Iowa Department of Public Health
Promoting and Protecting the Health of Iowans

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Date: April 27, 2013

To: HIV/AIDS Surveillance Group

From: Jerry Harms, HIV/AIDS Surveillance Coordinator

Re: 2012 End-of-Year HIV/AIDS Surveillance Report

Attached is the 2012 end-of-the-year surveillance report for HIV and AIDS. Section 1 discusses sources and characteristics of surveillance data and defines terms found in the report. Section 2 presents data and trends in reference to six tables and ten figures located in Section 3. Here are a few points of interest:

- **120 HIV diagnoses in 2012** – one more than in 2011, three above the average for the previous five years.
- **HIV among young Iowans is still a concern.** In 2003, seven Iowans 15 to 24 years of age were diagnosed with HIV. By 2011, diagnoses among youth had almost quadrupled to 27. While diagnoses among youth dipped to 22 in 2012, it marked the fourth consecutive year of 21 or more diagnoses. Of the 22 diagnoses in 2012, 20 (91%) were among males. Of the 20 males, 16 (80%) had been exposed to HIV through sex with another male. Diagnoses among young females were a relative bright spot, having risen alarmingly from two in 2010 to seven in 2011, they numbered only two in 2012.
- **Black, non-Hispanic persons continue to be over-represented** when compared to the size of their population in Iowa. While black, non-Hispanic Iowans made up about 3% of Iowa's population in 2012, they accounted for 25% of new HIV diagnoses and were 12 times more likely to be diagnosed than white, non-Hispanic Iowans. Hispanics, making up about 5 percent of Iowa's population, accounted for 7% of new HIV diagnoses in 2012, down from 13% in 2011, and more in line with proportions in 2009 and 2010. Hispanic Iowans were 1.8 times more likely to be diagnosed than white, non-Hispanics. Regardless of such disparities, keep in mind that non-Hispanic whites accounted for over 60% of new HIV diagnoses and persons living with HIV/AIDS.
- **Males account for 83% of new diagnoses.** Since 2006, diagnoses among females have been stable, averaging 20 per year. Thus, recent year-to-year variations in total diagnoses reflect diagnoses among males. Since 2007 there have been nearly five male diagnoses for every female diagnosis, an increase from the three to one ratio reported from 2003 through 2006.
- **Age at diagnosis of HIV.** Over half (51%) of all diagnoses were among persons 25 to 44 years of age, followed in order by persons 45 and older (29%), and 15 to 24 years (18%). There were also two perinatally-infected children, both less than 13 years of age. Under CDC rules they count as Iowa diagnoses, even though they were born and diagnosed in foreign countries.
- **"Late testers"**, persons who are diagnosed with AIDS within 12 months of their initial HIV diagnosis, were 35% of all diagnoses in 2011, down from 47% in 2010. While data collection will not be complete until 2014, 38% of 2012 diagnoses already meet the late tester definition. The final proportion for 2012 will likely be around 42%.
- **The number of persons living with HIV or AIDS (HIV disease prevalence) continues to increase.** As of December 31, 2012, there were 2,023 persons living with HIV or AIDS who were Iowa residents at time of diagnosis, a prevalence of 66 per 100,000 people. This compares to 1,939 persons living with HIV or AIDS on the same date in 2011, a prevalence of 64 per 100,000.

See http://www.idph.state.ia.us/HivStdHep/HIV-AIDS.aspx?prog=Hiv&pg=HivSurv for this report and a 2011 slide set. As always, we welcome and appreciate your feedback. For questions or comments about the surveillance report, please call me at 515-242-5141 or email to Jerry.Harms@idph.iowa.gov.

Iowa Department of Public Health
Promoting and Protecting the Health of Iowans

State of Iowa HIV and AIDS End-of-Year Surveillance Report
January 1, 2012, through December 31, 2012

Organization of the Surveillance Report

The report contains three sections. The first section discusses data sources. The second section is a narrative presentation of the data and references the third section, which uses charts, graphs, and tables to illustrate changes in the epidemic over time.

