	4.0%	21	6.1%	15	3.7%	7	1.8%
	Blood Products/ Hemophilia/Other	4	1.2%	1	0.3%	3	0.9%	2	0.5%	4	1.0%
	Heterosexual- All	47	14.6%	43	13.2%	59	17.1%	70	17.1%	82	20.6%
	Pediatric	2	0.6%	1	0.3%	0	0.0%	0	0.0%	2	0.5%
	NIR	36	11.2%	36	11.0%	24	7.0%	39	9.5%	54	13.6%
	Total	107	33.2%	94	28.8%	107	31.0%	126	30.7%	149	37.4%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	79	24.5%	67	20.6%	87	25.2%	103	25.1%	97	24.4%
	IDU	47	14.6%	45	13.8%	42	12.2%	37	9.0%	28	7.0%
	MSM/IDU	7	2.2%	13	4.0%	5	1.4%	8	2.0%	5	1.3%
	Blood Products/ Hemophilia/Other	7	2.2%	3	0.9%	6	1.7%	4	1.0%	9	2.3%
	Heterosexual- All	81	25.2%	80	24.5%	113	32.8%	146	35.6%	126	31.7%
	Pediatric	2	0.6%	1	0.3%	2	0.6%	0	0.0%	5	1.3%
	NIR	99	30.7%	117	35.9%	90	26.1%	112	27.3%	128	32.2%
	Total	322	100.0%	326	100.0%	345	100.0%	410	100.0%	398	100.0%

† See the inside back cover for Region map.

(corrected January 2004)

Table V2: Region Four† HIV Disease Reports Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	0-12 Years	0	0.0	0	0.0	2	1.5	0	0.0	3	2.1
	13-19 Years	5	7.5	3	4.4	5	7.1	4	5.5	6	8.1
	20-29 Years	50	42.7	39	32.5	49	39.7	67	52.9	58	44.7
	30-39 Years	88	72.6	103	82.8	82	64.2	99	75.4	79	58.7
	40-49 Years	52	49.1	60	55.2	65	58.3	86	75.0	71	60.4
	50 and over	20	13.8	27	18.2	35	22.9	28	17.8	32	19.9
	Total	215	31.4	232	33.0	238	32.9	284	38.3	249	32.7
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	2	1.6	0	0.0	0	0.0	0	0.0	2	1.5
	13-19 Years	4	6.2	4	6.1	2	3.0	4	5.8	1	1.4
	20-29 Years	27	24.2	24	21.0	25	21.3	36	29.8	38	30.7
	30-39 Years	44	36.7	38	30.9	46	36.4	49	37.8	50	37.6
	40-49 Years	25	22.7	18	15.9	22	19.0	26	21.8	42	34.4
	50 and over	5	2.8	10	5.4	12	6.3	11	5.7	16	8.0
	Total	107	15.1	94	12.9	107	14.3	126	16.4	149	19.0
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	2	0.8	0	0.0	2	0.8	0	0.0	5	1.8
	13-19 Years	9	6.9	7	5.2	7	5.1	8	5.6	7	4.8
	20-29 Years	77	33.7	63	26.9	74	30.7	103	41.6	96	37.9
	30-39 Years	132	54.8	141	57.0	128	50.4	148	56.7	129	48.2
	40-49 Years	77	35.7	78	35.2	87	38.2	112	47.9	113	47.1
	50 and over	25	7.7	37	11.1	47	13.7	39	11.1	48	13.3
	Total	322	23.1	326	22.8	345	23.5	410	27.2	398	25.7

*per 100,000 population † See the inside back cover for Region map.

Table V3: Region Four† HIV Disease Reports
Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	46	10.3	59	12.9	41	8.7	59	12.2	60	12.1
	Black, non Hispanic	159	95.9	153	89.9	175	100.2	203	113.1	176	95.6
	Other	2	9.6	7	32.6	5	22.7	5	22.1	3	12.9
	Hispanic	8	15.5	13	24.6	17	31.3	17	30.5	10	17.5
	Total	215	31.4	232	33.1	238	33.0	284	38.3	249	32.8
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	13	2.8	11	2.3	16	3.3	17	3.4	12	2.3
	Black, non Hispanic	90	47.5	82	42.2	90	45.1	102	49.7	123	58.5
	Other	1	4.8	0	0.0	0	0.0	1	4.4	4	17.2
	Hispanic	3	9.4	1	3.0	1	3.0	6	17.3	10	28.1
	Total	107	15.1	94	12.9	107	14.3	126	16.4	149	18.9
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	59	6.5	70	7.5	57	5.9	76	7.7	72	7.1
	Black, non Hispanic	249	70.1	235	64.5	265	70.8	305	79.3	299	75.8
	Other	3	7.2	7	16.3	5	11.4	6	13.3	7	15.1
	Hispanic	11	13.2	14	16.3	18	20.4	23	25.4	20	21.6
	Total	322	23.1	326	22.8	345	23.5	410	27.2	398	25.7

*per 100,000 population † See the inside back cover for Region map.

Table W1: Region Five† HIV Disease Reports
Gender and Mode of Transmission, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	35	24.3%	33	24.4%	26	20.0%	30	21.4%	20	17.2%
	IDU	14	9.7%	14	10.4%	9	6.9%	10	7.1%	6	5.2%
	MSM/IDU	3	2.1%	4	3.0%	1	0.8%	1	0.7%	1	0.9%
	Blood Products/ Hemophilia/Other	0	0.0%	1	0.7%	0	0.0%	1	0.7%	1	0.9%
	Heterosexual- All	17	11.8%	8	5.9%	28	21.5%	31	22.1%	23	19.8%
	Pediatric	0	0.0%	0	0.0%	0	0.0%	1	0.7%	0	0.0%
	NIR	19	13.2%	29	21.5%	19	14.6%	29	20.7%	32	27.6%
	Total	88	61.1%	89	65.9%	83	63.8%	103	73.6%	83	71.6%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	3	2.1%	4	3.0%	4	3.1%	4	2.9%	0	0.0%
	Blood Products/ Hemophilia/Other	2	1.4%	4	3.0%	4	3.1%	4	2.9%	0	0.0%
	Heterosexual- All	20	13.9%	22	16.3%	26	20.0%	18	12.9%	19	16.4%
	Pediatric	2	1.4%	1	0.7%	0	0.0%	0	0.0%	0	0.0%
	NIR	29	20.1%	15	11.1%	13	10.0%	11	7.9%	14	12.1%
	Total	56	38.9%	46	34.1%	47	36.2%	37	26.4%	33	28.4%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	35	24.3%	33	24.4%	26	20.0%	30	21.4%	20	17.2%
	IDU	17	11.8%	18	13.3%	13	10.0%	14	10.0%	6	5.2%
	MSM/IDU	3	2.1%	4	3.0%	1	0.8%	1	0.7%	1	0.9%
	Blood Products/ Hemophilia/Other	2	1.4%	5	3.7%	4	3.1%	5	3.6%	1	0.9%
	Heterosexual- All	37	25.7%	30	22.2%	54	41.5%	49	35.0%	42	36.2%
	Pediatric	2	1.4%	1	0.7%	0	0.0%	1	0.7%	0	0.0%
	NIR	48	33.3%	44	32.6%	32	24.6%	40	28.6%	46	39.7%
	Total	144	100.0%	135	100.0%	130	100.0%	140	100.0%	116	100.0%

† See the inside back cover for Region map.

