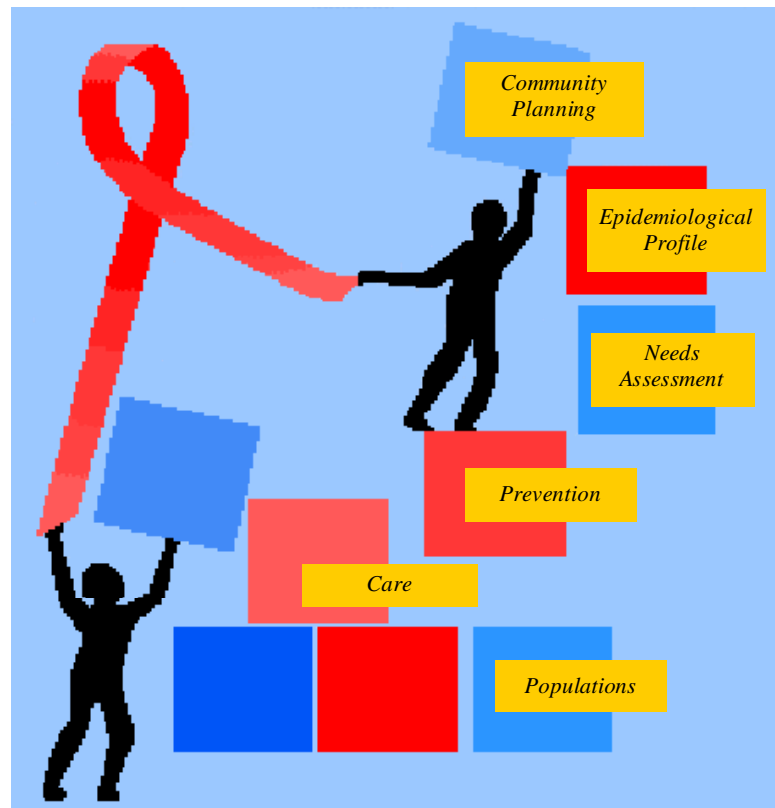


2002 *Epidemiological Profile for Iowa*

HIV, AIDS, and Sexually Transmitted Diseases



Acknowledgments

This profile was compiled by Randy Mayer, in collaboration with the Epidemiological Profile and Information Committee of the Iowa HIV Community Planning Group. Feedback and comments are welcome. Please forward comments to:

Randy Mayer, M.S., M.P.H.
Iowa Department of Public Health
HIV/AIDS Program
321 E. 12th Street
Des Moines, IA 50319-0075
Email: rmayer@idph.state.ia.us
Phone: (515) 242-5150

Members of the Epidemiological Profile and Information Committee:

Dr. John Olds, Chair
Colleen Bornmueller
Holly Hanson
Dr. Patricia Quinlisk
Randy Mayer
Patricia Young

An electronic version of the profile is available at:

http://www.idph.state.ia.us/ch/hiv_aids_programs.asp#surveillance

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EXECUTIVE SUMMARY

EPIDEMIOLOGY OF HIV, AIDS, AND STDS IN IOWA

Diagnoses of HIV infection in Iowa increased by 7% in 2002. This was the first increase since 1996. The increase was solely among foreign-born persons, who accounted for 27% of all diagnoses in 2002. Diagnoses among U.S.-born persons continued to decline in 2002.

Diagnoses of HIV infection among non-U.S.-born persons have increased 250% since 1999. Foreign-born persons with HIV are more likely to be female, minority (black or Hispanic), and heterosexual or with an unidentified risk than U.S.-born persons with HIV. Because of these differences, increases among these groups will change the interpretation of overall trends in diagnoses among Iowans.

Most HIV diagnoses occurred in males and to persons 25 to 44 years of age. However, data indicate that most people are not getting diagnosed early in the course of their infections. Half of all persons diagnosed with HIV in 2001 were subsequently diagnosed with AIDS within a year. Age at diagnosis, therefore, may not be indicative of age at infection. Data from persons diagnosed with bacterial sexually transmitted diseases and from persons completing risk assessments at HIV testing facilities across the state indicate that persons from 15 to 24 years of age are engaging in high levels of unsafe sexual and drug-related activities.

While almost 60% of persons diagnosed with HIV in 2002 were white, non-Hispanic persons, race-specific rates demonstrate that black, non-Hispanic males; black, non-Hispanic females; and Hispanic males are much more severely impacted by HIV disease. Black, non-Hispanic persons in Iowa have a 10-fold higher prevalence of persons living with HIV and AIDS than white, non-Hispanic persons. Hispanic persons have a 4-fold higher prevalence than white, non-Hispanic persons. The impact of chlamydia and gonorrhea on these minority groups is even more striking. Incidence rates of chlamydia are 16 times higher and incidence rates of gonorrhea are 60 times higher for black, non-Hispanic persons than for white, non-Hispanic persons.

Diagnoses of AIDS declined from 1992 through 1998 but rose to approximately 80 diagnoses in 1999 and have been steady or slowly declining since then. The increase after 1998 can be attributed to diagnoses among foreign-born persons, mostly Hispanic males and African females. Deaths of persons with AIDS reached a low in 1998 and have leveled off near 30 deaths per year.

The most significant feature of Iowa's HIV epidemic is the substantial increase in the number of persons living with HIV and AIDS. Steady diagnoses of HIV infection, combined with widespread use of highly active, antiretroviral therapies that have delayed the onset of AIDS and of deaths have increased the number of persons living with HIV disease to unprecedented levels. On December 31, 2002, 1,123 Iowans were reported to be living with HIV or AIDS.

Other significant points include:

- In 2002, 104 persons were diagnosed with HIV infection, and 76 persons were diagnosed with AIDS.
- There has been a gradual trend toward a more urban distribution of HIV infection and other STDs in Iowa. Seventy-four percent of persons diagnosed with HIV between 2000 and 2002 were living in one of Iowa's ten most populous counties: Black Hawk, Clinton, Dubuque, Johnson, Linn, Polk, Pottawattamie, Scott, Story, and Woodbury. These counties contain 47% of Iowa's population, but over 70% of new chlamydia infections and nearly 90% of new gonorrhea infections.
- On average, females with HIV who were diagnosed in 2002 were 33 years old and males were 34 years old. Foreign-born persons had a median age of 32 years. Sixty-four percent of females and 71% of males were 25 to 44 years of age at time of diagnosis. The median age of persons diagnosed with AIDS in 2002 was 39 years of age.
- The population of Iowa is 93% white, non-Hispanic; 2% black, non-Hispanic; 3% Hispanic; and 2% other races and ethnicities. Newly diagnosed HIV cases were 55% white, non-Hispanic; 28% black, non-Hispanic; 15% Hispanic; and 2% other races. The HIV diagnosis rate in 2002 was 46.1 cases per 100,000 population for black, non-Hispanic persons, 28.3 for Hispanics, and 2.1 for white, non-Hispanic persons in Iowa.
- Fifty-two percent of persons living with HIV or AIDS on December 31, 2002, reported male-to-male sexual contact (MSM) as their primary risk. Heterosexual contact was reported for 15% of persons living with HIV or AIDS, 12% were injection drug users (IDU), and 7% reported both IDU and MSM. An additional 2% were transfusion or transplant recipients, and 1% reported hemophilia. Ten percent had no risk identified.
- Chlamydia is the most frequently reported sexually transmitted disease in Iowa, with 6,241 cases reported in 2002. The incidence of chlamydia increased in 2002 to reach a 10-year high. The incidence of gonorrhea increased for the third consecutive year, but cases are still well below where they were 10 years ago. The incidence of syphilis remains very low in Iowa, and elimination of endemic syphilis is an important objective of the STD Prevention Program.
- The male-to-female ratios for chlamydia and gonorrhea differ significantly between minority populations and the white, non-Hispanic population. White, non-Hispanic females with gonorrhea diagnoses outnumber white, non-Hispanic males by 2.5 to 1, while black, non-Hispanic males outnumber black, non-Hispanic females 1.4 to 1. This may indicate that minority females are not being screened for asymptomatic infection at the same rate as other women in the state.

INTRODUCTION

This statewide profile describes the epidemiology of HIV, AIDS, and other sexually transmitted diseases (STDs) in Iowa through December, 2002. The report characterizes the distribution of these diseases in terms of geography, race, gender, age, and associated causal factors. This epidemiological profile has been prepared to assist in developing a comprehensive HIV/AIDS prevention and care plan. This description of the HIV epidemic in the state will serve to guide prevention and service efforts, to quantify unmet need for prevention and care programs, and to evaluate programs and policies in Iowa. Five key questions will be addressed:

1. What are the sociodemographic characteristics of Iowa's population?
2. What is the epidemiology, including the geographical distribution, of HIV, AIDS, and other sexually transmitted diseases in Iowa?
3. Who is at the greatest risk of becoming infected with HIV and other STDs in Iowa?
4. What are the patterns of utilization of HIV services throughout the state?
5. What are the number and characteristics of persons who know they are HIV-positive, but who are not receiving primary medical care?

DATA SOURCES

Data were compiled from a number of sources to present the most complete picture of the epidemic as possible. However, because few behavioral or supplemental surveillance projects are available in Iowa, core surveillance data will be utilized heavily. Each data source has strengths and limitations. A brief description of each source follows.

1. Core HIV/AIDS Surveillance

AIDS Case Surveillance

AIDS has been a reportable disease in Iowa since February 1983. Only persons diagnosed with AIDS, reported in Iowa, and for whom last name, date of birth, race and ethnicity, gender, date of AIDS diagnosis, and living status (living or deceased at time of report) are known are included in this report. Cumulative AIDS cases include all reported cases, living or deceased.

The definition of AIDS has been modified several times since the original 1982 case definition. That original definition included a list of opportunistic infections and diseases in persons with no known cause for diminished resistance. At that time, no tests for HIV or for antibodies to the virus were available to confirm the diagnosis. The definition was first updated in 1985 to reflect new tests that detected either antibodies to the virus or the virus itself. The 1985 revised definition included several more medical conditions, when the conditions were accompanied by a positive serological or virological test for HIV. Another revision occurred in 1987, adding three more conditions, including wasting syndrome. The most substantial revision occurred in 1993, when immunological conditions were added to the definition. A CD4+ cell count less than 200 cells per microliter or less than 14% of total lymphocytes was included as AIDS-defining, even in the absence of specific physical symptoms. Three additional conditions, pulmonary tuberculosis, recurrent pneumonia, and invasive cervical cancer were added to the list of 23 clinical conditions that met the criteria for AIDS as well. This revision, and particularly the inclusion of CD4+ cell counts as AIDS defining criteria, substantially increased the number of HIV-infected persons who were diagnosed with AIDS in 1992 and reported from 1992 to 1993. Each revision may affect the number of diagnoses in that year and in subsequent years, and may make assessing trends in the numbers of new cases more difficult.

HIV Case Surveillance

HIV became reportable by name in Iowa on July 1, 1998. Anonymous testing in Iowa ceased at that time except for those tests performed through home-collection kits. Persons older than 18 months were considered to be HIV infected if they had at least one confirmed positive test (antibody or antigen), a detectable quantity of virus or viral nucleic acid isolated (viral culture or polymerase chain reaction), or had a diagnosis of HIV infection documented by a physician. Only cases reported in Iowa and for whom last name, date of birth, race and ethnicity, gender, date of first HIV diagnosis, and living status (living or deceased at time of report) are known are included in this report. Persons diagnosed with HIV before July 1, 1998, but who have not had a viral detection test or CD4+ count completed since July 1, 1998, may not have been reported to the Iowa Department of Public Health. HIV diagnosis data include persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also included are persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

Diagnosis Date and Completeness of Surveillance Data

Data will be presented by the year the case of either HIV or AIDS was diagnosed (regardless of when it was reported). Many cases reported in a given year will have been diagnosed in some previous year but not reported immediately. In 2002, 86% of AIDS cases reported were received within 6 months of diagnosis date.

Of persons who were newly *diagnosed* with HIV infection (regardless of AIDS status) in 2002, 99% were reported within 6 months of their diagnosis date. Moreover, only 6% of HIV (not AIDS) cases *reported* in 2002 had been diagnosed more than a year previously. Evaluations of the surveillance system indicate that 98% of diagnosed HIV/AIDS cases have been reported. Persons diagnosed before July 1998, when HIV reporting by name began in Iowa, and persons not in care are most likely not to have been reported. For the most part, the data represent diagnosed cases well. They do not, however, include persons who have been infected but who have not been diagnosed.

Delays in reporting will mean that the number of cases in the most recent year will be a minimum estimate. Reporting delays may vary among exposure, geographical, racial/ethnic, age, and gender categories. To minimize the effects of reporting delays, case reports received through June 30, 2003, will be used.

All data are provisional and are subject to change as further information becomes available.

Surveillance Exposure Categories

For surveillance purposes, HIV and AIDS cases are counted only once in a hierarchy of exposure categories. Persons with more than one reported mode of exposure to HIV are classified in the exposure category listed first in the hierarchy, except for men with both a history of sexual contact with other men and a history of injection drug use. They make up a separate category (HIV/AIDS Surveillance Report, 2001). The modes of exposure are categorized in this report according to the following hierarchy:

- **“Men who have sex with men and inject drugs” (MSM/IDU)** includes men who inject nonprescription drugs and report sexual contact with other men or who report sexual contact with both men and women.
- **“Men who have sex with men” (MSM)** includes men who report sexual contact with other men, and men who report sexual contact with both men and women.
- **“Injection drug use” (IDU)** includes persons who inject nonprescription drugs.
- **“Hemophilia/Coagulation disorder”** includes persons who received Factor VIII (Hemophilia A), Factor IX (Hemophilia B), or other clotting factors.
- **“Heterosexual contact”** includes persons who report specific heterosexual contact with a person with documented HIV infection, or heterosexual contact with a person at increased risk for HIV infection, such as an injection drug user, person with hemophilia, transfusion recipient with documented HIV infection, or bisexual male. A person who reports heterosexual contact with partners whose specific HIV risks and HIV status are unknown is considered to have “no risk reported or identified” (NIR). Adults and adolescents born, or who had sex with someone born, in a country where heterosexual

transmission was believed to be the predominant mode of HIV transmission (formerly classified as Pattern-II countries by the World Health Organization) are no longer classified as having heterosexually acquired HIV. Similar to case reports for other persons who are reported without behavioral or transfusion risks for HIV, these reports are now classified (in the absence of other risk information that would classify them in another exposure category) as “NIR” (MMWR 1994:43:155-60).

- **“Transfusion”** includes persons who received blood or blood components (other than clotting factor).
- **“Received transplant”** includes persons who received tissues, organs, or artificial insemination. These cases have been combined with “transfusion” cases in this report because of the low number of cases in Iowa in each category alone.
- **“No risk reported or identified (NIR)/other”** includes persons with no identified history of exposure to HIV through any of the routes listed in the hierarchy of exposure categories. These cases are investigated further over time to identify a risk. In addition, the category includes persons whose exposure history is incomplete because they died, declined to be interviewed, or were lost to follow-up. It also includes persons who had no risk other than working in a health-care or clinical laboratory setting. There has been one confirmed case of transmission in a health-care or clinical setting in Iowa.

2. Behavioral Surveys

Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is a state-based random-digit-dialed telephone survey of adults that monitors state-level prevalence of the major behavioral risks associated with premature morbidity and mortality. Respondents to the BRFSS questionnaire are asked about their personal health behaviors and health experiences. A sexual behavior module was included in 1994, 1995, 1996, 1998, and 2000. In this module, adults (ages 18 to 49 years) were asked about their number of sex partners, condom use, and treatment for STDs. Data from the BRFSS survey are population based; thus, estimates about testing attitudes and practices can be generalized to the adult population of a state. Because BRFSS respondents are contacted by telephone, the data are not representative of households that do not have telephones.

Iowa Youth Risk Behavior Survey (YRBS)

The YRBS is a self-administered questionnaire given every two years to a representative sample of students in grades 9 through 12 in regular and alternative high schools. The YRBS collects information on six categories of behaviors; sexual behaviors that contribute to unintended pregnancy and STDs, including HIV infection, constitute one category. Questions are also asked about exposure to HIV prevention education materials, sexual activity (age at initiation, number of partners, condom use, past drug or alcohol use), contraceptive use, and pregnancy history. Because the YRBS project relies upon self-reported information, sensitive behavioral information may be underreported or overreported. Also, because the YRBS questionnaire is administered in school, the data are representative only of adolescents who are enrolled in school and cannot be generalized to all adolescents. For example, students at highest risk, especially those in upper grades, may be more likely to be absent from school or to drop out of school and may be underrepresented in this survey. The questionnaire does not include questions about homosexual or bisexual behavior.

3. STD Surveillance

STD Case Reporting

The Iowa Department of Public Health's STD Prevention Program conducts statewide surveillance to determine the number of reported cases of STDs, to monitor trends in the epidemics, and to offer voluntary partner counseling and notification services. Chlamydia, gonorrhea, and syphilis cases are reportable. STD surveillance data can serve as surrogate markers for unsafe sexual practices and may demonstrate changes in behavior among specific populations that increase their risks for HIV infection. Because of a shorter time from infection to symptomatic disease, STD diagnoses may better indicate recent unsafe behavior and/or changes in community norms. In addition, certain STDs can facilitate the transmission of HIV infection. The quality of the data is highly dependent on whether the provider is public or private and may be incomplete. Women may be routinely screened whereas men are more likely to be tested only if they are symptomatic. Other data limitations are discussed in the profile.

4. HIV Counseling and Testing Data

Counseling and Testing System (CTS)

The Iowa Department of Public Health funds 20 free, confidential HIV testing and counseling sites in Iowa. Risk assessments are completed by participants as part of a visit or during outreach. In addition, clients at selected substance abuse facilities complete risk assessments. In 2002, 12,820 risk assessments were completed, down from 13,764 assessments in 2001. All persons who completed assessments received HIV prevention counseling, and 9,844 were tested for HIV. Fifteen percent of these tests occurred as part of outreach testing (i.e., not in a clinic). Forty-one persons tested positive (0.42%). Because the CTS collects information only from persons who seek counseling and testing services, data are not representative of all persons who engage in high-risk behaviors.

5. Vital Statistics Data

Birth and Death Data

The Iowa Department of Public Health collects information on all births and deaths in Iowa. The birth certificate form includes demographic information on the newborn infant and the parents, prenatal care, maternal medical history, mode of delivery, events of labor, and abnormal conditions of the infant. Death certificates include demographics, underlying cause of death, and factors contributing to the death.

6. Population Data

U.S. Census Bureau

The Census Bureau collects and provides timely information about the people and economy of the United States. The Census Bureau's Web site (<http://www.census.gov>) includes data on demographic characteristics (e.g., age, race, ethnicity, and sex) of the population, family structure, educational attainment, income level, housing status, and the proportion of persons who live at or below the poverty level. Summaries of the most requested information for states and counties are provided, as well as analytical reports on population changes, age,

race, family structure, and apportionment. State- and county-specific data are easily accessible, and links to other Web sites with census information are included.

7. HIV Care Data

Ryan White Title II Data

Since 1993, the HIV/AIDS Program of the Iowa Department of Public Health (IDPH) has collected data on persons served by the Iowa Ryan White Title II Program. To be eligible for Title II services, a person must have HIV, be a resident of Iowa, and have an income that is equal to or less than 200% of the current year's federal poverty level. Title II services include case management, oral health care, outpatient medical care, transportation, and emergency financial assistance. Each service provider maintains his/her own database. Information collected from the service providers includes basic demographic and risk information, eligibility verification data (current address, current income, HIV diagnosis date, Iowa Medicaid number), the type of services received, the date and quantity of services received, the cost of these services, and other pertinent information (history of substance abuse or mental health treatment, veteran status, current pregnancy status). The data indicate which Ryan White resources are being used, how often, and by whom. However, these data only reflect persons who (1) know their HIV serostatus, (2) are currently seeking care and treatment services from Ryan White Title II-funded providers, and (3) are financially eligible to receive services. For 2002, only aggregate data from the annual summary CARE Act Data Report (CADR) are available. Persons who switched services providers during the year may be counted more than once.

AIDS Drug Assistance Program (ADAP)

The AIDS Drug Assistance Program provides antiretroviral drugs and a limited number of other medications to persons who qualify for Ryan White Title II services and who are not fully covered for medications through Medicaid or other insurance plans. Although part of Ryan White Title II funding, a separate database is kept at IDPH for the ADAP Program. These data are, therefore, unduplicated, client-level data. Information collected in the database is limited to basic demographic information on each client, eligibility verification data, and laboratory information at the time of application.

Ryan White Title III Data

Ryan White Title III funding provides for ongoing medical care, oral health care, psychosocial services, nutritional, and other care services for persons with HIV infection. Funding goes directly to providers of medical care, and patients are charged fees according to a sliding scale. There are four Title III providers in Iowa. Each has a different method of collecting and storing data. Annual Care Act Data Reports (CADR) are submitted to the Health Resources and Services Administration (HRSA), and IDPH has access to these summary reports. The CADR data are in aggregate form only. Clients who used more than one provider in a year may be counted more than once. Currently, it is not possible to unduplicate the data. In addition, Ryan White Title III data cannot be generalized to all HIV-infected persons living in the state because they are collected only for persons who (1) know their HIV status and (2) are currently seeking care and treatment services from Title III-funded providers.

GUIDELINES TO PREVENT MISINTERPRETATION OF THE DATA

Decisions about how to allocate limited resources for prevention and care services depend, in part, on appropriate interpretation of epidemiological data. The following guidelines are intended to facilitate proper interpretation of the tables and figures presented in this profile.

1. **Carefully examine the entire table or graph.** Read the title of the table or figure and look closely at the type of information presented on the vertical and horizontal axes. Are the data showing the number of cases or a percentage of the total cases? Pie graphs and stacked bar graphs can show total numbers or percentages. Examine how the graphs are scaled. Does the number of cases increase by 5, 10, 100, or some other factor? What is the time period covered? Have any data been excluded from total counts?
2. **These data have certain limitations.** This report will present both AIDS case-report data and HIV infection case-report data. The first AIDS case reported in Iowa was diagnosed in 1983. Reporting of HIV-infected persons in Iowa began July 1, 1998. The number of HIV-infected persons reported by name is relatively small and covers a reporting period from July 1, 1998 – June 30, 2003. HIV surveillance reports may not be representative of all infected persons because not all infected persons have been tested or reported. AIDS case-report data span 18 years and are relatively complete. However, because HIV infection may take many years to develop into AIDS, AIDS case reports may not represent current or emerging trends in the HIV epidemic. There are also reporting delays of HIV and AIDS cases. The tables and figures in this profile do not account for these reporting delays. Both HIV and AIDS data are from the entire state of Iowa, but data represent only those individuals living in Iowa at the time of diagnosis. State and county of diagnosis do not change even if a person later changes counties or moves out of state. Individuals who are diagnosed and reported while residing in another state and who subsequently move to or receive care in Iowa are included only in Section 2 (Ryan White CARE Act) of the profile.
3. **Be careful not to over-interpret** small changes or differences from year to year. Comparing one year with another year may be misleading, particularly given the low numbers of cases reported in Iowa annually. Significant changes over time will be highlighted in the narrative of this document.
4. **Look for consistencies with other information sources.** Different findings should be examined carefully. All data sources are not equivalent in their generalizability to the population of Iowa. In particular, scientific studies should be examined for their purposes and for the population studied. Where scientific studies are presented, their limitations will be included in the discussion.
5. **Case rates** have been calculated for 12-month periods per 100,000 population. The denominator for calculating rates is based on Census 2000 data from the U.S. Bureau of Census. The numerator is the number of cases reported during the 12-month period. This number is divided by the population estimate and multiplied by 100,000. Race-specific rates are the number of cases reported for a particular racial/ethnic group during the preceding 12-month period divided by the projected population for that race/ethnicity, multiplied by 100,000.

ORGANIZATION OF THE PROFILE

The epidemiological profile is organized into two main sections, within which five key questions are addressed.

Section 1: Core Epidemiological Questions

This section provides the reader with an understanding of the characteristics of the general population of Iowa, the distribution of HIV disease in the state, and a detailed look at who is most at risk for infection. The section is organized around three key questions:

Question 1: What are the sociodemographic characteristics of Iowa's population? Orients the reader to the overall demographic and socioeconomic characteristics of the general population in Iowa. May be used to establish a baseline for comparison to other states and other populations.

Question 2: What is the epidemiology, including the geographical distribution, of HIV and AIDS in Iowa?

Examines the magnitude and distribution of the disease in the state by gender, age, race/ethnicity, and associated risk factors. Changes over time will be highlighted. Intended to be used by prevention providers to plan and evaluate their work.

Question 3: Who is at the greatest risk of becoming infected with HIV and other STDs in Iowa?

Provides a detailed look at high-risk populations using direct and indirect measures of high-risk behavior. Counseling and testing data, STD data, and other survey data will be used to examine this question.

Section 2: Ryan White CARE Act Special Questions and Considerations

This section focuses on questions pertinent to care planning. It describes access and use of medical care services by persons with HIV infection in Iowa. It is organized around two key questions:

Question 1: What are the patterns of utilization of HIV services by persons with HIV in Iowa?

Characterizes the patterns of use of HIV primary medical care and support services by persons with HIV. Examines the characteristics of persons accessing Ryan White Title II and Title III care services and the types of services they received.

Question 2: What are the number and characteristics of persons who know they are HIV positive, but who are not receiving HIV primary medical care?

Describes efforts that are underway to use a framework developed by CDC and HRSA to estimate unmet need for HIV primary medical care in Iowa.

Section

1

**CORE
EPIDEMIOLOGICAL
QUESTIONS**

Question 1: What are the sociodemographic characteristics of Iowa's population?

Question 2: What is the epidemiology, including the geographical distribution, of HIV and AIDS in Iowa?

Question 3: Who is at the greatest risk of becoming infected with HIV and other STDs in Iowa?

Question 1**What are the sociodemographic characteristics of Iowa's population?**

This section provides background information about Iowa's population. The purpose is to provide a context for assessing the potential impact of HIV, AIDS, and other sexually transmitted diseases in Iowa.

Section Highlights

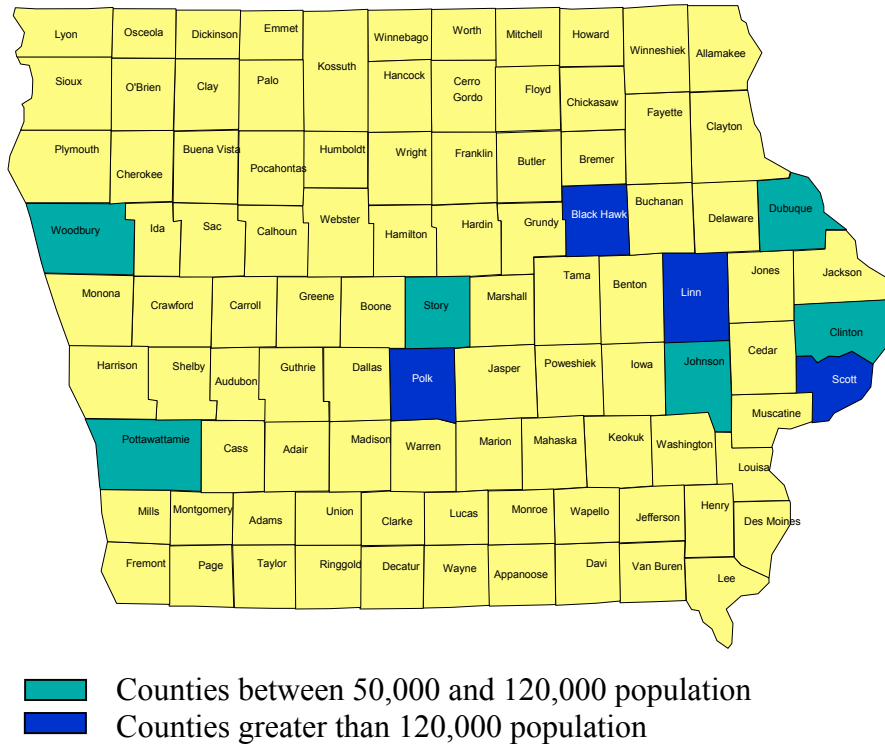
- The 2000 Census indicates that there are 2,926,324 persons residing in Iowa, ranking it 30th in the nation in population. Iowa's racial distribution, according to population estimates, reveals that just over 92% of the total population is white, non-Hispanic, and approximately 7% percent are members of racial or ethnic minority groups. While the numbers of persons in racial and ethnic minority groups are small, they are increasing.
- The counties of Black Hawk, Clinton, Dubuque, Johnson, Linn, Polk, Pottawattamie, Scott, Story, and Woodbury account for 47% of the total population of Iowa. These counties also report higher rates of poverty, unemployment, uninsured persons, and crime than other counties.
- Approximately 9% of Iowa's population lives below the poverty level; but 11% of youth 17 years or younger live in poverty. Those within the age group of 18 to 24 years were least likely of all age groups to have health insurance. Increases in inmate admissions for substance abuse and in persons seeking treatment for drug addictions have been reported since the early 1990's.

DESCRIPTION OF IOWA'S POPULATION

Iowa is an agricultural state, with a land area of 55,875 square miles. Iowa is comprised of 99 counties (Figure 1), with a Census 2000 population of 2,926,324 persons. The state ranked 30th in the nation in population using Census 2000 data. Six counties (Clinton, Dubuque, Johnson, Pottawattamie, Story, and Woodbury) have between 50,000 and 120,000 people, and four counties (Black Hawk, Linn, Polk, and Scott) have more than 120,000 people.

Iowa's population has shifted over the past ten years from rural to urban centers with the most significant growth occurring in and around the capital of Des Moines and in the Interstate-380 corridor between Iowa City and Cedar Rapids. The state population is expected to exceed 3 million by 2020 (Statistical Abstract of the United States, 1999).

Figure 1
Iowa's Most Populous Counties

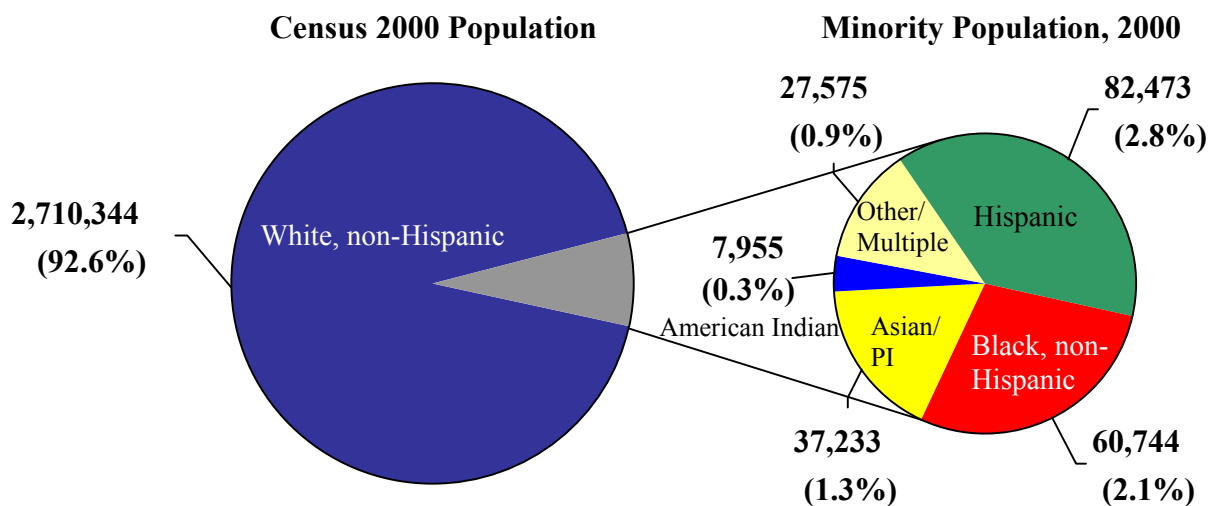


Racial and Ethnic Distribution

Ninety-three percent of Iowa's population is white and non-Hispanic (Figure 2; based upon Census 2000 data). Hispanic residents were estimated to have become the largest minority population in Iowa for the first time in 1998. Residents of Hispanic origin are now estimated to account for 2.8% of the population, slightly larger than that for black, non-Hispanic residents. The Hispanic population increased 153% since 1990, the largest increase of any minority group in the state. In 2000, nearly one-half of the state's Hispanic residents lived in Marshall, Muscatine, Polk, Scott, or Woodbury counties.

The next largest minority group is black, non-Hispanic residents, accounting for an estimated 2.1% of the population and reflecting a slight increase from 1.7% in the 1990 census. Black Hawk, Polk, and Scott counties account for nearly two-thirds (61%) of the state's total of black, non-Hispanic residents.

Figure 2
Population by Race/Ethnicity
Iowa, 2000



Source: U.S. Bureau of Census

Iowa's Asian/Pacific Islander population increased from 0.9% in 1990 to 1.3% in 2000. More than one-half (51%) of the state's Asian population lived in Johnson, Polk, or Story counties in 2000. American Indians constitute the smallest ethnic population in Iowa, making up 0.3% of the total population. In 2000, the largest numbers of this ethnic group lived in Tama, Polk, and Woodbury counties.

Net immigration (i.e., net movement of foreign and/or domestic persons into Iowa) was 19,000 persons from April 1990 to July 1998, when individuals moving to and from Iowa from other countries were included in migration counts. Otherwise, net immigration from *within* the United States was negative. In other words, more people moved out of Iowa than moved into the state from elsewhere in the U.S. This means that the increasing diversity in Iowa's population is mainly the result of persons moving into Iowa from other countries rather than an influx of minorities from elsewhere in the U.S. (Iowa's Counties: Selected Population Trends, Vital Statistics and Socioeconomic Data, 1999).

Age Distribution

Iowa's population is aging. The median age of the population is 36.6 years, up from 34.0 years in 1990. By year 2020, the median age is expected to climb to 42.4 years (Iowa's Counties: Selected Population Trends, Vital Statistics and Socioeconomic Data, 1999). With 14.9% of its population 65 years or older, Iowa ranks 5th in the nation in the percentage of elderly persons residing in the state. The percentage of the population over age 65 is expected to increase from 15% in 1990 (Table 1) to 21% by 2020; the percentage of youths (under the age of 20) is expected to decrease from 29% in 1990 to 24% by 2020. The percentage of persons ages 20 to 64 years is expected to increase into the first decade of the century, though not as dramatically as the 65 and older age group.

Table 1
Iowa's Population by Age and Gender
Census 2000

Age group (yrs)	Females	Males	Total	
	#	#	#	%
Less than 2	36,648	38,476	75,124	3
2 – 12	215,050	226,705	441,755	15
13 – 24	251,623	263,144	514,767	18
25 –44	400,810	407,449	808,259	28
45 –64	327,462	322,744	650,206	22
65 or older	259,216	176,997	436,213	15
Total	1,490,809	1,435,515	2,926,324	

Source: U.S. Census Bureau.

Percentage totals may not equal 100 due to rounding of numbers.

Poverty, Health Insurance, and Employment

According to 1999 model-based estimates from the U.S. Census Bureau, 9.1% of Iowa's population was living below the poverty level, compared to the national average of 12.4%. However, 10.5% of Iowa's youth 17 years or younger live in poverty.

Approximately 9% of Iowa's residents are without health insurance. Those within the age group 18 to 24 years were least likely of all age groups in Iowa to have health insurance. Almost 22% of those between the ages 18 and 24 were without insurance (Table 2; IDPH Behavioral Risk Factor Surveillance System report, 2002).

Iowans who report lower household incomes are more likely not to have health insurance. Of people who reported an annual income of less than \$15,000, 20% reported having no health insurance coverage. Only 2% of people who reported an annual income of \$75,000 or more did not have health care coverage (IDPH Behavioral Risk Factor Surveillance System, 2001).

Iowa's unemployment rate was reported at 3.3% for 2001, up from 2.6% in 2000, and compared to 4.8% nationally in 2001 (2002 Factbook, Legislative Fiscal Bureau, State of Iowa). Iowa was ranked third lowest in the nation in unemployment. In Iowa, men experienced a higher rate of unemployment than women. The lower unemployment rate for women is due, in part, to women

accepting part-time employment, temporary employment, and working out of their homes more often than men (Kahn, Iowa Workforce Development). Minority workers experience an unemployment rate that is two to three times higher than for white, non-Hispanic workers.

Table 2
Percentage Uninsured by Age
2002

Age group (yrs)	% Uninsured		
	Females	Males	Total
18-24	21.3	22.5	21.9
25-34	9.2	14.6	11.9
35-44	10.0	8.6	9.3
45-54	4.8	8.5	6.7
55-64	7.1	3.0	5.1
65 or older	1.5	0.2	1.0
Total adults	8.3	9.5	8.8

Source: Behavioral Risk Factor Surveillance System, Iowa Department of Public Health.

Corrections

Iowa has nine state correctional facilities and a community-based correctional system. The prison inmate population at the nine correctional facilities increased by 193% from July 1987 through July 2002. There were 8,172 state inmates at the end of fiscal year 2002. Over 5,500 offenders were released into the community during that year. The Criminal and Juvenile Justice Planning Division predicts that if criminal/incarceration practices remain the same, the prison population will grow by 475 or more inmates each year through July, 2010, and reach 12,400 inmates. The population of prisoners is projected to be 172% of design capacity by the end of June 2010 (Department of Corrections; Iowa Legislative Factbook, 2001).