Section 1: Sources of the Data

Core HIV/AIDS Surveillance Data

Core HIV/AIDS surveillance data are the primary source for this update. In addition, population data from the U.S. Census are utilized in the calculation of rates and the creation of maps displaying population distributions. Brief descriptions of these data sources follow.

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 immunological functioning. 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 medical conditions, pulmonary tuberculosis, recurrent pneumonia, and invasive cervical cancer were added to the list of 23 clinical conditions that met the criteria for AIDS. 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+ cell 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.

Evaluations of the surveillance system indicate that 99.1% of diagnosed HIV/AIDS cases 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 February 2013, have been used. These reports include only those diagnoses made through December 31, 2012. Computer programs developed by CDC indicate that over 99.1% of new Iowa diagnoses are reported to IDPH within six months of the initial diagnosis.

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

Surveillance HIV 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 (Centers for Disease Control and Prevention, *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.

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.

Definitions

HIV diagnoses reflect all cases of HIV infection diagnosed for the first time, regardless of AIDS status. Some persons may also be counted among AIDS cases, if they received an AIDS diagnosis during the same calendar year. Age is the age at time of first diagnosis of HIV.

AIDS diagnoses reflect all residents of Iowa who first met the criteria for AIDS in that time period, regardless of when the case was reported to the state. Age is age at time of first diagnosis of AIDS.

Persons living with HIV/AIDS reflect persons diagnosed with HIV or AIDS who were alive on December 31 of a given year.

Pediatric exposures – Persons reported as adolescents or adults may have had pediatric exposures. These persons will be categorized as adult/adolescent at time of diagnosis, but are listed under pediatric exposures in tables that display data by mode of exposure.

Section 2: The Data

Overall HIV Diagnoses

Although there is some variability from year to year, HIV diagnoses have been increasing at a rate of about 2.2 per year since 2002. There were 120 HIV diagnoses in 2012, an increase of 1 (0.8%) from the 119 diagnoses reported in 2011 and also higher than the average of 117 for the previous five years. In 2012, as in 2011, there were 3.9 HIV diagnoses per 100,000 population, compared to 3.8 HIV diagnoses per 100,000 population in 2010, and 4.1 HIV diagnoses per 100,000 population in 2009. Table 2.1 characterizes HIV diagnoses in 2012, while Table 2.3 and Figure 2.1 chart the number of HIV diagnoses by year for the years 2002 through 2012.

Late Diagnosis of HIV

A person who is diagnosed with AIDS within 12 months of initial HIV diagnosis is termed a "late tester". Historically, about 90% of late testers are diagnosed with HIV and AIDS concurrently. After peaking at 61% in 2001, late testers as a proportion of all HIV diagnoses for a given year declined over time to 37% in 2007, only to climb again to 47% in 2010. By definition, one year must pass before HIV diagnosis data for a given year can be evaluated for late testers. Thus, 2011 is the most recent year for which complete late tester analysis is available. Of the 119 new HIV diagnoses in 2011, 35% were late testers, a very surprising drop from 47% in 2010. That's the good news. The bad news is that a preliminary analysis of 2012 data indicates late testers, all of whom are concurrent diagnoses, already account for 38% of that year's diagnoses. As previously noted, concurrent diagnoses are generally about 90% of all late testers. If this relationship holds true, the final proportion of late testers for 2012 will be in the neighborhood of 42%. For the most part, late testers seem not to be very different from persons who do not meet the definition. That said, Hispanic persons or persons over 45 years of age at initial diagnosis of HIV are slightly more likely to be late testers. IDPH believes the late tester phenomenon is more an indication of prevention failure than of treatment failure or access to care. Figure 2.2 charts the proportion of late testers by year of diagnosis from 1997 through 2011.

HIV Diagnoses by Gender

While males have always accounted for the majority of HIV diagnoses, the disproportion has become even more pronounced since 2003. Diagnoses among males had increased steadily, from 56 in 2003 to 104 in 2007. From 2008 through 2012, they have fluctuated, ranging from 82 to 105, with an average of 96.2 per year. Males, with 99 diagnoses, accounted for 83% of HIV diagnoses in 2012. In contrast, diagnoses among females decreased from 33 in 2003 to 20 in 2007, and have averaged 19.8 per year since. There were 21 females diagnosed in 2012. Beginning with 2007, there have been about five male diagnoses for every one female diagnosed. This is in contrast to three males to one female from 2003 through 2006. Table 2.3 and Figure 2.3 chart the number of HIV diagnoses by gender by for the years 2002 through 2012.