(corrected January 2004)

Table W2: Region Five† HIV Disease Reports Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	0-12 Years	0	0.0	0	0.0	0	0.0	1	1.3	0	0.0
	13-19 Years	4	10.1	0	0.0	3	7.4	1	2.5	4	9.7
	20-29 Years	25	38.1	16	24.2	17	25.4	19	28.2	10	14.6
	30-39 Years	30	51.6	39	66.5	36	60.6	36	60.4	35	57.8
	40-49 Years	21	42.1	23	45.6	17	33.3	34	66.4	25	48.0
	50 and over	8	9.9	11	13.5	10	12.2	12	14.5	9	10.7
	Total	88	23.8	89	23.9	83	22.0	103	27.2	83	21.5
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	2	2.7	1	1.4	0	0.0	0	0.0	0	0.0
	13-19 Years	5	13.7	2	5.4	1	2.7	0	0.0	1	2.6
	20-29 Years	17	30.8	12	21.6	11	19.5	10	17.7	10	17.4
	30-39 Years	16	28.3	11	19.2	16	27.7	16	27.5	10	16.9
	40-49 Years	10	18.9	16	30.0	14	25.9	9	16.6	6	10.9
	50 and over	6	5.9	4	3.9	5	4.8	2	1.9	6	5.7
	Total	56	14.9	46	12.1	47	12.3	37	9.6	33	8.4
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	2	1.3	1	0.7	0	0.0	1	0.7	0	0.0
	13-19 Years	9	11.8	2	2.6	4	5.2	1	1.3	5	6.3
	20-29 Years	42	34.8	28	23.0	28	22.7	29	23.4	20	15.9
	30-39 Years	46	40.1	50	43.2	52	44.4	52	44.2	45	37.6
	40-49 Years	31	30.2	39	37.6	31	29.5	43	40.7	31	28.9
	50 and over	14	7.7	15	8.2	15	8.1	14	7.5	15	7.9
	Total	144	19.3	135	18.0	130	17.1	140	18.3	116	14.9

*per 100,000 population † See the inside back cover for Region map.

Table W3: Region Five† HIV Disease Reports
Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Race/Ethnicity	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	White, non Hispanic	20	9.8	18	8.7	6	2.9	16	7.6	13	6.1
	Black, non Hispanic	60	55.6	62	56.9	66	59.8	72	64.9	60	53.3
	American Indian/ Alaskan Native	7	24.1	7	23.9	7	23.6	6	20.1	4	13.2
	Other	0	0.0	0	0.0	1	21.9	2	43.6	2	42.9
	Hispanic	1	4.2	2	8.3	3	12.3	7	28.6	4	16.1
	Total	88	23.8	89	23.9	83	22.0	103	27.2	83	21.5
Female	Race/Ethnicity	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	White, non Hispanic	6	2.9	13	6.3	10	4.8	7	3.3	5	2.3
	Black, non Hispanic	48	41.0	27	22.9	32	26.8	27	22.5	25	20.5
	American Indian/ Alaskan Native	1	3.2	5	15.8	1	3.1	2	6.2	2	6.1
	Other	1	16.8	1	16.6	0	0.0	1	16.3	0	0.0
	Hispanic	0	0.0	0	0.0	4	21.9	0	0.0	1	5.4
	Total	56	14.9	46	12.1	47	12.2	37	9.6	33	8.4
Total	Race/Ethnicity	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	White, non Hispanic	26	6.4	31	7.5	16	3.8	23	5.5	18	4.2
	Black, non Hispanic	108	48.0	89	39.2	98	42.6	99	42.9	85	36.2
	American Indian/ Alaskan Native	8	13.3	12	19.7	8	13.0	8	12.9	6	9.5
	Other	1	9.6	1	9.5	1	9.4	3	28.0	2	18.4
	Hispanic	1	2.4	2	4.7	7	16.4	7	16.3	5	11.5
	Total	144	19.3	135	18.0	130	17.1	140	18.3	116	14.9

*per 100,000 population † See the inside back cover for Region map.

Table X1: Region Six† HIV Disease Reports
Gender and Mode of Transmission, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	49	22.8%	43	19.5%	44	20.7%	54	24.1%	45	18.6%
	IDU	15	7.0%	16	7.2%	18	8.5%	7	3.1%	17	7.0%
	MSM/IDU	5	2.3%	11	5.0%	3	1.4%	9	4.0%	4	1.7%
	Blood Products/ Hemophilia/Other	1	0.5%	5	2.3%	5	2.3%	2	0.9%	2	0.8%
	Heterosexual- All	37	17.2%	44	19.9%	36	16.9%	60	26.8%	47	19.4%
	Pediatric	2	0.9%	1	0.5%	1	0.5%	1	0.4%	1	0.4%
	NIR	32	14.9%	23	10.4%	30	14.1%	27	12.1%	40	16.5%
	Total	141	65.6%	143	64.7%	137	64.3%	160	71.4%	156	64.5%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	6	2.8%	10	4.5%	8	3.8%	4	1.8%	5	2.1%
	Blood Products/ Hemophilia/Other	3	1.4%	3	1.4%	5	2.3%	7	3.1%	4	1.7%
	Heterosexual- All	48	22.3%	52	23.5%	46	21.6%	38	17.0%	48	19.8%
	Pediatric	2	0.9%	0	0.0%	2	0.9%	0	0.0%	2	0.8%
	NIR	15	7.0%	13	5.9%	15	7.0%	15	6.7%	27	11.2%
	Total	74	34.4%	78	35.3%	76	35.7%	64	28.6%	86	35.5%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	49	22.8%	43	19.5%	44	20.7%	54	24.1%	45	18.6%
	IDU	21	9.8%	26	11.8%	26	12.2%	11	4.9%	22	9.1%
	MSM/IDU	5	2.3%	11	5.0%	3	1.4%	9	4.0%	4	1.7%
	Blood Products/ Hemophilia/Other	4	1.9%	8	3.6%	10	4.7%	9	4.0%	6	2.5%
	Heterosexual- All	85	39.5%	96	43.4%	82	38.5%	98	43.8%	95	39.3%
	Pediatric	4	1.9%	1	0.5%	3	1.4%	1	0.4%	3	1.2%
	NIR	47	21.9%	36	16.3%	45	21.1%	42	18.8%	67	27.7%
	Total	215	100.0%	221	100.0%	213	100.0%	224	100.0%	242	100.0%

† See the inside back cover for Region map.

(corrected January 2004)

Table X2: Region Six† HIV Disease Reports Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	0-12 Years	2	2.4	1	1.2	1	1.2	1	1.2	1	1.2
	13-19 Years	3	6.4	3	6.4	4	8.5	2	4.2	4	8.4
	20-29 Years	30	47.0	28	43.5	26	40.1	29	44.6	25	38.1
	30-39 Years	47	73.6	53	82.4	48	74.0	53	81.5	50	76.3
	40-49 Years	42	63.1	43	64.1	37	54.7	52	76.7	57	83.4
	50 and over	17	14.6	15	12.8	21	17.7	23	19.4	19	15.8
	Total	141	32.0	143	32.2	137	30.6	160	35.7	156	34.5
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	2	2.5	0	0.0	2	2.5	0	0.0	2	2.5
	13-19 Years	9	20.1	4	8.9	2	4.4	4	8.8	4	8.7
	20-29 Years	23	37.6	24	39.0	15	24.2	18	28.9	21	33.5
	30-39 Years	22	33.5	18	27.2	20	30.0	24	35.9	27	40.0
	40-49 Years	17	23.9	19	26.5	23	31.8	6	8.3	21	28.7
	50 and over	1	0.7	13	8.6	14	9.2	12	7.9	11	7.2
	Total	74	15.7	78	16.4	76	15.9	64	13.3	86	17.8
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	4	2.5	1	0.6	3	1.8	1	0.6	3	1.8
	13-19 Years	12	13.2	7	7.6	6	6.5	6	6.5	8	8.5
	20-29 Years	53	42.4	52	41.3	41	32.3	47	36.9	46	35.8
	30-39 Years	69	53.3	71	54.4	68	51.7	77	58.4	77	57.9
	40-49 Years	59	42.8	62	44.7	60	42.9	58	41.4	78	55.1
	50 and over	18	6.8	28	10.4	35	12.9	35	12.9	30	11.0
	Total	215	23.6	221	24.1	213	23.0	224	24.1	242	25.8

*per 100,000 population † See the inside back cover for Region map.