The community-based correctional system has 17 residential facilities, 3 work release facilities, and an OWI (operating a motor vehicle while intoxicated) facility. At the end of fiscal year 2002, the community-based population was 26,459. This population increased 70% from 1987 to 2002.

Substance Abuse

The state has reported increasing numbers of drug offenses. Drug-related offenses accounted for 28% of new prison admissions in FY 2002 (July 1, 2001 to June 30, 2002), up from 22% in FY 1999. According to the Department of Corrections, inmate admissions for drug offenses increased 217% from FY 1990 through FY 2002. Methamphetamine use, in particular, has been increasing. Data from publicly funded substance abuse treatment facilities show that the number of persons treated for drug addictions increased from FY 1992 to FY 2001 (Table 3). Throughout that time period, the percentage of persons who identified alcohol as their primary drug has decreased while the percentage identifying drugs like marijuana and methamphetamine has increased. Over one-fourth of persons admitted for methamphetamine use reported injecting the drug as their primary mode of use.

Table 3
Primary Drug for Clients in Publicly Funded Treatment Programs
Iowa, FY 1992 – FY 2002

Fiscal Year ¹	Primary Problem – Type of Drug						Total Clients ²
	Alcohol	Marijuana	Methamphetamine	Crack	Heroin	Other	
1992	85%	7%	1%	5%	.5%	2%	22,471
1993	82%	9%	1%	5%	.7%	2%	22,567
1994	78%	11%	2%	6%	.8%	4%	25,328
1995	69%	14%	7%	6%	.8%	3%	29,377
1996	64%	18%	9%	6%	.5%	2%	33,269
1997	63%	19%	10%	6%	.6%	2%	38,297
1998	60%	20%	12%	6%	.5%	2%	38,347
1999	63%	20%	8%	6%	.5%	1%	40,424
2000	62%	21%	9%	5%	.5%	1.5%	43,217
2001	61%	22%	11%	5%	.5%	1.5%	44,147
2002	58%	23%	12%	4%	.5%	1.8%	42,911

Source: Iowa Department of Public Health, Division of Health Promotion, Addiction, and Addictive Behaviors

Question**2**

What is the epidemiology, including the geographical distribution, of HIV and AIDS in Iowa?

This section will present data on who is infected, how they became infected, where HIV and AIDS cases are occurring, and how this may be changing over time. Data will be presented by year of diagnosis, regardless of year of report (see Core HIV/AIDS Surveillance under Data Sources at the beginning of this chapter). Unless noted, all data are from case surveillance data from the HIV/AIDS Program at the Iowa Department of Public Health. HIV and AIDS cases diagnosed through December 31, 2002, will be presented. Data were collected through June 30, 2003, to allow for reporting delays.

Section Highlights

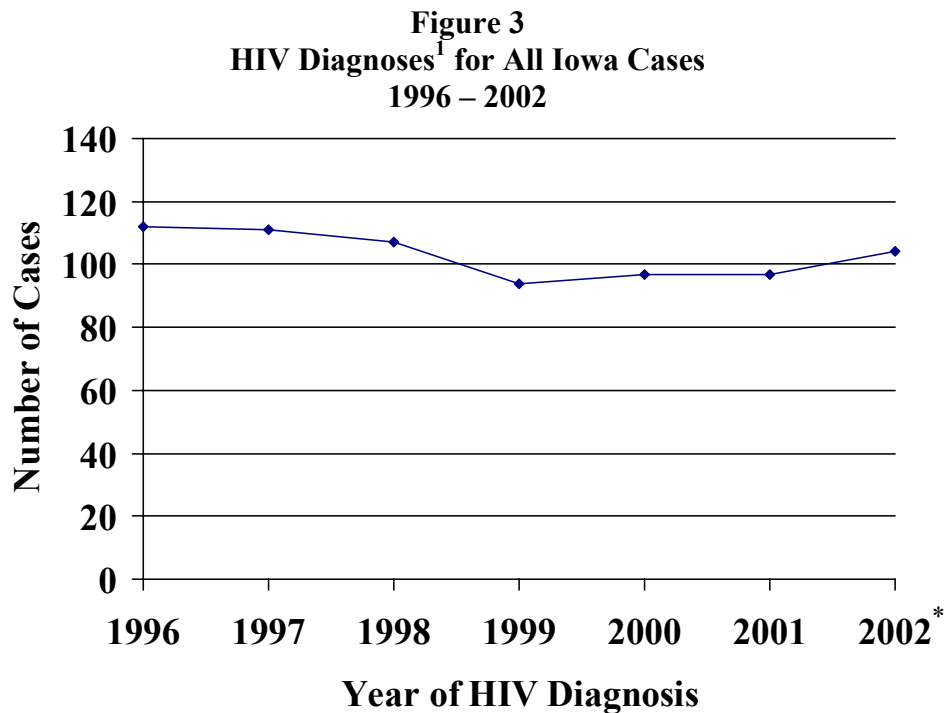
- Diagnoses of HIV infection in Iowa increased by 7% in 2002. The increase was solely among foreign-born persons, who accounted for 27% of new diagnoses. Diagnoses among U.S.-born persons continued to decline in 2002.
- Diagnoses of HIV infection among foreign-born have increased 250% since 1999. Foreign-born persons with HIV are more likely to be female, minority (black or Hispanic), and heterosexual or with an unidentified risk than HIV-infected persons born in the U.S. Most foreign-born persons with HIV emigrated from Africa or Central and South America.
- The gradual decrease in diagnoses of AIDS cases and in deaths of persons with AIDS from 1992 to 1998 has been accompanied by an increase in the number of persons living with HIV infection and AIDS (i.e., the prevalence). The number of Iowans living with AIDS increased more than three-fold in the ten-year period from 1991 to 2001. There were 1,123 Iowans living with HIV or AIDS on December 31, 2002.
- Median age at diagnosis of HIV fell from 37 in 2001 to 34 in 2002, not only because of increases in diagnoses among foreign-born persons, who tend to be younger than U.S.-born cases, but also because of an increase in diagnoses among younger, U.S.-born persons. Foreign-born males and females had a median age of 32.
- Black, non-Hispanic males; black, non-Hispanic females; and Hispanic males are over-represented among HIV and AIDS cases when their population sizes are taken into account. Hispanic males and black, non-Hispanic males have HIV diagnosis rates more than 11 times higher than white, non-Hispanic males.
- Differences in modes of exposure to HIV between racial and ethnic groups are evident. Over 60% of HIV diagnoses since July 1, 1998, among white, non-Hispanic males and Hispanic males indicated male-to-male sexual contact (MSM) as their primary risk. Only 44% of black, non-Hispanic males were MSM, however. Among black, non-Hispanic males, nearly 30% of HIV cases involved heterosexual contact.

DIAGNOSES OF HIV AND AIDS

Diagnoses of HIV Infection

Figure 3 shows the number of HIV diagnoses in Iowa since 1996. Graphical presentations of HIV diagnoses over time show the date of the first documented HIV test or detectable viral load for all persons reported to have tested positive for HIV while a resident of Iowa, regardless of their current diagnosis (HIV or AIDS). Also included in these data are persons who were diagnosed with AIDS while residents of Iowa, but for whom residence at time of HIV diagnosis was not reported. Therefore, diagnoses of HIV infection over time are an inexact representation of the total number of new HIV diagnoses in the state each year. Persons with AIDS who were diagnosed with HIV in Iowa are included here and with AIDS data.

HIV diagnosis date has been collected for all persons reported with AIDS since 1992, and for persons reported with HIV infection since July 1, 1998. Because all persons with HIV who were in a physician's care (not just persons with new diagnoses) were reportable on July 1, 1998, retrospective plots of diagnosis trends should be fairly complete, at least as far back as 1993. Evaluations of the surveillance system indicate that case reporting is 98% complete. Persons not actively in medical care since HIV reporting was initiated are less likely to have been reported. Diagnoses for 2002 may be incomplete due to reporting delays. With these limitations in mind, Figure 3 indicates that diagnoses of HIV infection in Iowa were declining or steady from 1996 to 2001. In 2002, however, there was a 7% increase in diagnoses.



¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

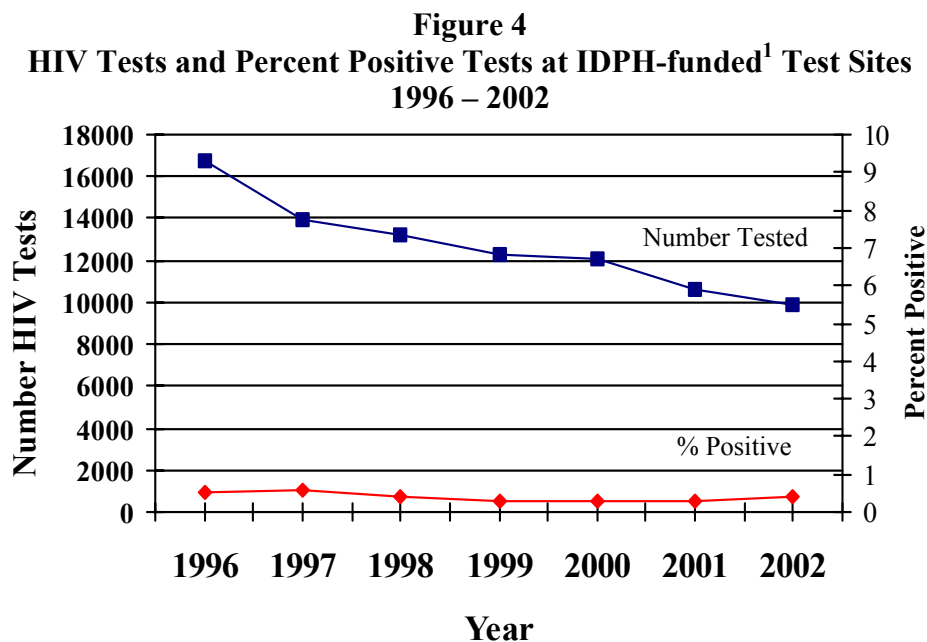
* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Factors Affecting the Number of Diagnoses

Although HIV *diagnoses* are one indication of HIV *infection* rates, many factors may affect when a person decides to get tested for and therefore diagnosed with HIV infection. A steady number of diagnoses may not be indicative of a constant rate of new infections. Changes in the number of persons getting tested or in the average length of time between infection and diagnosis may affect the number of diagnoses. Immigration of HIV-infected persons into the state may also increase diagnoses without reflecting an increase in new infections among Iowans. These factors will be discussed below.

Number of HIV Tests Performed

Figure 4 shows the number of HIV tests conducted at IDPH-funded counseling, testing, and referral sites, and the percentage of those persons who tested positive.



¹IDPH = Iowa Department of Public Health. Funding is provided by the Centers for Disease Control and Prevention through a cooperative agreement.

The number of tests has been declining since 1992, when 23,963 tests were performed (data not shown). In 2002, 9,844 tests were conducted. Despite declines in numbers of tests, the rate of positivity has been relatively constant since 1996 at 0.3% to 0.4%. Many factors may be influencing the decline in testing, including an increase in targeted testing; that is, a concerted effort to test only those at highest risk. The steady level of positivity combined with fewer tests each year might at least partially explain the decrease in diagnoses from 1997 to 2001. In 2002, 41 persons were identified as positive at the sites, 6 more than in 2001. This increase in positive tests would nearly explain the 7% increase in diagnoses in Iowa in 2002, but only if all were new diagnoses. Not infrequently, persons who have tested positive elsewhere will repeat the test at a publicly funded test site.

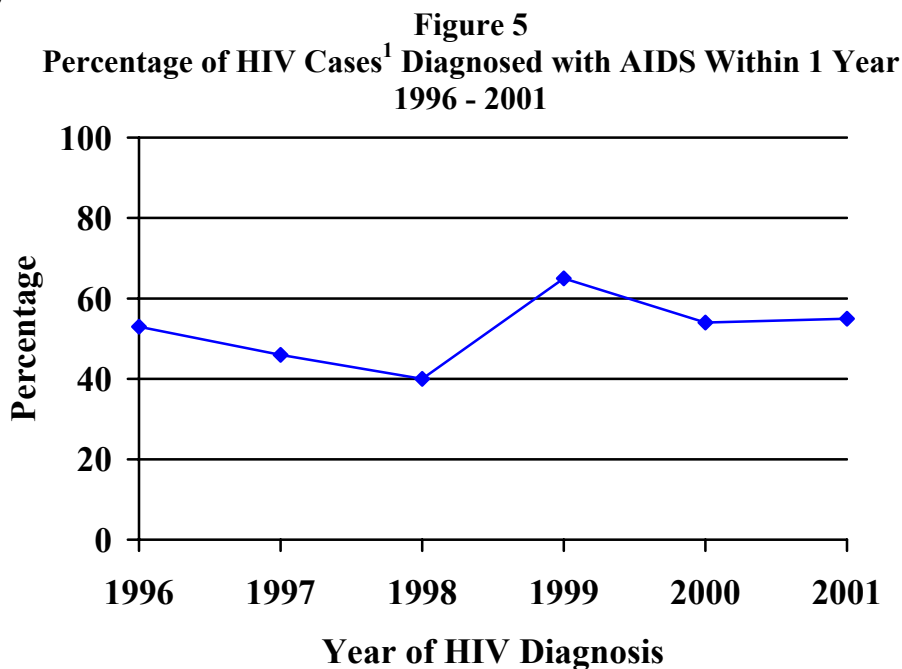
Not shown in Figure 4 are the numbers of tests performed at other public sites, such as STD clinics and correctional facilities, or at other privately funded sites, such as physician's offices, clinics, blood banks, plasma centers, and hospitals. Changes in testing patterns at these sites may also affect the overall number of diagnoses, but data are not available from these sources. An increase in testing at these sites could explain the decreases seen at IDPH-funded sites.

Delays in Testing

Significant changes in the average length of time between infection and diagnosis could affect the number of new HIV diagnoses in the short term. Changes in public policies, media events or news stories, outreach campaigns, or perceived changes in stigma attached to HIV/AIDS may influence an individual's decision to get tested.

Although time of infection is generally not known, the length of time between HIV diagnosis and AIDS diagnosis can be used to give a general idea of how far along in the course of the disease a person is when the first HIV diagnosis is made. A short period of time between HIV diagnosis and AIDS diagnosis suggests that a person may have been infected for some length of time. People with early HIV diagnoses (i.e., soon after infection) generally have longer time spans between HIV diagnosis and AIDS diagnosis. People who get into treatment quickly, respond well to therapy, and/or are adherent to treatment regimens would also have a longer time from HIV diagnosis to AIDS diagnosis.

Figure 5 shows the percentage of people with HIV who were diagnosed in a given year and who received an AIDS diagnosis within one year from the time of their HIV diagnosis. A high percentage suggests that many people are being diagnosed with HIV late in the course of their infection (i.e., within one year of diagnosis); a low percentage suggests that they were diagnosed early in the course of infection or that they received treatment and did not progress to AIDS within that year.



¹ Percentage of all persons diagnosed with HIV each year that received an AIDS diagnosis within 12 months of HIV diagnosis. Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

Before 1996, approximately 60% of persons diagnosed with HIV progressed to AIDS within a year. From 1996 to 1998, the percentage of persons with less than one year from HIV diagnosis to AIDS fell to 40%. This may be due to people seeking testing earlier in the course of their infection and/or to the effect of antiretroviral therapies that first became available in 1995.

In 1999, the percentage of persons with short intervals between HIV and AIDS diagnoses jumped up to 65%. This increase, combined with the 14% decrease in the number of HIV diagnoses from 1998 to 1999 (Figure 3), may indicate some effect of the implementation of confidential HIV reporting in July 1998, on delaying testing (and diagnoses) among people infected with HIV. It is unlikely, however, that HIV reporting alone could have caused that large an increase in such a small amount of time. Time from HIV to AIDS takes 9 to 10 years, on average, when untreated. Given the relatively low numbers of diagnoses in Iowa, there may be significant variation from year to year in the percentage of people with late HIV diagnoses. No differences between racial and ethnic groups, or between risk groups, were evident in percentage of cases with less than one year between HIV and AIDS diagnoses. While a higher proportion of foreign-born persons convert to AIDS within one year (61% vs. 54% for U.S.-born in 2001), there were not enough foreign-born cases to significantly influence the overall trend.

Immigration of HIV-Positive Persons to Iowa

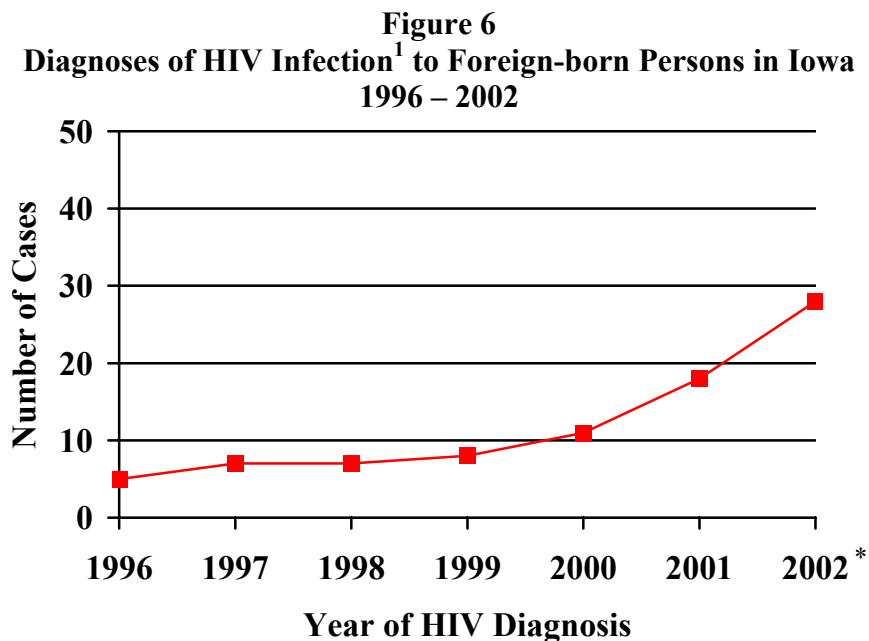
Immigration of persons with HIV to Iowa may also affect the number of diagnoses of HIV in Iowa. Immigration of HIV-positive people into Iowa would cause an increase in diagnoses and could explain part or all of the increase in diagnoses seen in 2002. Diagnoses of immigrants will only be presented with these data if the immigrant is *first* diagnosed with HIV while a resident of Iowa. Persons with previously documented diagnoses are counted by the place of residence at time of diagnosis (even when this was another country).

There are a number of different types or classes of immigrants assigned by the U.S. Department of Justice's Immigration and Naturalization Service. These classes include immigrant, naturalized citizen, refugee, asylee, nonimmigrant, and undocumented immigrant. Nonimmigrants include foreign government officials, visitors for business and for pleasure, aliens in transit through the United States, treaty traders and investors, students, international representatives, temporary workers and trainees, representatives of foreign information media, exchange visitors, fiancé(e)s of U.S. citizens, intracompany transferees, NATO officials, religious workers, and some others.

Section 212(a)(1)(A)(i) of the Immigration and Nationality Act renders inadmissible any applicant for a visa or admission to the United States who has HIV. However, a number of waivers of inadmissibility are available for humanitarian and family unit concerns. In addition, some classes of immigrant and nonimmigrant (including students) are initially admitted without an HIV test. A change in immigration status within the U.S., however, does require an HIV test as part of a physical examination. Persons admitted without HIV tests may also be tested in the U.S. for reasons other than a change in immigration status, including seeking the test on their own. These people may, therefore, be diagnosed as residents of Iowa. Illegal or undocumented immigrants may be diagnosed as residents of Iowa as well. Immigration status is not collected on case report forms or in interviews.

Refugee/asylee is another class of people who immigrate to the U.S. A refugee/asylee is defined as any person who is outside his or her country of nationality and is unable or unwilling to return to that country because of persecution or a well-founded fear of persecution. HIV-infected refugees may be resettled in the United States if a humanitarian waiver is obtained, but because refugees are required to be tested for HIV prior to entry into the U.S., they would only be reflected in AIDS statistics should they ever be diagnosed with AIDS while a resident of Iowa.

Figure 6 shows the number of diagnoses of HIV infection for persons in Iowa who were born in foreign countries. Country of origin is collected on the confidential case report form and can be used as an imperfect predictor of who is an immigrant. Since 1999, the number of diagnoses among foreign-born persons in Iowa has increased 250%. In 2002, almost 27% of all HIV diagnoses in Iowa were among persons who were not born in the U.S.

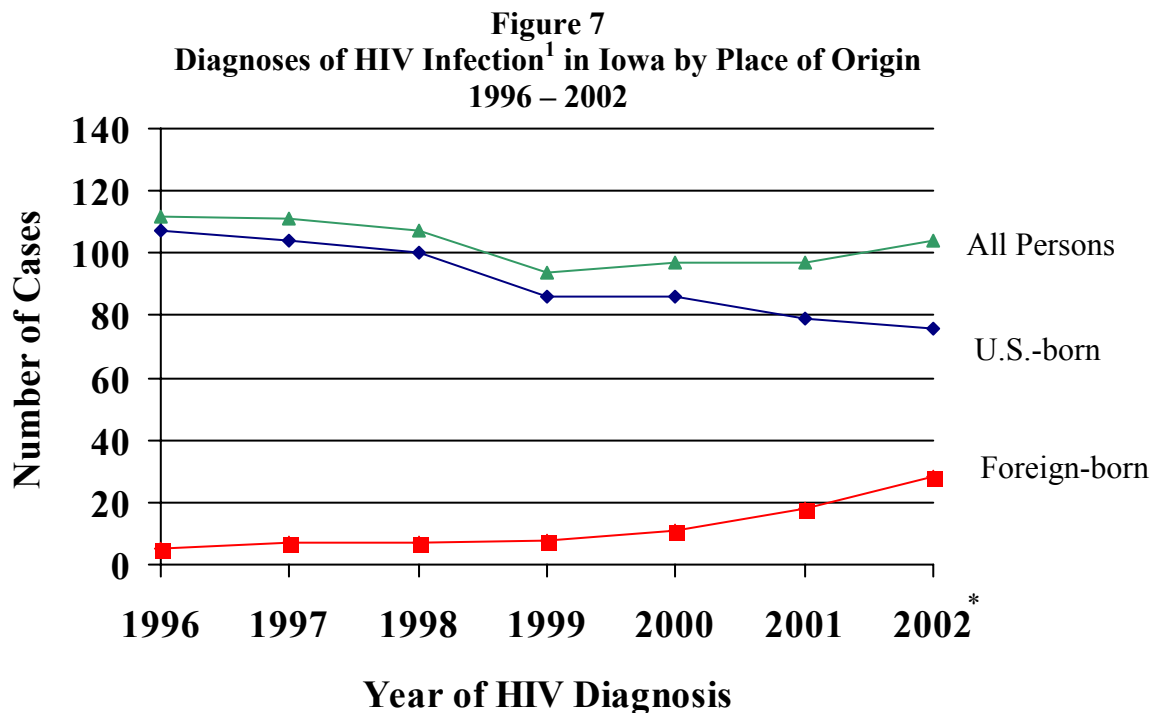


¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

The increase in diagnoses among foreign-born persons may have some significant impacts on the interpretation of epidemiological data in Iowa. Most obviously, numbers of diagnoses among U.S.-born persons may be misinterpreted. However, persons emigrating from other areas of the world may affect trends among gender, racial, and ethnic groups, and may also redistribute risk patterns in Iowa. For example, HIV-infected persons in Africa are more likely to be female, black, and to have heterosexual contact or unknown risk as an exposure than are HIV-infected persons born in the United States. For that reason, trends in Iowa's epidemic should be examined in light of the increasing number of diagnoses among foreign-born residents of Iowa.

Figure 7 demonstrates how the diagnosis curve for Iowa differs if foreign-born people are plotted separately from U.S.-born people. The decrease in diagnoses among U.S.-born people since 1994 becomes more pronounced and continues during 2002. Figure 7 shows that the increase in diagnoses of HIV among residents of Iowa in 2002 was solely due to the increase in diagnoses among foreign-born persons.



¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

However, it is not clear how many of these people immigrated with HIV or how many may have become infected while in the United States. Immigrant populations from areas in the world where HIV is more prevalent may also have higher rates of infection within the United States, if one assumes that they would be more likely to interact with persons from their country of origin than would a U.S.-born person, and that prevalence of HIV in the immigrant population reflects that in their home country.

Country of origin for foreign-born persons diagnosed with HIV in 2001 and 2002 is shown in Table 4. One-half were of Hispanic origin, 41% were African, and 7% were Southeast Asian. Most (67%) foreign-born males were of Hispanic origin but 74% of females were of African descent. In addition to these 46 persons, 8 more foreign-born, HIV-positive persons were reported in Iowa from 2001 to 2002. These were people who had been diagnosed elsewhere first. Of these, three were African, four were Hispanic, and one was from Vietnam.

Table 4
Country of Origin for Foreign-born Persons Diagnosed in Iowa
2001 – 2002

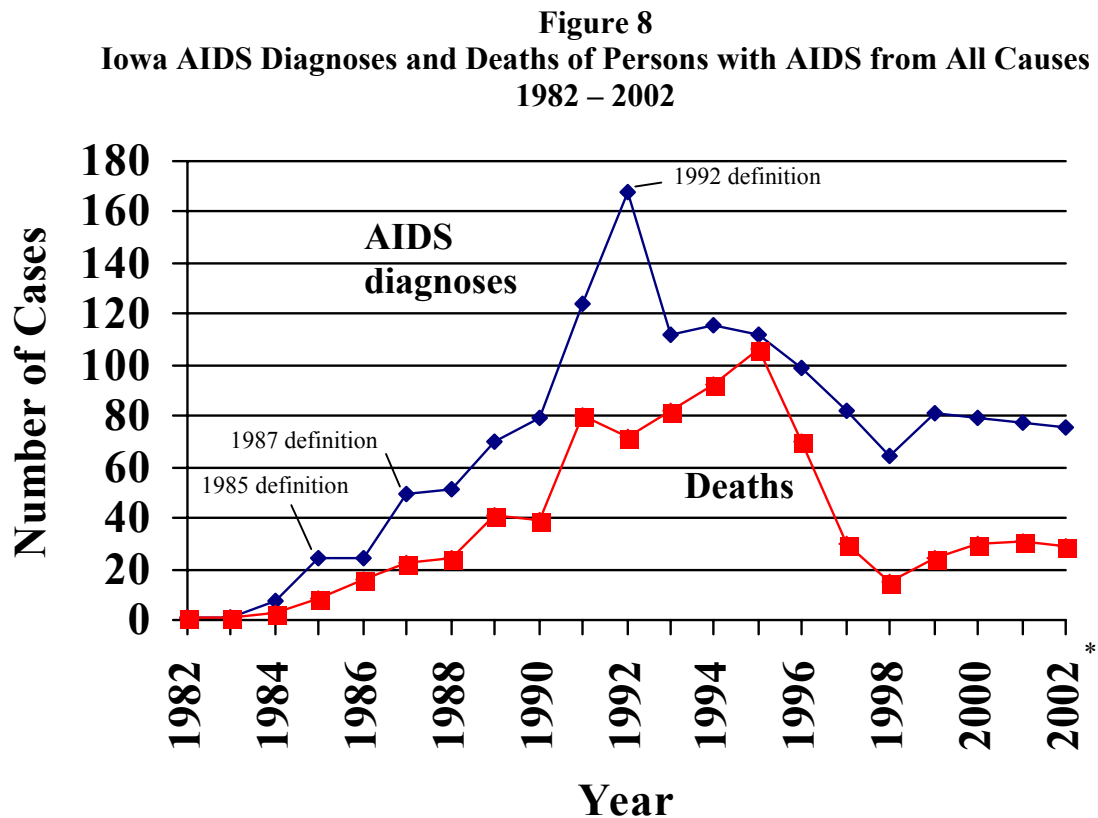
Region	Regional Totals		
	Males	Females	All
Central/South America/ Caribbean	18	5	23
Africa	5	14	19
Southeast Asia	3	0	3
Other	1	0	1
All regions	27	19	46

Summary of Statewide HIV Data

- Diagnoses of HIV infection in Iowa increased by 7% in 2002. The increase was solely among foreign-born persons, who accounted for 27% of new diagnoses. Diagnoses among U.S.-born persons continued to decline in 2002.
- Diagnoses of HIV infection among foreign-born have increased 250% since 1999. Foreign-born persons with HIV are more likely to be female, minority (Black or Hispanic), and heterosexual or with an unidentified risk than HIV-infected persons born in the U.S. Most foreign-born persons with HIV emigrated from Africa or Central and South America.
- Just over one-half of all persons diagnosed with HIV in 2001 were subsequently diagnosed with AIDS within the following year.
- The number of HIV tests conducted at IDPH-funded test sites has been declining since 1992. Despite declines in testing, the rate of positivity has been constant since 1998 at 0.3 – 0.4%.

Diagnoses of AIDS

The number of Iowa's AIDS cases, based upon the date that a case was first diagnosed as meeting the AIDS case definition, and the number of deaths of persons with AIDS are presented in Figure 8 and Table 5.



* Data for 2002 were reported through June 30, 2003. Because of reporting delays, 2002 data may be incomplete.

In Iowa, AIDS diagnoses peaked in 1992 (Figure 8). Changes in the definition of AIDS occurred in 1985, 1987, and 1992 (see Core HIV/AIDS Surveillance under Data Sources at the beginning of this chapter). Each change in definition increased the number of diagnoses that year and is marked on the graph. The major increase in diagnoses in 1992 (and in subsequent case reports in 1993) is largely explained by the inclusion of CD4+ cell counts below 200 cells per microliter of serum (or less than 14% of total lymphocytes) as AIDS-defining conditions, but it also represents a peak in the epidemic. This is indicated by a continuous decrease in the number of cases diagnosed through 1998.

This decrease probably represents an actual decline in the number of AIDS cases rather than an artifact of reporting or a consequence of the change in definition described previously. A factor contributing to this downward trend was the use of combination antiretroviral therapy to slow HIV disease progression to AIDS. The decrease in AIDS diagnoses did not correlate with a significant decrease in new HIV diagnoses (see Figure 3), and is, therefore, due almost entirely to treatment advances rather than to a decrease in new infections of HIV.

Table 5
Iowa AIDS Diagnoses, Case Reports, and Deaths
by Year of Diagnosis or Death

Year	AIDS Diagnoses	Deaths
1982	1	1
1983	1	1
1984	7	3
1985	24	8
1986	24	16
1987	49	22
1988	51	24
1989	70	41
1990	79	39
1991	124	80
1992	168	72
1993	111	82
1994	116	92
1995	112	106
1996	99	70
1997	82	30
1998	64	15
1999	81	24
2000	79	30
2001	77	31
2002	76	29
Total	1,495	816

¹ Diagnoses and deaths for 2002 were reported through July 1, 2003. Because of reporting delays, 2002 diagnoses and reports of deaths may be incomplete.

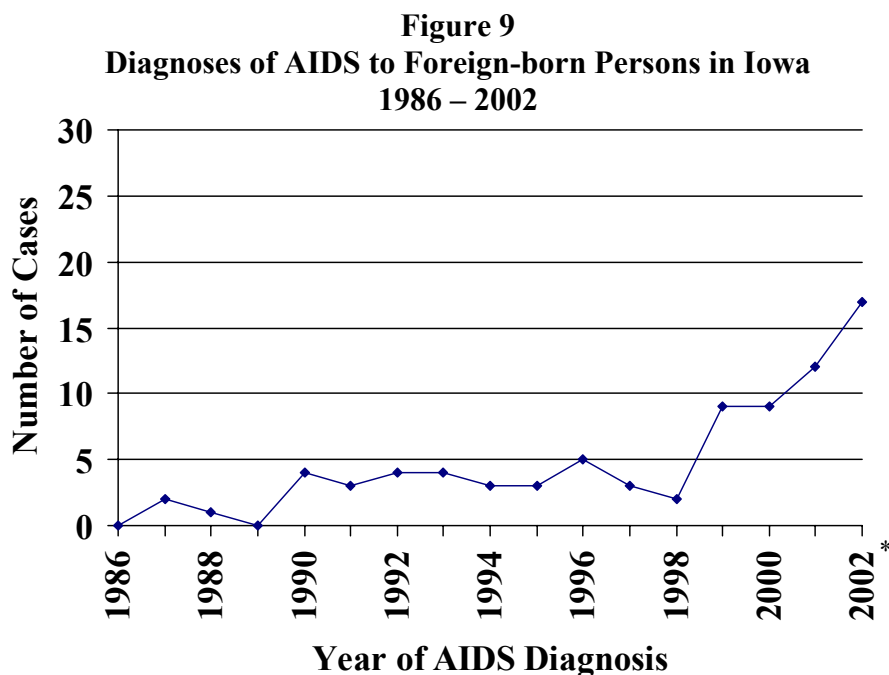
² Reported deaths of persons with AIDS. Deaths were not necessarily related to HIV infection. Deaths of persons with HIV (not AIDS) are not included here.

AIDS diagnoses increased in 1999 for the first time in five years but have been level or slowly decreasing since then. The increase in 1999 could have been related to a true increase in the number of diagnoses, either due to new HIV infections in the past, or because of increases in treatment failure rates and/or in patient noncompliance with treatment regimens. Nationally, the decline in the number of diagnoses of AIDS similarly ended in 1999 (see <http://www.cdc.gov/hiv/graphics/trends.htm>).

The increase in diagnoses in Iowa in 1999 may also reflect artifacts of reporting, such as increased surveillance activities related to the implementation of HIV reporting in 1998. Not only did persons with HIV but not AIDS become reportable, but laboratories began reporting lab findings indicative of HIV infection or AIDS directly to the HIV/AIDS Program's surveillance office. This increased the number of persons who were reported to the surveillance program and may have allowed for identification of persons who qualified for an AIDS diagnosis by their CD4+ cell count but who had not yet been reported as AIDS by their health care provider. Because diagnoses have continued to remain well above the trough seen in 1998, the increase in 1999 was probably only in small part due to earlier reporting of CD4+ counts by laboratories.

The decline in deaths of persons with AIDS after 1995 (Figure 8) also indicates the success of highly active antiretroviral therapy (HAART). Deaths declined until 1998, when fewer than 20 deaths were reported. An increase in the number of deaths among persons with AIDS was seen in 1999 (Figure 8, Table 5). The number of deaths remained steady at 29 in 2002. Deaths reported were not necessarily related to AIDS, and again, data for 2002 may be incomplete. According to the Iowa Center for Health Statistics, AIDS was ranked among the top five causes of death in Iowa for the years 1993 to 1996 among the 25 to 44 age group, but AIDS was not among the top ten causes of death for any age group after 1996. The close association between trends in AIDS diagnoses and deaths further indicates that the 1999 increase in AIDS diagnoses was a true increase and was not an artifact of disease surveillance activities.

There has also been a dramatic increase in the number of foreign-born persons who were diagnosed with AIDS in Iowa since 1998. Figure 9 shows the number of diagnoses of AIDS among foreign-born persons in Iowa since 1986. In 2002, just over 22% of all diagnoses were to persons who were foreign born whereas in 1992, fewer than 4% of diagnoses were among foreign-born persons. Since 1998, 47 foreign-born persons have been diagnosed with AIDS. Thirty-four of these people were male. The majority of the males diagnosed with AIDS (71%) were of Hispanic descent, whereas 70% of females were of African descent.



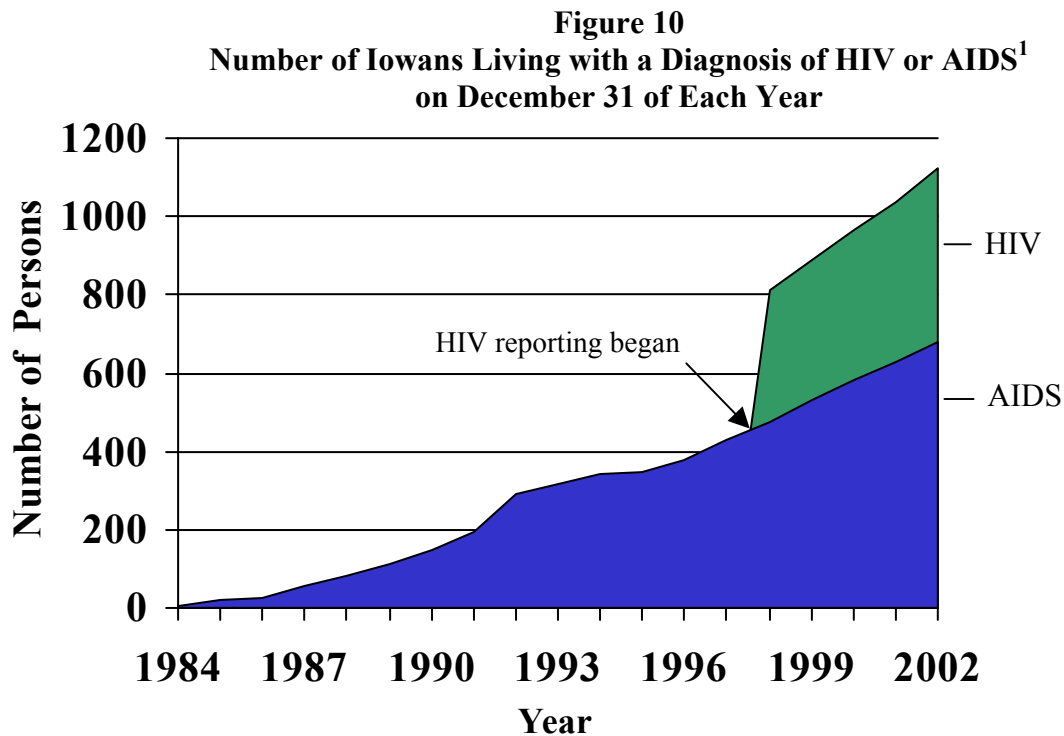
* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Summary of Statewide AIDS Data

- Diagnoses of AIDS peaked in 1992, coinciding with the change in definition of AIDS to include CD4+ cell counts less than 200 cells/microliter or 14% of total lymphocytes. The advent of highly active antiretroviral therapy (HAART) sparked a decline in diagnoses of AIDS from 1995 – 1998.
- The number of diagnoses of AIDS increased for the first time in seven years in 1999 to just over 80 cases. There were 76 persons diagnosed with AIDS in 2002.
- The number of foreign-born persons diagnosed in Iowa with AIDS increased substantially after 1998. Most of these persons were male (72%) and of these, most were of Hispanic origin. Among the foreign-born females, most (70%) were of African descent.
- Deaths of persons with AIDS declined from 1995 until 1998, when fewer than 20 deaths were reported. An increase in the number of deaths among persons with AIDS was seen in 1999 and has leveled off near 30 deaths per year. The increase in deaths after 1998 parallels a concurrent increase in AIDS diagnoses.