HIV Diagnoses by Country of Origin

Diagnoses of HIV among the foreign born have declined from the 10-year high recorded in 2002, when 32 (30%) of the 105 persons diagnosed with HIV were foreign born. By comparison, 22 (18%) of the 120 persons diagnosed in 2012 were born in a country other than the United States or one of its dependencies. This is consistent with the average of 20 (17%) for the five years 2007 through 2011. Tables 2.1 and 2.2 show the number of foreign-born persons living with HIV/AIDS as of December 31, 2012. Table 2.3 shows the number of foreign-born persons diagnosed each year from 2002 through 2012.

HIV Diagnoses by Age at Diagnosis

The gradual increase in HIV diagnoses since 2002 is largely attributed to increases in diagnoses among males, and in particular, among those 15 to 24 years of age and 45 years of age and older. For the past four years, diagnoses among persons 15 to 24 years of age have numbered 20 or more. Twenty-two persons ages 15 to 24 years were diagnosed in 2012, a slight drop of 5 (19%) from the 27 diagnoses in 2011, and three times the diagnoses recorded in 2003. While this is concerning, it is important not to lose sight of the fact that diagnoses among persons 25 to 44 years of age accounted for half of all diagnoses, with 61 (51%) persons diagnosed in 2012. The number of diagnoses among persons 45 years and older, which had increased steadily from 18 in 2003 to a peak of 39 in 2007, and then declined slowly to 30 in 2011, increased again to 35 (29% of all diagnoses) in 2012. There were two pediatric HIV diagnoses in 2012, children born to HIV-infected mothers. Both children were foreign-born adoptees who had been diagnosed and treated in their respective countries of birth. Regardless of those circumstances, present CDC surveillance guidelines require these children to be counted as Iowa diagnoses. Table 2.3 and Figure 2.4 show the number of diagnoses by age for the years 2002 through 2012.

For persons 13 years of age and older (adults and adolescents), the median age at diagnosis in 2012 was 38 years. Adult/adolescent males with a median age at diagnosis of 38 years, tended to be substantially older than females whose median age at diagnosis was 32 years. These data are consistent with the 2002 through 2011 average median ages of 37.8 years for males and 32.8 years for females.

HIV Diagnoses by Race and Ethnicity

There were 30 diagnoses in 2012 among non-Hispanic black/African American persons, an increase of 6 (25%) from 24 diagnosis in 2011, and 8 more than the five-year average of 22 from 2007 through 2011. While non-Hispanic black/African American persons made up almost 3 percent of Iowa's population in 2012, they accounted for 25 percent of the new HIV diagnoses. This equates to 33.4 diagnoses per 100,000 non-Hispanic blacks or African Americans.

Hispanics were also overrepresented among persons diagnosed with HIV. While making up five percent of Iowa's population, Hispanics accounted for seven percent of new HIV diagnoses in 2012. A total of eight Hispanic persons were diagnosed in 2012, equating to 5.1 per 100,000 Hispanic persons.

Despite the disparities in diagnoses among non-Hispanic blacks and among Hispanics, the largest proportion of new diagnoses continued to be among non-Hispanic white persons, who accounted for 63 percent of new HIV diagnoses in 2012. A total of 75 non-Hispanic white persons were diagnosed in 2012, equating to 2.8 per 100,000 non-Hispanic whites. When the numbers of persons diagnosed per 100,000 population are compared, non-Hispanic blacks were 12 times more likely to have been diagnosed with HIV in 2012 than non-Hispanic whites.

Similarly, Hispanic persons were 1.8 times more likely to have been diagnosed than non-Hispanic whites. While non-Hispanic Asians accounted for three percent of HIV diagnoses in 2012, their numbers are too small to calculate a statistically reliable rate. Tables 2.1 and 2.3, and Figures 2.5 and 2.6 all present information on HIV diagnoses by race and ethnicity.