Table X3: Region Six† HIV Disease Reports Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	25	9.5	24	9.1	26	9.7	28	10.5	24	8.9
	Black, non Hispanic	108	68.8	112	70.9	105	65.9	129	80.8	125	77.6
	Other	8	38.1	7	33.1	6	28.2	3	14.0	7	32.5
	Total	141	32.0	143	32.2	137	30.6	160	35.7	156	34.5
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	10	3.6	8	2.9	6	2.2	6	2.1	6	2.1
	Black, non Hispanic	63	35.1	68	37.6	68	37.3	55	30.1	78	42.3
	Other	1	5.8	2	11.5	2	11.4	3	17.0	2	11.2
	Total	74	15.7	78	16.4	76	15.9	64	13.3	86	17.8
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	35	6.5	32	5.9	32	5.9	34	6.2	30	5.4
	Black, non Hispanic	171	50.8	180	53.1	173	50.6	184	53.7	203	58.7
	Other	9	23.5	9	23.3	8	20.6	6	15.4	9	22.9
	Total	215	23.6	221	24.1	213	23.0	224	24.1	242	25.8

*per 100,000 population † See the inside back cover for Region map.

Table Y1: Region Seven† HIV Disease Reports
Gender and Mode of Transmission, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
Male	**MSM**	29	29.3%	24	23.1%	16	18.4%	35	22.6%	42	35.3%
	IDU	7	7.1%	6	5.8%	7	8.0%	8	5.2%	11	9.2%
	MSM/IDU	0	0.0%	5	4.8%	3	3.4%	2	1.3%	1	0.8%
	Heterosexual- All	18	18.2%	19	18.3%	4	4.6%	27	17.4%	13	10.9%
	Blood Products/ Hemophilia/Other	2	2.0%	1	1.0%	1	1.1%	1	0.6%	0	0.0%
	Pediatric	0	0.0%	1	1.0%	0	0.0%	0	0.0%	0	0.0%
	NIR	15	15.2%	13	12.5%	19	21.8%	24	15.5%	15	12.6%
	Total	71	71.7%	69	66.3%	50	57.5%	97	62.6%	82	68.9%
Female	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	IDU	6	6.1%	6	5.8%	7	8.0%	4	2.6%	4	3.4%
	Heterosexual- All	18	18.2%	20	19.2%	16	18.4%	31	20.0%	17	14.3%
	Blood Products/ Hemophilia/Other	0	0.0%	2	1.9%	0	0.0%	1	0.6%	0	0.0%
	Pediatric	0	0.0%	0	0.0%	1	1.1%	0	0.0%	1	0.8%
	NIR	4	4.0%	7	6.7%	13	14.9%	22	14.2%	15	12.6%
	Total	28	28.3%	35	33.7%	37	42.5%	58	37.4%	37	31.1%
Total	**Mode of exposure with additional risk**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**	**Cases**	**Pct.**
	MSM	29	29.3%	24	23.1%	16	18.4%	35	22.6%	42	35.3%
	IDU	13	13.1%	12	11.5%	14	16.1%	12	7.7%	15	12.6%
	MSM/IDU	0	0.0%	5	4.8%	3	3.4%	2	1.3%	1	0.8%
	Heterosexual- All	36	36.4%	39	37.5%	20	23.0%	58	37.4%	30	25.2%
	Blood Products/ Hemophilia/Other	2	2.0%	3	2.9%	1	1.1%	2	1.3%	0	0.0%
	Pediatric	0	0.0%	1	1.0%	1	1.1%	0	0.0%	1	0.8%
	NIR	19	19.2%	20	19.2%	32	36.8%	46	29.7%	30	25.2%
	Total	99	100.0%	104	100.0%	87	100.0%	155	100.0%	119	100.0%

† See the inside back cover for Region map.

Table Y2: Region Seven† HIV Disease Reports Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	0-12 Years	0	0.0	1	1.7	0	0.0	0	0.0	0	0.0
	13-19 Years	0	0.0	0	0.0	1	2.9	0	0.0	1	2.8
	20-29 Years	17	26.9	15	23.5	6	9.3	20	30.6	14	21.0
	30-39 Years	26	54.4	21	43.5	17	34.7	35	70.6	28	55.5
	40-49 Years	20	44.3	23	50.4	18	38.9	28	59.8	26	54.6
	50 and over	8	9.3	9	10.4	8	9.1	14	15.8	13	14.4
	Total	71	21.3	69	20.4	50	14.6	97	28.0	82	23.3
Female	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	0	0.0	0	0.0	1	0.0	0	0.0	1	1.7
	13-19 Years	1	3.3	0	0.0	1	0.0	0	0.0	0	0.0
	20-29 Years	8	17.2	5	10.6	8	10.6	14	29.0	8	16.3
	30-39 Years	12	25.5	14	29.4	16	29.4	24	49.1	14	28.1
	40-49 Years	6	12.5	12	24.8	8	24.8	13	26.2	9	17.8
	50 and over	1	1.0	4	3.8	3	3.8	7	6.6	5	4.6
	Total	28	8.5	35	10.5	37	10.5	58	16.9	37	10.6
Total	Age (at first report)	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	0-12 Years	0	0.0	1	0.9	1	0.9	0	0.0	1	0.8
	13-19 Years	1	1.6	0	0.0	2	3.0	0	0.0	1	1.5
	20-29 Years	25	22.8	20	18.1	14	12.5	34	29.9	22	19.0
	30-39 Years	38	40.0	35	36.5	33	33.9	59	59.9	42	41.9
	40-49 Years	26	28.0	35	37.2	26	27.3	41	42.5	35	35.7
	50 and over	9	4.8	13	6.8	11	5.7	21	10.7	18	9.0
	Total	99	14.9	104	15.5	87	12.8	155	22.5	119	17.0

*per 100,000 population † See the inside back cover for Region map.

Table Y3: Region Seven† HIV Disease Reports Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	22	9.1	15	6.2	14	5.7	30	12.0	28	11.0
	Black, non Hispanic	41	61.7	48	71.5	33	48.4	62	90.0	48	68.5
	Other	8	30.1	6	22.3	3	11.0	5	18.2	6	21.4
	Total	71	21.3	69	20.4	50	14.6	97	28.0	82	23.3
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	5	2.1	5	2.1	4	1.6	16	6.5	10	4.0
	Black, non Hispanic	21	29.0	26	35.5	30	40.4	34	45.3	25	32.7
	Other	2	10.0	4	19.9	3	14.7	8	38.7	2	9.5
	Total	28	8.5	35	10.5	37	10.9	58	16.9	37	10.6
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	27	5.6	20	4.1	18	3.7	46	9.3	38	7.5
	Black, non Hispanic	62	44.7	74	52.7	63	44.2	96	66.7	73	49.8
	Other	10	21.5	10	21.3	6	12.6	13	27.0	8	16.3
	Total	99	14.9	104	15.5	87	12.8	155	22.5	119	17.0

*per 100,000 population † See the inside back cover for Region map.