PREVALENCE OF HIV/AIDS

The decrease in deaths of persons with AIDS after 1994, combined with a relatively steady number of HIV diagnoses, have contributed to an increase in the number (prevalence) of persons living with HIV infection and AIDS. The number of Iowans living with AIDS increased more than three-fold in the ten-year period from 1991 to 2001. On December 31, 2002, there were 680 persons reported to be living with AIDS in Iowa (Figure 10). An additional 443 persons were reported as living with HIV infection on December 31, 2002, for a total of 1,123 persons reported to be living with HIV disease.

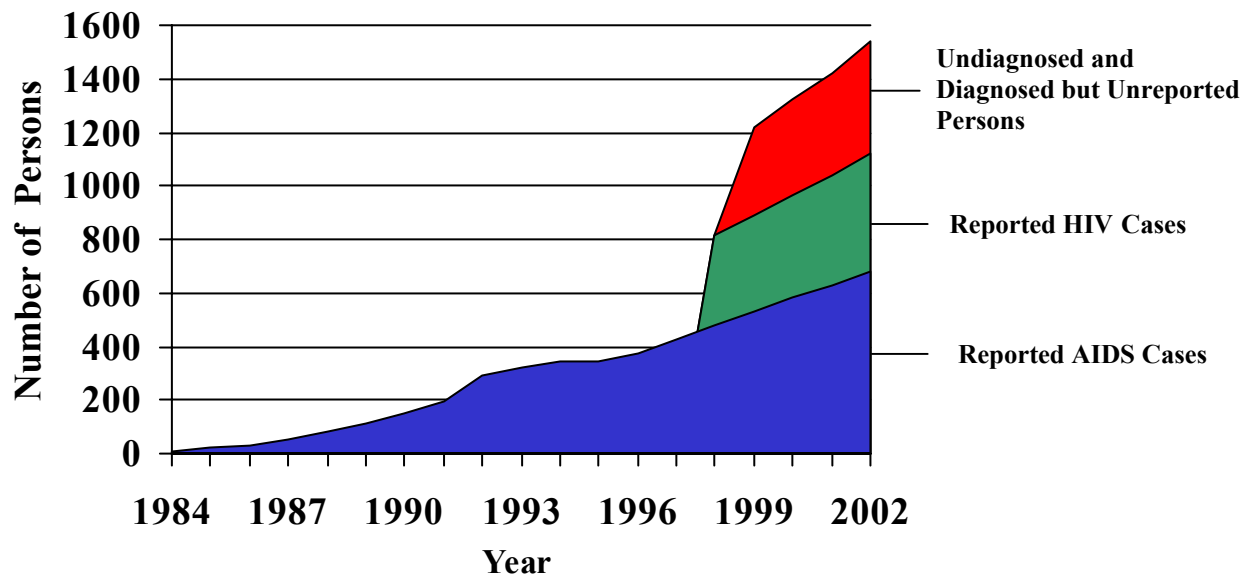


¹ Persons reported through June 30, 2003, as having HIV or AIDS, and living in Iowa at time of diagnosis. Reporting of HIV infection began July 1, 1998. A person may be counted only once (as either HIV or AIDS) in a given year. All deaths may not have been reported.

Estimated Prevalence

Not shown in Figure 10 are persons who are diagnosed but have not been reported, and persons who may be infected with HIV but who have not been tested for HIV. Evaluations of the surveillance system indicate that HIV data are 96% complete and AIDS data are 98% complete. That is, there may be an additional 18 persons diagnosed with HIV and 14 persons diagnosed with AIDS that have not been reported. The Centers for Disease Control and Prevention estimate that, nationally, 25% (\pm 4%) of HIV-infected persons have not yet been diagnosed. Adjusting the data for those unreported and undiagnosed persons gives an HIV/AIDS prevalence estimate of 1,540 (range of 1,462 to 1,627) living infected persons for the state (Figure 11).

Figure 11
Estimated Number of Iowans Living with HIV or AIDS¹
on December 31 of Each Year



¹ Persons reported through June 30, 2003, as having HIV or AIDS and living in Iowa at time of diagnosis. Reporting of HIV infection began July 1, 1998. A person may be counted only once (as either HIV or AIDS) in a given year. All deaths may not have been reported.

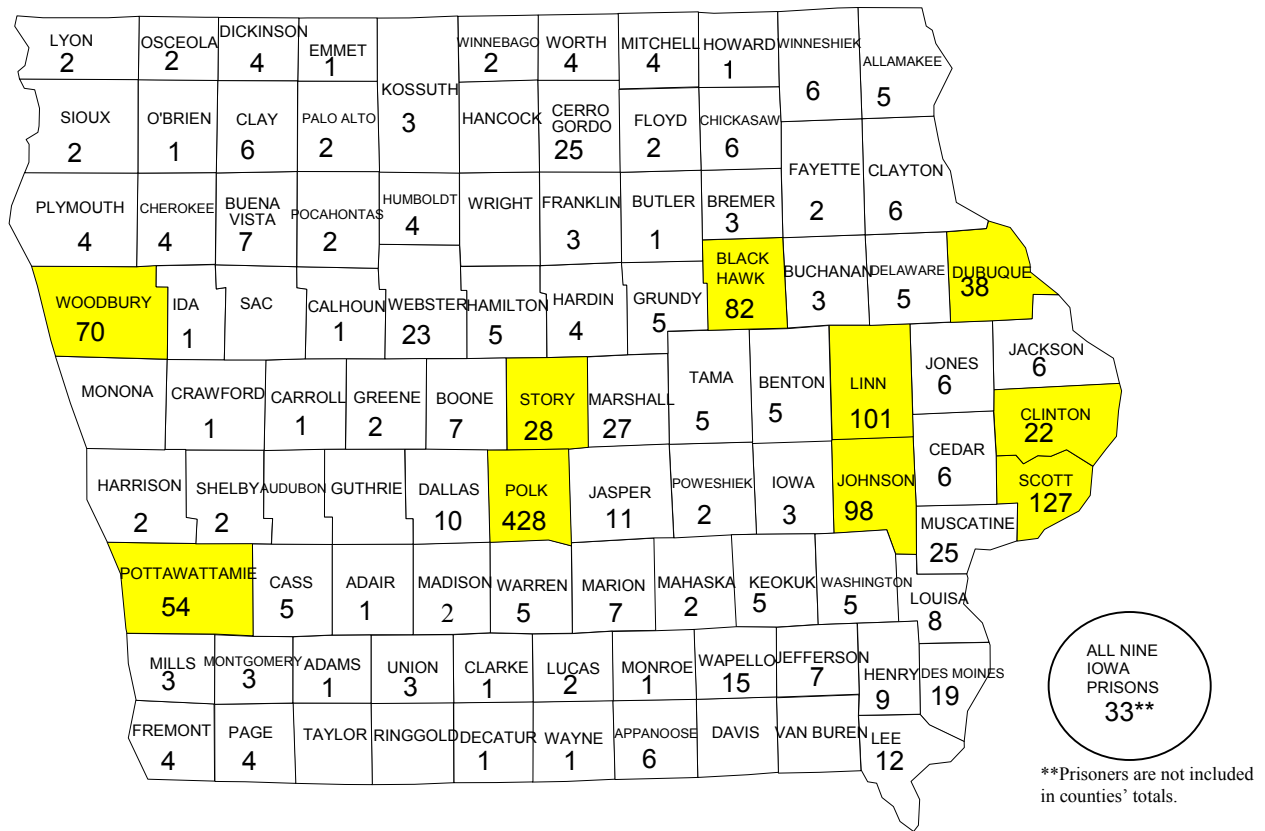
Geographical Distribution of HIV and AIDS

Since reporting began in 1983, 92 of the 99 counties in Iowa have reported at least one HIV or AIDS case. Those cities and counties that have historically reported the greatest number of infected persons are Des Moines in Polk County, Davenport in Scott County, Waterloo in Black Hawk County, Iowa City in Johnson County, Cedar Rapids in Linn County, Council Bluffs in Pottawattamie County, and Sioux City in Woodbury County. While the ten most populous counties of Clinton, Dubuque, Johnson, Pottawattamie, Story, Woodbury, Black Hawk, Linn, Polk, and Scott comprise 47% of the total population, 71% of persons living with HIV/AIDS were diagnosed as residents of these counties (not including persons diagnosed in state correctional facilities).

Figure 12 presents the geographical distribution of cumulative AIDS cases in Iowa. All persons diagnosed with AIDS while a resident of Iowa since 1983 are shown. The ten most populous counties are shaded.

Because Figure 12 represents only persons with AIDS, some of whom may have been diagnosed many years ago, it may not accurately reflect the geographical distribution of new or existing cases of HIV infection. By removing persons who are no longer living and adding persons who are living with HIV (not AIDS) to the map, a better picture of HIV infection in Iowa emerges.

Figure 12
Iowa AIDS Cases by County of Residence at Time of Diagnosis
February, 1983 – December, 2002

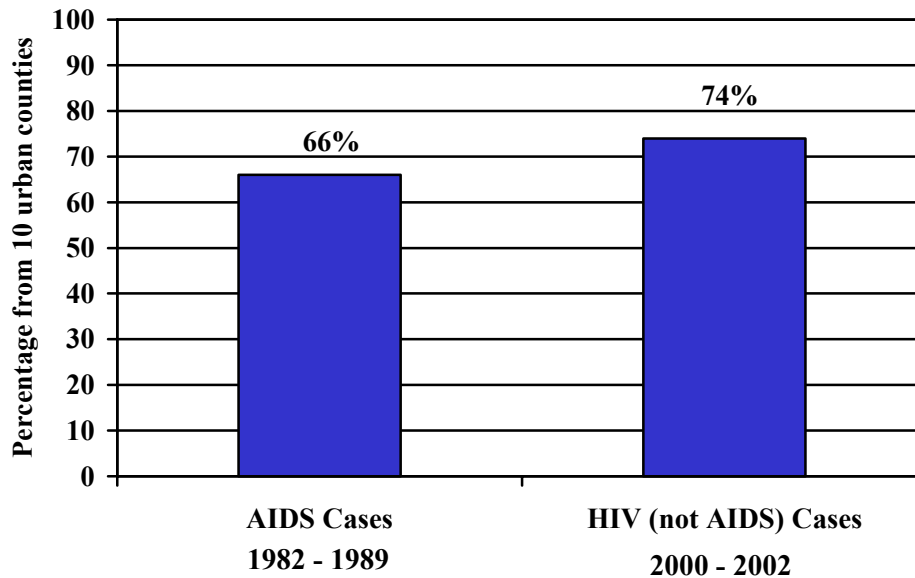


Total = 1,495 cases. Numbers indicate both living and deceased persons. Map does not include 635 persons who were diagnosed in another state but who subsequently moved to Iowa (369 persons) or received care in Iowa (266 persons) while residing elsewhere. Persons diagnosed within the Iowa Department of Correction's nine prisons are shown separately. The ten most populous counties are shaded.

Figure 13 shows the distribution of all prevalent cases of HIV disease; that is, all living persons with HIV or AIDS on December 31, 2002. Cases are plotted according to county of residence at time of diagnosis of AIDS, for AIDS cases, or of HIV, for non-AIDS cases.

Comparing the two maps suggests that the newer or more recent infections may be occurring in residents of more urban areas than in the past. Persons living with HIV or AIDS on December 31, 2002, were more often diagnosed while living in the most populous counties in Iowa than were persons with AIDS (cumulatively).

Figure 14
Percentage of 1983 - 1989 AIDS¹ Cases and 2000 - 2002 HIV² Cases
from Ten Most Populous Counties
According to Residence at Time of Diagnosis



¹ Diagnosed between January, 1982 and December, 1989.

² Diagnosed between January, 2000 - December, 2002, and had not been diagnosed as AIDS by December 31, 2002.

The concentration of infection in the most populous counties is further illustrated by comparing the number of cases per 100,000 persons in each of the counties. Table 6 shows the prevalence of HIV infection (persons living with HIV or AIDS) on December 31, 2002, by county, for those counties with more than five cases. The statewide prevalence of persons living with HIV or AIDS is 38 cases per 100,000 persons. The ten most populous counties have a prevalence that is 3.2 times the average of the other 89 counties, and the gap is growing between urban and rural areas. The two-year increase in prevalence among those ten counties was higher than that of the other 89 counties, with an average increase of 5.7 persons per 100,000 population compared to 3.7 for the other counties.

Scott County, in far eastern Iowa, showed the highest prevalence at 77.1 persons per 100,000 population, and the largest increase in prevalence from 2001. In 2002, Scott County overtook Polk County as the county with the most cases per capita. Polk County, with the capital city of Des Moines, has the second highest prevalence of persons living with HIV and AIDS at 76.2 cases per 100,000 persons. Johnson County ranked third at 70.9 cases per 100,000 population, excluding 51 persons who were diagnosed at the Iowa Department of Correction's Medical and Classification Center in Oakdale. These people did not necessarily reside in Johnson County before or after incarceration, but were processed in the central medical facility before assignment to other correctional institutions. Johnson County is the location of the largest university in the state with approximately 29,000 students, and it includes the Iowa City/Coralville metropolitan area of approximately 70,000 persons. Polk, Johnson, Scott, Black Hawk, Pottawattamie,

Woodbury, and Clinton counties have the highest prevalences among the ten most populous counties.

Table 6
Prevalence¹ of HIV and AIDS by County² and for
10 Most Populous Counties on December 31, 2002

County	# Living Cases	2002 Estimated Population	Prevalence (per 100,000 pop.)	Change from 2001 (per 100,000 pop.)
<i>Scott</i>	123	159,445	77.1	+ 8.5
<i>Polk</i> ³	294	385,691	76.2	+ 6.8
<i>Johnson</i> ³	81	114,300	70.9	+ 7.1
<i>Black Hawk</i>	69	127,394	54.2	+ 0.2
<i>Pottawattamie</i>	44	88,157	49.9	+ 5.6
<i>Woodbury</i>	50	103,331	48.4	+ 8.9
Marshall	19	39,482	48.1	+ 15.1
Henry ³	9	20,122	44.7	+ 5.3
<i>Clinton</i>	21	49,650	42.3	+ 4.3
<i>Linn</i>	67	194,970	34.4	+ 4.2
Muscatine	13	42,040	30.9	+ 4.6
<i>Story</i>	23	80,649	28.5	+ 7.3
Webster ³	11	39,821	27.6	+ 5.2
Boone	7	26,167	26.8	+ 0.1
Cerro Gordo	12	45,339	26.5	+ 9.2
Des Moines	10	41,458	24.1	+ 0.5
Jasper ³	9	37,375	24.1	+ 8.0
<i>Dubuque</i>	21	89,387	23.5	0.0
Wapello	8	35,787	22.4	+ 5.7
Lee	8	36,902	21.7	+ 3.2
Marion	7	32,674	21.4	+ 5.9
Dallas	9	44,222	20.4	+ 3.3
Warren	6	41,523	14.4	+ 4.6
Counties with ≤5 cases	143	---	---	---
Prison System	59	---	---	---
Total – ten most populous	793	1,392,974	56.9	+ 5.7
Total – all other counties	271	1,543,786	17.6	+ 3.7
All Counties³	1123	2,936,760	38.2	+ 5.1

¹ Persons living with diagnoses of HIV or AIDS. All deaths may not have been reported.

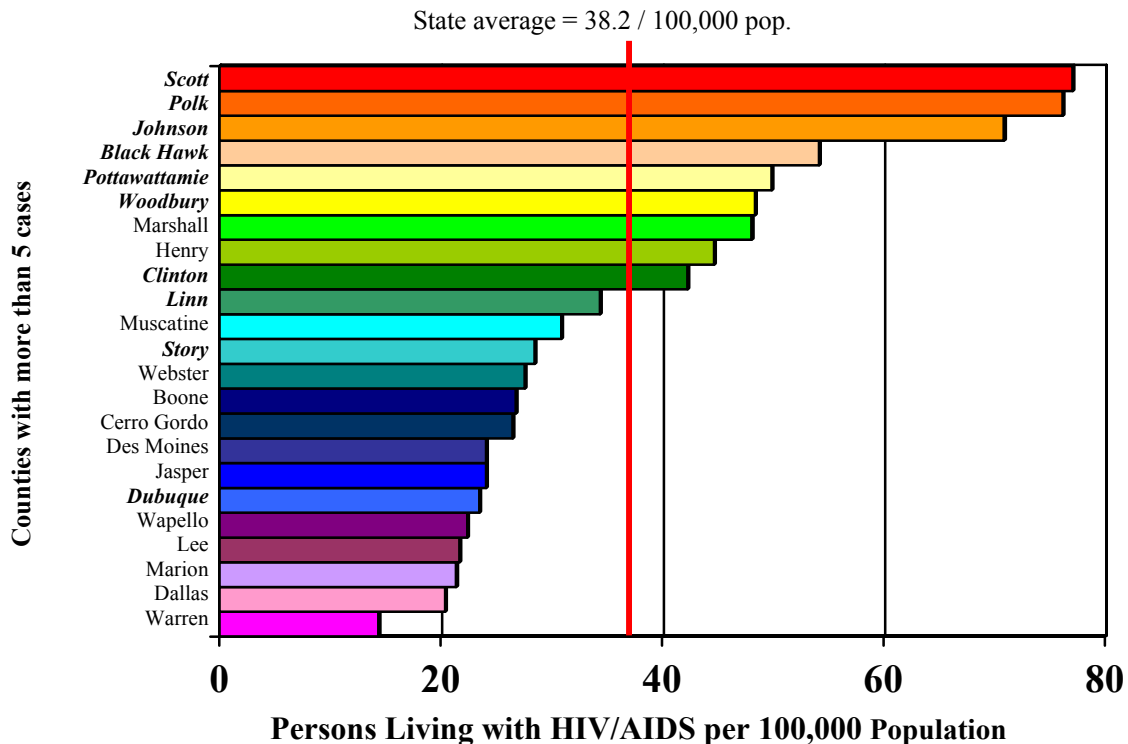
² Only counties with five or more cases are included. The ten most populous counties are italicized.

³ Fifty-nine cases were diagnosed at correctional medical facilities in the following counties: Johnson County (51), Jasper (3), Polk (2), Henry (1), Page (1), and Webster (1). These cases have been deleted from prevalence calculations for each respective county because they did not necessarily reside in those counties before incarceration. These cases are included in the Prison System total.

Story, Linn, and Dubuque counties differ from the other seven most populous counties in that their prevalences are lower than the state average of 38.2 persons per 100,000 population. Dubuque and Story counties are significantly below the average county prevalence and may not, therefore, be properly grouped with the other urban counties when discussing high-prevalence areas of the state.

Two counties have prevalences above the state average, but have overall populations less than 50,000. Henry County in southeastern Iowa and Marshall County in central Iowa both have prevalences higher than 38 cases per 100,000 population. Henry County houses a state mental health facility and a correctional facility. Cases reported from correctional facilities were excluded from all counties. Henry County would fall below the state average if cases from the mental health facility were also excluded. Marshall County in central Iowa had the largest two-year increase in prevalence. The county houses a Veteran’s home and a large meat-packing facility. Marshall has seen a notable increase in the number of Hispanic persons since 1997. Hispanics now account for 9% of the population there. While these counties may deserve special consideration, caution should be used when making conclusions based upon such small numbers. Because of the low numbers of cases and the relatively small populations, rates, or cases per 100,000 population, may not be stable.

Figure 15
Prevalence¹ of HIV and AIDS by County² on December 31, 2002



¹ Persons living with diagnoses of HIV or AIDS. All deaths may not have been reported.

² Only counties with five or more cases are included. The ten most populous counties are italicized and bolded.

³ Fifty-nine cases were diagnosed at correctional medical facilities in the following counties: Johnson County (51), Jasper (3), Polk (2), Henry (1), Page (1), and Webster (1). These cases have been deleted from prevalence calculations for each respective county because they did not necessarily reside in those counties before incarceration. These cases are included in the state average.

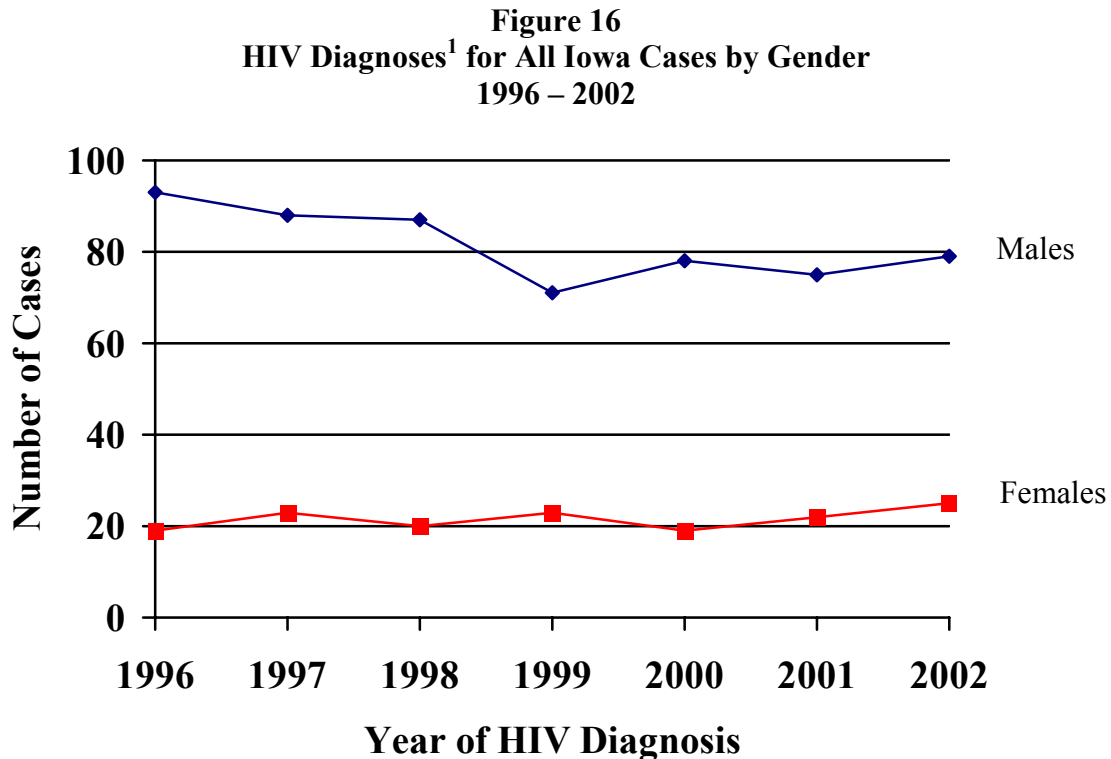
Summary of HIV/AIDS Prevalence Data

- The gradual decrease in diagnoses of AIDS cases and in deaths of persons with AIDS from 1992 to 1998 has been accompanied by an increase in the number of persons living with HIV infection and AIDS (i.e., the prevalence). The number of Iowans living with AIDS increased more than 3 fold in the ten-year period from 1991 to 2001. There were 1,123 Iowans living with HIV or AIDS on December 31, 2002.
- The Centers for Disease Control and Prevention estimate that, nationally, 25% (\pm 4%) of HIV-infected persons have not yet been diagnosed. Adjusting the data for those unreported and undiagnosed persons gives an HIV/AIDS prevalence estimate of 1,540 (range of 1,462 to 1,627) living infected persons for the state.
- There were 38 persons living with HIV or AIDS per 100,000 persons in Iowa in 2002. This was an increase of 5.1 persons per 100,000 from 2001.
- There has been a gradual trend toward a more urban distribution of HIV infection in Iowa. Seventy-four percent of persons diagnosed with HIV (not AIDS) from 2000 to 2002 were living in one of Iowa's ten most populous counties compared to only 66% of AIDS cases diagnosed from 1982 - 1989. Only 47% of Iowans live in those counties.
- Among the ten most populous counties, Polk, Scott, Johnson, Black Hawk, Pottawattamie, Woodbury, and Clinton counties have the highest prevalences of persons living with HIV or AIDS. Linn, Dubuque, and Story counties have prevalences below the county average for the state.

GENDER AND AGE

Gender – HIV Diagnoses

Figure 16 shows the number of HIV diagnoses by gender. Males have historically accounted for the majority of new cases, and they continue to do so. While the number of diagnoses decreased for all Iowans from 1996 to 2001 (see Figure 3), this decrease in diagnoses was, in fact, only among males (Figure 16). Diagnoses among females were relatively steady during this period. Diagnoses among both males and females increased in 2002.



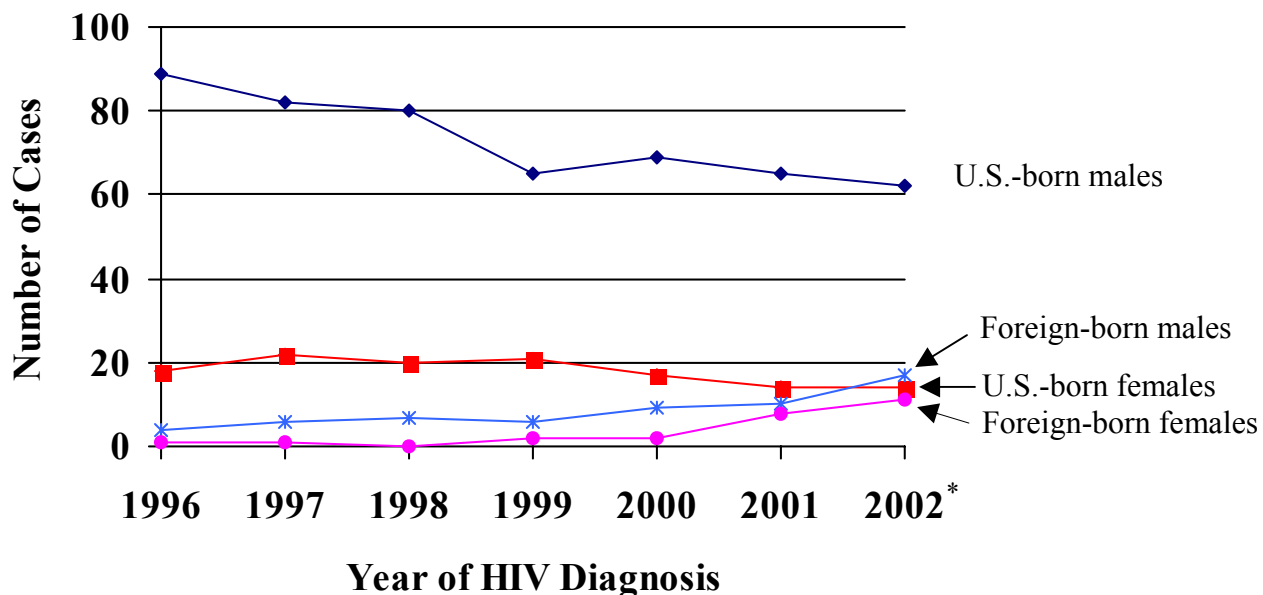
¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

In 1993, 10% of new diagnoses were among females (data not shown), but that had risen to 24% by 2002. As Figure 16 shows, though, the large change in percentage is mostly due to decreasing numbers of males rather than to a marked increase in females. Because changes in percentages over time can lead to a misinterpretation of the data, it is better to examine changes in absolute numbers rather than changes in percentages when observing trends.

The increasing number of foreign-born persons being diagnosed with HIV in Iowa may influence trends in diagnoses by gender. Diagnoses of HIV among U.S.-born and foreign-born persons by gender are shown in Figure 17.

Figure 17
HIV Diagnoses¹ by Gender and Country of Origin
1996 – 2002



¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

When U.S.-born cases are plotted separately, it becomes evident that diagnoses have been declining for males and females born in the U.S. The decline in diagnoses among U.S.-born males has been fairly substantial since 1996. U.S.-born females have been experiencing a decrease in the number of diagnoses since 1999.

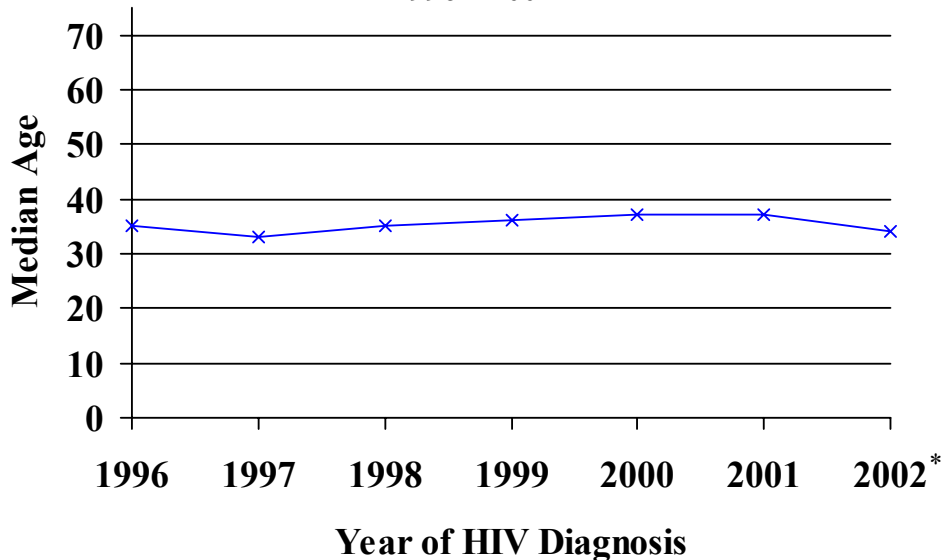
Diagnoses among foreign-born males, however, have increased 183% since 1999. Diagnoses among foreign-born females increased from 2 persons in 1999 to 11 persons in 2002.

In summary, diagnoses of HIV infection among both males and females have been decreasing for U.S.-born persons. Males continue to account for the majority of new cases, but the percentage of females has increased since 1993 because the decrease in diagnoses among males has outpaced the decrease among females. Increases in diagnoses among foreign-born persons were experienced by both males and females. Although foreign-born males outnumber foreign-born females, the difference is not substantial.

Age – HIV Diagnoses

An historical look at median age at time of HIV diagnosis in Iowa shows that the median age of diagnosis is 34 to 37 years (Figure 18). After 1997, there was a gradual increase in median age to 37 years but the median fell to 34 in 2002. This decrease was only partly due to the increasing diagnoses among foreign-born persons, who tend to be younger than U.S.-born persons at time of diagnosis. Foreign-born persons diagnosed in 2001 had a median age of 31 years, compared to 38 years for U.S.-born persons (data not shown), but in 2002, median age among U.S.-born persons fell to 35 and median age of foreign-born persons rose to 32.

Figure 18
Median Age at Time of HIV Diagnosis¹ for All Iowa Cases
1996 – 2002

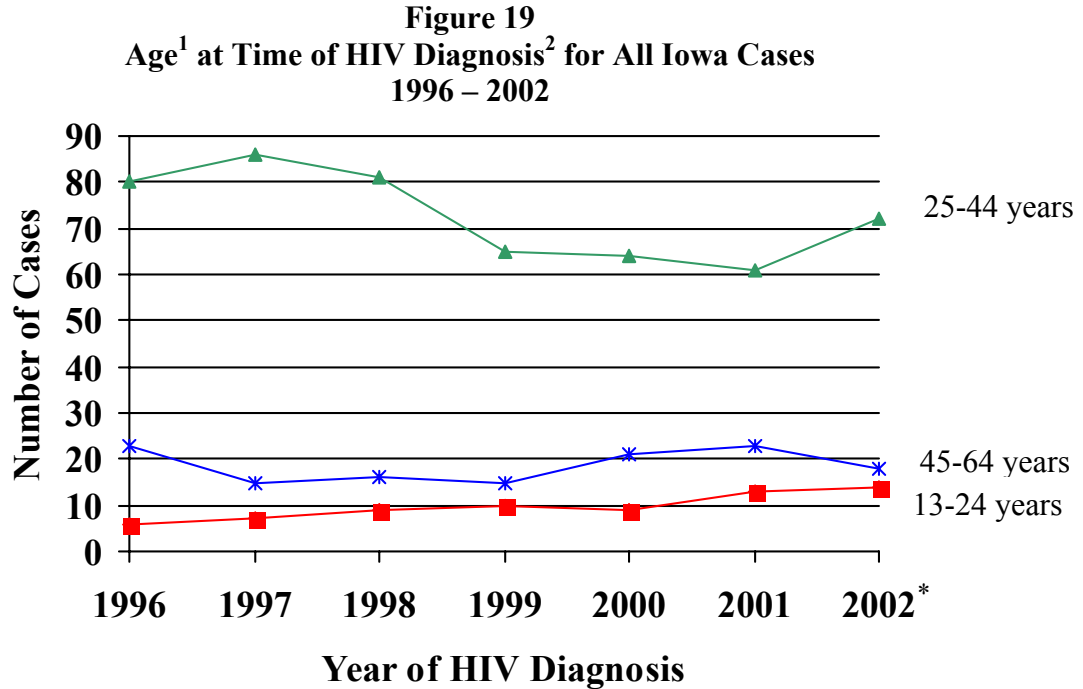


¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

The number of persons diagnosed with HIV infection in each of three age groups is shown in Figure 19. Persons 25 to 44 years of age have consistently accounted for the largest number of new diagnoses. Diagnoses within this age group decreased from 1997 to 2001, but increased substantially in 2002 and accounted for nearly all of the increase in overall diagnoses recorded in 2002. Diagnoses among those less than 13 years and older than 64 years were too few to plot. In 2002, there were no diagnoses among people in either of these age groups.

The numbers of persons diagnosed between 13 to 24 years of age has generally been very low and has increased only slightly since 1996 (Figure 19). However, this should not be interpreted to mean that the number of new infections among people in this age group is low. Persons diagnosed in their late twenties and early thirties may have been infected for a number of years before getting tested and diagnosed. It has been estimated that at least one-half of all new HIV infections in the United States are among people under 25 years of age (Rosenberg PS, Biggar RJ, Goedert JJ. *New England Journal of Medicine*. 1994; 330:789-90; see <http://www.cdc.gov/hiv/pubs/facts/youth.htm>).



¹ There were too few cases among age groups “0-12” and “Over 64” to plot.

² Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

HIV cases by age and gender are shown in Table 9 for persons diagnosed in 2002. Females diagnosed with HIV are slightly younger than males, with respective median ages of 33 and 34 years at time of diagnosis. Foreign-born males and females each had a median age of 32 years.