HIV Diagnoses by HIV Exposure Category

Men who have sex with men (MSM) remained the leading category for mode of exposure to HIV infection. Diagnoses among MSM in 2012 numbered 66, consistent with the five-year average of 66 from 2007 to 2011. In 2012, MSM accounted for 55% of all diagnoses, close to the five-year average of 57%. It is important to note that 16 (80%) of the 20 diagnoses in young men between the ages of 15 and 24 were among MSM.

Numbers (and proportions) of other modes of HIV exposure in 2012 were as follow: injection drug use (IDU), 7 (6%); men-who-have-sex-with-men and inject drugs (MSM/IDU), 7 (6%); heterosexual contact, 8 (7%); and no identified risk (NIR), 30 (25%). The seemingly high proportion of persons with no identified risk is not unusual at this stage of case investigation. By the end of 2013, risk will have been ascertained for upwards of 85% of persons diagnosed in 2012. As noted above, two infections were passed from mother to child during pregnancy or labor and delivery, but initial diagnosis and treatment of these infections occurred prior to the adoption and immigration of the two children to Iowa. Such infections are termed "perinatal" or "vertical" transmission. Tables 2.1, 2.3, 2.4 and 2.5, and Figure 2.7 present information on HIV diagnoses by mode of exposure to HIV.

Persons Living with HIV or AIDS (HIV/AIDS Prevalence)

HIV/AIDS prevalence continues to increase. As of December 31, 2012, there were 2,023 persons living with HIV or AIDS who were Iowa residents at time of diagnosis of HIV or AIDS, a prevalence of 66 per 100,000 people. This compares to 1,939 persons living with HIV/AIDS on the same date in 2011, a prevalence of 64 per 100,000. Tables 2.1 and 2.2 describe the population of persons living with HIV or AIDS as of December 31, 2012. Figure 2.8 depicts the upward trend in the estimated number of persons living with HIV or AIDS as documented at the end of each calendar year. The top tier of the graph represents the estimated numbers of undiagnosed/unreported persons, based on the surveillance program's estimate of the completeness of case reporting and on CDC's estimate of the number of persons who are infected but have not been diagnosed. When the number of 2,023 is adjusted for underreporting (1%) of diagnosed HIV infection and for CDC's estimated percentage of undiagnosed infections (20%), there may have been as many as 2,554 Iowans living with HIV or AIDS at the end of 2012.

As of December 31, 2012, 94 of Iowa's 99 counties had at least one person living with HIV or AIDS. As Figures 2.9 and 2.10 demonstrate, the numbers of persons living with HIV or AIDS (PLWHA) are not evenly distributed among the counties of Iowa. Three counties had a prevalence greater than 100 per 100,000 population. Polk County, with 135 per 100,000 topped the list, followed by Scott County with 121 per 100,000, and Johnson County with 114 per 100,000. To add perspective, national and regional prevalence data for 2010, the most recent year available, are as follow: United States, 282 per 100,000; Midwestern United States, 151 per 100,000; Southern United States, 323 per 100,000; and Northeastern United States, 422 per 100,000. (Centers for Disease Control and Prevention. *HIV Surveillance Report, 2011;* vol. 23. http://www.cdc.gov/hiv/topics/surveillance/resources/reports/. Published February 2013. Accessed April 9, 2013.) When placed in that context, Iowa is a low prevalence state.

AIDS Diagnoses

Seventy-two persons were diagnosed with AIDS in 2012, compared to 74 in 2011 and down from 91 (the highest number since 1996) in 2009. The 72 diagnoses in 2012 are slightly less than the average of 74 for the five years 2007 through 2011. Of those diagnosed with AIDS in 2012, 46 (64%) were also newly diagnosed with HIV and received a concurrent diagnosis of AIDS or progressed to AIDS by the end of 2012. This finding is more an indication of prevention failures than it is of treatment failure or access to care. Table 2.6 shows the number of AIDS diagnoses by year from 1982 through 2011.