Table Z-1: North Carolina Chlamydia Reports (Lab-confirmed) By Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Age**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**00-12 Years**	12	1.7	12	1.6	17	2.3	14	1.9	35	4.6
	13-19 Years	776	207.3	720	189.0	712	183.7	742	188.8	887	221.7
	20-29 Years	2123	358.2	1967	326.0	2074	337.9	2136	343.2	2666	420.8
	30-39 Years	426	69.2	388	61.9	441	69.1	451	69.7	557	84.6
	40-49 Years	107	18.8	116	20.0	100	17.0	106	17.7	162	26.6
	50 and over	39	4.1	42	4.3	37	3.8	38	3.8	41	4.0
	Unknown Age	68	N/a	150	N/a	0	N/a	1	N/a	0	N/a
	Total	3551	93.0	3395	87.3	3381	85.5	3488	87.0	4348	106.5
Female	**Age**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	00-12 Years	53	7.8	26	3.8	89	12.7	50	7.0	139	19.2
	13-19 Years	9083	2532.3	8441	2311.6	8395	2259.7	8025	2130.6	8915	2324.7
	20-29 Years	7972	1440.0	8102	1437.5	8962	1562.9	9328	1604.5	9934	1678.3
	30-39 Years	989	162.6	965	155.9	1130	179.4	1080	169.1	1179	181.3
	40-49 Years	127	21.4	121	20.1	171	27.9	165	26.5	181	28.6
	50 and over	22	1.9	19	1.6	52	4.2	36	2.9	40	3.2
	Unknown Age	400	N/a	742	N/a	1	N/a	5	N/a	0	N/a
	Total	18646	468.7	18416	454.7	18800	456.3	18689	447.4	20388	479.3
Total	**Age**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	00-12 Years	65	4.7	38	2.7	106	7.3	64	4.4	174	11.7
	13-19 Years	9859	1351.6	9161	1233.7	9108	1205.6	8767	1144.6	9802	1256.9
	20-29 Years	10095	883.9	10069	866.0	11036	932.9	11464	955.9	12602	1032.0
	30-39 Years	1415	115.3	1353	108.3	1571	123.5	1531	118.8	1736	132.3
	40-49 Years	234	20.1	237	20.0	271	22.5	271	22.2	343	27.5
	50 and over	61	2.8	61	2.8	89	4.0	74	3.3	81	3.5
	Unknown Age	468	N/a	892	N/a	1	N/a	6	N/a	0	N/a
	Total	22197	284.7	21811	274.8	22182	274.7	22177	270.8	24736	296.7

*per 100,000 population

Table Z-2: North Carolina Chlamydia Reports (Lab-Confirmed) Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	788	29.2	760	27.7	738	26.4	802	28.3	1036	35.9
	Black, non Hispanic	2464	309.8	2348	290.0	2296	278.7	2340	280.2	2875	338.1
	American Indian/ Alaskan Native	29	62.0	12	25.2	31	64.0	23	46.8	41	82.0
	Asian/Pacific Islander	18	28.9	21	33.1	24	37.1	26	39.7	38	57.0
	Hispanic	246	112.7	249	112.0	291	128.7	282	123.0	350	149.9
	Unknown	6	N/a	5	N/a	1	N/a	15	N/a	8	N/a
	Total	3551	93.0	3395	87.3	3381	85.5	3488	87.0	4348	106.5
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	5123	181.5	4840	168.4	4843	165.7	4831	163.0	5385	178.4
	Black, non Hispanic	12264	1367.7	12181	1334.4	12315	1325.9	12087	1283.6	13209	1377.8
	American Indian/ Alaskan Native	286	611.3	295	619.4	370	763.6	226	460.0	314	627.7
	Asian/Pacific Islander	135	216.4	144	226.8	151	233.7	188	287.0	167	250.4
	Hispanic	793	535.3	906	600.7	1110	723.4	1285	826.0	1274	804.3
	Unknown	45	N/a	50	N/a	11	N/a	72	N/a	39	N/a
	Total	18646	468.7	18416	454.7	18800	456.3	18689	447.4	20388	479.3
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	5911	107.1	5600	99.7	5581	97.7	5633	97.2	6421	108.9
	Black, non Hispanic	14728	868.7	14529	841.8	14611	832.0	14427	810.3	16085	887.3
	American Indian/ Alaskan Native	315	325.2	307	311.3	402	400.7	249	244.8	355	342.8
	Asian/Pacific Islander	153	126.2	165	133.7	175	139.4	214	168.1	205	158.1
	Hispanic	1039	283.0	1155	309.1	1401	368.5	1567	406.5	1625	414.0
	Unknown	51	N/a	55	N/a	12	N/a	87	N/a	47	N/a
	Total	22197	284.7	21811	274.8	22182	274.7	22177	270.8	24738	296.7

*per 100,000 population

Table Z-3: North Carolina Gonorrhea Reports By Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	Age	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
Male	00-12 Years	13	1.8	9	1.2	25	3.4	11	1.5	34	4.4
	13-19 Years	1901	507.9	1734	455.1	1569	404.7	1558	396.4	1324	330.9
	20-29 Years	4989	841.9	4752	787.7	5004	815.3	4637	745.2	4091	645.7
	30-39 Years	1879	305.0	1767	281.8	1783	279.5	1627	251.5	1526	231.7
	40-49 Years	790	138.8	864	149.1	757	128.4	752	125.8	612	100.6
	50 and over	280	29.4	319	32.9	320	32.5	268	26.8	248	24.4
	Unknown Age	243	N/a	894	N/a	0	N/a	4	N/a	0	N/a
	Total	10095	264.3	10339	265.9	9458	239.1	8857	220.8	7835	191.9
Female	Age	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	00-12 Years	39	5.7	27	3.9	42	6.0	25	3.5	36	5.0
	13-19 Years	3633	1012.9	3436	941.0	3240	872.1	3101	823.3	2886	752.6
	20-29 Years	4017	725.6	4057	719.8	4068	709.4	3707	637.7	3608	609.5
	30-39 Years	1030	169.4	942	152.1	939	149.1	790	123.7	779	119.8
	40-49 Years	198	33.4	210	34.8	206	33.6	209	33.6	168	26.5
	50 and over	16	1.3	30	2.5	42	3.4	38	3.1	37	2.9
	Unknown Age	193	N/a	387	N/a	2	N/a	5	N/a	0	N/a
	Total	9126	229.4	9089	224.4	8539	207.3	7875	188.5	7514	76.7
Total	Age	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*	Cases	Rate*
	00-12 Years	52	3.7	36	2.5	67	4.6	36	2.5	70	4.7
	13-19 Years	5534	758.7	5170	696.2	4809	636.7	4659	608.3	4210	537.2
	20-29 Years	9006	788.5	8809	757.6	9072	767.0	8345	695.8	7702	628.2
	30-39 Years	2909	236.9	2709	216.8	2723	214.2	2417	187.5	2306	176.1
	40-49 Years	988	84.8	1074	90.6	963	79.8	961	78.6	780	62.8
	50 and over	296	13.8	349	16.0	362	15.4	306	13.1	285	12.5
	Unknown Age	436	N/a	1281	N/a	2	N/a	9	N/a	0	N/a
	Total	19221	246.5	19428	244.7	17998	222.9	16733	204.4	15353	184.1