Table 9
Iowa HIV Diagnoses by Age at Diagnosis and Gender
Diagnosed in 2002¹

Age at diagnosis	Males		Females		Total	
	m = 34 years		m = 33 years		m = 34 years	
0-1	0	--	0	--	0	--
2-12	0	--	0	--	0	--
13-24	8	(10)	6	(24)	14	(13)
25-44	56	(71)	16	(64)	72	(69)
45-64	15	(19)	3	(12)	18	(17)
65 and over	0	--	0	--	0	--
Total	79		25		104	

¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown. Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

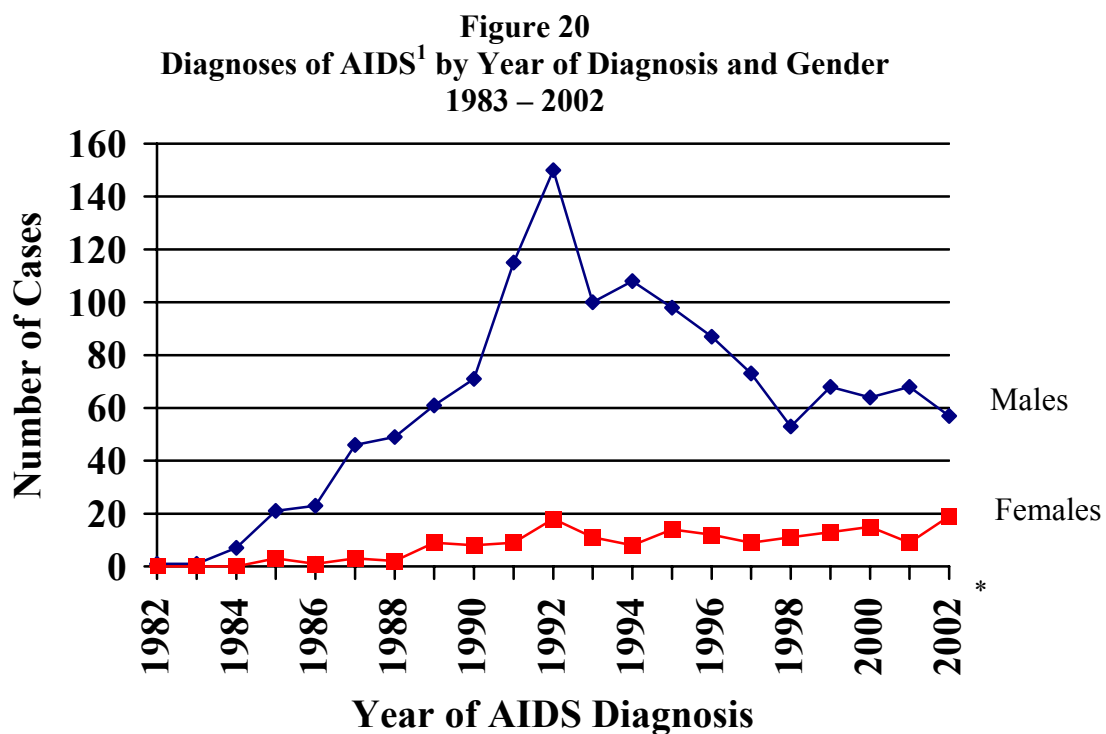
² m = median age of cases for that time period.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Gender – AIDS diagnoses

While females have historically accounted for a small proportion of Iowa's AIDS cases, the number of women diagnosed has been fairly steady from 1989 to 2002 (Figure 20). Overall, fewer than 20 females are diagnosed with AIDS each year. Diagnoses of AIDS increased in 2003 among females, a trend not shared by males. Diagnoses among males fell from 68 in 2001 to 57 in 2002.

The influence of antiretroviral therapies on delaying diagnosis of AIDS is quite evident among males (Figure 20). Diagnoses decreased from 1995 to 1998, largely in response to the effects of treatment. A similar decrease in diagnoses of women is not as evident, perhaps due to low numbers of cases. Both males and females experienced some increase in the number of AIDS diagnoses after 1998, but males saw that trend reversed in 2002.

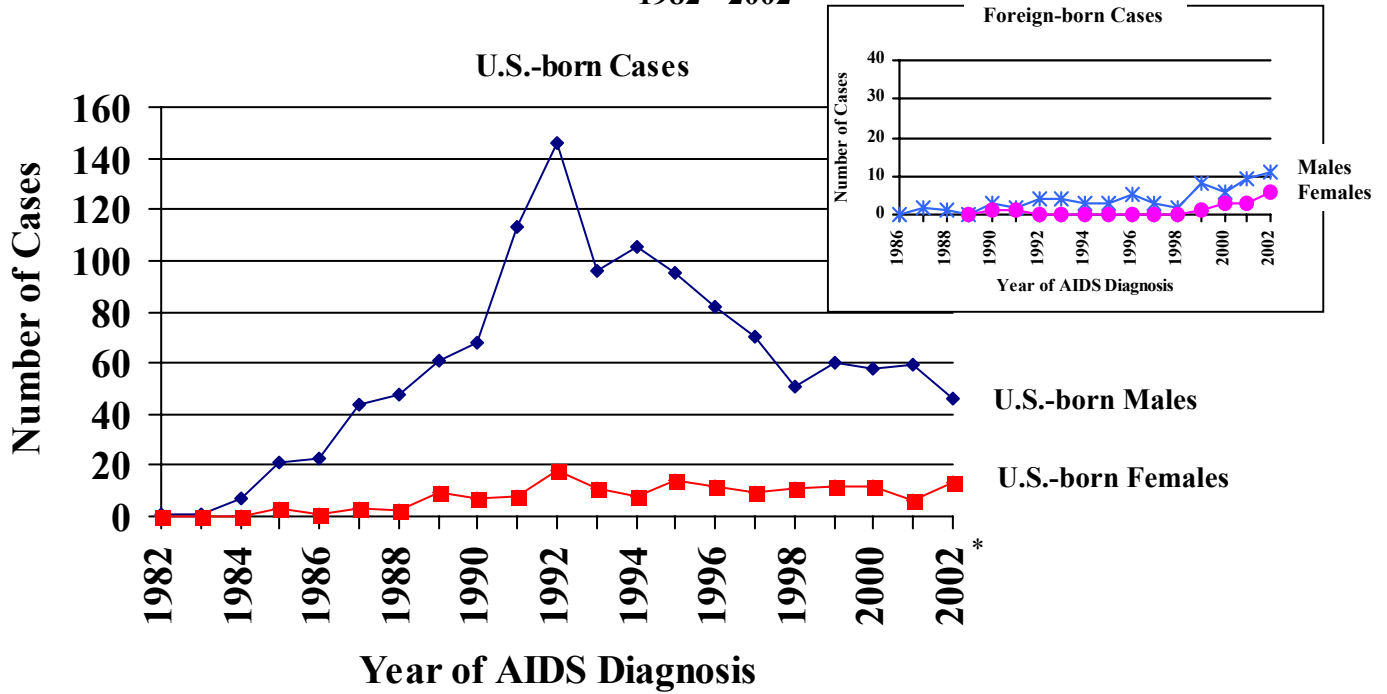


¹ Includes all persons who were diagnosed with AIDS while residents of Iowa.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Both foreign-born males and females saw an increase in diagnoses of AIDS after 1998 (see inset, Figure 21). Although the small numbers of diagnoses among foreign-born persons has not had a large influence on the overall trends in diagnoses by gender, continued increases in diagnoses among foreign-born persons may affect interpretation of these trends in the future. The recent decline in diagnoses among males in 2002 is a bit more pronounced when data from U.S-born males are plotted separately. The increase in diagnoses among females was not solely due to the influence of diagnoses among foreign-born females.

Figure 21
Diagnoses of AIDS¹ by Year of Diagnosis, Gender, and Country of Origin
1982 - 2002



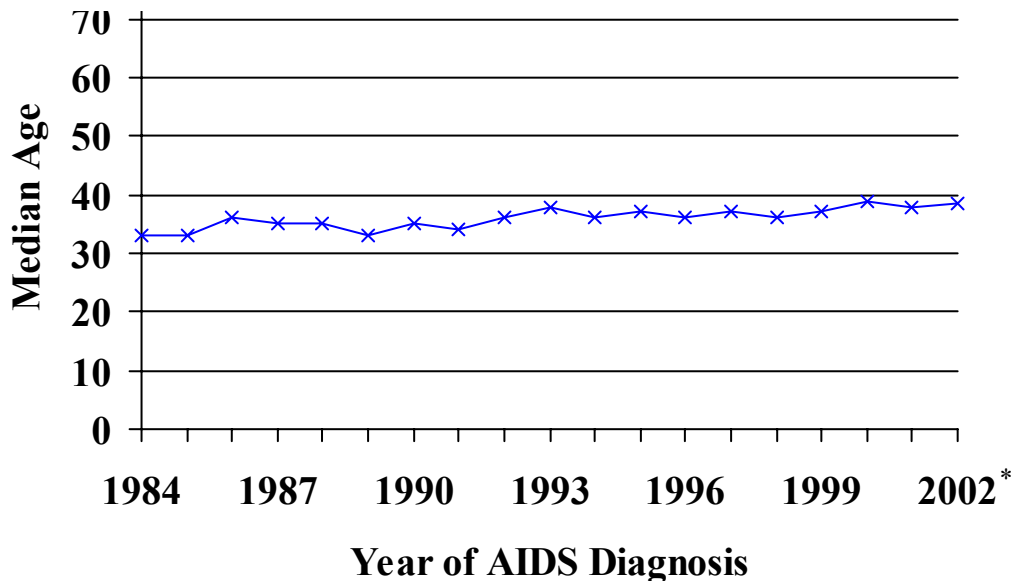
¹ Includes all persons who were diagnosed with AIDS while residents of Iowa.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Age – AIDS Diagnoses

Figure 22 shows the median age at diagnosis of AIDS for residents of Iowa. The median age increased from 33 years in 1983 to 39 in 2000, probably reflecting the increased time from infection to AIDS because of better treatments. The median age for persons diagnosed with AIDS in 2002 was 38.5 years.

Figure 22
Median Age at Time of AIDS Diagnosis¹
1984 – 2002

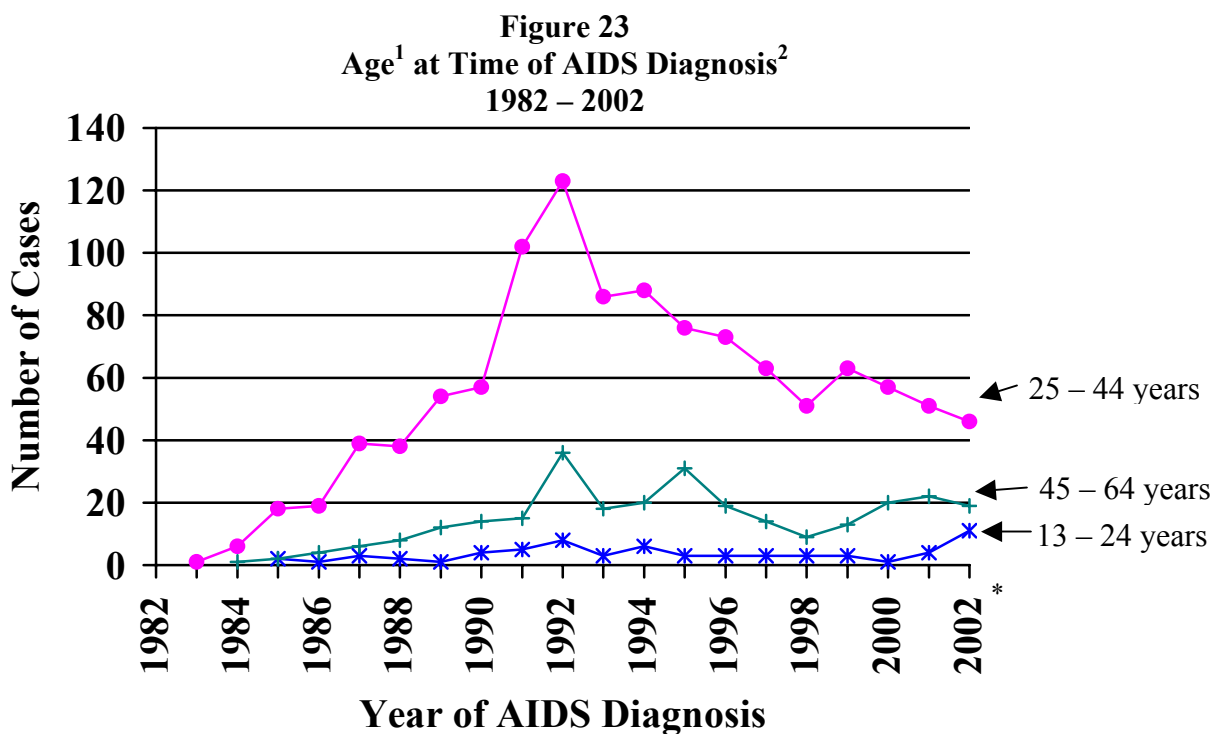


¹ Includes all persons who were diagnosed with AIDS while residents of Iowa.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Foreign-born persons were considerably younger at AIDS diagnosis than U.S.-born persons in 2002. Foreign-born persons had a median age of 34 years at diagnosis while U.S.-born persons had a median age of 41.

Diagnoses of AIDS for each of three age groups are shown in Figure 23. Most persons diagnosed with AIDS were 25 to 44 years of age. This age group has also seen the most significant decreases in diagnoses since 1992. In 2002, diagnoses among those 13 to 24 years of age increased by nearly three-fold over 2001. This increase may be an anomaly, but should be watched carefully in the coming year. Data from the first six months of 2003 do not indicate that the trend will continue. Most of these persons (82%) were 20 to 24 years of age, and 64% were U.S.-born. Diagnoses among those less than 13 years averaged fewer than 1 per year, while those among persons 65 years and over averaged fewer than 2. They are not plotted because of the low numbers. There were no diagnoses among either of these age groups in 2002.



¹ There were too few cases among age groups “0-12” and “Over 64” to plot.

² Includes all persons who were diagnosed with AIDS while residents of Iowa.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Iowa AIDS cases by age and gender are shown in Table 10, for cases diagnosed in 2002 and cumulatively. Females diagnosed in 2002 were slightly younger than males at time of AIDS diagnosis. In 2002, the median age was 38 for females and 40 for males. Approximately three-fourths of all persons reported with AIDS were 25 to 44 years of age when diagnosed. The percentage of persons that were 13 to 24 years of age was considerably higher in 2002 than for cumulative cases. This is due both to the increase in diagnoses in 2002 among persons in this age group and to the decrease in diagnoses among persons 25 to 44 years of age since 1992.

Median ages at time of HIV diagnosis (Table 9) and AIDS diagnosis (Table 10) cannot be directly compared because these are not mutually exclusive categories. Persons diagnosed with HIV and AIDS within the same year would be counted in each category, and would bring the two medians closer together.

Table 10
Iowa AIDS Cases by Age at Diagnosis and Gender
Diagnosed in 2002¹ and Cumulative Cases²

median age ² →	2002			Cumulative		
	Males m= 40	Females m = 38	Total m = 38.5	Males m= 36	Females m = 36	Total m = 36
Age at diagnosis	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)
0-1	0 --	0 --	0 --	5 --	1 --	6 --
2-12	0 --	0 --	0 --	3 --	1 --	4 --
13-24	7 (12)	4 (21)	11 (14)	55 (4)	11 (6)	66 (4)
25-44	35 (61)	11 (58)	46 (61)	976 (75)	125 (72)	1,101 (74)
45-64	15 (26)	4 (21)	19 (25)	252 (19)	29 (17)	281 (19)
65 and over	0 --	0 --	0 --	18 (1)	6 (3)	24 (2)
Total	57	19	76	1,309	173	1,482

¹ Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting..

² Diagnosed from 1982 - 2002.

³ m= median age of cases for that time period.

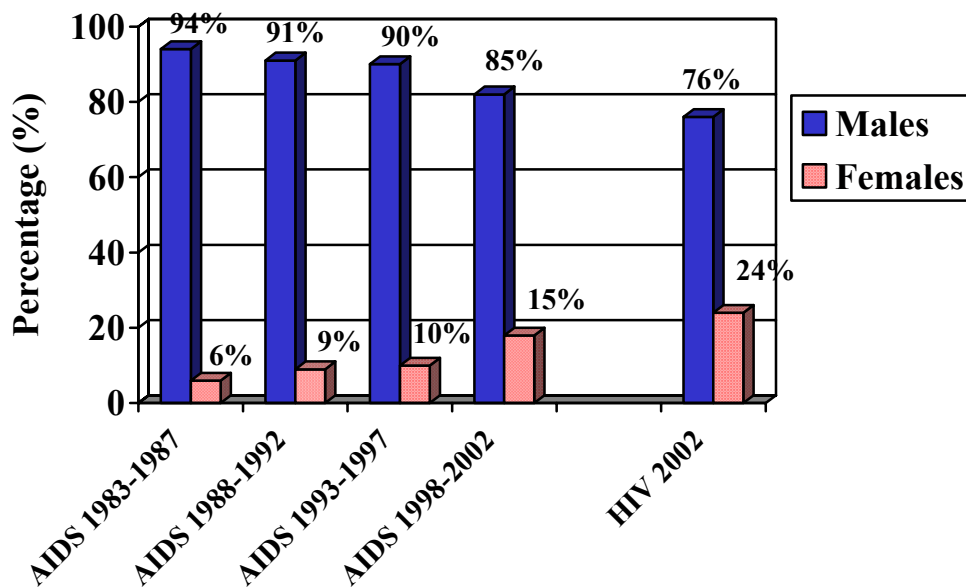
Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Although median age at time of diagnosis of AIDS has increased over time, few diagnoses of HIV infection or AIDS have been among the elderly in Iowa. Only 2% of cumulative AIDS cases were among those 65 years of age or older at time of diagnosis. No one over 64 years of age was diagnosed with AIDS in 2001 or 2002.

The relative changes in numbers of males and females diagnosed with HIV and AIDS have caused significant changes in the proportion of males and females affected since the epidemic began in Iowa. Aggregate data show that the percentage of female AIDS cases increased from 6% early in the epidemic to 15% from 1998 to 2002 (Figure 24). Females only account for 11% of cumulative AIDS cases, but account for 24% of the recently diagnosed HIV cases in Iowa.

As shown in Figures 16 and 20, however, the numbers of females diagnosed with HIV and AIDS have not changed drastically over time. The changes in proportions are, therefore, largely caused by the decrease in the number of men who have been diagnosed with HIV and AIDS. Changes in proportions over time need to be carefully examined before conclusions about those changes are drawn.

Figure 24
AIDS and HIV Cases by Gender
Diagnosed from 1982-2002



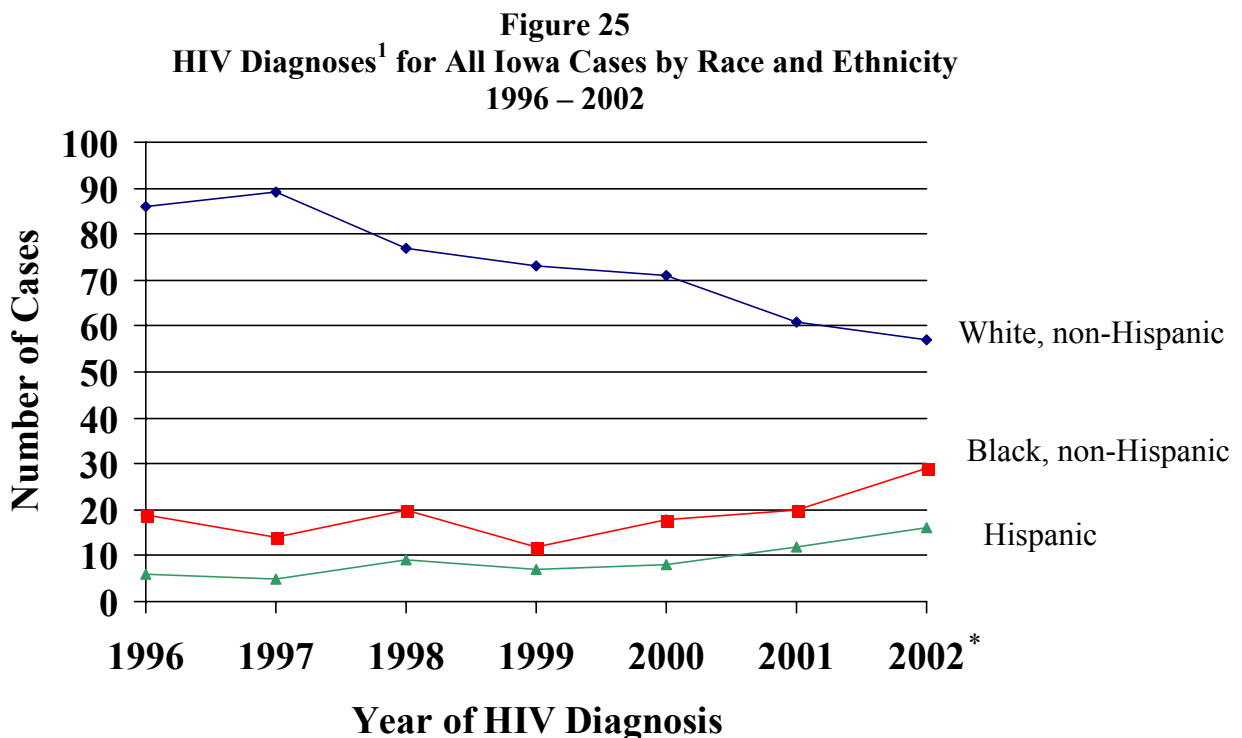
Summary of Age and Gender Data

- Diagnoses of HIV and AIDS overwhelmingly occur among men and among persons 25 to 44 years of age. While most of the increase in diagnoses in 2002 was among persons 25 to 44 years of age, there was also an increase among persons 13 to 24 years of age. Diagnoses among persons older than 44 years of age declined for the first time since 1999.
- Diagnoses of HIV among U.S.-born males have been decreasing since 1996, and since 1999 among U.S.-born females. However, AIDS diagnoses among U.S.-born females rose in 2002. Recent increases in diagnoses of HIV infection and AIDS among foreign-born males and females should be kept in mind when interpreting overall trends in diagnoses in Iowa.
- Median age at diagnosis of HIV fell from 37 years in 2001 to 34 years in 2002, not only because of increases in diagnoses among foreign-born persons, who tend to be younger than U.S.-born cases, but also because of an increase in diagnoses among younger, U.S.-born persons. Males and females did not differ significantly in age. Foreign-born males and females had a median age of 32.
- Median age at diagnosis of AIDS in 2002 was 41 years of age for U.S.-born persons and 34 years of age for foreign-born persons.

RACE AND ETHNICITY

Race and Ethnicity – HIV Diagnoses

The increase in HIV diagnoses in 2002 (see Figure 3) was not experienced by all racial and ethnic groups. Figure 25 shows diagnoses among the major racial and ethnic groups in Iowa. While white, non-Hispanic persons continue to account for over 60% of all HIV diagnoses among residents of Iowa, there was a steady decline in diagnoses in this group from 1997 to 2002. Diagnoses among minority residents, however, remained fairly constant from 1996 to 1999 and have been increasing since then. These data may reflect differences in infection rates between the groups since 1997, or they may reflect other factors, such as immigration, and/or unequal access to HIV testing, prevention programming, and substance abuse treatment. It is not known whether numbers of diagnoses correlate well with rates of infection among the racial and ethnic groups.

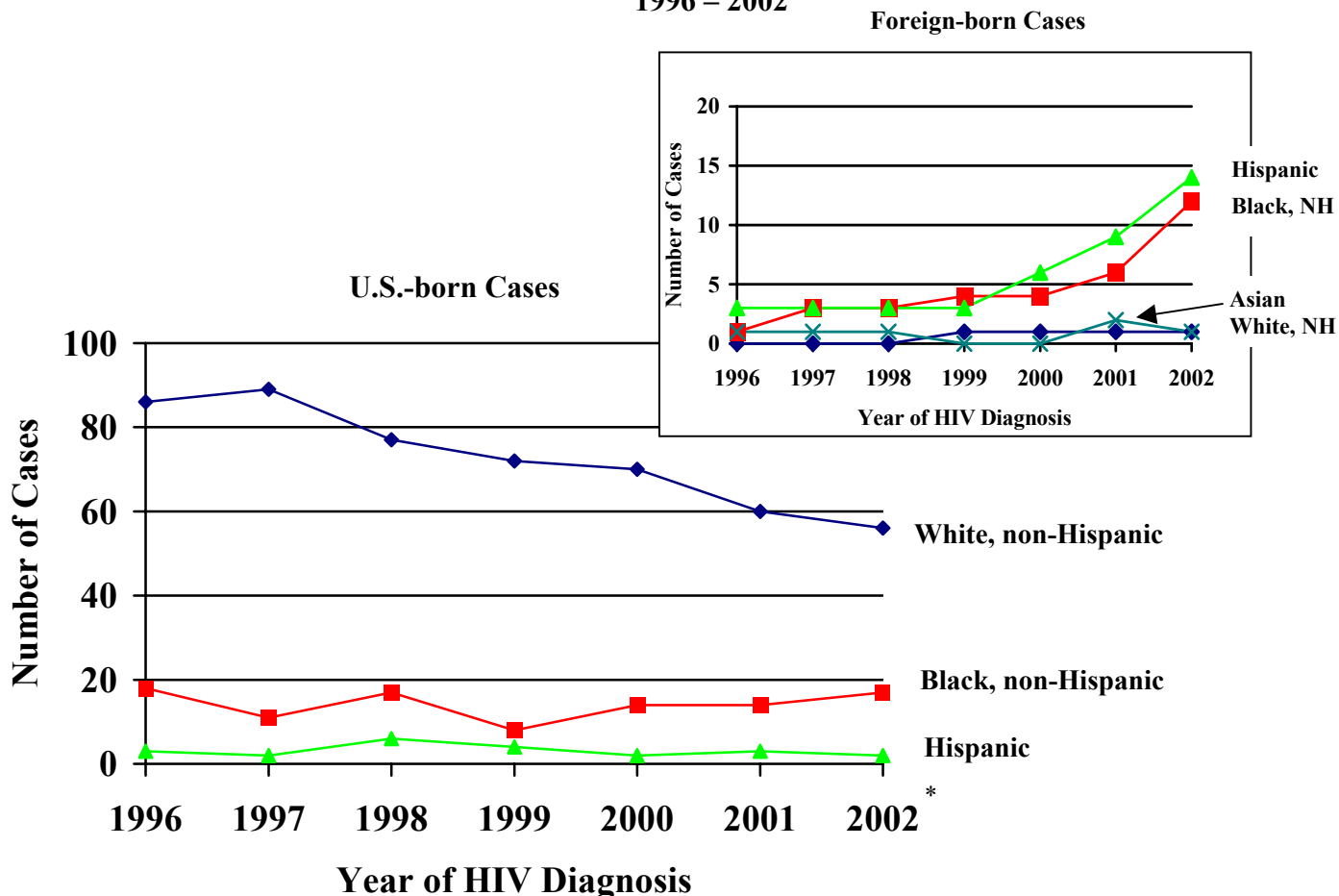


¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

The increasing number of diagnoses among foreign-born persons, nearly all of whom are non-white, will certainly influence diagnostic trends among minorities in Iowa in the future, if the increases continue. As Figure 26 shows, the increases in minority cases after 1999 can mainly be attributed to foreign-born persons being diagnosed with HIV (see inset). Diagnoses among U.S.-born, black, non-Hispanic persons and U.S.-born, Hispanic persons have been fairly level since 1993. Virtually all the diagnoses among Hispanic persons have occurred among those who were foreign-born.

Figure 26
HIV Diagnoses¹ by Race, Ethnicity, and Country of Origin
1996 – 2002



¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Table 11 shows the numbers of persons diagnosed with HIV in 2002 by race, ethnicity, and place of origin. Rates per 100,000 population are given as well as absolute numbers and percentages. Race-specific rates are the most appropriate way to compare the burden of disease between affected racial and ethnic groups. The rates adjust for the size of the specific racial or ethnic group within the state and make direct comparisons across groups possible.

Just over one-half of the persons diagnosed in 2002 were white and non-Hispanic. However, over 70% of U.S.-born persons diagnosed with HIV were white and non-Hispanic. Twenty-eight percent of all new diagnoses were among black, non-Hispanic persons, and 15% were among Hispanic persons.

The number of cases of HIV infection diagnosed in 2002 among black, non-Hispanic persons was 46.1 cases per 100,000 population, compared to a rate of 2.1 cases per 100,000 among

white, non-Hispanic persons. Black, non-Hispanic persons were reported with HIV infection at a rate more than 20 times that of white, non-Hispanic persons. Even if only U.S.-born residents are considered, black, non-Hispanic persons were diagnosed over 13 times more frequently than white, non-Hispanic persons. Hispanic persons were diagnosed with HIV at a rate of more than 13 times the rate for white, non-Hispanic persons. Nearly all Hispanic persons were foreign-born.

Table 11
HIV Diagnoses in 2002
by Race, Ethnicity, and Origin

Race and Ethnicity	All Cases			U.S.-born		Foreign-born	
	#	(%)	(# / 100,000) ³	#	(%)	#	(%)
White, non-Hispanic	57	(55)	2.1	56	(74)	1	--
Black, non-Hispanic	29	(28)	46.1	17	(22)	12	(43)
Hispanic	16	(15)	28.3	2	--	14	(50)
Asian/Pacific Islander	1	--		0	--	1	--
Am. Indian/Alaska Native	1	--		1	--	0	--
Total	104		3.6	76		28	

¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown. Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

² Based on 2002 State population projections from the U.S. Census Bureau.

³ Prevalence per 100,000 population.

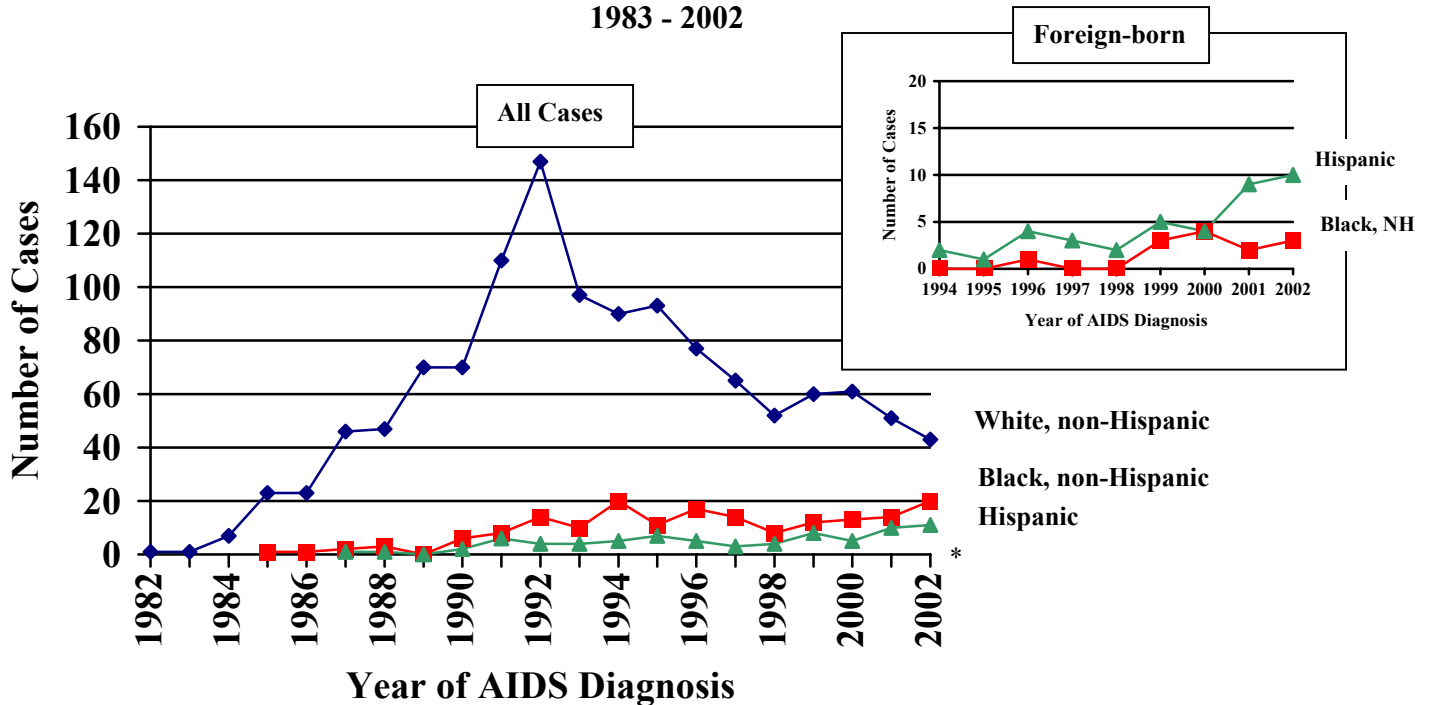
Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Race and Ethnicity – AIDS Diagnoses

Figure 27 shows the number of AIDS diagnoses by race, ethnicity, and origin. The benefits of antiretroviral therapies that became available after 1995 are most evident among U.S.-born, white, non-Hispanic persons. With slight exceptions in 1999 and 2000, diagnoses of AIDS among this group have been decreasing steadily since 1992. In 2002, diagnoses were at their lowest level since 1986. After leveling off in 1999 and 2000, diagnoses declined again in 2001 and 2002.

Diagnoses of AIDS among minority populations have remained fairly level since 1992, although increases are evident after 2000. The increase among the Hispanic population was nearly entirely among the foreign-born population (Figure 27 inset). The increase in AIDS diagnoses among black, non-Hispanic persons, however, has been largely among U.S.-born persons. Eighty-five percent of the black, non-Hispanic persons diagnosed with AIDS in 2002 were African-Americans. Although it is too early to judge the significance of the increase, the trend should be carefully monitored in the future. The year 2002 was second only to 1994 for the highest number of AIDS diagnoses among African-Americans, and it ranks as the highest for all black, non-Hispanic persons.

Figure 27
Diagnoses of AIDS¹ by Year of Diagnosis and Race/Ethnicity and Origin
1983 - 2002



¹ Includes all persons who were diagnosed with AIDS while residents of Iowa.

* Data for 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Of the 1,495 AIDS cases diagnosed through 2002 (Table 12), 83% are among white, non-Hispanic persons, 12% are among black, non-Hispanic persons, 5% are among Hispanic persons, 1% are among Asian/Pacific Islanders, and three persons are American Indians. In comparing cases diagnosed in 2002 to cumulative AIDS cases, a much higher proportion of 2002 cases are among minorities (43% versus 17%, respectively). It is clear from Figure 27 that this increase in the proportion of cases among minorities since 1992 is mostly due to the substantial decrease in the number of diagnoses among white, non-Hispanic persons rather than to an increase in diagnoses among minorities. However, the increase in diagnoses of HIV and AIDS among foreign-born persons of African and Hispanic descent since 1999 has also had some effect.

Table 12
AIDS Cases by Race and Ethnicity
Diagnosed in 2002 and Cumulatively

Race	2002 ¹			Cumulative ¹	
	#	(%)	(# / 100,000) ²	#	(%)
White, non-Hispanic	43	(57)	1.6	1,234	(83)
Black, non-Hispanic	20	(26)	31.8	174	(12)
Hispanic	11	(14)	19.5	76	(5)
Asian/Pacific Islander	2	--		8	(1)
Am. Indian/Alaska Native	0	--		3	--
Total	76		2.6	1,495	

¹ Includes all persons who were diagnosed with AIDS in 2002 while residents of Iowa. Data for 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting. Cumulative data include cases diagnosed through 2002.

² Based on 2002 state population projections from the U.S. Census Bureau.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

AIDS diagnosis rates in 2002 demonstrate the over-representation of minorities among AIDS cases. Black, non-Hispanic persons had an AIDS case rate of 31.8 cases per 100,000 population, nearly 20-fold higher than that seen among white, non-Hispanic persons at 1.6 persons per 100,000 population. This is an excess similar to that seen for HIV diagnoses.

The AIDS case rate for Hispanic persons was over 12 times higher than for white, non-Hispanic persons, and is similar to the 13-fold higher number of HIV diagnoses over that of white, non-Hispanic persons.

Race and Ethnicity – Persons Living with HIV and AIDS

Table 13 presents data on the prevalence of HIV and AIDS by race and ethnicity in Iowa; that is, the total number of persons reported to be living with HIV or AIDS on December 31, 2002. Change in prevalence from 2001 is given in number of persons per 100,000 population. Prevalence indicates which populations are most impacted by a disease, and change in prevalence can be used to examine which populations are experiencing the most pronounced growth in prevalence from the previous year.

Table 13
Persons Living with HIV and AIDS on December 31, 2002
by Race and Ethnicity

Race	Persons Living with HIV or AIDS ¹			
	#	(%)	(# / 100,000) ²	Change ³
White, non-Hispanic	838	(75)	30.5	+ 1.3
Black, non-Hispanic	190	(17)	301.9	+ 40.9
Hispanic	79	(7)	140.2	+ 19.5
Asian/Pacific Islander	11	(1)	24.4	+ 1.3
Am. Indian/Alaska Native	5	--	--	--
Total	1,123		38.4	+ 2.6

¹Reported to be living on December 31, 2002, with HIV or AIDS. All deaths may not have been reported.

²Based on 2002 state population projections from the U.S. Census Bureau.

³Change from 2001 prevalence (based upon 2001 population projections).

Percentage totals may not equal 100 due to rounding of numbers. Percentages and prevalences are not shown for small numbers.

Overall, the state saw an increase of almost 3 persons with HIV or AIDS per 100,000 population from 2001 to 2002. On December 31, 2002, the prevalence of HIV and AIDS for white, non-Hispanic persons was 30.5 living persons with HIV and AIDS per 100,000 population, compared to 301.9 per 100,000 for black, non-Hispanic persons, and 140.2 for Hispanic persons. Black, non-Hispanic persons have nearly a 10-fold higher prevalence per 100,000 population than white, non-Hispanic persons, and Hispanic persons have a 4.6-fold higher prevalence over that of white, non-Hispanic persons. Both of these minority groups experienced substantial increases in prevalence from 2001, indicating that the disparity between them and white, non-Hispanic persons will continue to grow.

Although the absolute numbers of minority cases are comparatively small, prevalence data show that HIV and AIDS disproportionately affect minority groups. Figure 28 further illustrates this. Comparing the percentage of cases in a race or ethnic group to the proportion of the total population that belongs to that group will demonstrate disparities. Black, non-Hispanic persons account for approximately 2% of Iowa’s population, and Hispanics account for almost 3%. These two populations each account for more than those percentages of HIV case reports, AIDS case reports, and prevalent cases, however.