Deaths of Persons with HIV or AIDS

Table 2.6 presents HIV diagnoses, AIDS diagnoses, HIV (not AIDS) deaths, and AIDS deaths for the years 1982 through 2012. Please note that the deaths in Table 2.6 are due to all causes and are not limited to those persons for whom the direct cause of death was certified to be related to HIV or AIDS.

Section 3: Tables and Figures

Table 2.1 Characteristics of Iowans Diagnosed with HIV or AIDS in 2012 Compared to Iowans Living with HIV or AIDS as of December 31, 2012

Table 2.2 Iowans Living with HIV or AIDS by Gender, Age, Ethnicity and Race, Country of Birth and Mode of Exposure as of December 31, 2012

Table 2.3 Iowa HIV Diagnoses by Gender, Age, Ethnicity and Race, Country of Birth and Mode of Exposure by Year of HIV Diagnosis: 2002 through 2012

Table 2.4 HIV Diagnoses among Iowa Males 13 Years of Age and Older by Exposure Category by Year of HIV Diagnosis: 2001 through 2012

Table 2.5 HIV Diagnoses among Iowa Females 13 Years of Age and Older by Exposure Category by Year of HIV Diagnosis: 2001 through 2012

Table 2.6 Iowa HIV Diagnoses, AIDS Diagnoses, HIV (not-AIDS) Deaths, and AIDS Deaths: 1982 through 2012

Figure 2.1 Diagnoses of HIV Infection in Iowans: 2002 through 2012

Figure 2.2 Percentage of Iowa Late HIV Diagnoses (“Late Testers”): 1997 through 2011

Figure 2.3 Iowa Diagnoses of HIV Infection by Gender: 2002 through 2012

Figure 2.4 Age in Years of Iowans at Diagnosis of HIV: 2002 through 2012

Figure 2.5 Iowa Diagnoses of HIV Infection by Ethnicity and Race: 2002 through 2012

Figure 2.6 Disparities in the Ethnic and Racial Composition of the General Population of Iowa and that of Iowans Diagnosed with HIV Infection in 2012

Figure 2.7 Iowa Diagnoses of Adult HIV Infection by Exposure Category: 2002 through 2012

Figure 2.8 Estimated Number of Persons Living with HIV or AIDS in Iowa as of December 31 of each Year: 1987 through 2012

Figure 2.9 Number of Iowans Living with HIV or AIDS as of December 31, 2012, by County of Residence at Diagnosis of HIV or AIDS

Figure 2.10 Prevalence of HIV Disease by County of Residence at Diagnosis: Iowans Living with HIV or AIDS per 100,000 Population as of December 31, 2012

Table 2.1 Characteristics of Iowans Diagnosed with HIV or AIDS in 2012 Compared to Iowans Living with HIV or AIDS as of December 31, 2012

Characteristics	HIV/AIDS Diagnoses[1]		AIDS Diagnoses[2]		Persons Living with HIV/AIDS[3]	
	Number	(Percent)	Number	(Percent)	Number	(Percent)
Gender						
Male	99	(83)	55	(76)	1,620	(80)
Female	21	(17)	17	(24)	403	(20)
Age at Diagnosis						
Under 13	2	(2)	0	--	23	(1)
13-14	0	--	0	--	1	--
15-24	22	(18)	7	(10)	324	(16)
25-34	33	(28)	15	(21)	716	(35)
35-44	28	(23)	20	(28)	578	(29)
45-54	24	(20)	23	(32)	287	(14)
55-64	9	(8)	5	(7)	83	(4)
65 or older	2	(2)	2	(3)	11	--
Current Age[4]						
Under 13					10	--
13-14					0	--
15-24					80	(4)
25-34					301	(15)
35-44					515	(25)
45-54					673	(33)
55-64					352	(17)
65 or older					92	(5)
Ethnicity/Race						
Hispanic, All Races	8	(7)	5	(7)	179	(9)
Not Hispanic, White	75	(63)	42	(58)	1,353	(67)
Not Hispanic, Black	30	(25)	20	(28)	411	(20)
Not Hispanic, Asian	4	(3)	3	(4)	41	(2)
Not Hispanic, Native Hawaiian/Pacific Islander	0	--	0	--	0	--
Not Hispanic, American Indian/Alaska Native	0	--	1	(1)	3	--
Not Hispanic, Multi-race	3	(3)	1	(1)	36	(2)
Country of Birth						
United States or Dependency	98	(82)	54	(75)	1,709	(84)
Other Countries	22	(18)	18	(25)	314	(16)
Mode of Exposure – Adult/Adolescent[5]						
Men who have sex with men (MSM)	66	(55)	36	(50)	1,051	(52)
Injection Drug Use (IDU)	7	(6)	9	(13)	178	(9)
Men who have sex with men and Injection Drug Use (MSM/IDU)	7	(6)	2	(3)	145	(7)
Heterosexual Contact	8	(7)	8	(11)	367	(18)
Hemophilia/Coagulation disorder	0	--	0	--	8	--
Receipt of blood or tissue	0	--	0	--	8	--
Risk not reported/Other (NIR)	30	(25)	16	(22)	243	(12)
Adult/Adolescent Total	118	(99)	71	(99)	2,000	(99)
Mode of Exposure – Pediatric						
Mother with/at risk of HIV infection	2	(2)	1	(1)	18	(1)
Hemophilia/coagulation disorder	0	--	0	--	4	--
Receipt of blood or tissue	0	--	0	--	1	--
Risk not reported/other (NIR)	0	--	0	--	0	--
Pediatric Total	2	(2)	1	(1)	23	(1)
TOTALS	**120**	**(100)**	**72**	**(100)**	**2,023**	**(100)**