*per 100,000 population

Table Z-4: North Carolina Gonorrhea Reports Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	833	30.9	1002	36.5	911	32.6	811	28.6	851	29.5
	Black, non Hispanic	8868	1115.0	8936	1103.6	8094	982.5	7642	915.0	6695	787.3
	American Indian/ Alaskan Native	75	160.3	69	144.9	67	138.3	28	57.0	63	125.9
	Asian/Pacific I.	18	28.9	22	34.6	20	31.0	114	174.0	24	36.0
	Hispanic	293	134.2	296	133.2	349	154.3	241	105.1	191	81.8
	Unknown	8	N/a	14	N/a	17	N/a	21	N/a	11	N/a
	Total	10095	264.3	10339	265.9	9458	239.1	8857	220.8	7835	191.9
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	1628	57.7	1664	57.9	1521	52.0	1335	45.0	1292	42.8
	Black, non Hispanic	7232	806.5	7104	778.2	6670	718.2	6226	661.2	5944	620.0
	American Indian/ Alaskan Native	125	267.2	148	310.7	158	326.1	77	156.7	122	243.9
	Asian/Pacific I.	28	44.9	27	42.5	30	46.4	109	166.4	28	42.0
	Hispanic	100	67.5	119	78.9	148	96.4	115	73.9	115	72.6
	Unknown	13	N/a	27	N/a	12	N/a	13	N/a	13	N/a
	Total	9126	229.4	9089	224.4	8539	207.3	7875	188.5	7514	176.7
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	2461	44.6	2666	47.5	2432	42.6	2146	37.0	2144	36.3
	Black, non Hispanic	16100	949.6	16040	929.3	14765	841.0	13869	779.0	12642	698.6
	American Indian/ Alaskan Native	200	206.5	217	220.1	225	224.3	105	103.2	185	184.9
	Asian/Pacific I.	46	37.9	49	39.7	50	39.8	223	175.1	52	39.0
	Hispanic	393	107.1	415	111.0	497	130.7	356	92.3	306	78.1
	Unknown	21	N/a	41	N/a	29	N/a	34	N/a	24	N/a
	Total	19221	246.5	19428	244.7	17998	222.9	16733	204.4	15353	184.1

*per 100,000 population

Table Z-5: North Carolina Early Syphilis Reports (Primary, Secondary, Early Latent) By Gender and Age, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Age (at first report)**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**00-12 Years**	1	0.1	0	0.0	2	0.3	0	0.0	1	0.1
	13-19 Years	41	11.0	29	7.6	16	4.1	16	4.1	14	3.5
	20-29 Years	223	37.6	177	29.3	153	24.9	128	20.6	93	14.7
	30-39 Years	266	43.2	198	31.6	189	28.5	166	25.7	98	14.9
	40-49 Years	165	29.0	139	24.0	132	22.4	122	20.4	91	15.0
	50 and over	78	8.2	59	6.1	66	6.7	71	7.1	45	4.4
	Unknown Age	15	N/a	21	N/a	0	N/a	0	N/a	0	N/a
	Total	789	20.7	623	16.0	551	13.9	503	12.5	342	8.4
Female	**Age (at first report)**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	00-12 Years	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
	13-19 Years	88	24.5	62	17.0	60	16.2	45	11.9	34	8.9
	20-29 Years	304	54.9	216	38.3	182	31.7	137	23.6	80	13.5
	30-39 Years	251	41.3	188	30.4	207	32.9	166	26.0	94	14.5
	40-49 Years	99	16.7	66	10.9	84	13.7	66	10.6	54	8.5
	50 and over	18	1.5	26	2.2	17	1.4	24	1.9	12	0.9
	Unknown Age	20	N/a	22	N/a	0	N/a	0	N/a	0	N/a
	Total	780	19.6	581	14.3	550	13.3	438	10.5	274	6.4
Total	**Age (at first report)**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	00-12 Years	1	0.1	1	0.1	2	0.1	0	0.0	1	0.1
	13-19 Years	129	17.7	91	12.3	76	10.1	61	8.0	48	6.2
	20-29 Years	527	46.1	393	33.8	335	28.3	265	22.1	173	14.2
	30-39 Years	517	42.1	386	30.9	389	30.6	332	25.8	192	14.6
	40-49 Years	264	22.7	205	17.3	216	17.9	188	15.4	145	11.6
	50 and over	96	4.5	85	3.9	83	3.7	95	4.2	57	2.5
	Unknown Age	35	N/a	43	N/a	0	N/a	0	N/a	0	N/a
	Total	1569	20.1	1204	15.2	1101	13.6	941	11.5	616	7.4

*per 100,000 population

Table Z-6: North Carolina Early Syphilis Reports (Primary, Secondary, Early Latent) Gender and Race/Ethnicity, 1998-2002

		YEAR									
		1998		1999		2000		2001		2002	
Gender	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
Male	**White, non Hispanic**	72	2.7	72	2.6	67	2.4	65	2.3	50	1.7
	Black, non Hispanic	634	79.7	493	60.9	417	50.6	353	42.3	254	29.9
	American Indian/ Alaskan Native	23	49.2	14	29.4	17	35.1	49	99.7	15	30.0
	Asian/Pacific Islander	1	1.6	3	4.7	1	1.5	1	1.5	1	1.5
	Hispanic	57	26.1	40	18.0	49	21.7	35	15.3	22	9.4
	Unknown	2	N/a	1	N/a	0	N/a	0	N/a	0	N/a
	Total	789	20.7	623	16.0	551	13.9	503	12.5	342	8.4
Female	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	141	5.0	124	4.3	122	4.2	86	2.9	36	1.2
	Black, non Hispanic	587	65.5	401	43.9	366	39.4	289	30.7	203	21.2
	American Indian/ Alaskan Native	30	64.1	35	73.5	33	68.1	48	97.7	19	38.0
	Asian/Pacific Islander	0	0.0	1	1.6	1	1.5	0	0.0	0	0.0
	Hispanic	21	14.2	19	12.6	27	17.6	15	9.6	16	10.1
	Unknown	1	N/a	1	N/a	1	N/a	0	N/a	0	N/a
	Total	780	19.6	581	14.3	550	13.3	438	10.5	274	6.4
Total	**Race/Ethnicity**	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***	**Cases**	**Rate***
	White, non Hispanic	213	3.9	196	3.5	189	3.3	151	2.6	86	1.5
	Black, non Hispanic	1221	72.0	894	51.8	783	44.6	642	36.1	457	25.2
	American Indian/ Alaskan Native	53	54.7	49	49.7	50	49.8	97	95.4	34	32.8
	Asian/Pacific Islander	1	0.8	4	3.2	2	1.6	1	0.8	1	0.8
	Hispanic	78	21.2	59	15.8	76	20.0	50	13.0	38	9.7
	Unknown	3	N/a	2	N/a	1	N/a	0	N/a	0	N/a
	Total	1569	20.1	1204	15.2	1101	13.6	941	11.5	616	7.4

*per 100,000 population

Table Z-7: North Carolina Early Syphilis Reports (Primary, Secondary, Early Latent) by County Rank, 1998-2002

		Cases				
Rank*	**County**	**1998**	**1999**	**2000**	**2001**	**2002**
1	Mecklenburg	172	157	108	99	68
2	Robeson	105	109	133	144	67
3	Guilford	180	98	112	118	63
4	Durham	83	31	44	37	57
5	Wake	86	105	89	51	43
6	Moore	6	12	24	17	36
7	Columbus	15	12	6	54	30
8	Cumberland	80	50	58	53	22
9	Forsyth	85	73	50	35	18
10	Wilson	42	22	11	16	15
11	Orange	39	14	3	20	13
12	Alamance	44	39	11	9	12
13	Wayne	75	10	12	13	11
14	Montgomery	3	8	52	4	11
15	New Hanover	21	40	34	28	9
16	Brunswick	13	33	26	18	8
17	Johnston	5	9	16	16	8
18	Vance	14	16	9	7	8
19	Nash	11	10	12	14	7
20	Hoke	9	4	4	9	7
21	Randolph	13	31	17	3	7
22	Rockingham	9	10	19	22	6
23	Chatham	14	26	26	3	6
24	Sampson	11	1	2	3	6
25	Davidson	14	5	1	3	6
26	Gaston	17	22	22	15	4
27	Richmond	11	3	15	11	4
28	Caswell	4	6	16	5	4
29	Lenoir	13	9	4	3	4
30	Bertie	0	1	0	2	4
31	Scotland	9	3	6	1	4
32	Halifax	6	4	4	0	4
33	Cleveland	13	4	8	4	3
34	Lee	6	4	3	4	3
35	Pender	0	3	2	4	3
36	Pitt	12	21	19	2	3
37	Bladen	7	6	7	1	3
38	Rowan	6	6	4	9	2
39	Edgecombe	21	9	7	6	2
40	Granville	9	24	13	4	2

* Rank based on number of cases reported in 2002.