Figure 28
HIV and AIDS Cases by Race and Ethnicity Compared to Total Population
Iowa

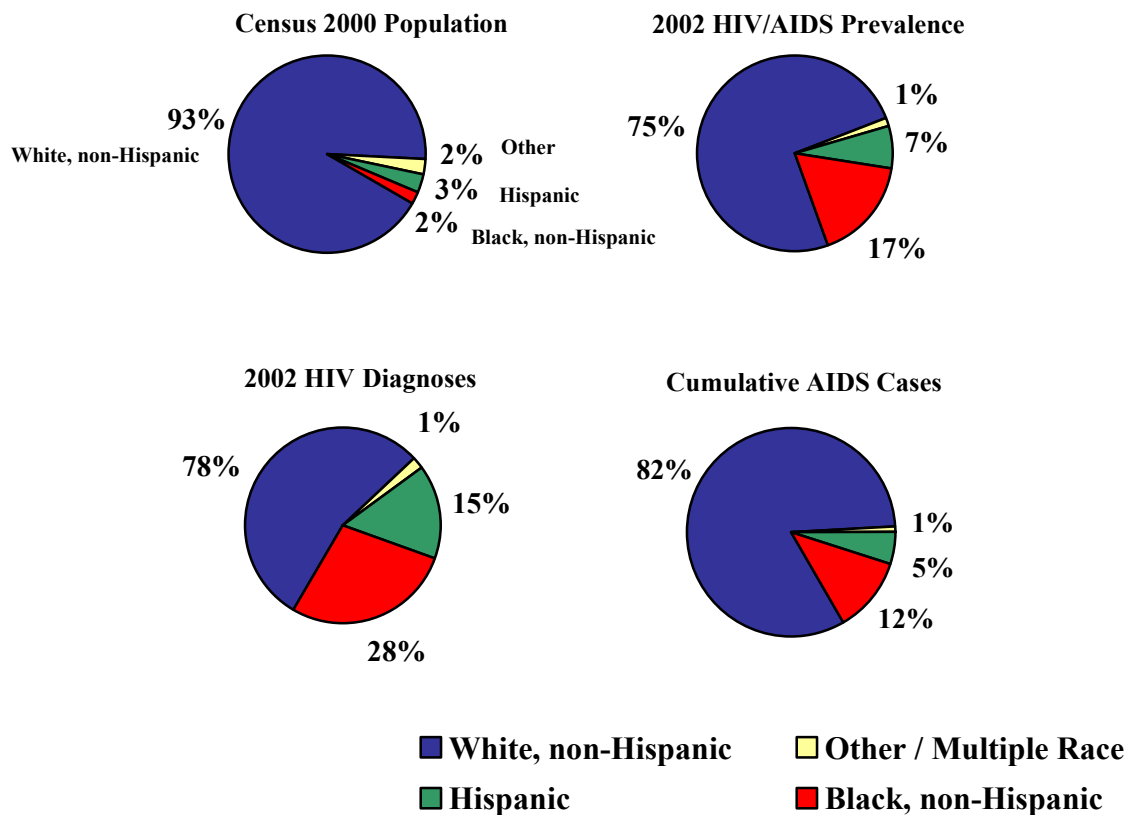


Figure 28 shows that over-representation of minority populations is most evident among 2002 HIV cases and among persons living with HIV or AIDS (prevalence). Black, non-Hispanic persons accounted for 28% of 2002 HIV cases, 14 times what would be expected from the size of the black, non-Hispanic population in Iowa. Hispanics accounted for 15% of 2002 HIV cases and 7% of persons living with HIV/AIDS, yet make up just 3% of Iowa’s population.

Black, non-Hispanic persons and Hispanic persons are also over-represented among AIDS cases. The fact that the over-representation is most pronounced among the most recent diagnoses of HIV and least pronounced among AIDS cases indicates that the over-representation is growing.

Race, Ethnicity, and Gender – HIV Diagnoses

The breakdown of HIV cases diagnosed in 2002 by race, ethnicity, and gender shows that the overrepresentation of minorities extends mainly to three specific groups: black, non-Hispanic males; black, non-Hispanic females; and Hispanic males (Table 14). All three groups have HIV diagnosis rates significantly higher than the general population.

Table 14
HIV Diagnoses in 2002
by Race, Ethnicity, Gender, and Origin

	All 2002 Diagnoses			U.S.-born Only	
	#	(%)	(# / 100,000) ³	#	(%)
Males					
White, non-Hispanic	51	(65)	3.8	50	(81)
Black, non-Hispanic	13	(16)	41.8	9	(15)
Hispanic	13	(16)	45.1	2	(3)
Asian/Pacific Islander	1	--	--	0	--
Am. Indian/Alaska Native	1	--	--	1	--
Total Males	79		5.5	62	
	All 2002 Diagnoses			U.S.-born Only	
	#	(%)	(# / 100,000) ³	#	(%)
Females					
White, non-Hispanic	6	(24)	0.4	6	(43)
Black, non-Hispanic	16	(64)	50.2	8	(57)
Hispanic	3	(12)	10.9	0	--
Asian/Pacific Islander	0	--	--	0	--
Am. Indian/Alaska Native	0	--	--	0	--
Total Females	25		1.7	14	

¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown. Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

² Based on 2002 State population projections from the U.S. Census Bureau.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Black, non-Hispanic females had the highest HIV diagnosis rate at 50.2 cases per 100,000 population; 125 times higher than the rate for white, non-Hispanic females in 2002. Half of these females were African born. Hispanic males had the second highest diagnosis rate among the groups at 45.1 cases per 100,000 population. Nearly all of these males were foreign born. Black, non-Hispanic males had a case rate of 41.8 per 100,000 population, 11 times that of white, non-Hispanic males. Even if only U.S.-born males are considered, black, non-Hispanic males have a rate that is more than seven times that of white, non-Hispanic males.

Despite the great disparity in diagnosis rates, white, non-Hispanic males still account for the single largest group of persons being diagnosed with HIV in Iowa. In 2002, they accounted for 49% of all persons diagnosed with HIV.

Race, Ethnicity, and Gender – AIDS Diagnoses

Table 15 shows a similar situation among 2002 and cumulative AIDS cases. Although cumulative AIDS cases are overwhelmingly among white, non-Hispanic persons, AIDS case diagnosis rates show that some minority populations are much more severely impacted.

In 2002, black, non-Hispanic men had an AIDS diagnosis rate of 35.4 cases per 100,000 population, 13 times that of white, non-Hispanic men. Black, non-Hispanic women had a rate more than 56 times that of white, non-Hispanic women, at 28.2 and 0.5 persons per 100,000, respectively. Hispanic males, with a rate of 27.7 per 100,000, are also disproportionately impacted.

Table 15
AIDS Cases Diagnosed in 2002 and Cumulatively,
by Race, Ethnicity, and Gender

	All 2002 Diagnoses			Cumulative	
	#	(%)	(# / 100,000) ³	#	(%)
Males					
White, non-Hispanic	36	(63)	2.7	1110	(84)
Black, non-Hispanic	11	(19)	35.4	135	(10)
Hispanic	8	(14)	27.7	66	(5)
Asian/Pacific Islander	2	--	--	8	--
Am. Indian/Alaska Native	0	--	--	2	--
Total Males	57		4.0	1321	
	All 2002 Diagnoses			Cumulative	
Females	#	(%)	(# / 100,000) ³	#	(%)
White, non-Hispanic	7	(37)	0.5	124	(71)
Black, non-Hispanic	9	(47)	28.2	39	(22)
Hispanic	3	(16)	10.9	10	(6)
Asian/Pacific Islander	0	--	--	0	--
Am. Indian/Alaska Native	0	--	--	1	--
Total Females	19		1.3	174	

¹ Includes all persons who were diagnosed with AIDS in 2002 while residents of Iowa. Data for 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting. Cumulative data include cases diagnosed through 2002.

² Based on 2002 state population projections from the U.S. Census Bureau.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Race, Ethnicity, and Gender – Persons Living with HIV and AIDS

The higher rates of case reports for HIV and AIDS among these minority groups correspond to higher prevalences of persons living with HIV and AIDS per 100,000 population. Although the largest *numbers* of persons living with HIV and AIDS are white and non-Hispanic; black, non-Hispanic males have the highest *prevalence* of persons living with HIV or AIDS of any ethnic or racial group (Table 16). There were 412 infected persons for every 100,000 black, non-Hispanic males in the state on December 31, 2002.

With a prevalence of 235.7 cases per 100,000 population, Hispanic males have the second highest prevalence of persons living with HIV or AIDS per 100,000 population. For the third year in a row, black, non-Hispanic females had the largest rate increase in prevalence at 50.3 cases per 100,000 persons. They now rank third in the number of persons living with HIV or AIDS per 100,000 population.

Table 16
Persons Living with HIV and AIDS on December 31, 2002,
by Race, Ethnicity, and Gender

Males	#	(%)	(# / 100,000)³	Change³
White, non-Hispanic	707	(77)	52.8	+ 2.3
Black, non-Hispanic	128	(14)	411.9	+ 31.8
Hispanic	68	(7)	235.7	+ 25.1
Asian/Pacific Islander	10	(1)	45.6	+ 3.0
Am. Indian/Alaska Native	4	--	--	--
Total Males	917		64.4	+ 3.7

Females	#	(%)	(# / 100,000)³	Change³
White, non-Hispanic	131	(64)	9.3	+ 0.3
Black, non-Hispanic	62	(30)	194.6	+ 50.3
Hispanic	11	(5)	40.0	+ 13.8
Asian/Pacific Islander	1	--	--	--
Am. Indian/Alaska Native	1	--	--	--
Total Females	206		13.8	+ 1.7

¹Reported to be living on December 31, 2002, with HIV or AIDS. All deaths may not have been reported.

²Based on 2002 state population projections from the U.S. Census Bureau.

³Change from 2001 prevalence (based upon 2001 population projections).

Percentage totals may not equal 100 due to rounding of numbers. Percentages and prevalences are not shown for small numbers.

The comparatively small numbers of minorities in the state explain the seeming paradox of small numbers of cases but high rates of diagnosis and prevalence. Relatively small minority populations in the state result in low numbers of cases when compared to the much larger white, non-Hispanic population. Despite the low numbers of cases, the impact of high infection rates within a small population can be devastating to that population. For that reason, cases per 100,000 population must be considered along with absolute numbers when prioritizing specific populations for prevention and care activities.

Summary of Race and Ethnicity Data:

- Black, non-Hispanic males; black, non-Hispanic females; and Hispanic males are over-represented among HIV and AIDS cases when their population sizes are taken into account. Hispanic males and black, non-Hispanic males have HIV diagnosis rates more than 11 times higher than white, non-Hispanic males.
- Black, non-Hispanic females had the highest rate of diagnosis of any racial, ethnic, or gender group in 2002. Their rate was 125 times higher than white, non-Hispanic females. For the third year in a row, black, non-Hispanic females had the largest increase in prevalence from the previous year of any group.
- Increases in diagnoses of HIV infection and AIDS among foreign-born persons since 1999 are influencing trends among minorities in the state. Persons of African and Hispanic descents are being diagnosed as residents of Iowa and are contributing to an over-representation of minorities with HIV disease in Iowa.
- Absolute numbers, rates (per 100,000 population), and changes in prevalence from previous years may need to be considered when prioritizing populations for prevention and care. Despite seemingly low numbers of cases, HIV infection is having a much more severe impact on certain minority populations in the state.
- The effects of high diagnosis rates in small populations can be especially severe. Black, non-Hispanic persons, both males and females, and Hispanic males are experiencing HIV and AIDS at rates unparalleled among white, non-Hispanic persons. If the prevalence of HIV and AIDS seen among black, non-Hispanic males were experienced by all racial and ethnic groups in Iowa, over 12,000 Iowans would now be living with HIV disease in the state.
- Despite the impact of HIV and AIDS on black, non-Hispanic persons and Hispanic males, the overwhelming majority of cases will be among white, non-Hispanic persons. This is explained by the very large white, non-Hispanic population compared to other groups in the state. A significant share of resources for prevention and planning may, therefore, be appropriate. However, targeting limited resources to these disproportionately affected populations should be considered. A comprehensive picture of the epidemic can be presented only by examining both numbers and rates.

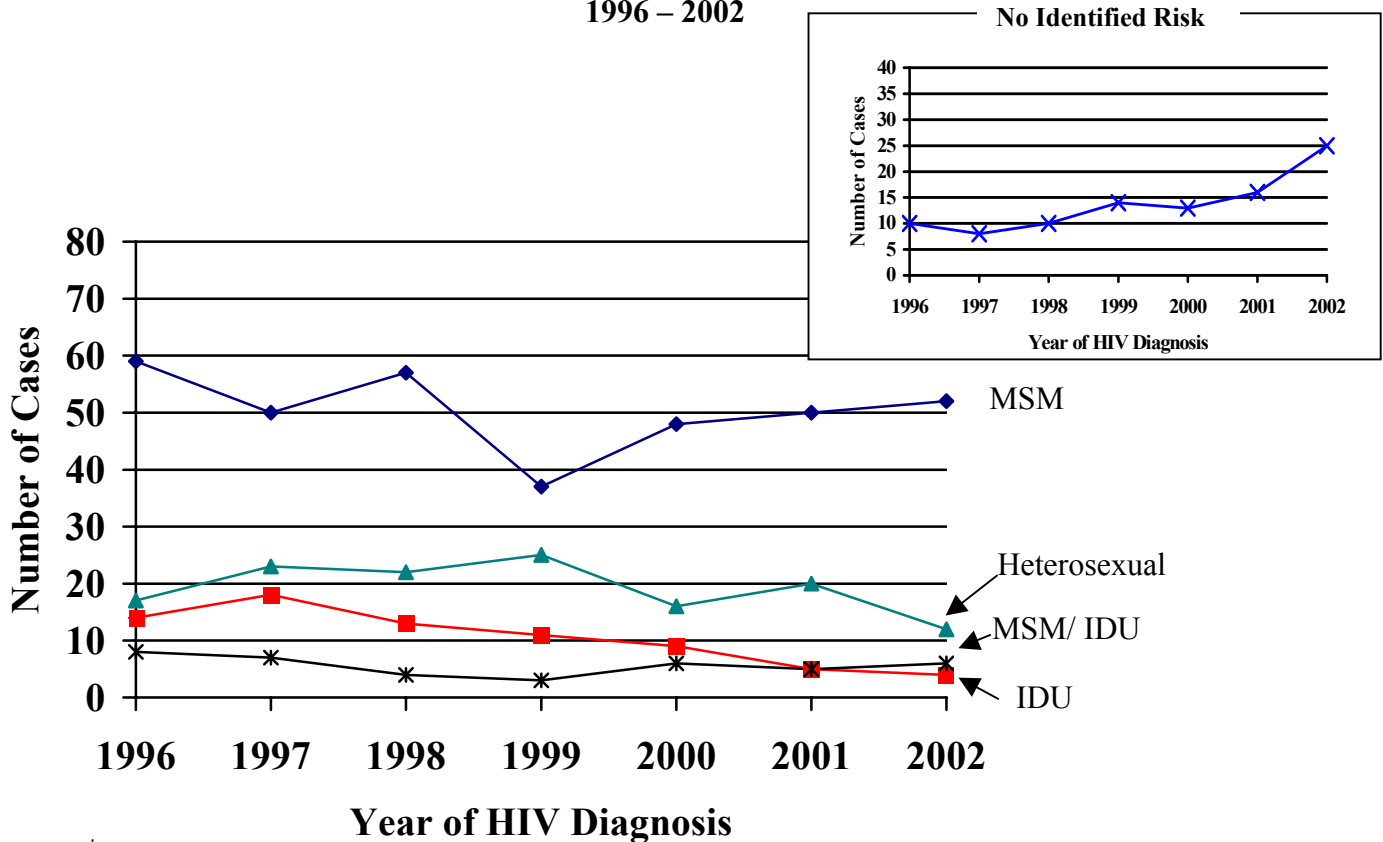
HIV AND AIDS BY EXPOSURE CATEGORY

Behavioral and health histories of persons infected with HIV are reported by health care providers and are also collected through interviews with recently diagnosed persons. Behaviors and risk histories are ranked according to probability of HIV transmission, and a new case is categorized according to that probability. Exposure categories include men who have sex with men and inject drugs (MSM/IDU); men who have sex with men (MSM); injection drug use (IDU); heterosexual contact with a person with documented HIV infection; hemophilia; transplant/transfusion recipient; no identified risk; and other risk (e.g., occupational exposures, such as needle sticks or exposures to blood).

Exposure Category – HIV Diagnoses

Figure 29 shows total HIV diagnoses from 1996 to 2002 by mode of exposure. The predominant mode of exposure remains men having sex with men. A general decline in diagnoses among men who have sex with men occurred between 1996 and 1999 but increases have been seen each year since 1999. Diagnoses among injection drug users, the second most common mode of exposure nationally, have declined since 1997 in Iowa. There were only four persons diagnosed in 2002 with IDU as the principal mode of exposure. Diagnoses among men who have sex with men and inject drugs have been low, but fairly steady.

Figure 29
HIV Diagnoses¹ for All Iowa Cases by Exposure
1996 – 2002



¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS) and whose exposures occurred at ≥ 13 years of age. Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

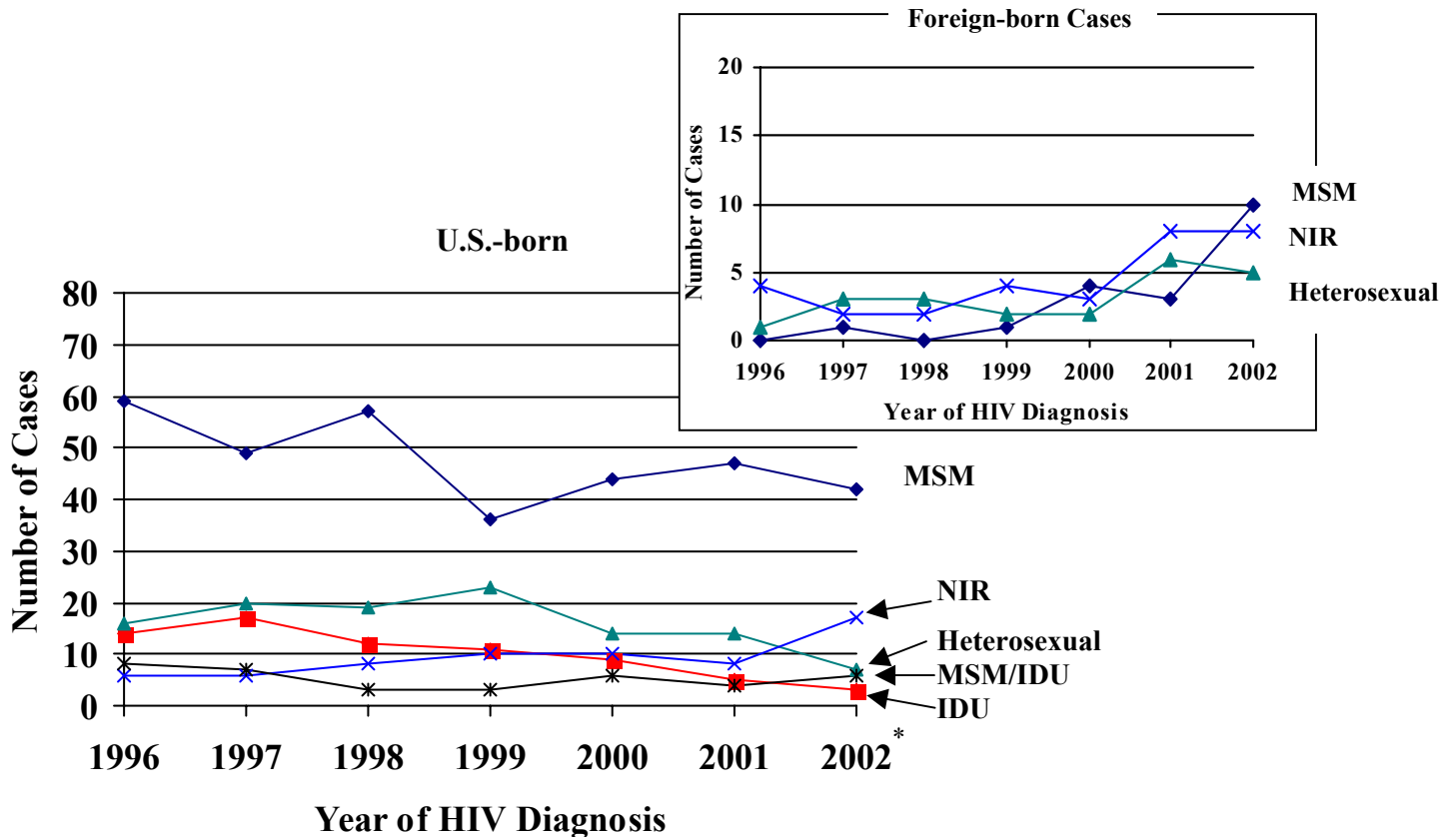
Diagnoses among persons reporting heterosexual exposure increased from fewer than 10 in 1993 (data not shown) to nearly triple that by 1999, but have been declining since 1999. Heterosexual contact was the second most common mode of exposure in Iowa until 2002. In 2002, there were more diagnoses among persons without a risk than among persons with heterosexual contact.

Persons reported without an identifiable risk have increased continuously since 1997 (see inset, Figure 29). Persons with more recent diagnoses are less likely to have a risk identified, but many of these risks may be reclassified over time as more information becomes available. Reclassifying these risks can substantially alter interpretations of trends among other exposure categories. Therefore, numbers for known exposure groups for 2000 to 2002 are likely to be underestimates.

Cases attributed to hemophilia and transfusion/transplant are not shown because numbers are very low, although there were five cases attributed to transfusions in 2002. Four of these were among foreign-born persons.

Because foreign-born persons with HIV are more likely to be females and minorities, exposure categories may also be different than for U.S.-born persons with HIV. Figure 30 shows diagnoses of HIV by country of origin and exposure category.

Figure 30
Adult and Adolescent HIV Diagnoses¹ for by Exposure and Country of Origin
1996 – 2002



¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS) and whose exposures occurred at ≥ 13 years of age. Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

When cases among U.S.-born persons are considered separately, it becomes apparent that much, but not all, of the increase in cases among men who have sex with men since 1999 is due to an increase in diagnoses among foreign-born MSM. Diagnoses among U.S.-born MSM fell in 2002. Nearly 20% of the diagnoses among MSM in 2002 were among foreign-born males.

The decline in diagnoses among U.S.-born heterosexuals is more pronounced when diagnoses among foreign-born persons are plotted separately. Many of the cases seen among heterosexual persons can be attributed to diagnoses among foreign-born persons.

Similarly, a significant portion of diagnoses among persons without an identified risk is among foreign-born persons. Mode of exposure to HIV in foreign countries is more likely to be unknown for several reasons. Poorer access to testing would mean that the HIV status of heterosexual partners is not documented, something which is needed for proper surveillance classification. Medical interventions, including injections with contaminated needles, have also been implicated as more frequent sources of exposure in some countries. These interventions are difficult to document and would not qualify as risks in the United States without documentation.

Table 17 shows the numbers of adults and adolescents (persons exposed to HIV while 13 years of age or older at time of diagnosis) diagnosed with HIV in 2002 by exposure category and origin. Pediatric exposures are presented later in this chapter, but in 2002, there were no diagnoses among persons who were exposed when they were less than 13 years of age.

Table 17
Adult and Adolescent¹ HIV Diagnoses² in 2002,
by Exposure Category and Origin

Exposure Category	All Cases		U.S.-born		Foreign-born	
	#	(%)	#	(%)	#	(%)
MSM	52	(50)	42	(55)	10	(36)
IDU	4	(4)	3	(4)	1	--
MSM/IDU	6	(6)	6	(8)	0	--
Hemophilia	0	--	0	--	0	--
Heterosexual	12	(12)	7	(9)	5	(18)
Transfusion/transplant	5	(5)	1	--	4	(14)
NIR/other	25	(24)	17	(22)	8	(29)
Total	104		76		28	

¹ Exposure occurred at ≥ 13 years of age.

² Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS). Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown. Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

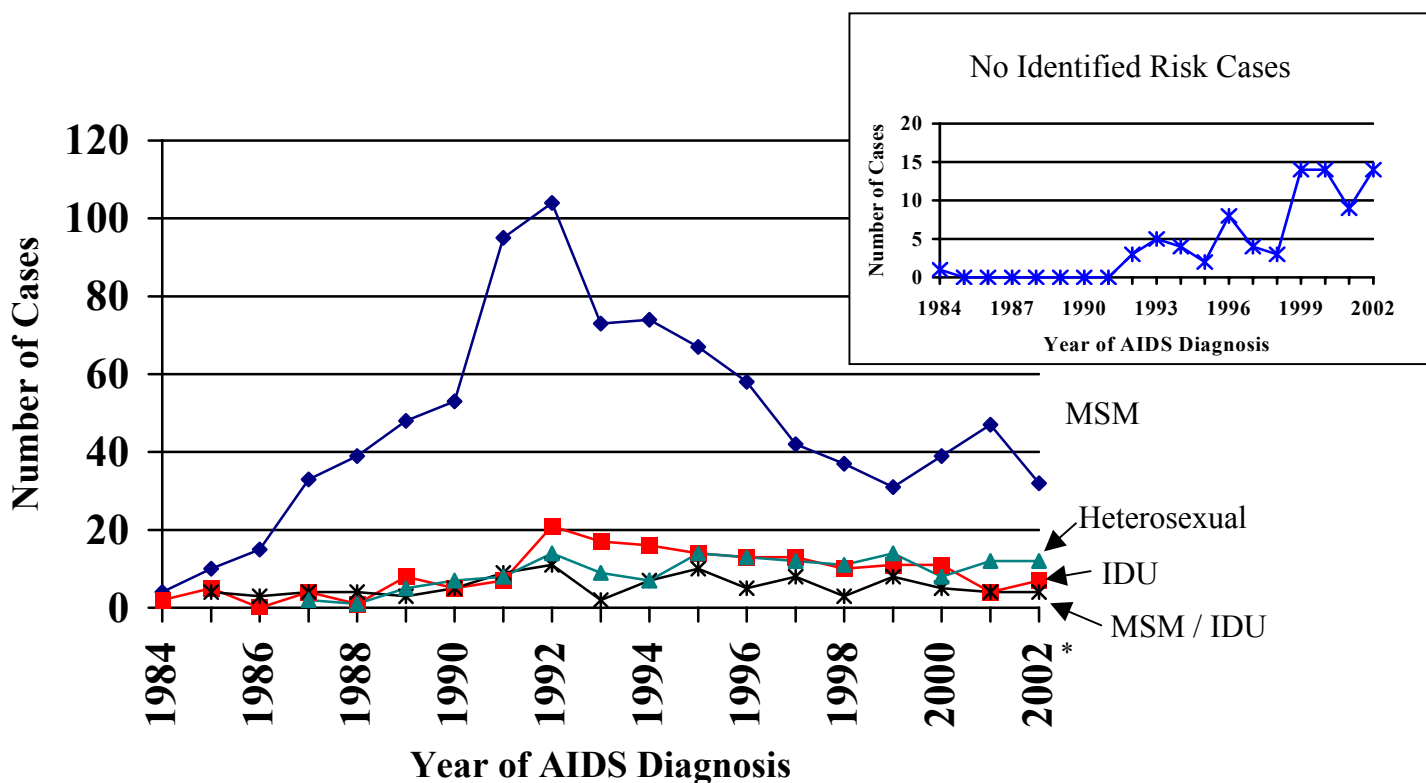
Approximately half of all HIV diagnoses in 2002 were among men who reported male-to-male sexual contact as a risk; slightly more than that among U.S.-born persons. Persons in the “no identified risk” category accounted for 24% of diagnoses overall. Fewer than 5% of HIV cases diagnosed in 2002 were among injection drug users, although another 6% were among men who have sex with men and inject drugs.

Compared to cases among U.S.-born persons, cases among foreign-born persons more often attributed to heterosexual contact (18% versus 9%), transfusion or transplant (14% versus <1%), or no identified risk (29% versus 22%).

Exposure Category – AIDS Diagnoses

Men who have sex with men have historically accounted for the largest numbers of adult and adolescent AIDS cases in Iowa (Figure 31). Numbers of diagnoses in this group, however, declined from 1992 to 1999. In 2000, the first increases since 1992 in diagnoses of AIDS among MSM were seen, and this trend continued in 2001. As a proportion of all AIDS cases, MSM accounted for 64% of all AIDS diagnoses in 2001, a proportion almost as high as that seen in the late eighties, when nearly 70% of all AIDS cases were among men who had sex with men. Diagnoses in 2002, however, were significantly below 2001 levels.

Figure 31
Adult and Adolescent Diagnoses of AIDS¹ by Exposure
1984 - 2002



¹ Includes all persons who were diagnosed with AIDS while residents of Iowa and whose exposures occurred at ≥ 13 years of age.
 * Data for 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

In contrast, diagnoses of AIDS among injection drug users have declined continuously since 1992 and are at the lowest level seen in over a decade. Diagnoses of AIDS among persons with heterosexual contact have remained few but steady since 1992.

Diagnoses of AIDS among persons with no identified risk are shown in the inset in Figure 31. Fifty cases from 1999 to 2002 have yet to be associated with a mode of exposure. Approximately one-third of these are among foreign-born persons. The reclassification of these 50 cases will make interpretation of trends among the risk groups more accurate. Historical trends can be used to redistribute cases among existing risk groups, but given the recent increase in cases among foreign-born persons, whose modes of exposure differ from U.S.-born persons, use of historical data to redistribute cases with no risk identified would be potentially misleading.

In 2002, 19% of AIDS cases diagnosed had no risk identified (Table 18). This relatively high percentage of cases may be expected given that 57% of AIDS cases diagnosed in 2002 were among persons who had not been previously diagnosed with HIV and were new to the reporting system at the time of their AIDS diagnosis.

Table 18 shows some significant differences in proportions between cumulative AIDS diagnoses and diagnoses in 2002. These differences reflect the trends seen in Figure 31: recent decreases in numbers of men who have sex with men and injection drug users, as well as increases among heterosexuals and persons with unidentified risks.

Table 18
Adult and Adolescent¹ AIDS Cases Reported in 2002 and Cumulatively,
by Exposure Category

Race	2002 ²		Cumulative ³	
	#	(%)	#	(%)
MSM	32	(43)	903	(61)
IDU	7	(9)	169	(11)
MSM/IDU	4	(5)	99	(7)
Hemophilia	2	--	42	(3)
Heterosexual	12	(16)	149	(10)
Transfusion/transplant	3	--	34	(2)
NIR/other	14	(19)	82	(6)
Total	74		1,478	

¹ Includes all persons who were diagnosed with AIDS in 2002 while residents of Iowa and whose exposures occurred at ≥ 13 years of age.

² Data for 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

³ Cumulative data include cases diagnosed through 2002.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Exposure Category – Persons Living with HIV and AIDS

Numbers of persons living with HIV and AIDS by exposure category are shown in Table 19. True prevalence, or numbers per 100,000 population, cannot be calculated because the population sizes are unknown. That is, there is no census of injection drug users or men who have sex with men in Iowa.

Just over half all persons living with HIV or AIDS in Iowa are men who have sex with men. Heterosexual exposure is the second most common exposure, with 15% of persons living with HIV/AIDS reporting this risk. Injection drug users account for 12% of all persons living with HIV and AIDS. Despite the lack of information on the numbers of people who engage in specific behaviors, it can be assumed that heterosexual persons in the state greatly outnumber injection drug users. Given this assumption, the prevalence (per 100,000 population) of HIV among IDUs is certainly much higher than among persons who only report heterosexual routes of exposure. Ten percent of persons living with HIV/AIDS had no risk identified.

Table 19
Persons Living with HIV and AIDS on December 31, 2002
by Exposure, for Adults and Adolescents¹

Exposure Category	Persons Living with HIV or AIDS ⁴	
	#	(%)
MSM	578	(52)
IDU	138	(12)
MSM/IDU	82	(7)
Hemophilia	14	(1)
Heterosexual	168	(15)
Transfusion/transplant	19	(2)
NIR/other	109	(10)
Total	1,108	

¹Exposure occurred at ≥ 13 years of age.

²Reported to be living on December 31, 2002, with HIV or AIDS. All deaths may not have been reported.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

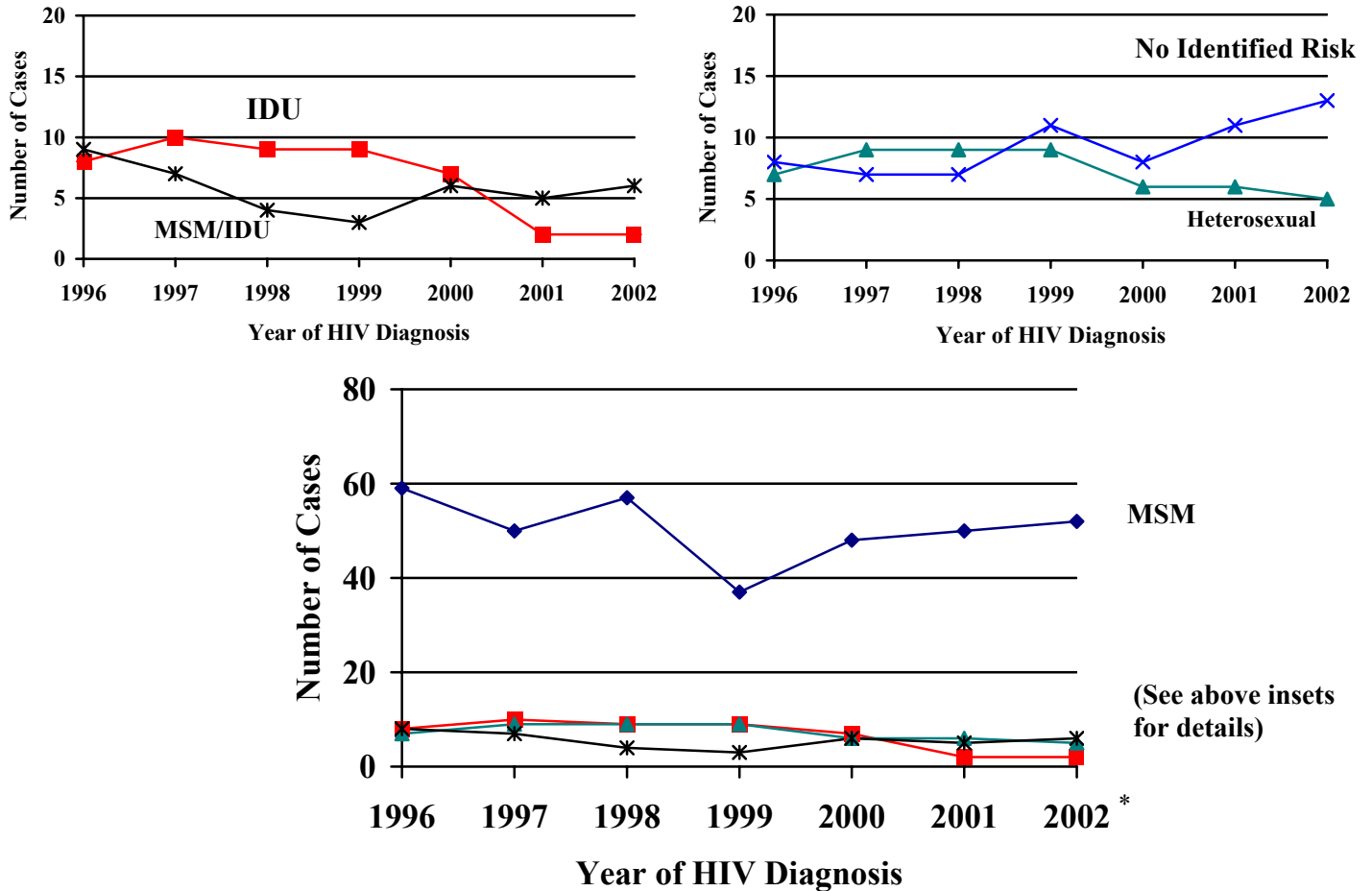
Exposure Category and Gender – HIV Diagnoses

Because such a large proportion of all HIV and AIDS cases is attributed to one gender and exposure category (MSM), it is helpful to examine exposure data separately by gender to get a better picture of how other groups are being affected.

Diagnoses of HIV infection for all adult and adolescent males by exposure are shown by year in Figure 32. Insets show exposure groups with small numbers of cases. From 1997 to 2002, numbers of men exposed through injection drug use and through heterosexual contact declined. Interpretations of numbers in 2001 and 2002 are speculative both because they are likely to be incomplete due to reporting delays and because of the numbers of men for whom risk could not be identified. Diagnoses among men who have sex with men and inject drugs decreased from 1996 to 1999 but have been level since 1999. Numbers of men exposed through hemophilia, transfusion, and transplants were very low and are not shown in Figure 32.

Diagnoses among foreign-born males may also influence interpretation of trends among exposure categories but there are too few foreign-born males to examine this in detail. Of the 36 foreign-born males diagnosed with HIV from 2000 - 2002, 47% were men who have sex with men, 19% were heterosexual, and 25% had no identified risk. As Figure 30 showed, the number of foreign-born MSM has significantly affected the trend among MSM since 2000. Diagnoses among U.S.-born MSM decreased in 2002.