[1] HIV diagnoses reflect all persons diagnosed with HIV infection for the first time, regardless of AIDS status, who were residents of Iowa at diagnosis. Some may also be counted as AIDS cases if they received an AIDS diagnosis during the same period of time. Age is the age at time of first diagnosis of HIV.

[2] AIDS diagnoses reflect all residents of Iowa who first met the criteria for AIDS in that time period, regardless of when the case was reported to the state. Age is age at time of first diagnosis of AIDS.

[3] Reflects persons diagnosed with HIV or AIDS as a resident of Iowa and who were living as of December 31, 2012. All deaths may not have been reported.

[4] Current age is age as of December 31, 2012, and is reported only for persons living with HIV or AIDS as of that date.

[5] A person diagnosed at 13 years of age or older (adult/adolescent) may have had a pediatric exposure. In such an instance, the person would be classified as adult/adolescent at time of diagnosis, but would be listed under pediatric exposures.

Table 2.2 Iowans Living with HIV or AIDS by Gender, Age, Ethnicity and Race, Country of Birth and Mode of Exposure as of December 31, 2012

Characteristics	Living with HIV[1]		Living with AIDS[2]		Persons Living with HIV/AIDS[3]	
	Number	(Percent)	(Number)	(Percent)	Number	(Percent)
Gender						
Male	651	(79)	969	(81)	1,620	(80)
Female	175	(21)	228	(19)	403	(20)
Age in Years at Diagnosis						
Under 13	9	(1)	14	(1)	23	(1)
13-14	0	--	1	--	1	--
15-24	168	(20)	156	(13)	324	(16)
25-34	275	(33)	441	(37)	716	(35)
35-44	219	(27)	359	(30)	578	(29)
45-54	118	(14)	169	(14)	287	(14)
55-64	34	(4)	49	(4)	83	(4)
65 or older	3	--	8	--	11	--
Current Age in Years[4]						
Under 13	8	(1)	2	--	10	--
13-14	0	--	0	--	0	--
15-24	60	(7)	20	(2)	80	(4)
25-34	171	(21)	130	(11)	301	(15)
35-44	221	(27)	294	(25)	515	(25)
45-54	226	(27)	447	(37)	673	(33)
55-64	109	(13)	243	(20)	352	(17)
65 or older	31	(4)	61	(5)	92	(5)
Ethnicity/Race						
Hispanic, All Races	65	(8)	114	(10)	179	(9)
Not Hispanic, White	556	(67)	797	(67)	1,353	(67)
Not Hispanic, Black	161	(19)	250	(21)	411	(20)
Not Hispanic, Asian	25	(3)	16	(1)	41	(2)
Not Hispanic, Native Hawaiian/Pacific Islander	0	--	0	--	0	--
Not Hispanic, American Indian/Alaska Native	2	--	1	--	3	--
Not Hispanic, Multi-race	17	(2)	19	(2)	36	(2)
Country of Birth						
United States or Dependency	697	(84)	1,012	(85)	1,709	(84)
Other Countries	129	(16)	185	(15)	314	(16)
Mode of Exposure - Adult-Adolescent[5]						
Men who have sex with men (MSM)	435	(53)	616	(51)	1,051	(52)
Injection Drug Use (IDU)	64	(8)	114	(10)	178	(9)
Men who have sex with men and Injection Drug Use (MSM/IDU)	56	(7)	89	(7)	145	(7)
Heterosexual Contact	166	(20)	201	(17)	367	(18)
Hemophilia/Coagulation disorder	0	--	8	--	8	--
Receipt of blood or tissue	3	--	5	--	8	--
Risk not reported/Other (NIR)	93	(11)	150	(13)	243	(12)
Adult/Adolescent Total	817	(99)	1,183	(99)	2,000	(99)
Mode of Exposure - Pediatric						
Mother with/at risk of HIV infection	9	--	9	--	18	--
Hemophilia/Coagulation disorder	0	--	4	--	4	--
Receipt of blood or tissue	0	--	1	--	1	--
Risk not reported/Other (NIR)	0	--	0	--	0	--
Pediatric Total	9	(1)	14	(1)	23	(1)
TOTALS	**826**	**(100)**	**1,197**	**(100)**	**2,023**	**(100)**