Table Z-7 cont.: North Carolina Early Syphilis Reports (Primary, Secondary, Early Latent) by County Rank, 1998-2002

		Cases				
Rank*	**County**	**1998**	**1999**	**2000**	**2001**	**2002**
41	Franklin	8	1	3	4	2
42	Washington	0	6	1	4	2
43	Carteret	1	1	1	3	2
44	Greene	4	5	1	0	2
45	Cabarrus	3	4	3	8	1
46	Harnett	9	12	4	6	1
47	Pasquotank	14	3	3	6	1
48	Buncombe	6	1	2	4	1
49	Iredell	45	16	10	3	1
50	Stanly	13	19	6	3	1
51	Person	1	0	1	3	1
52	Catawba	22	19	10	2	1
53	Craven	3	7	9	2	1
54	Onslow	8	11	3	1	1
55	Duplin	7	4	0	1	1
56	Northampton	3	0	0	1	1
57	Jones	1	0	0	1	1
58	Caldwell	10	1	1	0	1
59	Hertford	2	2	0	0	1
60	Union	11	10	4	5	0
61	Warren	31	2	5	2	0
62	Burke	47	2	4	2	0
63	Chowan	0	0	1	2	0
64	McDowell	0	0	0	2	0
65	Beaufort	4	6	4	1	0
66	Anson	7	2	3	1	0
67	Martin	2	1	3	1	0
68	Stokes	1	2	2	1	0
69	Alexander	0	1	1	1	0
69	Yadkin	0	1	1	1	0
70	Lincoln	6	2	0	1	0
71	Dare	0	0	0	1	0
71	Transylvania	0	0	0	1	0
72	Rutherford	3	2	2	0	0
73	Wilkes	1	1	2	0	0
74	Gates	0	4	1	0	0
75	Yancey	0	0	1	0	0
76	Davie	2	3	0	0	0
77	Henderson	0	1	0	0	0
77	Pamlico	0	1	0	0	0

* Rank based on number of cases reported in 2002.

Table Z-7 cont.: North Carolina Early Syphilis Reports (Primary, Secondary, Early Latent) by County Rank, 1998-2002

		Cases				
Rank*	**County**	**1998**	**1999**	**2000**	**2001**	**2002**
78	Currituck	3	0	0	0	0
80	Haywood	2	0	0	0	0
80	Jackson	2	0	0	0	0
80	Perquimans	2	0	0	0	0
81	Cherokee	1	0	0	0	0
81	Clay	1	0	0	0	0
82	Alleghany	0	0	0	0	0
82	Ashe	0	0	0	0	0
82	Avery	0	0	0	0	0
82	Camden	0	0	0	0	0
82	Graham	0	0	0	0	0
82	Hyde	0	0	0	0	0
82	Macon	0	0	0	0	0
82	Madison	0	0	0	0	0
82	Mitchell	0	0	0	0	0
82	Polk	0	0	0	0	0
82	Surry	0	0	0	0	0
82	Swain	0	0	0	0	0
82	Tyrrell	0	0	0	0	0
82	Watauga	0	0	0	0	0
n/a	Missing	0	1	0	0	0
n/a	N.C. Total	1569	1203	1101	941	616

* Rank based on number of cases reported in 2002.

GLOSSARY

ADAP	AIDS Drug Assistance Program - funding program through Title II of the Ryan White Care Act to provide for medications for the treatment of HIV disease. Program funds may also be used to purchase health insurance for eligible clients, and to pay for services that enhance access, adherence, and monitoring of drug treatments.
AIDS	Acquired Immune Deficiency Syndrome - late stage of HIV infection characterized by breakdown of the immune system. Individuals with documented HIV infection will be reported as AIDS cases if they meet certain immunologic criteria (CD4 T-lymphocyte count <200 or <14%) or if the patient becomes ill with one of 26 AIDS-defining conditions.
ART	Anti-Retroviral Therapy - indicates that a patient is on any antiretroviral drug or drugs for HIV infection.
average	see Mean
BRFSS	Behavioral Risk Factor Surveillance System - a collaborative project of the Centers for Disease Control and Prevention (CDC), and U.S. states and territories. Monthly telephone surveys collect a variety of information on health behaviors from adults age 18 and older.
BV	Bacterial Vaginosis - A common vaginal infection of women of childbearing age. Cause and transmission of the disease are poorly understood and it is not a reportable condition in North Carolina.
CADR	Care Act Data Report - aggregate service-level report (to HRSA) required of all Ryan White Title programs to track program services, populations, and expenditures.
CAPI	Computer-Assisted Personal Interviewing - computer programming used for telephone or in-person interviews in which the computer guides the interviewer to the correct questions by incorporating skip patterns and subject-specific questions. The interviewer enters the responses directly into the system which then creates a database.
CAREWare	Computer software tool designed by HRSA to produce the CADR report for Ryan White programs. See HRSA, CADR.
CBO	Community-Based Organization

CD4 T-lymphocyte	Type of white blood cell that coordinates a number of important immunologic functions. These cells are the primary targets of HIV. Severe declines in the number of these cells indicate progression of an immunologic disease. When the count of these cells reaches <200/uL or 14%, the HIV-infected patient is classified as having progressed to AIDS.
CDC	U.S. Centers for Disease Control and Prevention - agency under the U.S. Department of Health and Human Services. Located in Atlanta, GA. Mission: to promote health and quality of life by preventing and controlling disease, injury, and disability.
chancroid	A sexually transmitted disease characterized by painful genital ulceration and inflammatory inguinal adenopathy, caused by infection with Haemophilus ducreyi. Chancroid is a reportable disease in North Carolina.
chlamydia	Chlamydial infection (infection with *Chlamydia trachomatis* bacteria). To meet the surveillance case definition, all reported cases must be confirmed by laboratory diagnosis: either isolation of *C. trachomatis* by culture or by detection of antigen or nucleic acid. Chlamydial infection is a reportable disease in North Carolina.
congenital	Of or relating to a condition that is present at birth (example: congenital syphilis).
Ct	Infection with *Chlamydia trachomatis*. See chlamydia.
CTS	Counseling and Testing System - a national CDC program administered in North Carolina by the Division of Public Health to provide HIV counseling and testing services at 149 local health departments and CBOs across the state. All patients are asked a series of questions on reasons for testing and risk behaviors. All samples are sent to the State Laboratory of Public Health for testing and data entry. State results are aggregated with national data. See NTS, TTS.
CY	Calendar Year (January 1 to December 31)
denominator	The divisor in a fraction. (In the fraction 3/4, 4 is the denominator). With respect to disease rates and proportions, it is generally the number of people in the population at-risk for having the disease (a smaller number, found in the numerator, actually will have the disease).
DIS	Disease Intervention Specialist - state or local government employee who interviews reported STD cases (primarily HIV and syphilis). DIS are trained to locate and counsel infected patients and their partners, draw blood for testing, and collect interview data on risk behaviors and partners.