Figure 32
HIV Diagnoses¹ for Iowa Cases by Exposure
Adult and Adolescent Males, 1996 – 2002



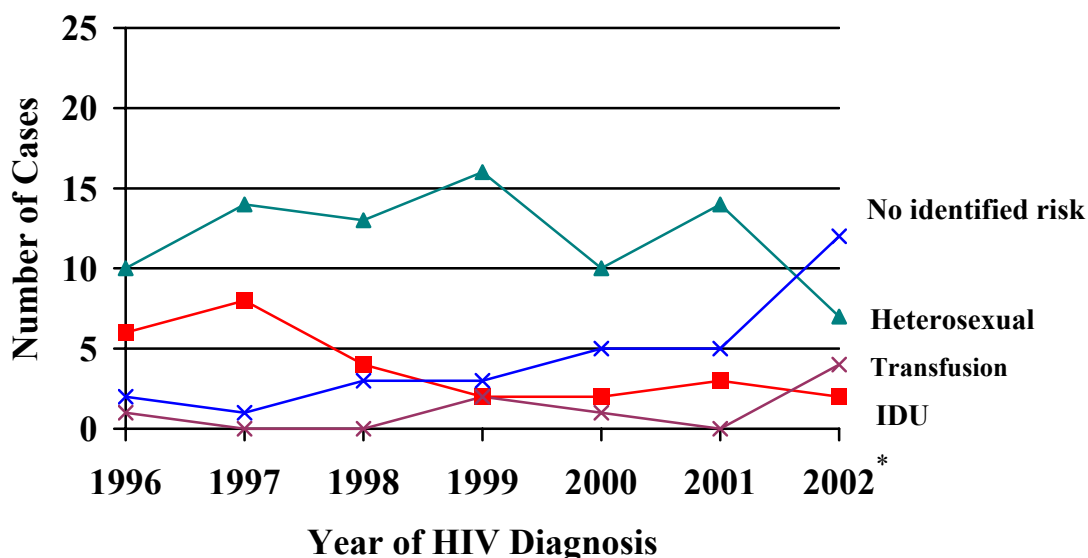
¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS) and whose exposures occurred at ≥ 13 years of age. Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.
 * Data for year 2002 were reported through June 30, 2003, and may be incomplete due to delays in reporting.

Diagnoses of HIV infection by exposure among females are shown in Figure 33. Heterosexual contact was the most common mode of exposure from 1996 to 2001, and the number of diagnoses was fairly steady at between 10 and 15 cases during that interval. The decrease in diagnoses in 2002 among heterosexuals could be real but could also be partially explained by the

increase in the number of diagnoses among those without an identified risk. Diagnoses among injection drug users decreased steadily between 1997 and 2002. Transfusions and transplants, generally no longer modes of exposure among U.S.-born persons, were the modes of exposure for 4 females diagnosed in 2002, all of whom were foreign-born (Table 20).

From 2000 - 2002, 21 foreign-born females were diagnosed with HIV in Iowa. Nearly half had no risk identified, 29% had heterosexual contact, and 24% had a transfusion or transplant as the mode of exposure.

Figure 33
HIV Diagnoses¹ for Iowa Cases by Exposure
Adult and Adolescent Females, 1996 – 2002



¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS) and whose exposures occurred at ≥ 13 years of age. Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Exposure category by gender and origin for HIV diagnoses in 2002 is shown in Table 20. The majority of all adult and adolescent male cases were among men who have sex with men. This was true even among foreign-born males. Another 8% were among men who have sex with men and inject drugs. Injection drug use was not a significant mode of exposure for males diagnosed in 2002. Less than 3% of male HIV cases were injection drug users without concurrent male-to-male sexual contact, consistent with the decrease in HIV diagnoses among this group seen in Figure 32. Only one male diagnosed in 2002 indicated receipt of blood products or tissues as his risk, but this person had received blood or blood products before widespread screening of blood began in the U.S.

Among females, the largest proportion, nearly 50%, had no risk identified. U.S.-born females had heterosexual contact as the next most common mode of exposure and foreign-born females had receipt of blood products or tissues as the second most common. Few injection drug users were diagnosed in 2002.

Table 20
Adult and Adolescent HIV Cases¹ Diagnosed in 2002,
by Exposure and Gender

Exposure Category – Males	All Cases		U.S.-born		Foreign-born	
	#	(%)	#	(%)	#	(%)
MSM	52	(66)	42	(68)	10	(59)
IDU	2	--	1	--	1	--
MSM/IDU	6	(8)	6	(10)	0	--
Hemophilia	0	--	0	--	0	--
Heterosexual	5	(6)	2	--	3	(18)
Transfusion/transplant	1	--	1	--	0	--
NIR/other	13	(16)	10	(16)	3	(18)
Total Males	79		62		17	

Exposure Category – Females						
IDU	2	--	2	--	0	--
Hemophilia	0	--	0	--	0	--
Heterosexual Contact	7	(28)	5	(36)	2	--
Transfusion/ transplant	4	(16)	0	--	4	(36)
NIR/other	12	(48)	7	(50)	5	(45)
Total Females	25		14		11	

¹ Exposure occurred at ≥ 13 years of age.

² Reported from January 1, 2001 – December 31, 2001, and had not been diagnosed as AIDS by December 31, 2001.

³ Reported from July 1, 1998 – December 31, 2001, and had not been diagnosed as AIDS by December 31, 2001.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

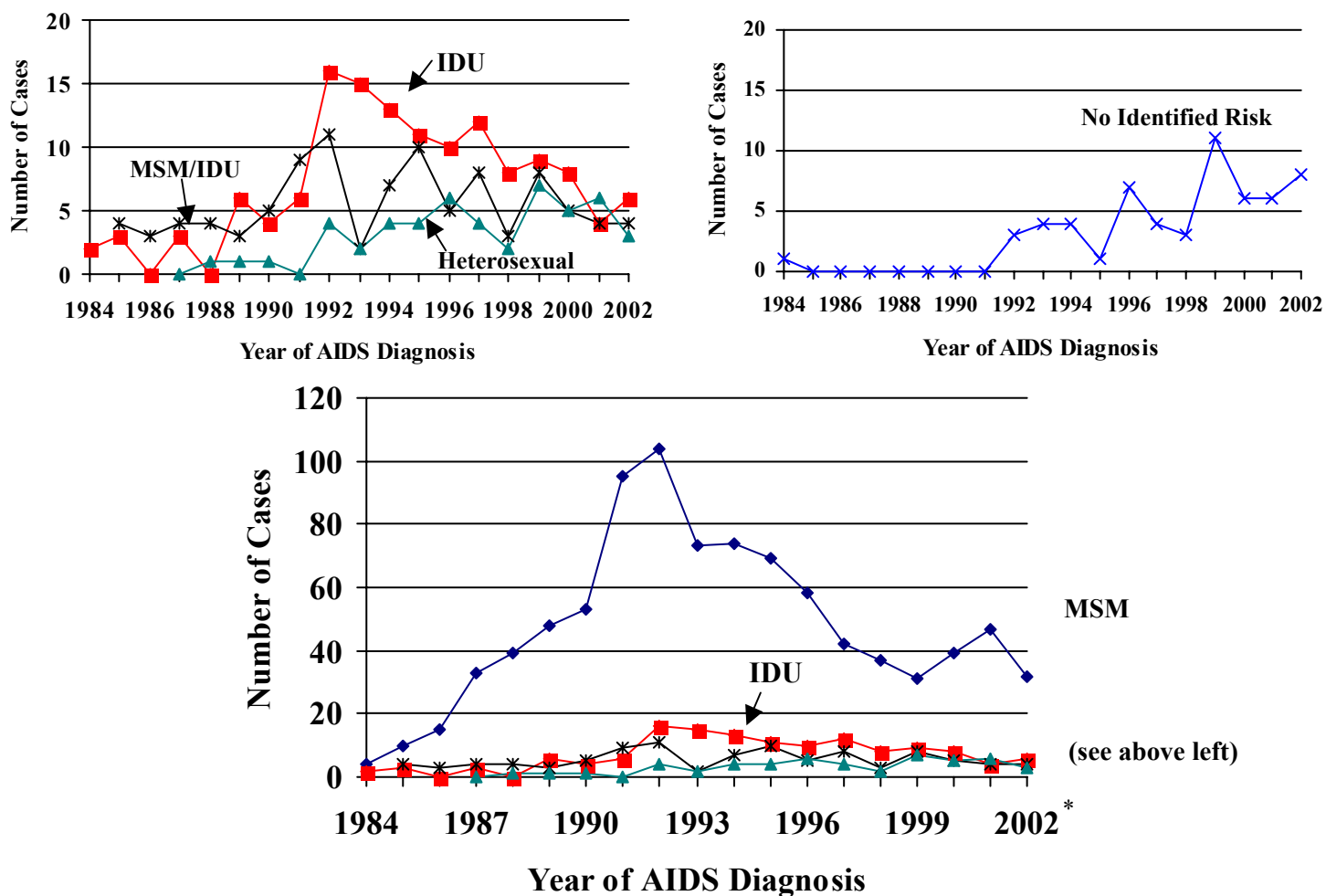
Identifying modes of exposure for persons recently diagnosed with HIV is a priority for the Iowa Department of Public Health. Clearly, trends can be misinterpreted when nearly half the recent cases among females have no risk associated with them. Although it appears from Figures 32 and 33 that the number of persons without identified risk has been increasing, this is only partially true. Some of the cases diagnosed in 2002 without a known risk will have modes of exposure determined in the coming year, as partners are tested and cases are investigated over time. Even after adjusting for those cases, the number of cases without risk in 2002 is higher than it was in 2001.

Because of the increase in the number of foreign-born persons being diagnosed in Iowa, it may be expected that an increasing number of cases will have no risk identified. Identifying risks for foreign-born persons, however, is more difficult. Many people do not remember specific medical interventions, may have been unaware of immunizations or other injections with needles that may have been contaminated, or may have had sexual partners in those countries who are unavailable for testing.

Exposure Category and Gender – AIDS Diagnoses

Among male cumulative AIDS cases, 87% report having sex with men and/or injecting drugs as their modes of exposure (Figure 34, Table 21). The number of cases exposed through male-to-male sexual contact alone decreased from 1992 to 1999, as did the number of cases attributed to IDU and MSM/IDU. Diagnoses of AIDS among MSM increased in 2000 and 2001, but fell back to 1999 levels in 2002. Cases attributed to heterosexual contact have been few in number but generally increasing since 1992. Heterosexual transmission accounts for only 4% of all male AIDS cases. While just over 4% of cumulative male AIDS cases are attributed to hemophilia, transfusion, and transplantation, there have only been six male AIDS cases associated with these risks reported in the past four years. Cases among adult and adolescent males with no identified risk have increased recently and accounted for 14% of the cases diagnosed in 2002. Of the males diagnosed without a risk since 1999, 85% were receiving their first diagnosis of HIV concurrently with their AIDS diagnosis.

Figure 34
Diagnoses of AIDS by Exposure
Adult and Adolescent¹ Males, 1984 - 2002

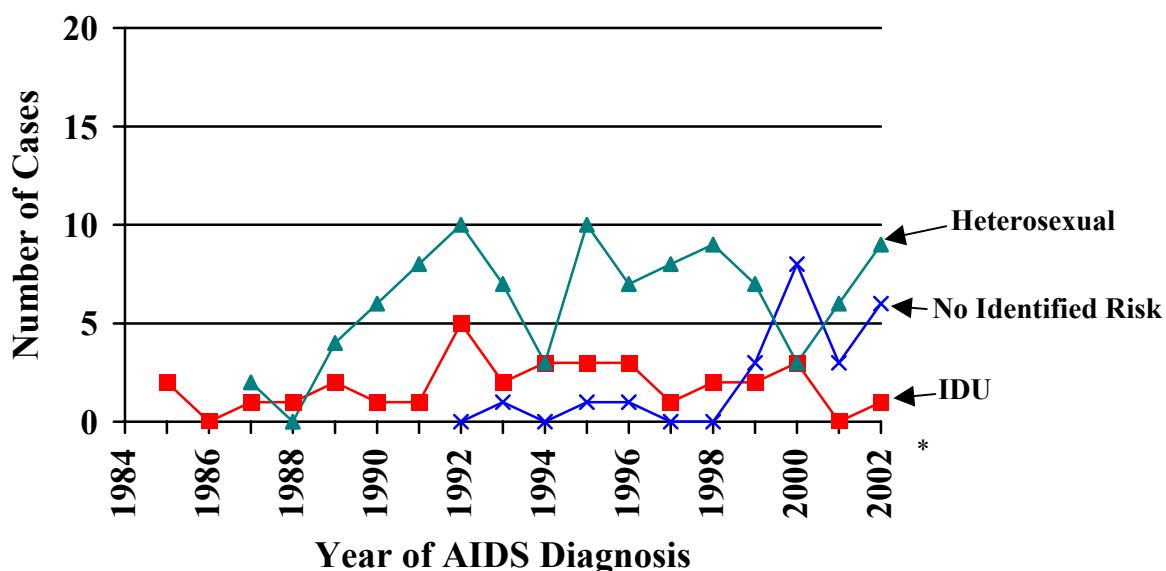


¹ Exposure occurred at ≥ 13 years of age.

* Data for 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting. Transfusion/transplant and hemophilia cases are not shown.

Among female adult and adolescent AIDS cases, heterosexual contact is the most frequent mode of exposure, accounting for 58% of cumulative AIDS cases (Figure 35, Table 21). Within that category, having sex with an HIV-infected person whose risk is not known is the most common mode of exposure (39% of heterosexual contact), followed by having sex with an IDU (32%), and having sex with a bisexual male (20%, data not shown). Despite an anomaly in 1994, the number of cases attributed to heterosexual contact was fairly steady between 1991 and 1999. Although the number fell in 2000, the number of women with no risk identified could account for the decrease. These persons may be reclassified as more information becomes available. Cases among heterosexual females increased in 2001 and 2002 to levels seen previous to 2000.

Figure 35
Diagnoses of AIDS by Exposure
Adult and Adolescent¹ Females, 1984 - 2002



¹ Exposure occurred at ≥ 13 years of age.

* Data for 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting. Transfusion/transplant and hemophilia cases are not shown.

The number of women who report injection drug use has remained low. In 2001, no female IDUs were diagnosed with AIDS. Overall, injection drug use accounts for 19% of all female AIDS cases. There has been only one female with AIDS infected as a result of hemophilia and only one infected as a result of a documented occupational exposure (classified as 'other'). In 2002, one-third of all females diagnosed with AIDS had no risk identified. Five of these cases were among females who received concurrent HIV diagnoses. In other words, they were told they had AIDS at the same time they learned their HIV-positive status. In fact, 13 of the 17 females diagnosed without a risk since 1999 had concurrent HIV and AIDS diagnoses.

Table 21
Adult and Adolescent¹ AIDS Cases by Exposure and Gender,
Diagnosed in 2002 and Cumulatively

Exposure Category – Males	2002 ¹		Cumulative ²	
	#	(%)	#	(%)
MSM	32	(57)	903	(69)
IDU	6	(11)	136	(10)
MSM/IDU	4	(7)	99	(8)
Hemophilia	2	--	41	(3)
Heterosexual	3	(5)	50	(4)
Transfusion/transplant	1	--	20	(2)
NIR/other	8	(14)	58	(4)
Total Males	56		1,307	

Exposure Category – Females				
IDU	1	--	33	(19)
Hemophilia	0	--	1	--
Heterosexual Contact	9	(50)	99	(58)
Transfusion/ transplant	2	--	14	(8)
NIR/other	6	(33)	24	(14)
Total Females	18		171	

¹ Includes all persons who were diagnosed with AIDS in 2002 while residents of Iowa and whose exposures occurred at ≥ 13 years of age. Data for 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

² Cumulative data include cases diagnosed through 2002.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Exposure Category and Gender – Persons Living with HIV and AIDS

Exposure categories by gender are shown in Table 22 for adults and adolescents living with HIV and AIDS. Just over half of all living adult and adolescent females with HIV disease were infected through heterosexual contact. Another 22% were infected through injection drug use. Twenty percent of adult and adolescent females living with HIV or AIDS did not have a risk identified.

Among adult and adolescent males living with HIV disease, 64% were infected through male-to-male sex. Injection drug users make up 10% of males living with HIV/AIDS and MSM/IDU account for another 9%. Twice as many male IDUs were living with HIV or AIDS as female IDUs, perhaps reflecting a higher prevalence of injection drug use among males, differences in injecting behaviors between males and females, and/or an influence of men who have sex with men and inject drugs. Only 6% of males living with HIV disease were infected through heterosexual contact. Eight percent of males had no risk identified.

Table 22
Adult and Adolescent¹ Persons Reported to be Living with HIV and AIDS on Dec. 31, 2002,
by Exposure and Gender

Exposure Category – Males	Prevalence²	
	#	(%)
MSM	578	(64)
IDU	93	(10)
MSM/IDU	82	(9)
Hemophilia	14	(2)
Heterosexual	58	(6)
Transfusion/transplant	11	(1)
NIR/other	69	(8)
Total Males	905	

Exposure Category – Females	#	(%)
IDU	45	(22)
Hemophilia	0	--
Heterosexual Contact	110	(54)
Transfusion/ transplant	8	(4)
NIR/other	40	(20)
Total Females	203	

¹Exposure occurred at ≥ 13 years of age.

²Reported to be living on December 31, 2002, with HIV or AIDS. All deaths may not have been reported. Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Exposure Category and Race – HIV Diagnoses Since July 1, 1998

To examine how mode of exposure differs by race and ethnicity, several years of data must be used. All new diagnoses of HIV since HIV reporting began will be used to allow sufficient cell size. Adult and adolescent HIV diagnoses from July 1, 1998, to December 31, 2002, by exposure category, race, and ethnicity are presented in Table 23.

Differences in modes of exposure are evident between racial and ethnic groups. Among black, non-Hispanic persons, heterosexual contact accounted for the highest proportion of cases (30%), followed by MSM (26%), and then no identified risk (25%). In contrast, the most common exposure among white, non-Hispanic persons was men who had sex with men, accounting for just over half of all cases. The proportion of HIV cases attributed to MSM for Hispanics was 51%. Black, non-Hispanic persons and Hispanic persons are more likely to have unidentified risks than are white, non-Hispanic persons.

Table 23
Adult and Adolescent¹ HIV Diagnoses by Exposure, Race, and Ethnicity
Diagnosed July 1, 1998 – December 31, 2002

Exposure Category	White		Black		Hispanic		Other		All Groups	
	Non-Hispanic		Non-Hispanic							
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
MSM	163	(55)	23	(26)	25	(51)	4	--	215	(49)
IDU	28	(9)	8	(9)	1	--	0	--	37	(8)
MSM/IDU	16	(5)	2	(2)	1	--	1	--	20	(5)
Hemophilia	0	--	0	--	0	--	0	--	0	--
Heterosexual	46	(16)	27	(30)	11	(22)	1	--	85	(19)
Transfusion/transplant	5	(2)	7	(8)	1	--	0	--	13	(3)
NIR/Other	37	(13)	22	(25)	10	(20)	2	--	71	(16)
Totals	295		89		49		8		441	

¹Exposure occurred at ≥ 13 years of age.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

The increase in diagnoses of foreign-born persons since 1999 makes interpreting exposure categories by race and ethnicity more complex. Nearly a third of the black, non-Hispanic persons are not U.S.-born and almost 70% of the Hispanic cases are among foreign-born persons.

Table 24 presents HIV diagnoses since July 1, 1998, separately for foreign- and U.S.-born black, non-Hispanic and Hispanic persons.

Table 24
Minority Adult and Adolescent¹ HIV Diagnoses by Exposure, Race, Ethnicity, and Origin
Diagnosed July 1, 1998 – December 31, 2002

Exposure Category	Black, Non-Hispanic				Hispanic			
	U.S.-born		Foreign-born		U.S.-born		Foreign-born	
	#	(%)	#	(%)	#	(%)	#	(%)
MSM	23	(37)	0	--	9	(60)	16	(47)
IDU	8	(13)	0	--	0	--	1	--
MSM/IDU	2	--	0	--	1	--	0	--
Hemophilia	0	--	0	--	0	--	0	--
Heterosexual	18	(29)	9	(33)	3	(20)	8	(24)
Transfusion/transplant	1	--	6	(22)	0	--	1	--
NIR/Other	10	(16)	12	(44)	2	--	8	(24)
Totals	62		27		15		34	

¹Exposure occurred at ≥ 13 years of age.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Table 24 indicates that among U.S.-born, black, non-Hispanic persons (i.e., African-Americans), male-to-male sex is still the most common mode of exposure, but accounts for only 37% of the cases, compared to 55% for white, non-Hispanic persons. Heterosexual transmission accounts for 29% of cases, and injection drug use accounts for 13%. A much lower percentage of cases have risks unidentified than it appeared when foreign-born, black, non-Hispanic persons were included. Sixteen percent of African-Americans have no identified risk; not substantially higher than among white, non-Hispanic persons.

African-born, black, non-Hispanic persons most often have unidentified risks. No risk was identified for 44% of cases among this group. Heterosexual contact accounts for 33% of cases, and transfusions and transplants account for 22% of cases.

Among Hispanics, nearly 70% of persons diagnosed since July 1, 1998, were foreign-born. Foreign-born Hispanic persons were more likely to have no risk identified than U.S.-born Hispanics and less likely to have male-to-male sex as an exposure. Even so, it is notable that all foreign-born MSM diagnosed since July 1, 1998, were Hispanic.

Exposure Category and Race – Cumulative AIDS Cases

Differences between racial and ethnic groups are also evident among cumulative AIDS cases (Table 25). There is a lower proportion of black, non-Hispanic AIDS cases that are attributed to MSM and a higher proportion that are attributed to injection drug use than among white, non-Hispanic persons, just as with HIV diagnoses. There are also higher proportions of cases among heterosexuals and persons with no identified risks for black, non-Hispanic and Hispanic populations. This historical look at the epidemic indicates that the HIV epidemic among black, non-Hispanic persons in Iowa has been substantially different than that for white, non-Hispanic persons. The epidemic has affected a broader array of groups within the black, non-Hispanic population.

Table 25
Cumulative Adult and Adolescent¹ AIDS Cases by Exposure, Race, and Ethnicity
Diagnosed February, 1983 – December, 2002

Exposure Category	White		Black		Hispanic		Other		All Groups	
	Non-Hispanic	Non-Hispanic	Non-Hispanic	Non-Hispanic	Hispanic	Hispanic	Other	Other	All Groups	All Groups
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
MSM	803	(66)	60	(35)	34	(45)	6	(55)	903	(61)
IDU	114	(9)	44	(26)	11	(14)	0	--	169	(11)
MSM/IDU	82	(7)	12	(7)	4	(5)	1	--	99	(7)
Hemophilia	41	(3)	1	--	0	--	0	--	42	(3)
Heterosexual	106	(9)	30	(18)	12	(16)	1	--	149	(10)
Transfusion/transplant	29	(2)	3	(2)	1	--	1	--	34	(2)
NIR/Other	46	(4)	20	(12)	14	(18)	2	--	82	(6)
Totals	1,221		170		76		11		1,478	

¹ Exposure occurred at ≥ 13 years of age.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Cumulative AIDS data among Hispanic persons show that the epidemic in this population has involved a smaller proportion of MSM than in the white, non-Hispanic population but more than in the Black, non-Hispanic population. Similarly, there were higher proportions of cases of IDU and heterosexuals than among the white, non-Hispanic population but lower than among the black, non-Hispanic population. In short, the epidemic among the Hispanic population appears intermediate to that of the black, non-Hispanic and the white, non-Hispanic populations in terms of the subpopulations affected.

Comparing cumulative AIDS data (Table 25) to recent HIV data (Table 23), it is evident that the number of injection drug users being diagnosed with HIV has fallen for all races and ethnicities. As the numbers of MSM and IDU cases fall, it is inevitable that the proportion of cases among heterosexuals and persons with no identified risks will increase, even if their absolute numbers do not. Care should be taken when interpreting changes in proportions of cases between modes of exposure without also examining changes in numbers of cases.

Exposure Category By Race, Ethnicity, and Gender – HIV Diagnoses Since July 1, 1998

Cumulative data can also be used to examine differences in exposure routes between races for each gender. Among male HIV cases diagnosed since July 1, 1998, MSM is the primary exposure for all reported races and ethnic groups (Table 26). Overall, 63% of exposures among adult and adolescent males diagnosed with HIV infection since July 1, 1998, involved male-to-male sex. Substantially higher proportions of Hispanic and black, non-Hispanic males, however, report heterosexual contact as their mode of exposure than among white, non-Hispanic males. A substantial proportion of Hispanic males (22%) had no risk identified.

Table 26
Adult and Adolescent¹ HIV Diagnoses by Exposure Category, and Race/Ethnicity
Males, Diagnosed July 1, 1998 – December 31, 2002

Exposure Category	White		Black		Hispanic		Other		All Groups	
	Non-Hispanic		Non-Hispanic							
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
MSM	163	(68)	23	(44)	25	(61)	4	(55)	215	(63)
IDU	21	(9)	3	(6)	1	--	0	--	25	(7)
MSM/IDU	16	(7)	2	--	1	--	1	--	20	(6)
Hemophilia	0	--	0	--	0	--	0	--	0	--
Heterosexual	10	(4)	15	(29)	5	(12)	1	--	31	(9)
Transfusion/transplant	4	(2)	2	--	0	--	0	--	6	(2)
NIR/Other	27	(11)	7	(13)	9	(22)	2	--	45	(13)
Totals	241		52		41		8		342	

¹ Exposure occurred at ≥ 13 years of age.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Because of low numbers, comparisons are difficult between racial and ethnic groups among females diagnosed with HIV infection (Table 27). Heterosexual contact was the primary risk for both white, non-Hispanic and Hispanic females. With 41% of black, non-Hispanic females having no risk identified, comparisons with this group are not meaningful. The influence of African-born females on the black, non-Hispanic category is evident in the high number of no identified risk cases.

Table 27
Adult and Adolescent¹ HIV Diagnoses by Exposure Category, and Race/Ethnicity
Females, Diagnosed July, 1998 – December, 2002

Exposure Category	White		Black		Hispanic		All Groups	
	Non-Hispanic	Non-Hispanic	Non-Hispanic	Non-Hispanic	Non-Hispanic	Non-Hispanic	Non-Hispanic	Non-Hispanic
	#	(%)	#	(%)	#	(%)	#	(%)
IDU	7	(13)	5	(14)	0	--	12	(12)
Hemophilia	0	--	0	--	0	--	0	--
Heterosexual	36	(67)	12	(32)	6	(75)	54	(55)
Transfusion/transplant	1	--	5	(14)	1	--	7	(7)
NIR/Other	10	(19)	15	(41)	1	--	26	(26)
Totals	54		37		8		99	

¹ Exposure occurred at ≥ 13 years of age.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Exposure Category By Race, Ethnicity, and Gender – Cumulative AIDS Cases

Adult and adolescent AIDS cases by exposure, race/ethnicity, and gender are shown in Tables 28 and 29. Comparing risks among AIDS cases to those among HIV cases (Tables 26 and 27) for each racial and ethnic group reveals some differences in patterns between racial and ethnic groups.

While 12% of male black, non-Hispanic AIDS cases reported heterosexual exposures, 29% of male Black, non-Hispanic HIV cases reported this risk. Black, non-Hispanic males with more recent infection were more likely to be heterosexual and much less likely to be an injection drug user or to report having sex with a male.

MSM was the predominant risk among white, non-Hispanic males, whether they were reported with HIV or AIDS. Heterosexual contact accounted for only 2% of AIDS cases in this group, and while that is higher among HIV cases, it still only accounts for 4% of those cases.

Risks reported among female, white, non-Hispanic AIDS cases are very similar to those for females reported with HIV infection. Nearly two-thirds were attributed to heterosexual contact. Almost 30% of AIDS cases among black, non-Hispanic females were among injection drug users but few diagnoses are now occurring amongst this group.

Table 28
Adult and Adolescent¹ AIDS Diagnoses by Exposure Category, and Race/Ethnicity
Males, Diagnosed February, 1983 – December, 2002

Exposure Category	White		Black		Hispanic		Other		All Groups	
	Non-Hispanic		Non-Hispanic							
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
MSM	803	(73)	60	(45)	34	(61)	6	(60)	903	(69)
IDU	94	(9)	33	(25)	9	--	0	--	136	(10)
MSM/IDU	82	(7)	12	(9)	4	--	1	--	99	(8)
Hemophilia	40	(4)	1	--	0	--	0	--	41	(3)
Heterosexual	27	(2)	16	(12)	7	(12)	0	--	50	(4)
Transfusion/transplant	19	(2)	0	--	0	--	1	--	20	(2)
NIR/Other	34	(3)	10	(8)	12	(22)	2	--	58	(4)
Totals	1,099		132		66		10		1,307	

¹Exposure occurred at ≥ 13 years of age.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Table 29
Adult and Adolescent¹ AIDS Diagnoses by Sex, Exposure Category, and Race/Ethnicity
Females, Diagnosed February, 1983 – December, 2002

Exposure Category	White		Black		Hispanic		All Groups ²	
	Non-Hispanic		Non-Hispanic					
	#	(%)	#	(%)	#	(%)	#	(%)
IDU	20	(16)	11	(29)	2	--	33	(19)
Hemophilia	1	--	0	--	0	--	1	--
Heterosexual	79	(65)	14	(37)	5	(50)	98	(58)
Transfusion/transplant	10	(8)	3	(8)	1	--	14	(8)
NIR/Other	12	(10)	10	(26)	2	--	24	(14)
Totals	122		38		10		170	

¹Exposure occurred at ≥ 13 years of age.

²Excludes one female of "Other" race. Confidentiality policies prohibit release of risk for this case.

Percentage totals may not equal 100 due to rounding of numbers. Percentages are not shown for small numbers.

Pediatric Exposures to HIV

Pediatric (12 years of age or younger at time of diagnosis) AIDS cases have been reportable since February 1983. Pediatric cases of HIV infection were reportable beginning July 1, 1998. Because most pediatric AIDS cases and virtually all new HIV infections in children are perinatally acquired (mother to infant), births to HIV-infected women became reportable on July 1, 1998. Monitoring perinatal exposures allows the Iowa Department of Public Health to assess the efficacy of public health recommendations on the use of medications to decrease perinatal transmission of HIV and to assess any potential adverse consequences of these interventions to the infant.

In 1999, the Centers for Disease Control and Prevention issued a revised surveillance case definition for HIV infection. It included criteria for categorizing perinatally exposed infants as “exposed,” “uninfected,” or “infected” on the basis of virological tests conducted in the first 18 months of life.

There were 30 births to HIV-positive residents of Iowa from July 1, 1998, to December 31, 2002 (Table 30). Of these, 19 infants were uninfected, two were infected (one presumptively and one definitively), and nine remain undetermined (perinatally exposed), pending further laboratory testing. Some of these cases may be lost to follow up. Births to HIV-positive women in 2002 are likely to be underreported.

Table 30
Reported Births to HIV-Infected Residents of Iowa

Year of Birth	# HIV Infected	# HIV Negative	# HIV Undetermined	Total Exposures
1998 ¹	0	1	1	2
1999	0	6	1	7
2000	1	4	3	8
2001	0	7	1	8
2002	1	1	3	5
Totals	2	19	9	30

¹Born July 1, 1998 or later.

Table 31 shows all HIV diagnoses to persons with pediatric exposures since AIDS reporting began in 1983. During this period, Iowa averaged just over 1 case of HIV disease per year for persons with pediatric exposures to HIV.

Table 31
HIV Diagnoses through December 31, 2002 Among Persons with Pediatric Exposures¹

Year	HIV Diagnoses
1982	1
1983	0
1984	0
1985	4
1986	3
1987	1
1988	1
1989	3
1990	0
1991	0
1992	0
1993	2
1994	0
1995	2
1996	1
1997	2
1998	1
1999	0
2000	2
2001	0
2002	0
Total	23

¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS) and whose exposure occurred at < 13 years of age. Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.
 Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

In 2002, there were no persons with pediatric exposures to HIV diagnosed with HIV infection. Table 32 shows the modes of exposure for all HIV and AIDS cases with pediatric exposures. Most (57%) of these infants had mothers who were HIV positive. Eight pediatric cases acquired HIV through treatments for hemophilia. There was one person with a pediatric exposure who was diagnosed with AIDS in 2002.

Table 32
Pediatric Exposures¹
Cumulative HIV and AIDS Cases Diagnosed through December 31, 2002

Exposure Category	All Cases	
	#	(%)
Pediatric Hemophilia	8	(35)
Mother at risk for HIV	13	(57)
is an IDU	5	
had sex with an IDU	4	
had sex with a bisexual man	1	
had sex with a hemophiliac	0	
had sex w/HIV-positive person whose risk is unknown	3	
has HIV, risk unknown	0	
Transfusion/ transplant	1	--
No identified risk (NIR)	1	--
Totals	23	

¹ Includes all persons reported to have tested positive for HIV while a resident of Iowa, regardless of current diagnosis (HIV or AIDS) and whose exposure occurred at < 13 years of age. Also includes persons who were diagnosed with AIDS while residents of Iowa but for whom residence at time of HIV diagnosis was unknown.

* Data for year 2002 were reported through June 30, 2003, but may be incomplete due to delays in reporting.

Data from the blinded serosurvey of all infants born in Iowa between the summer of 1989 and summer of 1995 found that 42 of 242,228 (rate of 1.7 per 10,000) births to women produced HIV-positive infants. In addition, there are 11 perinatal surveillance sites in the state. These sites were established to provide counseling and voluntary testing for all pregnant women seen at their respective facilities. In 2000, 1,889 HIV tests were performed at these sites on pregnant women. Of these, one positive test was reported. There was also one positive in 1999, but none in 1998 or 1997.

Summary of Exposure Data:

- MSM remains the predominant risk category among persons diagnosed with HIV, accounting for 55% of new HIV diagnoses among U.S.-born residents of Iowa in 2002. While diagnoses among all MSM generally declined from 1996 to 1999, there have been three years of consecutive increases in diagnoses among MSM since then. In 2002, diagnoses among U.S.-born MSM decreased, while diagnoses among foreign-born MSM, all Hispanic men, increased.
- Diagnoses of HIV infection among persons who reported heterosexual contact increased from 1996 to 1999, but have since decreased. In 2002, numbers of persons without a risk identified exceeded those with heterosexual exposures to become the second mode common category of exposure behind MSM.
- Numbers of persons reported with no risks identified increased with the implementation of confidential HIV reporting by name in July 1998. This increase makes interpretations of trends among exposure groups difficult to make. Reclassification of these cases over time may alter the interpretations of the data made here.
- Increases in diagnoses of HIV and AIDS since 1998 among foreign-born persons have contributed to higher numbers of cases among persons reporting heterosexual contact or no identified risk as their modes of exposure. Separating trends among U.S.-born and foreign-born persons can help with interpretation of statewide trends.
- Numbers of MSM being diagnosed with AIDS decreased considerably in 2002 after two consecutive years of increases. As a group, MSM still account for over 50% of all people living with HIV/AIDS in Iowa. AIDS diagnoses among IDUs, heterosexuals, and the dual category MSM/IDU have remained steady or have fallen since 1992.
- Differences in modes of exposure to HIV between racial and ethnic groups are evident. Over 60% of HIV diagnoses since July 1, 1998, among white, non-Hispanic males and Hispanic males indicated male-to-male sexual contact as their primary risk. Only 44% of black, non-Hispanic males were MSM, however. Among black, non-Hispanic males, nearly 30% of HIV cases involved heterosexual contact.
- Heterosexual contact remains the most frequently reported risk for females diagnosed with HIV. This group saw increases in numbers of diagnoses from 1994 – 1999 but decreases since then. Numbers of female injection drug users diagnosed with HIV fell from 1997 – 2002, while numbers with no identified risk increased during this time period. Numbers of female minorities reported with HIV are too low to allow differences between racial and ethnic groups to be examined.

Question 3**Who is at the greatest risk of becoming infected with HIV and other STDs in Iowa?**

This section provides a detailed look at high-risk populations using direct and indirect measures of high-risk behavior. Counseling and testing data, STD data, and other survey data will be used to examine this question.

Section Highlights

- Participants at publicly funded HIV counseling and testing sites reported high levels of unsafe behaviors. One-half indicated that they had sex with two to five partners in the past year. Only 14% used condoms during every sexual encounter in the past six months, while over one-third had not used condoms in the past six months. Nearly three-fourths reported having sex after using alcohol.
- Chlamydia is the most frequently reported sexually transmitted disease in Iowa, with 6,241 cases reported in 2002. The incidence of chlamydia increased by 9% in 2002 to reach a 10-year high.
- The incidence of gonorrhea increased for the third consecutive year. Gonorrhea shows the most disproportionate distribution among racial and ethnic groups of all sexually transmitted diseases. Black, non-Hispanic males have an incidence rate of reported cases of gonorrhea that is more than 105 times that of white, non-Hispanic males. Black, non-Hispanic females have a rate 32 times that of white, non-Hispanic females. The rate among Hispanics is more than 6 times that of white, non-Hispanic persons.
- The incidence of syphilis remains very low in Iowa and elimination of endemic syphilis is an important objective of the STD Prevention Program.
- The male-to-female ratios for chlamydia and gonorrhea differ significantly between minority populations and the white, non-Hispanic population. White, non-Hispanic females with gonorrhea diagnoses outnumber white, non-Hispanic males by 2.5 to 1, while black, non-Hispanic males outnumber black, non-Hispanic females 1.4 to 1. This may indicate that minority females are not being screened for asymptomatic infection at the same rate as other women in the state.

HIV AND AIDS BY OTHER INDICATORS

Economic status of persons with HIV and AIDS

Although the economic status of persons diagnosed with HIV and AIDS is not reported on the confidential case-report form, the reimbursement source for medical treatment is collected. For all persons diagnosed with HIV in 2002, 38% of persons reported either no health insurance coverage or public forms of payment for their medical care, 35% reported private insurance coverage, and the remaining 37% did not report a reimbursement source.

HIV/AIDS in Iowa prisons

A report published by the U.S. Department of Justice, National Institute of Justice, and the Centers for Disease Control and Prevention indicates that persons incarcerated in prisons and jails suffer disproportionately from infectious diseases, substance abuse, and socioeconomic problems. There are more cases of HIV infection, sexually transmitted diseases, and tuberculosis in inmate populations than in the general population (U.S. Department of Justice Report, 1998).

Upon admission to the Iowa Department of Corrections, each inmate is screened for HIV, tuberculosis, and other sexually transmitted diseases. Ten newly admitted inmates were diagnosed with HIV infection in the Iowa Department of Corrections in 2002. These accounted for 10% of all new diagnoses in the state. Three of the ten cases diagnosed in 2002 were concurrently diagnosed with AIDS. As of December 31, 2002, 154 inmates had tested positive for HIV.

HIV/AIDS Risk Assessment and Behavioral Data

The Iowa Department of Public Health funds 20 free, confidential HIV testing and counseling sites in Iowa. Participants complete risk assessments as part of a visit or during outreach. In addition, clients at selected substance abuse facilities complete risk assessments. In 2002, 12,820 risk assessments were completed, down from 13,764 assessments in 2001. All persons who completed assessments received HIV prevention counseling, and 9,844 were tested for HIV. Fifteen percent of these tests occurred as part of outreach testing (i.e., not in a clinic). Forty-one persons tested positive (0.42%).

Table 33 presents the gender, race, and ethnicity of the participants. More males than females completed assessments. Black, non-Hispanic persons represented 16% of the participants, white, non-Hispanic persons made up 71% of the group, and Hispanic persons accounted for 8%.

Table 33
HIV Counseling and Testing Participants by Gender
2002

Gender	#	(%)	Race and Ethnicity	#	(%)
Male	7,031	(55)	White, non-Hispanic	9,132	(71)
Female	5,787	(45)	Black, non-Hispanic	2,001	(16)
Not indicated	2	--	Hispanic	1,141	(8)
Total	12,820	100	Asian/Pacific Islander	197	(2)
			Am Indian/Alaskan	151	(1)
			Not indicated	198	(2)
			Total	12,820	100

Participant ages are shown in Table 34. One-half of the participants were 13 to 24 years of age, and another 40% were 25 to 44 years of age. The overall median age was 24 years. This is 10 years younger than the median age of persons diagnosed with HIV in 2002.

A risk group was assigned to participants according to the behaviors they reported on their assessments. Table 34 shows that, in 2002, 84% of the participants indicated heterosexual contact as their major risk, 7% were MSM, and 8% were injection drug users. Since 1999, clients reporting male-to-male sexual contact and/or injecting drug use as risks have increased from 13% to 16% of total clients.

Table 34
HIV Counseling and Testing Participants by Age Group and Risk
2002

Age Range	#	(%)	Risk Group	#	(%)
0-1	0	--	MSM/IDU	55	--
2-12	15	--	MSM	909	(7)
13-24	6,460	(50)	IDU	1,063	(8)
25-44	5,177	(40)	Heterosexual	10,793	(84)
45-64	1,051	(8)	Total	12,820	
65 and over	42	--			
Not Indicated	75	(1)			
Total	12,820				

The risk behaviors of the participants and of their partners are shown in Table 35. Over one-half of the participants had been tested previously, and almost one-third indicated that they had been infected with an STD at some time in the past. One-half indicated that they had sex with two to five partners in the past year. Only 14% used condoms during every sexual encounter in the past six months, while over one-third had not used condoms in the past six months. Nearly three-fourths reported having sex after using alcohol.

Table 35
Reported Behaviors of HIV Counseling and Testing Participants
2002

Participant Responses	#	(%)
had sex when using alcohol	9,099	(71)
indicated their partner had sex when using alcohol	8,380	(65)
indicated they had been tested before	7,269	(57)
indicated they had sex with 2-5 partners in the past year	6,537	(51)
indicated they used condoms sometimes during the past 6 months	6,094	(48)
indicated they never used condoms during the past 6 months	4,463	(35)
had sex when using drugs	4,452	(35)
indicated their partner had sex when using drugs	4,185	(33)
indicated they'd had an STD	3,891	(30)
indicated they knew their partner had an STD	2,395	(19)
indicated they used condoms every time during the past 6 months	1,772	(14)
had used drugs with a needle	1,118	(9)
indicated their partner had used drugs with a needle	1,036	(8)
indicated they had sex with 6-9 partners in the past year	876	(7)
indicated they had sex with ten or more partners in the past year	624	(5)
had sex in return for drugs, money or favors	597	(5)
indicated their partner had sex in return for drugs, money or favors	444	(4)
had sex with a person who had HIV/AIDS	299	(2)
indicated their partner had sex with a person who had HIV/AIDS	204	(2)

SEXUALLY TRANSMITTED DISEASES (STDs)

STDs are among the most frequently reported infectious diseases and constitute a significant health problem in Iowa. While STD rates reflect unsafe sexual behavior, they do not necessarily correlate with HIV infection. National data suggest that syphilis rates, especially when related to crack cocaine use or the exchange of sex for drugs, may be more closely associated with HIV risk than either gonorrhea or chlamydia. However, the presence of non-ulcerative STDs, such as chlamydia and gonorrhea, can facilitate the transmission of HIV.

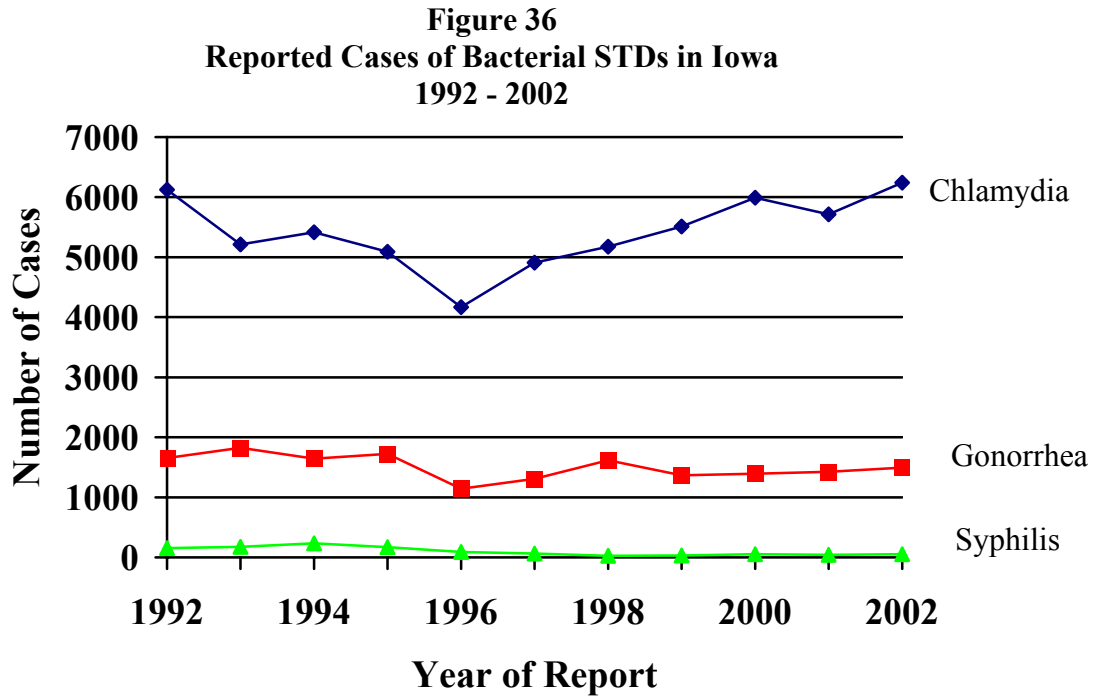
In considering STD data, one should be aware of certain limitations. The quality of STD data is dependent upon which provider or facility is reporting. All cases reported to the STD Prevention Program in 2002 are presented here, including cases for which race, age, gender, or county of residence is unknown. Race was not reported for a large number of cases. In addition, the reported incidence of STDs may reflect the demographics of individuals seeking care at a particular facility or may reflect the practices of certain providers (e.g., only cases with laboratory confirmation of disease are reported) and may not necessarily be representative of the characteristics of all infected individuals.

Women are generally reported with STDs more frequently than men. Because of the nature of the specimen collection procedure, women are often tested for STDs as a routine part of a pelvic exam, while men are generally tested only if they have symptoms or are a partner of someone who tested positive. This often results in a higher number of cases diagnosed and reported among females, particularly for those diseases where men are likely to be asymptomatic (e.g., chlamydia).

Iowa is part of the Region VII Infertility Prevention Project. Federally funded screening has been done in Iowa since 1994. The main purpose of the National Infertility Prevention Project is to implement prevention strategies, including screening, that will reduce the complications caused by *Chlamydia trachomatis*. From the beginning, women have been targeted by the project. The complications associated with women are more costly, women access services more readily, and by screening women, partners can be treated. Approximately 88% of those tested as part of the Project in Iowa are female. Testing for chlamydia is offered to all sexually active women who are under the age of 25 years. Women over age 25 can receive the test if they have certain risk factors, such as new or multiple partners in the last 90 days, contact with an infected partner, or clinical signs or symptoms of disease.

There are currently 70 clinics enrolled in the Iowa Infertility Prevention Project (IIPP). Most are family planning clinics, but STD clinics, student health centers, correctional facilities, community health centers, and non-Title X women's health centers are also included. Late in 2002, two alternative high school clinics, the Indian Health Service, and the Scott and Muscatine County jails were added. Seventy-six percent of the testing done for the IIPP was done in Family Planning clinics. The IIPP reported 3,439 persons with chlamydia in 2002, which is 55% of all reported cases of chlamydia in Iowa.

New cases of three reportable sexually transmitted diseases in Iowa are shown in Figure 36. Chlamydia is the most frequently reported sexually transmitted disease in Iowa, with over 6,200 cases reported in 2002. This was the highest number of cases since 1991. Incidence of gonorrhea has been gradually declining since 1993, though the number of cases has been steady since 1998. The incidence of syphilis remains very low in Iowa.



In the last several years, additional resources were devoted to the state chlamydia screening program. This allowed expansion of the program to every STD and family planning clinic in Iowa, as well as to selected student health, corrections, and women's health clinics. In addition, the state chlamydia and gonorrhea testing programs, in conjunction with the University of Iowa Hygienic Laboratory, began testing with an amplified DNA probe in 1998, which increased the sensitivity and specificity of both of these tests. These factors may have contributed to the increase in the number of reported cases of chlamydia and gonorrhea from 1996 to 1998.

Chlamydia

In the United States, genital infections of *Chlamydia trachomatis* occur frequently among sexually active adolescents and young adults. Asymptomatic infection is common among both men and women. Sexually active adolescents should be routinely screened for chlamydial infection during annual examinations, even if symptoms are not present. In women, untreated chlamydia infection can result in pelvic inflammatory disease, which can cause infertility, ectopic pregnancy, and chronic pelvic pain.

Chlamydia remains the most reported sexually transmitted disease in the United States and in Iowa. In 2002, there were 6,241 cases (222.0 cases per 100,000 population) reported to the STD Prevention Program. The increase in cases in 2002 extended to both males and females, but the largest increase was among females. Male cases increased by 7% from 2001 and females by nearly 10% (Figure 37). Females account for the majority of chlamydia cases, and the ratio of males to females has been consistent since 1996 at one male for every three females reported.

Figure 37
Reported Cases of Chlamydia by Gender
Iowa, 1992 - 2002

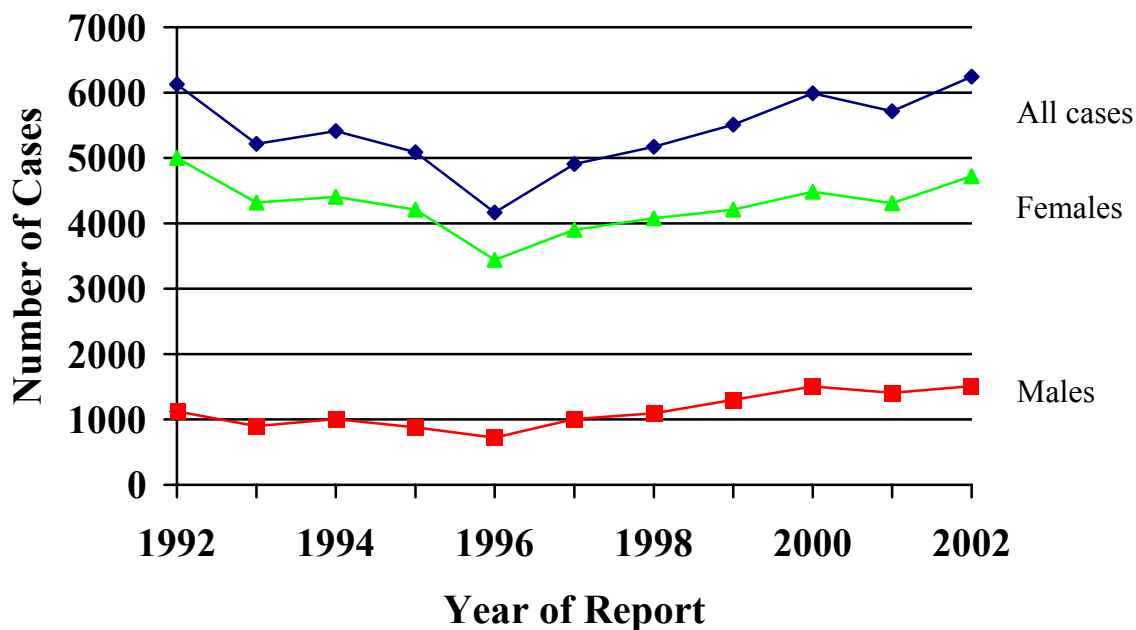
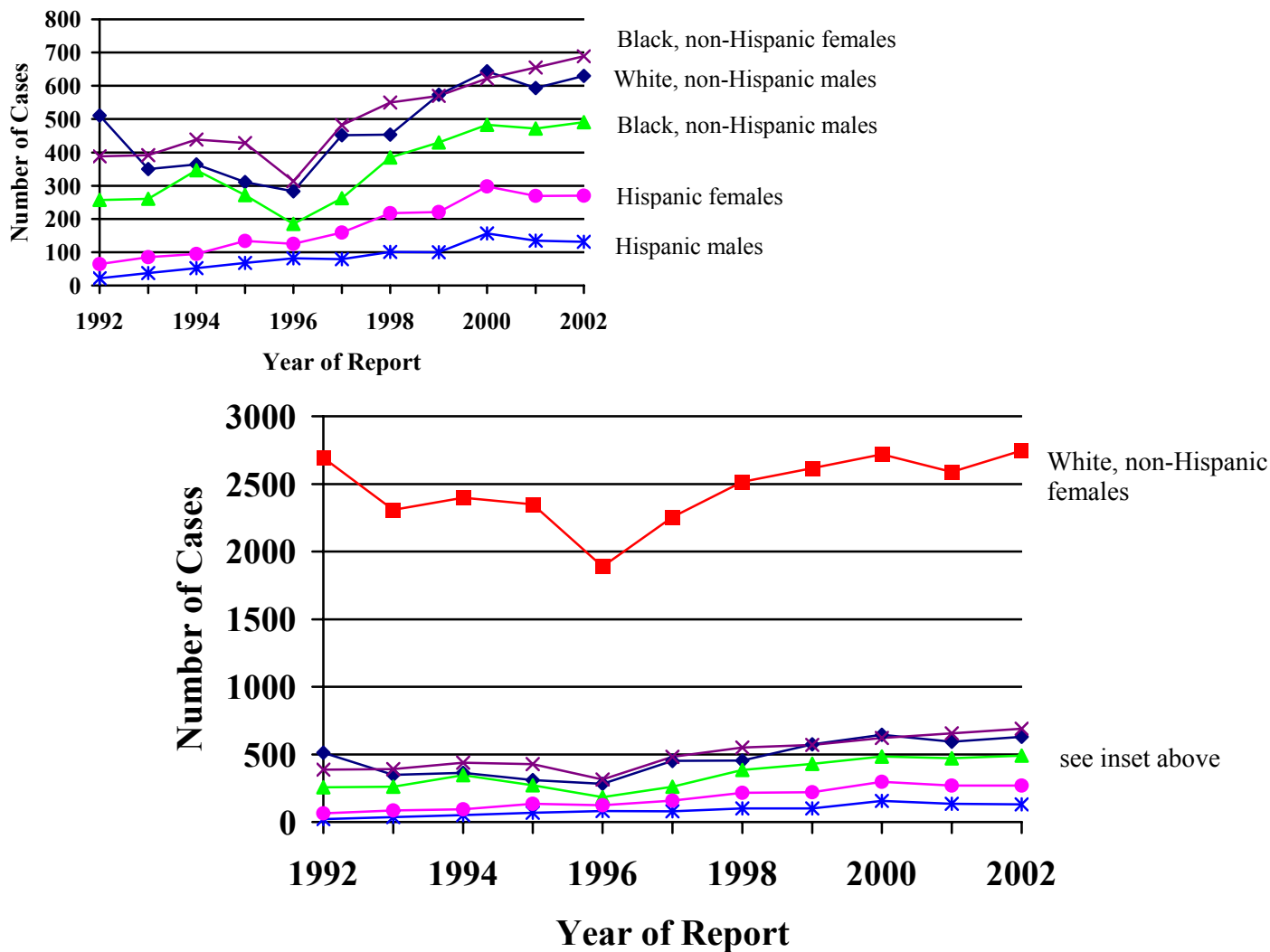


Figure 38 shows the number of reported cases of chlamydia by race, ethnicity, and gender from 1991 to 2002. By far, the largest proportion of cases is among white, non-Hispanic females, and the trends seen in the overall incidence of reported chlamydia cases are due, in large part, to this group. Females of all three racial and ethnic groups have higher morbidity than males. Hispanic males and females were the only groups that did not experience an increase in cases in 2002. Despite the vastly smaller population of black, non-Hispanic females compared to that of white, non-Hispanic males, there are more Chlamydia cases reported among black, non-Hispanic females. The increase in cases among black, non-Hispanic females was not as sharp as among black, non-Hispanic males, however.

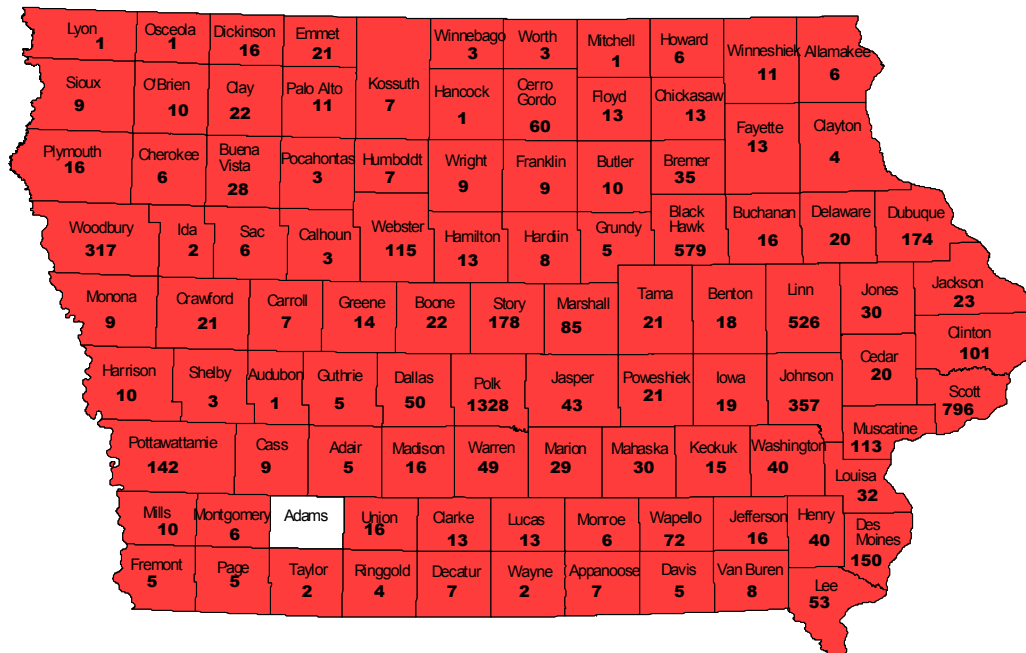
Figure 38
Diagnoses of Chlamydia by Race, Ethnicity, and Gender
1992 – 2002



Among people testing through the IIPP, 8% were black and non-Hispanic. Twenty-one percent of positive tests were among black, non-Hispanic persons, however.

The geographical distribution of chlamydia cases in 2002 is shown in Figure 39. Seventy-two percent of the cases were reported in the ten most populous counties of Black Hawk, Clinton, Dubuque, Johnson, Linn, Polk, Pottawattamie, Scott, Story, and Woodbury. These counties contain approximately 47% of Iowa’s population.

Figure 39
2002 Reported Cases of Chlamydia, by County of Residence



Total = 6,241. Counties with at least one case are shaded.

Incidence of chlamydia by county, for those counties that reported at least 20 cases, is shown in Table 36. Counties are ranked according to the highest rate per 100,000 population. Five of the top six counties are among the ten most populous counties. Those ten counties had an incidence rate over 1.5 times higher than all other counties.

The increase in reported cases of chlamydia in 2002 was not experienced in all counties. Scott, Black Hawk, Polk, and Johnson Counties accounted for the largest increases in absolute numbers of cases. The incidence rate for the state increased by 26 persons per 100,000 population over 2001, but Scott, Black Hawk, Polk, Johnson, Story, and Clinton counties averaged an increase of 52 persons per 100,000 population, twice the state rate. In addition to these counties, Webster County and Marshall County had notable increases in cases.

In Dubuque, Linn, Pottawattamie, and Woodbury counties, the cases per 100,000 population decreased from 2001, although Woodbury and Linn counties remain above the state case rate average.

Table 36
Incidence¹ of Chlamydia by County² and for the Ten Most Populous Counties
2002

County	# Cases	Incidence rate (per 100,000 pop.)	Above State Average	Change from 2001 ³ (per 100,000 pop.)
<i>Scott</i>	796	499.2	√	+54.4
<i>Black Hawk</i>	579	454.5	√	+60.0
Des Moines	150	361.8	√	-62.2
<i>Polk</i>	1,328	344.3	√	+45.4
<i>Johnson</i>	357	312.3	√	+42.6
<i>Woodbury</i>	317	306.8	√	-34.9
Webster	115	288.8	√	+72.7
<i>Linn</i>	526	269.8	√	-14.4
Muscatine	113	268.8	√	+5.8
Louisa	32	261.3	√	+106.2
<i>Story</i>	178	220.7		+49.6
Marshall	85	215.3		+47.9
<i>Clinton</i>	101	203.4		+61.3
Wapello	72	201.2		+25.2
Henry	40	198.8		-17.9
Emmet	21	195.7		+112.5
<i>Dubuque</i>	174	194.7		-7.9
Washington	40	189.5		+61.0
<i>Pottawattamie</i>	142	161.1		-13.1
Bremer	35	150.4		+64.8
Jones	30	146.9		+87.1
Lee	53	143.6		-137.8
Buena Vista	28	137.5		-37.3
Mahaska	30	135.0		+17.5
Cerro Gordo	60	132.3		+40.3
Clay	22	128.9		+23.5
Crawford	21	123.8		+11.5
Warren	49	118.0		+13.5
Tama	21	117.0		-76.9
Jasper	43	115.1		-8.3
Jackson	23	113.8		+24.7
Dallas	50	113.1		+33.8
Poweshiek	21	111.1		+10.6
Delaware	20	109.1		+76.4
Cedar	20	109.0		+48.3
Marion	29	88.8		-21.6
Boone	22	84.1		+0.4
Total – ten most populous	4,498	322.9	√	+26.9
Total – all other counties	1,743	122.9		+16.9
All Counties ²	6,241	222.0		+26.4

¹Based on 2002 Population Projections from the U.S Census Bureau.

²Only counties with 20 or more reported cases are shown. All counties are included in total.

³Indicates change from 2001 incidence in persons/100,000 population.

The ten most populous counties are italicized and bolded.

Table 37 shows the number of reported cases of chlamydia by age, race, ethnicity, and gender. Seventy-six percent of all cases were female. Older adolescents and young adults (age groups 15 to 19 years and 20 to 24 years) shared the burden of disease, with 81% of all female cases and 64% of all male cases occurring in these two age groups. Males, on average, tended to be older than females. The majority of cases occurred among white, non-Hispanic persons (54% of all cases); but black, non-Hispanic persons accounted for 19% of the cases even though they make up only 2% of Iowa's population. Hispanic persons accounted for 6% of the cases. Nineteen percent of cases did not have a race or ethnicity reported.

Table 37
Reported Cases of Chlamydia by Age, Race, Ethnicity, and Gender
Iowa, 2002

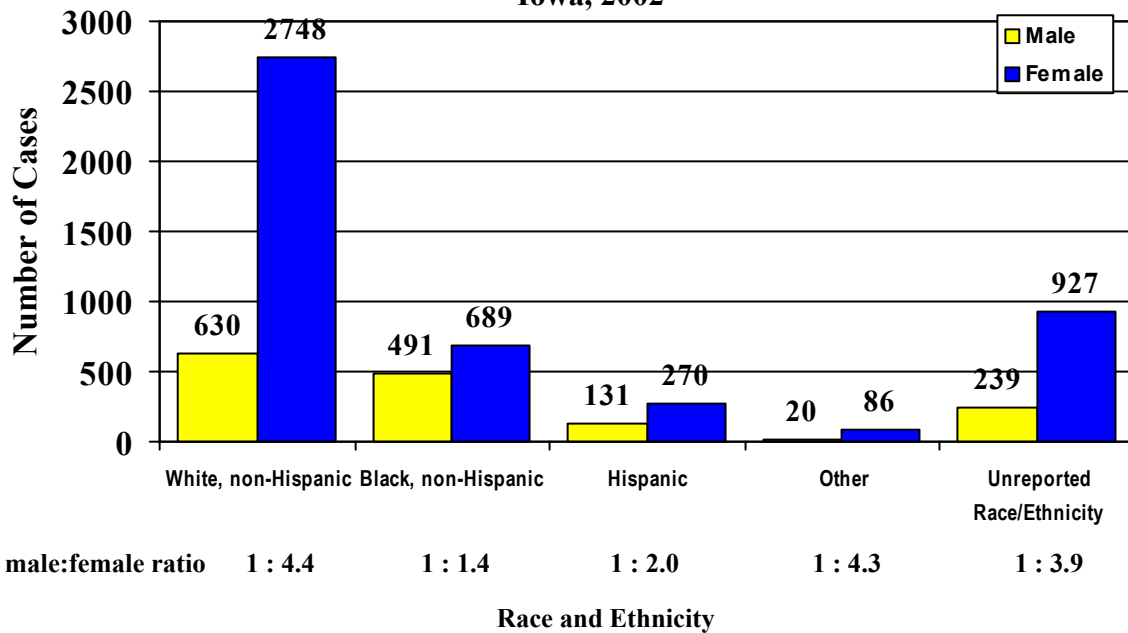
Age Groups (Years)	White not Hispanic		Black not Hispanic		Hispanic		Asian/Pacific Islander		American Native		Unknown		Total		All ¹
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
00 - 04	1	2	0	1	0	0	0	0	0	0	0	0	1	3	4
05 - 09	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
10 - 14	2	32	2	15	0	3	0	2	0	0	0	15	4	67	71
15 - 19	111	1059	119	292	26	87	3	28	2	7	47	354	308	1827	2140
20 - 24	315	1236	199	258	49	100	4	15	2	7	94	395	663	2011	2677
25 - 29	116	266	92	82	29	54	6	15	0	3	52	100	295	520	816
30 - 34	36	83	36	30	18	18	1	5	1	1	23	30	115	167	282
35 - 39	28	40	25	6	5	3	1	3	0	0	10	20	69	72	142
40 - 44	9	13	14	2	0	3	0	0	0	0	6	4	29	22	51
45 - 54	9	8	2	3	1	2	0	0	0	0	4	4	16	17	33
55 - 64	1	0	0	0	1	0	0	0	0	0	1	0	3	0	3
65 +	0	1	2	0	0	0	0	0	0	0	1	0	3	1	4
Unknown	2	8	0	0	2	0	0	0	0	0	1	4	5	12	17
Totals	630	2748	491	689	131	270	15	68	5	18	239	927	1511	4720	6241

¹Total of 6,241 includes 10 persons of unknown race/ethnicity and gender.

M = males; F = females

Figure 40 illustrates the ratio of male-to-female cases. Females outnumbered males for all races and ethnicities, but the ratio of males to females varied for the different racial and ethnic groups. Among white, non-Hispanic persons, more than four females are reported with chlamydia for every male. This is also true among Asian/Pacific Islanders and American Indians/Alaska Natives, which have been combined into one category. Among Hispanic persons, however, females outnumbered males by only two to one. Even more striking, the number of black, non-Hispanic females was very close to the number of black, non-Hispanic males, with a ratio of 1.4 to 1.

Figure 40
Diagnoses of Chlamydia by Race, Ethnicity, and Gender
Iowa, 2002



The disproportionate distribution of chlamydia among minority groups is illustrated in Table 38. When standardized for population size, black, non-Hispanic males have an incidence rate of reported cases of chlamydia that is more than 33 times that of white, non-Hispanic males. Black, non-Hispanic females have a rate that is 12 times that for white, non-Hispanic females. The rate among Hispanics is more than four times that of white, non-Hispanic persons.

Table 38
Incidence Rates¹ for Chlamydia by Race, Ethnicity, and Gender
Iowa, 2002

Race and Ethnicity	Males (# / 100,000 males)	Females (# / 100,000 females)	Total (# / 100,000 pop.)
White, non-Hispanic	47.1	195.1	123.1
Black, non-Hispanic	1580.2	2162.4	1878.1
Hispanic	454.2	981.7	711.7
All Cases	106.1	315.7	213.8

¹Based upon 2002 Population Projections by Race and Ethnicity from the U.S. Census Bureau

Gonorrhea

In the United States, an estimated 650,000 new infections of *Neisseria gonorrhoeae* occur each year. Most infections among men produce symptoms that cause them to seek curative treatment soon enough to prevent serious sequelae (i.e., conditions resulting from the disease), but this may not be soon enough to prevent transmission to others. Many infections among women do not produce recognizable symptoms until complications (e.g., pelvic inflammatory disease (PID)) have occurred. Both symptomatic and asymptomatic cases of PID can result in tubal scarring that leads to infertility or ectopic pregnancy. Because gonococcal infections among women often are asymptomatic, an important component of gonorrhea control in the United States and Iowa continues to be the screening of women at high risk for STDs.

The number of reported cases of gonorrhea in Iowa fell between 1993 and 1999 (Figure 41). Males and females show similar trends. In contrast to chlamydia, females only slightly outnumber males reported with gonorrhea.

In 2002, the Iowa STD Prevention Program had 1,496 reported cases of gonorrhea (53.2 cases per 100,000 population), slightly up from 1,424 reported cases (48.6 cases per 100,000 population) in 2001. Case numbers have increased for three consecutive years, although levels are still below those seen before 1996. Most of the increase in cases since 1999 was among females.

Figure 41
Diagnoses of Gonorrhea by Gender
Iowa, 1992 - 2002

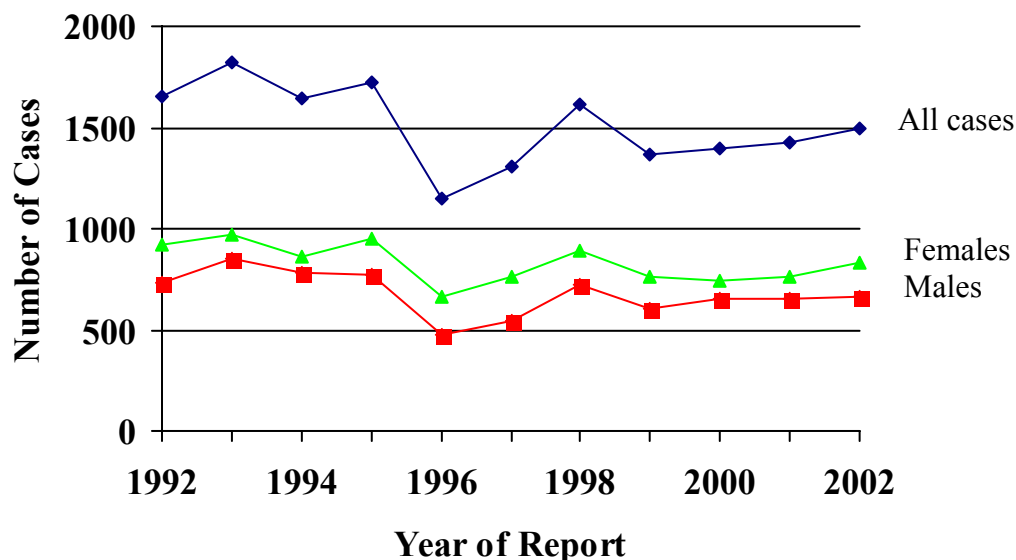
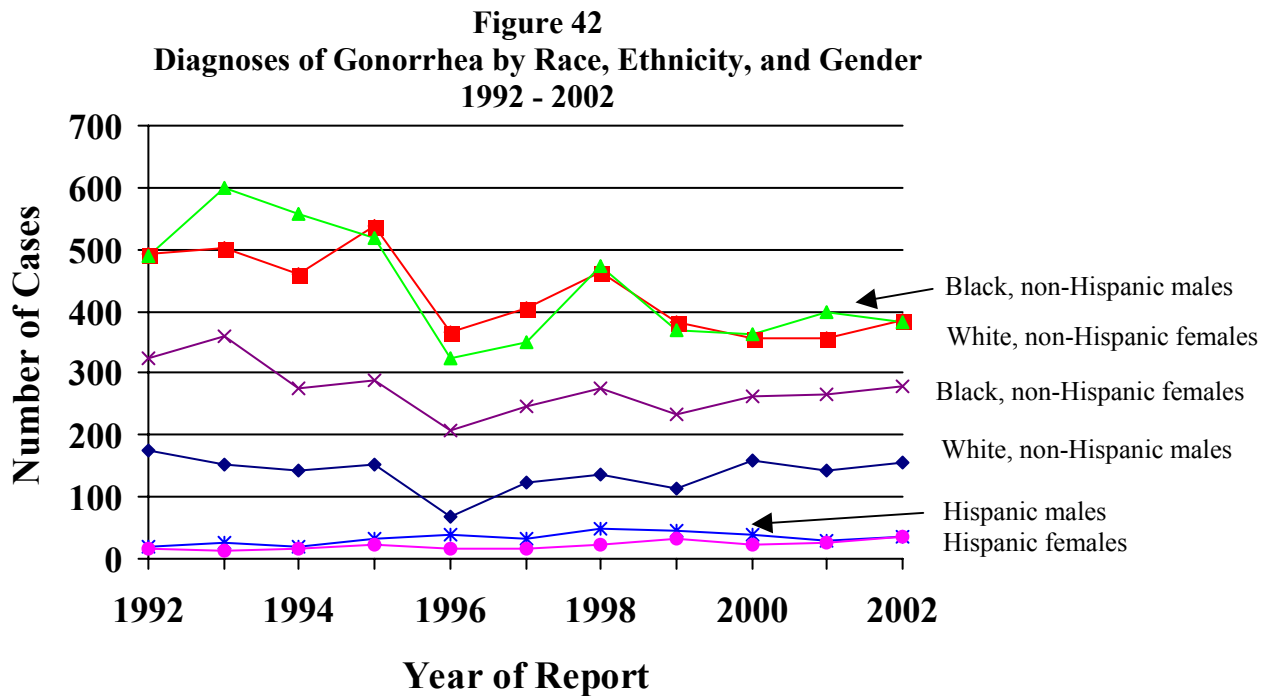


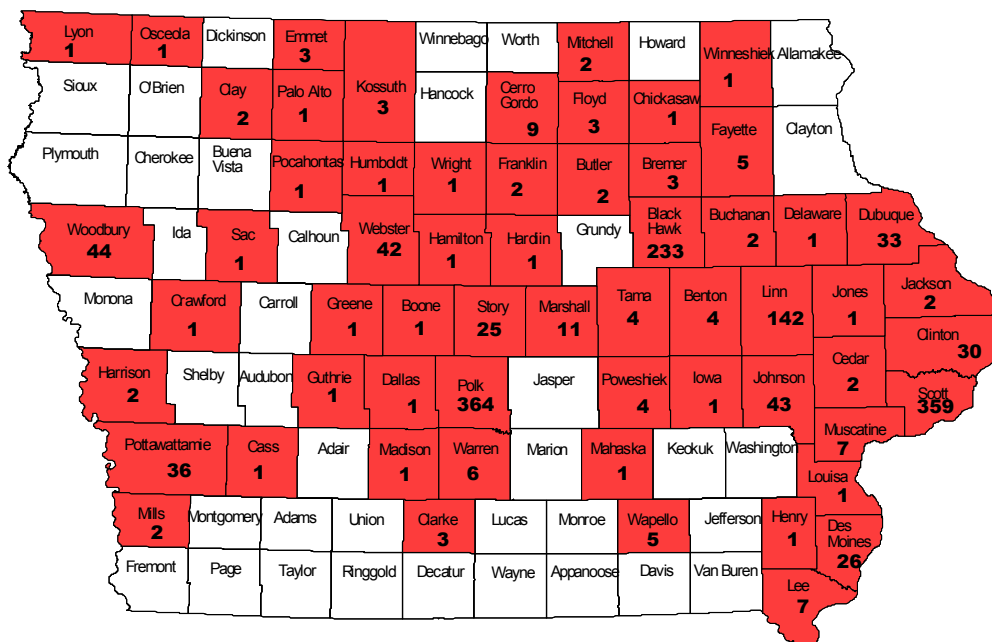
Figure 42 shows the incidence of gonorrhea by race, ethnicity, and gender from 1992 to 2002. All groups except Hispanics saw a gradual decrease in cases from 1991 to 1999. Black, non-Hispanic males and females had an increase in cases in 2001, but numbers among other groups continued to remain steady or to decline slightly that year. In 2002, however, all groups except black, non-Hispanic males experienced slight increases in diagnoses. The most significant increase occurred among white, non-Hispanic females.