early latent syphilis	Also 'EL'. Third stage of syphilis infection lasting from the end of secondary syphilis through one year after initial infection. The patient is free of symptoms but remains infectious to sexual partners during this phase. Early latent refers only to cases for whom likely transmission within the past year can be documented. Patients at this stage are often identified through screening or contact tracing of known cases. If left untreated, the disease will progress to late latent syphilis.
early syphilis	Primary, secondary, and early latent syphilis cases (also PSEL). These stages represent all of the phases during which the infection can be transmitted sexually, although infectiousness drops off considerably during the early latent phase. Often reported separately from later stages of syphilis because these stages represent infections acquired less than one year prior to diagnosis and are targeted by public health interventions.
EIA	See ELISA
EL	see Early Latent Syphilis
ELISA	Enzyme-linked immunoassay - initial screening test for HIV infection. Highly sensitive. If this test is positive, the sample will then be tested with the more specific confirmatory test the Western Blot. If this test is negative, the result is returned as negative. Alternative name: EIA.
epidemiology	The study of the distribution and determinants of health related events in specified populations, and the application of this study to the control of health problems. (Source: J. Last, 'A Dictionary of Epidemiology', 1995)
FDA	Food and Drug Administration
FFY	Federal Fiscal Year - October 1 through September 30
Gc	Infection with *Neisseria gonorrhoeae*. See gonorrhea.
Genital Herpes	A common sexually transmitted disease resulting from infection with HSV types 1 or 2 (see HSV) and characterized by painful genital ulcers. Genital herpes is not a reportable disease in North Carolina. See HSV.
GISP	Gonoccoccal Isolate Surveillance Project - collaborative project between selected STD clinics, five regional laboratories, and the CDC. Established in 1986 to monitor trends in antimicrobial susceptibilities of strains of *Neisseria gonorrhoeae* in the United States in order to establish a rational basis for the selection of gonococcal therapies. The project includes one site in North Carolina, located at Fort Bragg.

gonorrhea	Infection with *Neisseria gonorrhoeae*. To meet the surveillance case definition, laboratory diagnosis may occur by demonstrating the presence of gram-negative diplococci in a clinical sample or by detection of *N. gonorrhoeae* antigen or nucleic acid. Gonorrhea is a reportable disease in North Carolina.
Granuloma inguinale	A sexually transmitted disease characterized by ulceration of the skin and lymphatics of the genital and perianal area. Granuloma inguinale is a reportable disease in North Carolina.
HAART	Highly Active Anti-Retroviral Therapy - indicates that a patient is on a specific combination of 3 or more anti-retroviral drugs for HIV infection.
HARS	HIV/AIDS Reporting System - the computer data system developed by the CDC that houses information on HIV-infected persons at the N.C. HIV/STD Prevention & Care Branch.
HAV	Hepatitis A Virus - A vaccine-preventable viral infection transmitted by the fecal/oral route. HAV infection is a reportable condition in North Carolina.
HBV	Hepatitis B Virus - A vaccine-preventable viral infection transmitted by sex, blood products, or shared injection equipment. HBV infection is a reportable condition in North Carolina.
HCV	Hepatitis C Virus - A viral infection transmitted by sex, blood products, or shared injection equipment. There is currently no vaccine available. Acute HCV infection is a reportable condition in North Carolina.
HIV	Human Immunodeficiency Virus - the virus that causes AIDS. To meet the case definition, infection must be confirmed by specific HIV antibody tests (screening test followed by confirmatory test) or virologic tests. In children under 18 months of age, antibody tests may not be accurate so confirmation by virologic tests is required.
HIV Test	See ELISA, Western Blot
HPV	Human Papillomavirus - a group of viruses including over 100 different strains, 30 of which are sexually transmitted. Many strains cause no symptoms at all while others are associated with genital warts and others with cervical cancer in women. HPV infection is not a reportable condition in North Carolina.

HRSA	Health Resources & Services Administration - agency of the U.S. Department of Health and Human Services. Mission: to assure the availability of quality health care to low-income, uninsured, isolated, vulnerable and special needs populations and to meet their unique health care needs. HRSA administers the Ryan White Care Act programs.
HSV	Herpes Simplex Virus (Type 1 = HSV-1 and Type 2 = HSV-2). See genital herpes.
IDU	Injecting drug user. Alternative name IVDU - Intravenous drug user.
incidence	Measurement of the number of new cases of disease that develop in a specific population of individuals at risk over a specific period of time (often a year). With respect to HIV, the closest we can come to this is reporting of newly diagnosed cases which may or may not represent newly infected individuals. Incidence measures are most often used to assess the success of prevention efforts and the progress of epidemics. See HIV Disease.
IVDU	Intravenous drug user. Alternative name: IDU - injecting drug user.
KFF	Kaiser Family Foundation (www.kff.org)
late syphilis	Syphilis infections that have progressed beyond one year past the initial infection. Patients in late syphilis are not considered to be infectious to sexual partners, but women can pass the infection to their newborns well into the late stages. For the purposes of this report, 'late syphilis' includes late latent syphilis (asymptomatic, infection probably > 1 year prior), latent of unknown duration (asymptomatic, unable to document likely infection in last year), late with symptoms, and neurosyphilis.
LGV	Lymphogranuloma venereum - a sexually transmitted disease caused by infection with specific serovars of *Chlamydia trachomatis* that are distinct from the serovars that cause reportable chlamydial infections. LGV is a reportable disease in North Carolina.
MA	Metropolitan area - geographical designation defined by OMB for use Federal statistical activities. See OMB.
mean	Mathematical average. Example: the mean of 3 numbers is the sum of the three numbers divided by three: (a+b+c)/3.

Medicaid	A federally-aided, state-operated and administered program authorized by Title XIX of the Social Security Act which provides medical benefits for qualifying low-income persons in need of health and medical care. Subject to broad federal guidelines, States determine the benefits covered, program eligibility, rates of payment for providers, and methods of administering the program. (definition source: kff.org)
Medicare	A federal program that provides basic health care and limited long term care for retirees and certain disabled individuals without regard to income level. Beneficiaries must pay premiums, deductibles, and coinsurance to receive hospital insurance (Part A) and supplementary medical insurance (Part B). Qualified low-income individuals, called Dual Eligibles, may receive assistance through Medicaid to pay for cost-sharing. (definition source: kff.org)
morbidity	The extent of illness, injury, or disability in a defined population. It is usually expressed in general or specific rates of incidence or prevalence. (source of definition: kff.org)
mortality	Death. The mortality rate (death rate) expresses the number of deaths in a unit of population within a prescribed time and may be expressed as crude death rates (e.g., total deaths in relation to total population during a year) or as death rates specific for diseases and, sometimes, for age, sex, or other attributes. (source of definition: kff.org)
MPC	Mucopurulent Cervicitis - a clinical diagnosis of exclusion involving cervical inflammation that is not the result of infection with *Neisseria gonorrhoeae* or *Trichomonas vaginalis*. MPC is not a reportable condition in North Carolina.
MSM	Men who have sex with men.
MSM/IDU	Men who have sex with men and also report injecting drug use.
n	Number - used to designate the number of people or number of cases.
neurosyphilis	Devastating stage of syphilis affecting some untreated patients. Outcomes include shooting pains in the extremities, blindness, deafness, paralysis, and death.
NGU	Nongonococcal urethritis - a clinical diagnosis of exclusion involving evidence of urethral infection or discharge and the documented absence of *N. Gonorrhoeae* infection. The syndrome may result from infection with a number of agents, though most cases are likely to be caused by *C. trachomatis*. NGU is a reportable condition in North Carolina.