Black, non-Hispanic males and white, non-Hispanic females account for the largest proportions of reported cases. Black males have consistently outnumbered black females. This is the reverse of what is generally expected and of what is seen with chlamydia. Since 2000, equal numbers of Hispanic males and females have been diagnosed.



The geographical distribution of gonorrhea cases in 2002 is shown in Figure 43. As for HIV and chlamydia, the ten most populous counties contributed a disproportionate number of cases. Almost 88% of cases were reported from these ten counties. These counties contain just 47% of Iowa’s total population.

Figure 43
2002 Reported Cases of Gonorrhea
By County of Residence



Total = 1495. Counties with at least one case are shaded.

Incidence rates by county, for those counties with at least five reported cases, are shown in Table 39. Counties are ranked according to the highest rate per 100,000 population.

Incidence in the ten most populous counties is more than seven times higher than in the other counties. The largest increases in absolute numbers of cases were seen in Polk, Scott, and Black Hawk counties. Conversely, Linn and Woodbury counties saw substantial decreases from 2001. Des Moines and Webster counties are the only counties with above-average incidence that are not among the 10 most populous counties in the state.

Des Moines County is located in southeastern Iowa, along the Mississippi River, and contains the city of Burlington. Despite a population of just over 41,000 residents, Des Moines County ranked first in incidence of gonorrhea in 1999 and 2000. The county's incidence of gonorrhea fell by more than 140 persons per 100,000 population in 2001, when the county ranked tenth in incidence. The county saw a moderate increase in cases in 2002 and was ranked sixth in incidence.

Webster County, in north central Iowa, has a population of 40,000. It contains the city of Fort Dodge and is home to one of the state's nine prisons.

Table 39
Incidence¹ of Gonorrhea by County² and for the Ten Most Populous Counties
2002

County	# Cases	Incidence rate (per 100,000 pop.)	Above State Average	Change from 2000 ³ (per 100,000 pop.)
<i>Scott</i>	359	225.2	√	+43.4
<i>Black Hawk</i>	233	182.9	√	+44.5
Webster	42	105.5	√	+42.7
<i>Polk</i>	364	94.4	√	+22.9
<i>Linn</i>	142	72.8	√	-72.1
Des Moines	26	62.7	√	+26.8
<i>Clinton</i>	30	60.4	√	-5.6
<i>Woodbury</i>	44	42.6		-31.2
<i>Pottawattamie</i>	36	40.8		+10.1
<i>Johnson</i>	43	37.6		-25.3
<i>Dubuque</i>	33	36.9		-2.5
<i>Story</i>	25	31.0		+8.3
Marshall	11	27.9		+17.7
Fayette	5	23.0		+13.9
Cerro Gordo	9	19.9		+8.9
Lee	7	19.0		-5.2
Muscatine	7	16.7		-4.9
Warren	6	14.4		+9.6
Wapello	5	14.0		+8.4
Total – ten most populous	1,309	94.0	√	+1.6
Total – all other counties	187	13.2		+3.4
All Counties ²	1,496	53.2		+4.5

¹Based on 2001 Population Projections by county from the U.S. Census Bureau.

²Only counties with 5 or more reported cases are shown. All counties are included in total. Total includes two persons with unknown county of residence.

³Indicates change from 2001 incidence in persons/100,000 population.
The ten most populous counties are italicized and bolded.

Table 40 shows the incidence of gonorrhea by age, race, ethnicity, and gender. Fifty-six percent of all cases were female. Older adolescents and young adults (ages 15 to 29 years) shared the burden of disease, with 71% of all female cases and 54% of all male cases occurring among persons of these ages. Males, on average, tended to be older than females. Black, non-Hispanic persons, though only 2% of the population, had the largest burden of disease among all racial groups, with 45% of the cases. White, non-Hispanic persons accounted for 36% of cases and Hispanics for 5%. Race and ethnicity were not identified for 14% of the cases.

Table 40
Reported Cases of Gonorrhea by Age, Race, Ethnicity, and Gender
Iowa, 2002

Age Groups (Years)	White not Hispanic		Black not Hispanic		Hispanic		Asian/Pacific Islander		American Native		Unknown		Total		All ¹
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
00 - 04	0	0	1	0	0	0	0	0	0	0	1	0	2	0	2
05 - 09	0	0	2	0	0	0	0	0	0	0	0	0	2	0	2
10 - 14	0	2	2	10	0	1	0	1	0	0	0	5	2	19	21
15 - 19	27	133	74	110	5	10	0	2	0	2	8	50	114	307	421
20 - 24	42	132	132	89	19	10	1	1	1	2	23	44	218	278	496
25 - 29	36	60	70	41	8	8	0	0	0	0	15	11	129	120	249
30 - 34	11	40	46	10	3	2	1	0	0	0	18	5	78	57	135
35 - 39	12	6	31	14	0	2	0	1	0	0	9	3	53	26	79
40 - 44	10	7	16	3	0	2	0	0	0	0	6	4	32	16	48
45 - 54	13	6	7	3	0	0	0	0	0	0	3	0	23	9	32
55 - 64	4	0	1	0	0	0	0	0	0	0	1	0	6	0	6
65 +	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1
Unknown	1	0	0	0	1	0	0	0	0	0	0	1	2	1	3
Total	156	386	383	280	36	35	2	5	1	4	84	123	662	833	1496

¹Total of 1,496 includes one person of unknown race/ethnicity and gender.

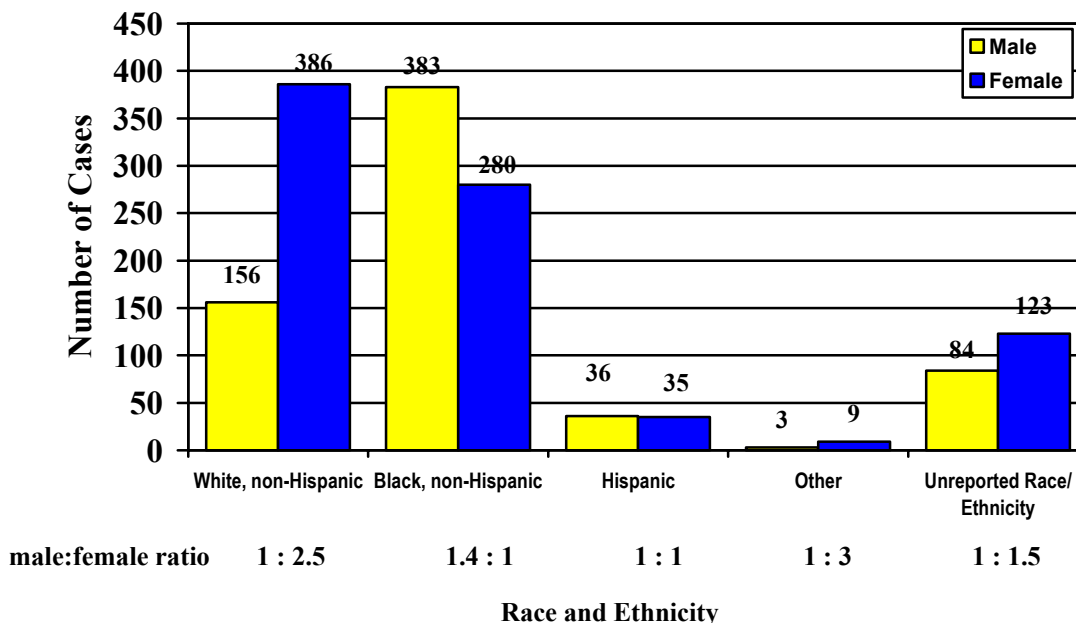
M = males; F = females.

Figure 44 illustrates the ratio of male-to-female cases by race and ethnicity. There is a marked difference in the relative numbers of males and females between the white, non-Hispanic group and the black, non-Hispanic group. Among white, non-Hispanic persons, females outnumbered males 2.5 to 1; among black, non-Hispanic persons, males outnumbered females 1.4 to 1. Male-to-female ratios are not only different between racial and ethnic groups, but the ratios are very different from the male-to-female ratios seen for chlamydia.

A number of different factors may contribute to differences in male-to-female ratios between racial groups and diseases. For example, minority females may lack the access to routine screening that is seen among white, non-Hispanic females. In that case, asymptomatic infections may not be diagnosed among minority females. Because gonorrhea is more often symptomatic than is chlamydia, particularly among males, more males may seek care for gonorrhea than for chlamydia. Together, these factors may explain the differences described here.

It is not known how mode of exposure may differ between chlamydia and gonorrhea or between racial and ethnic groups. This could potentially cause differences in male-to-female ratios as well. Risk information data are not collected from persons reported with STDs. If the diseases differ in how prevalent they are among men who have sex with men, or if the diseases affect MSM of one racial or ethnic group more than other groups, the male-to-female ratio may increase for that disease or group.

Figure 44
Diagnoses of Gonorrhea by Race, Ethnicity, and Gender
Iowa, 2002



The disproportionate distribution of gonorrhea among minority groups is illustrated in Table 41. When standardized for the population size, black, non-Hispanic males have an incidence rate of reported cases of gonorrhea that is more than 105 times that of white, non-Hispanic males. Black, non-Hispanic females are also disproportionately represented, with a rate 32 times that of white, non-Hispanic females. The rate among Hispanics is more than 6 times that of white, non-Hispanic persons.

Table 41
Incidence Rates¹ for Gonorrhea by Race, Ethnicity, and Gender
Iowa, 2002

Race and Ethnicity	Males (# / 100,000 males)	Females (# / 100,000 females)	Total (# / 100,000 pop.)
White, non-Hispanic	11.7	27.4	19.7
Black, non-Hispanic	1232.6	878.8	1053.5
Hispanic	124.8	127.3	126.0
All Cases	46.5	55.7	51.3

¹Based upon 2002 Population Projections by Race and Ethnicity from the U.S. Census Bureau

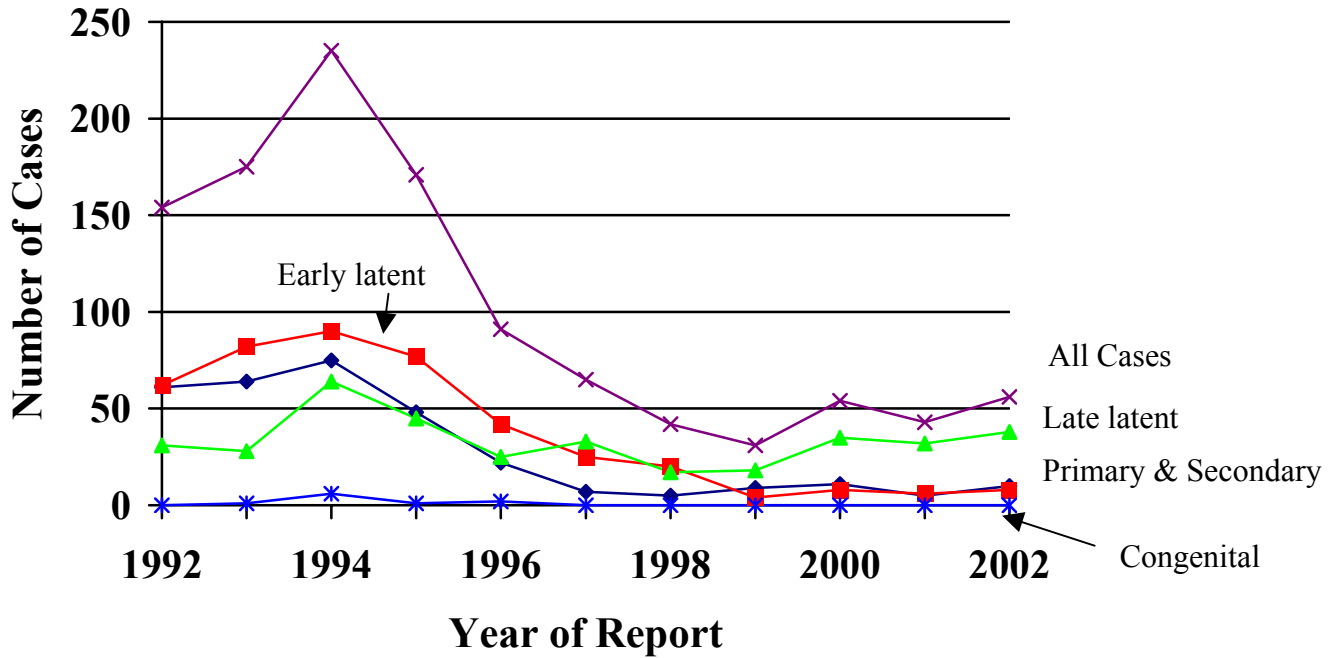
Syphilis

Syphilis is a systemic disease caused by the bacteria *Treponema pallidum*. Patients who have syphilis may seek treatment for signs or symptoms of primary infection (e.g., ulcer or chancre at the infection site), secondary infection (e.g., manifestations that include rash, mucocutaneous lesions, condyloma latum, and adenopathy), or tertiary infection (e.g., cardiac, neurologic, ophthalmic, auditory, or gummatous lesions). Neurosyphilis occurs when there is evidence of central nervous system infection with *T. pallidum*; this can occur in any stage, especially in persons infected with HIV. Infections also may be detected by serological testing during the latent stage. Latent syphilis is a term used to describe the period after infection when patients are seroreactive but demonstrate no other evidence of disease. Latent syphilis acquired within the preceding year is referred to as *early latent syphilis*; all other cases of latent syphilis are *late latent syphilis*. The term *total early syphilis* refers to the sum of primary, secondary, and early latent syphilis.

One of the more important reasons for syphilis case follow-up is the prevention of congenital syphilis, which arises as a result of transmission from a pregnant woman to her unborn fetus. Congenital syphilis can manifest as stillbirth or as a full range of severe medical problems that can last an entire lifetime. Other reasons for case reporting include the prevention of tertiary syphilis or neurosyphilis and, of course, the prevention of spread to others.

In 2002, there were 10 primary and secondary, 8 early latent, 38 late latent, and no congenital cases of syphilis reported to the STD Prevention Program. Total early syphilis morbidity in Iowa is at its lowest level since the disease became reportable in the late 1940's. The total number of cases decreased from 1994 to 1999. An increase in total cases in 2000 was the result of a near doubling of diagnoses of late latent syphilis, from 18 cases in 1999 to 35 in 2000 (Figure 45). These cases were not the result of recent exposures. Despite the small increase in total cases, the state of Iowa has a very real chance for the total elimination of endemic syphilis. This goal of syphilis elimination has become one of the STD Prevention Program's most important objectives for the year 2010.

Figure 45
Diagnoses of Syphilis
Iowa, 1992 - 2002



Among the 18 total early syphilis cases (i.e., recent infections) reported in 2002, 9 were 20 to 29 years of age, 5 were 30 to 39 years, and 4 were 40 years or more. Nearly one-half of these cases occurred in Polk County.

Syphilis, like other sexually transmitted diseases, reflects an over-representation of minority populations. In 2002, six total early syphilis cases (33%) were reported among black, non-Hispanic persons, five (28%) were among white, non-Hispanic persons, and 17% were among Hispanic persons.

Section

2

**RYAN WHITE CARE ACT
SPECIAL QUESTIONS AND
CONSIDERATIONS**

Question 1: What are the patterns of utilization of HIV services by persons with HIV in Iowa?

Question 2: What are the number and characteristics of persons who know they are HIV positive, but who are not receiving HIV primary medical care?

Question 1**What are the patterns of utilization of HIV services by persons with HIV in Iowa?**

This section characterizes the patterns of use of HIV primary medical care and support services by persons with HIV. It examines the types of services received by age, gender, race/ethnicity, and exposure category. The information may be used for care planning groups to identify gaps in services or to help target services to specific populations of HIV-positive persons.

Section Highlights

- Iowa receives Ryan White Title II and Title III funds for the delivery of essential services to individuals and families with HIV disease. In 2002, 11 providers served over 650 people with Title II services, including case management, emergency financial assistance, transportation services, housing assistance, and other support services. Case management was the most utilized Title II-funded service.
- The AIDS Drug Assistance Program (ADAP) provided medications to 295 persons living with HIV/AIDS in 2002. Since 2000, the average number of clients receiving drugs each month has increased faster than federal funding for the program.
- There are four community health centers that receive Title III funds in Iowa. In 2002, they served slightly less than 800 people with outpatient HIV primary medical care. The University of Nebraska Medical Center in Omaha serves an additional 50 Iowans living with HIV. Case management and treatment adherence counseling were the most utilized services other than primary medical care.
- In general, persons utilizing Title II and Title III services were similar in demographics to persons living with HIV. However, slightly higher proportions of black and Hispanic persons utilized the AIDS Drug Assistance Program compared to persons living with HIV in Iowa and compared to persons accessing other Title II and Title III services.

RYAN WHITE CARE ACT SERVICES

In 1990, Congress enacted the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act to provide emergency assistance to localities that are disproportionately affected by HIV and to make financial assistance available to states and other public or private nonprofit entities. The funds were for the development, organization, coordination, and operation of more effective and cost efficient systems for the delivery of essential health and support services to individuals and families with HIV disease. Funding is administered by the Health Resources and Services Administration (HRSA) through cooperative agreements with states and other agencies.

Congress reauthorized the CARE Act in 1996 and 2000 to support funding for Titles I through IV, Special Projects of National Significance (SPNS), HIV/AIDS Education Training Centers, and the Dental Reimbursement Program. Iowa receives funding for Titles II, III, and an AIDS Education Training Center.

Title II Services

Title II funding is provided by HRSA to improve the quality, availability, and organization of health care and support services for individuals and families with, or affected by, HIV disease. Funding is also available to provide access to pharmaceuticals through AIDS Drug Assistance Programs (ADAP).

In 2002, over 650 Iowans received services through the Ryan White Title II services, and 295 received prescription drugs through the AIDS Drug Assistance Program. The Title II program serves as the payer of last resort for Persons Living With HIV (PLWH) who are uninsured or who have inadequate insurance and cannot cover the costs of care on their own.

The IDPH has established four HIV CARE consortia consisting of 11 providers that encompass all 99 counties of the state (Figure 46). These consortia provide essential health and support services, such as case management, emergency financial assistance, food banks, housing assistance, and counseling to financially eligible clients living with HIV. Each consortium has its own planning group that decides which services to offer and how much funding to devote to those services.

Figure 46
2002 Ryan White CARE Consortia

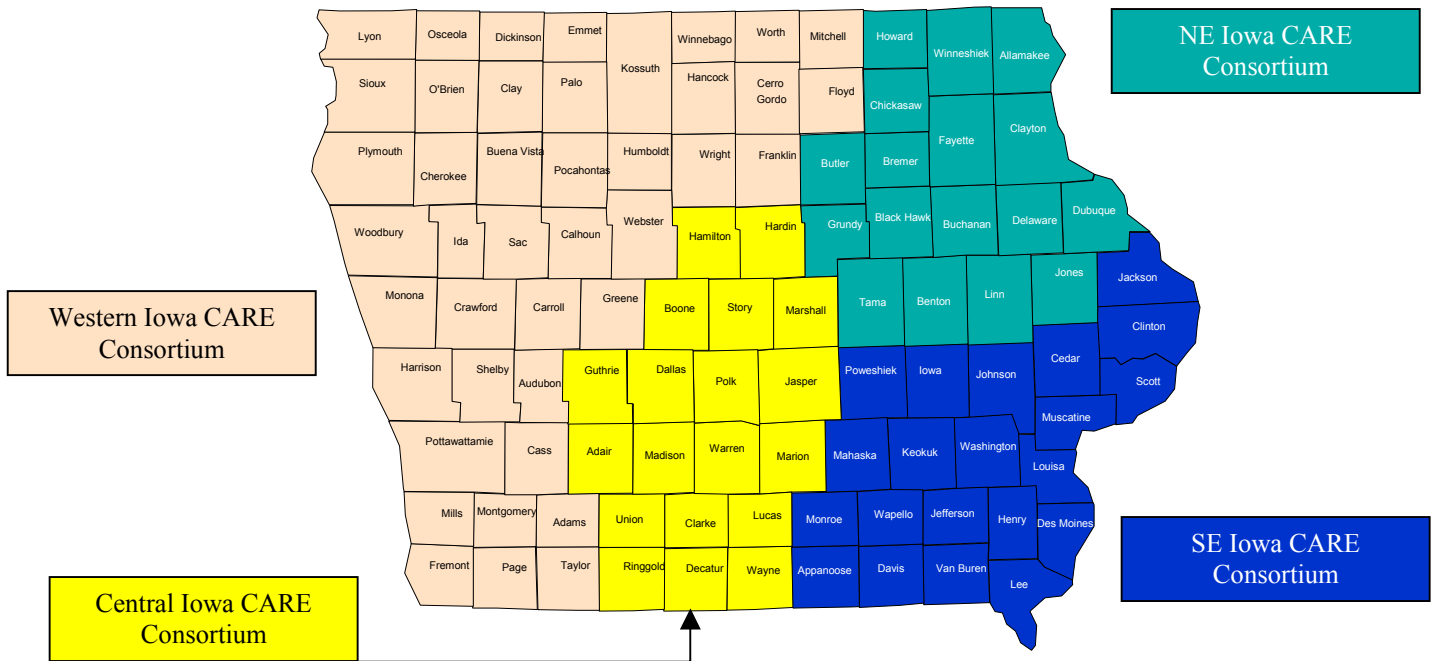


Table 42 shows the characteristics of Title II clients by consortium. The largest proportions of black clients are served by the consortia in the northeast and southeast parts of the state, while the western and central consortia have higher proportions of Hispanic clients. The Northeast Iowa CARE Consortium had the highest proportion of clients in the 45 to 64 year age group.

Table 42
Characteristics of Title II CARE Act Clients¹ by Consortium
2002

Characteristic	Western n = 143		Central n = 201		Northeast n = 147		Southeast n = 169		Total n = 660	
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
Race										
White	123	(86)	164	(82)	107	(73)	134	(79)	528	(80)
Black	14	(10)	33	(16)	36	(24)	33	(20)	116	(18)
Asian	2	--	2	--	1	--	2	--	7	(1)
Nat. Hawaiian/ Pac. Isl	0	--	0	--	0	--	0	--	0	--
Am. Indian/ Alaska Nat.	3	--	0	--	0	--	0	--	3	--
More than one race	0	--	2	--	0	--	0	--	2	--
Unknown race	1	--	0	--	3	--	0	--	4	--
Ethnicity										
Hispanic	15	(10)	17	(8)	6	(4)	11	(7)	49	(7)
Not Hispanic	127	(89)	184	(92)	141	(96)	158	(93)	610	(92)
Unknown	1	--	0	--	0	--	0	--	1	--
Sex										
Male	116	(81)	159	(79)	117	(80)	137	(81)	529	(80)
Female	27	(19)	41	(20)	30	(20)	32	(19)	130	(20)
Transgender	0	--	1	--	0	--	0	--	1	--
Age (yrs)										
<2	0	--	0	--	0	--	0	--	0	--
2-12	0	--	4	--	1	--	0	--	5	(1)
13-24	2	--	7	(3)	1	--	0	--	10	(1)
25-44	99	(69)	132	(66)	92	(63)	125	(74)	448	(68)
45-64	41	(29)	58	(29)	52	(35)	44	(26)	195	(30)
65 and older	1	--	0	--	1	--	0	--	2	--

¹ Counts could not be unduplicated. Clients who received services in more than one consortium will be counted more than once. All clients that utilized a service eligible for Title II funding are included (not just clients that met Title II guidelines for eligibility).

Utilization of Ryan White Title II services is shown for each consortium in Table 43. Services are listed from most to least utilized. There are significant differences between the consortia, reflecting the priorities set by each consortium's planning group.

Case management is the most heavily utilized service in all consortia. Over 96% of clients accessed this service at least once. Clients averaged almost 17 visits for case management in 2002, but the number of visits varied greatly by consortium. Clients in the Northeast Iowa CARE Consortium averaged nearly 37 visits whereas clients in the Central Iowa Consortium averaged only 6 visits. This may indicate differences in utilization, but could also reflect differences between the consortia in what constitutes a case management "visit;" in other words, the differences may be an artifact of reporting.

The other most utilized services included emergency financial assistance, transportation services, housing services, a food bank (in central Iowa), buddy services, health education, and client advocacy services. No service, however, was used by more than 30% of the 660 Title II clients.

Table 43
Utilization of Ryan White Title II Services by Consortium
2002

Service	Consortium									
	Western ¹ n = 143		Central n = 201		Northeast n = 147		Southeast n = 169		Total n = 660	
	# clients ²	Visits per client ³	# clients	Visits per client	# clients	Visits per client	# clients	Visits per client	# clients	Visits per client
Case management services	142	10.1	182	6.3	144	36.9	169	15.6	637	16.5
Emergency financial assist.	40	--	48	--	102	--			190	--
Transportation services	18	--	39	--	38	--	32	--	127	--
Housing services	29	--	38	--	59	--			126	--
Food bank/meals	6	--	107	--	1	--			114	--
Buddy services	6	--	76	--	27	--			109	--
Health ed./risk reduct.	61	--	11	--	33	--			105	--
Client advocacy	20	--	2	--	82	--			104	--
Outpatient medical care	17	3.0			4	1.3	69	4.1	90	3.8
Psychosocial support services	12	--			50	--			62	--
Referral for health care/ support services					31	--			31	--
Oral health care	1	2.0					28	2.3	29	2.2
Nutritional counseling	23	--							23	--
Outreach services	8	--							8	--
Legal services					3	--			3	--
Permanency planning					3	--			3	--
Mental health services					2	2.0			2	2.0
Hospice care					1	--			1	--
Home healthcare							1	12.0	1	12.0

¹ Siouxland Community Health Center in the Western Consortium received both Title II and Title III funds.

All services could not be separated by type of funding.

² Counts could not be unduplicated. Clients who received services in more than one consortium will be counted more than once. All clients that utilized a service eligible for Title II funding are included (not just clients that met Title II guidelines for eligibility).

³ Visits per client were only reported for certain categories.

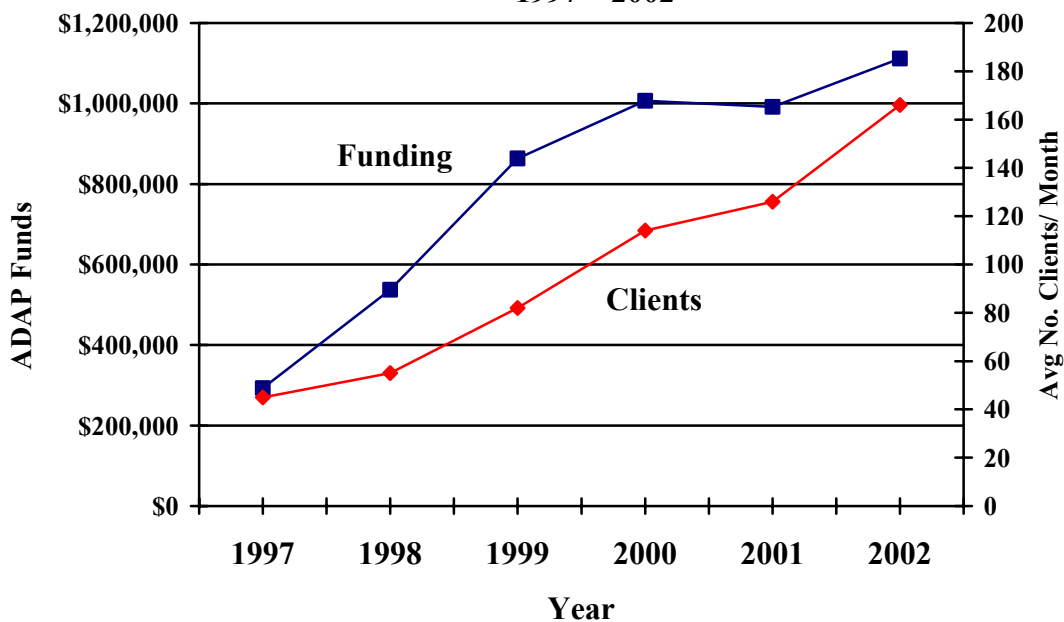
AIDS Drug Assistance Program

The AIDS Drug Assistance Program, or ADAP, is funded under Title II of the CARE Act and provides HIV-related prescription drugs to underinsured and uninsured persons living with HIV/AIDS. Prescription costs may be paid directly, or the program may help clients who have insurance co-pays.

ADAP is administered by IDPH through the use of a centralized pharmacy that distributes drugs to clients statewide. A separate advisory committee, the Ryan White ADAP Advisory Committee, provides periodic review of ADAP, including the ADAP formulary. Thirty-three HIV-related medications are provided to individuals with HIV whose income does not exceed 200% of the federal poverty level. The categories of drugs included nucleoside analogues, non-nucleoside reverse transcriptase inhibitors, nucleotide reverse transcriptase inhibitors, protease inhibitors, PCP prophylaxis medications, antifungals, anti-mycobacterials, general antivirals, and an anti-neoplastic medication.

In 2002, 295 individuals received ADAP assistance, with an average of 166 individuals receiving medications in a given month. Figure 47 presents the average number of clients receiving medications each year from 1997 to 2002 and the total amount of funding the ADAP program received those years. Since 2000, the average number of clients enrolled each month is increasing faster than the funding for the program is increasing.

Figure 47
Average Number of Clients per Month Receiving Medications from ADAP
and Total Funding¹
1997 – 2002



¹ Funding received from Health Resources and Services Administration through a cooperative agreement.

Table 44 shows the characteristics of clients on ADAP in 2002. They did not differ significantly from the characteristics of persons living with HIV/AIDS in Iowa, although there were slightly higher proportions of Black and Hispanic persons on ADAP. Because ethnicity is recorded differently by the surveillance program, direct comparisons are difficult. There are also no ADAP clients over the age of 64. This is most likely because these people would be Medicaid eligible.

Table 44
Characteristics of AIDS Drug Assistance Program Clients
2002

Characteristic	n = 295	
Race	#	(%)
White	232	(79)
Black	58	(20)
Asian	5	(2)
Nat. Hawaiian/ Pac. Isl	0	--
Am. Indian/ Alaska Nat.	0	--
More than one race	0	--
Unknown race	0	--
Ethnicity	#	(%)
Hispanic	32	(11)
Not Hispanic	263	(89)
Unknown	0	--
Sex	#	(%)
Male	240	(81)
Female	55	(19)
Transgender	0	--
Age (yrs)	#	(%)
<2	0	--
2-12	1	--
13-24	11	(4)
25-44	195	(66)
45-64	88	(30)
65 and older	0	--

Title III Early Intervention Services

Title III funds are provided directly to clinics to support primary medical care and other services for people living with HIV disease. The four Title III clinics in Iowa are community health centers located in Davenport, Des Moines, Iowa City, and Sioux City. The University of Nebraska Medical Center in Omaha, Nebraska, is also a Title III clinic and serves approximately 50 residents from western Iowa. The four clinics in Iowa received a total of \$1.4 million and treated 799 clients in 2002. Client-level data were not available, so there may be some duplication of clients among the clinics. Clients may be residents of any state; Iowa residents could not be separated from residents of neighboring states. The clinics reported all clients who utilized services that were eligible for Title III funding, not just those clients whose services were paid with Title III funds.

Title III services include:

- Risk-reduction counseling, antibody testing, medical evaluation, and clinical care;
- Antiretroviral therapies; protection against opportunistic infections; and ongoing medical, oral, nutritional, psychosocial, and other care services for HIV-infected clients;
- Case management to ensure access to services and continuity of care for HIV-infected clients; and
- Attention to other health problems that occur frequently with HIV infection, including tuberculosis and substance abuse.

Characteristics of Title III clients are shown in Table 45. The four clinics differed only in the proportions of Hispanic clients (data not shown). In Sioux City, 20% of clients were Hispanic, compared to 13% in Des Moines, 6% in Davenport, and 5% in Iowa City. On basic demographic characteristics, Title III clients did not differ significantly from persons living with HIV/AIDS in the state.

Table 45
Characteristics of Title III Early Intervention Services Clients¹
2002

Characteristic	n = 799	
	#	(%)
Race		
White	636	(80)
Black	146	(18)
Asian	8	(1)
Nat. Hawaiian/ Pac. Isl	0	--
Am. Indian/ Alaska Nat.	6	(1)
More than one race	0	--
Unknown race	3	--
Ethnicity	#	(%)
Hispanic	64	(8)
Not Hispanic	734	(92)
Unknown	1	--
Sex	#	(%)
Male	643	(80)
Female	151	(19)
Transgender	5	(1)
Age (yrs)	#	(%)
<2	0	--
2-12	2	--
13-24	24	(4)
25-44	535	(67)
45-64	229	(29)
65 and older	8	(1)
Unknown	1	--

¹ Clients who attended more than one clinic are counted more than once. All clients that utilized a service eligible for Title III funding are included.

Services provided by Title III clinics are shown in Table 46 in order of most utilized to least utilized services. All Title III clinics provided outpatient medical care, case management services, treatment adherence counseling, oral health care, and nutritional counseling. The four clinics varied in what other services were offered. Case management was the most utilized service other than outpatient medical care.

Table 46
Utilization of Ryan White Title III Services by Provider
2002

Service	Location of Provider									
	Sioux City ¹ n = 69		Des Moines n = 154		Iowa City n = 367		Davenport n = 209		Total ³ n = 799	
	# clients	Visits per client ²	# clients	Visits per client	# clients	Visits per client	# clients	Visits per client	# clients	Visits per client
Outpatient medical care	61	10.9	154	3.2	367	4.2	209	NA	791	4.6
Case management services	68	13.0	154	12.3	321	NA	*	NA	543	5.1
Treatment adherence counseling	49		154		120		*		323	
Health education/ risk reduction	58		154						212	
Oral health care	32	3.4	36	2.8	84	NA	*	NA	152	1.4
Outreach services			101						101	
Mental health services	34	5.3	16	NA	47	NA			97	1.9
Nutritional counseling	17		3		60		*		80	
Psychosocial support services			16		15				31	
Other	31								31	
Referral to clinical research			1		26				27	
Substance abuse services					15				15	
Emergency financial assist.					10				10	

¹ Siouxland Community Health Center in the Western Consortium received both Title II and Title III funds. All services could not be separated by type of funding.

² Visits per client were only reported for certain categories. NA means that these data were not reported by certain providers.

³ Data from Davenport were not included in visits per client. Clients who attended more than one clinic are counted more than once. All clients that utilized a service eligible for Title III funding are included.

* Services were provided but client numbers were not tracked.

Question 2

What are the number and characteristics of persons who know they are HIV positive, but who are not receiving HIV primary medical care?

This section presents the efforts that are underway in Iowa to measure unmet need among persons with HIV/AIDS.

Measuring Unmet Need by Using Laboratory Data

Measuring unmet need involves quantifying the number of individuals who know that they are HIV positive, but are not receiving HIV-related care. It is intended to reflect how quickly people get into care after testing positive for HIV and whether they continue that care. The CARE act requires grantees to carry out needs assessments focusing on people living with HIV who are not receiving care, to estimate the number of people who are HIV positive but not in care, to learn the characteristics of this population, to assess their service needs, and to determine how to address those needs.

Surveillance data can be used to assess unmet need. Persons in care are defined as any HIV-positive person who has had at least one viral load or CD4+ cell count in the past year, or who has received antiretroviral therapy in the past year. This requires complete reporting of all viral loads and CD4+ cell counts, an ability to estimate the completeness of reporting, and/or cooperation of medical providers in the state. Access to the ADAP registry is also essential.

In 2003, an assessment will take place. Surveillance data will first be evaluated to determine the completeness of laboratory reporting and where any gaps exist. When persons are deemed to be out of care, an investigation will be conducted to determine whether the person has left the state or died. This assessment may detect additional issues or biases that will affect the estimation of unmet need. Later analyses may be conducted to identify patterns of care utilization, including factors associated with accessing and remaining in care.



2002 *Epidemiological Profile*

HIV, AIDS, and Sexually Transmitted Diseases



Randy Mayer
HIV/ AIDS Surveillance Coordinator
(515) 242-5150

Patricia Young
HIV/ AIDS Program Manager
(515) 242-5838



Iowa Department of Public Health

Promoting and protecting the health of Iowans

Mary Mincer Hansen
Director of Public Health



Thomas J. Vilsack
Governor

Sally J. Pederson
Lt. Governor

James Goodrich, Chief
Bureau of Disease Prevention
and Immunization