NHSDA	National Household Survey of Drug Abuse - National survey of drug use behavior collected by in-person interviews. Conducted by SAMHSA. The 2001 survey interviewed 68,929 people.
NIR	No identified risk reported
NIDA	National Institute on Drug Abuse - one of the National Institutes of Health (NIH), under the U.S. Department of Health and Human Services. Mission: to lead the nation in bringing the power of science to bear on drug abuse and addiction.
NTS	Nontraditional Test Sites - part of the N.C. CTS HIV testing program. NTS sites were added to the CTS program in 1997 as a response to the end of anonymous testing with the goal of making HIV testing available in nontraditional settings. As of 2002, there are 13 NTS sites at CBOs and extended hours at local health departments. See CTS.
numerator	The dividend in a fraction. (In the fraction 3/4, 3 is the numerator). With respect to disease rates and proportions, it is generally the number of people with the disease.
OMB	Office of Management & Budget - agency within the Executive Office of the President of the United States. Mission: to assist the President in overseeing the preparation of the federal budget and to supervise its administration in Executive Branch agencies. See MA.
opthalmia neonatorum	*N. gonorrhoeae* infection of the eyes of an infant during birth when mother has gonorrhea. Opthalmia neonatorum is a reportable condition in North Carolina.
P & S	Primary and secondary syphilis cases. These earliest stages of syphilis are the most highly infectious and also represent cases acquired within the last year. They are often reported separately from other stages of syphilis because they most accurately represent disease incidence and have the greatest impact on continued spread of the disease.
PCP	*Pneumocystis carinii* pneumonia. One of the 26 AIDS-defining opportunistic infections.
PCRS	Partner Counseling & Referral Services conducted by the HIV/STD Prevention and Care Branch's Field Services Unit for persons newly diagnosed with HIV or syphilis. Data collected are maintained in local STD-MIS. See Appendix A: Data Sources.

percentage	A type of proportion in which the denominator is set at 100. For example, if 2 people out of an at-risk population of 50 have a disease, the proportion can be converted to a percentage by setting the denominator at 100: 2/50 = 4/100 = 4%. Any proportion can be converted to a percentage.
perinatal	Of, relating to, or being the period around childbirth, especially the five months before and one month after birth.
PID	Pelvic inflammatory disease - a clinical syndrome in which microorganisms infect the fallopian tubes or other areas of the female upper reproductive tract. The condition can have serious consequences including infertility and ectopic pregnancy. The most common causes of PID are gonorrhea and chlamydia. PID is a reportable condition in North Carolina.
positivity	Percent of a screened population that test positive.
PRAMS	Pregnancy Risk and Monitoring System – an ongoing random survey of women who delivered a live infant in North Carolina. Conducted by the North Carolina State Center for Health Statistics.
presumed heterosexual	Refers to a "risk" or "mode of transmission" category for HIV and AIDS cases. This category is made up of NIR cases that have been determined to represent likely heterosexual transmissions, based on additional risk information collected during field services interviews. See "Appendix B: Special Notes" for more information.
prevalence	Measurement of the number of total cases of disease that exist in a specific population of individuals at risk at a specific instant in time (note that an 'instant in time' can be a single day or even a whole year). With respect to HIV, this is generally presented as the number of persons living with HIV. Prevalence measures are most often used to assess the need for care and support services for infected persons.
primary syphilis	Earliest stage of syphilis, characterized by the presence of one or more painless ulcers and lasting 10-90 days. At this stage the patient is highly infectious to sexual partners. If untreated, the infection will proceed to secondary syphilis.
proportion	A type of ratio in which the numerator is included in the denominator. For example, in an at-risk population of 50, if 3 people have a disease, this can be expressed as the proportion 3/50.
PSEL	Primary, secondary, and early latent syphilis cases. See early syphilis.

rate	A proportion that specifies a time component. For example, the number of new cases of disease that developed over a certain period of time divided by the eligible at-risk population for that time period. Note, many diseases are rare enough that if they were expressed as percentages, the numbers would be very small and confusing. For this reason, the denominators for disease rates are often converted to 100,000 so that the numerators can be expressed in terms of whole numbers. Example: 20 cases out of 333,333 at-risk population per year = 20/333,333 = .006/100 = .006%. This is difficult to think about because it involves both decimals and percentages. Converted to a denominator of 100,000, this becomes .006/100 or 6/100,000 per year.
ratio	The value obtained by dividing one quantity by another. Rates and proportions are types of ratios.
Ryan White CARE Act	The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990 (Public Law 101-381) provides funding to cities, states, and other public or private nonprofit entities to develop, organize, coordinate and operate systems for the delivery of health care and support services to medically underserved individuals and families affected by HIV disease. The CARE Act was reauthorized in 1996 and 2000. (source of definition: kff.org)
Ryan White CARE Act: Title II	Federal grants to all 50 states, the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands, and eligible U.S. Pacific Territories and Associated Jurisdictions to provide health care and support services for people living with HIV/AIDS. Title II funds may be used for a variety of services, including home and community-based services, continuation of health insurance coverage, and direct health and support services. Also see ADAP. (source of definition: kff.org)
SAMHSA	Substance Abuse and Mental Health Services Administration - agency within the U.S. Department of Health and Human Services. Mission: to strengthen the nation's health care capacity to provide prevention, diagnosis, and treatment services for substance abuse and mental illnesses.
SCBW	The Survey of Childbearing Women - conducted from 1988 through 1995 in collaboration with CDC, the National Institute of Child Health and Human Development, and state and territorial health departments. Residual dried blood specimens that are routinely collected on filter paper from newborn infants for metabolic screening programs were tested for HIV antibody after the removal of all personal identifiers. The survey measured the prevalence of HIV infection among women who gave birth to live infants in participating states and territories of the United States.

SDC	State Data Center - a consortium of state and local agencies established in cooperation with the U.S. Bureau of the Census to provide the public with data about North Carolina and its component geographic areas.
secondary syphilis	Second stage of syphilis, characterized by a rash that does not itch, swollen glands, fatigue, and other symptoms. Patients at this stage are highly infectious to sexual partners. Symptoms generally appear about 4-10 weeks after the appearance of primary syphilis lesions. If left untreated, the disease will progress to early latent syphilis after 3-12 weeks.
sensitivity	Refers to the ability of a screening test to detect disease if disease is truly present. A highly sensitive test is likely to have very few false negatives but probably will have some false positives. This is why positives found with a highly sensitive test will often be tested again using a highly specific test (see specificity). Example = ELISA test for HIV.
SEP	Syphilis Elimination Project - CDC-funded project that provides funding to the 28 U.S. counties that accounted for over 50% of all U.S. syphilis cases in 1997 for enhancements in surveillance, outbreak response, clinical and laboratory services, health promotion and community involvement. North Carolina has the distinction of being the only state with more than two counties in the list; We have five. SEP efforts in North Carolina have been expanded, bringing the total of SEP counties to six: Durham, Forsyth, Guilford, Mecklenburg, Robeson, and Wake.
SFY	State Fiscal Year. In North Carolina: July 1 through June 30.
specificity	Refers to the ability of a screening test to test negative if the patient is truly uninfected. A highly specific test will have very few false positives but may have some false negatives. Generally, a highly specific test is only used on positives found using a highly sensitive screening test first (see sensitivity). Example = Western Blot test for HIV.
STD	Sexually Transmitted Disease.
STD-MIS	Sexually Transmitted Disease - Management Information System , the computer data system developed by the CDC that houses information on patients infected with HIV, syphilis, and other STDs at the N.C. HIV/STD Prevention & Care Branch.
surveillance (public health)	The ongoing, systematic collection, analysis, and interpretation of health data essential to the planning, implementation, and evaluation of public health practice, closely integrated with timely dissemination of these data to those who need to know. Source: CDC

syphilis	Infection with *Treponema pallidum*. See: primary syphilis, secondary syphilis, early latent syphilis, early syphilis, latent syphilis.
Syphilis Elimination Project	see SEP
TB	Tuberculosis (infection with *Mycobacterium tuberculosis*).
Trichmoniasis	A common sexually transmitted disease resulting from infection with the parasite *Trichomonas vaginalis*. Trichmoniasis is not a reportable disease in North Carolina.
TTS	Traditional Test Sites - part of the N.C. CTS HIV testing program. The 135 TTS sites include local health departments and some CBOs. See CTS.
Western Blot	WB - Confirmatory test for HIV. This test is highly specific so it is used only as a confirmatory test on all samples positive for the screening test, the ELISA. If both the ELISA and WB are positive, the patient is considered to be HIV-infected.
WIC	Women, Infants & Children - a Federal grant program to provide nutritional assistance to low-income pregnant and postpartum women, infants, and children up to age 5.

North Carolina HIV/STD Prevention & Care Branch Regions