[1] Reflects persons diagnosed with HIV (not AIDS) as a resident of Iowa who were living as of December 31, 2012.
[2] Reflects persons diagnosed with AIDS as a resident of Iowa who were living as of December 31, 2012.
[3] Reflects persons diagnosed with HIV or AIDS as a resident of Iowa who were living as of December 31, 2012.
[4] Current age is age as of December 31, 2012.
[5] A person diagnosed at 13 years of age or older (adult/adolescent) may have had a pediatric exposure. In such an instance, the person would be classified as adult/adolescent at time of diagnosis, but would be listed under pediatric exposures.

Table 2.3 Iowa HIV Diagnoses[1] by Gender, Age, Ethnicity and Race, Country of Birth and Mode of Exposure by Year of Diagnosis: 2002 through 2012

	Year of HIV Diagnosis										
Characteristics	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
TOTALS	105	89	105	113	108	124	101	125	115	119	120
Gender											
Male	79	56	78	86	88	104	82	105	96	99	99
Female	26	33	27	27	20	20	19	20	19	20	21
Age in Years at Diagnosis											
Under 13	0	2	0	1	0	0	1	3	1	1	2
13-14	0	0	0	0	0	0	0	0	0	0	0
15-24	14	7	13	19	13	12	14	23	21	27	22
25-34	35	31	29	31	27	36	30	37	31	33	33
35-44	36	31	39	32	36	37	22	34	28	28	28
45-54	15	15	15	24	24	24	24	15	27	21	24
55-64	5	3	6	5	7	12	10	10	7	7	9
65 or older	0	0	3	1	1	3	0	3	0	2	2
Ethnicity/Race											
Hispanic, All Races	18	14	12	7	12	11	10	7	8	15	8
Not Hispanic, White	52	43	68	77	74	90	75	85	70	71	75
Not Hispanic, Black	30	29	23	24	17	21	14	19	30	24	30
Not Hispanic, Asian	2	1	1	2	3	2	1	7	4	5	4
Not Hispanic, Native Hawaiian/Pacific Islander	0	0	0	0	0	0	0	0	0	0	0
Not Hispanic, American Indian/Alaska Native	0	0	0	1	0	0	0	1	0	0	0
Not Hispanic, Multi-race	3	2	1	2	2	0	1	6	3	4	3
Country of Birth											
United States or Dependency	73	61	87	92	93	106	86	106	96	91	98
Other Countries	32	28	18	21	15	18	15	19	19	28	22
Mode of Exposure – Adult/Adolescent[2]											
Men who have sex with men (MSM)	52	32	48	40	56	70	63	66	64	68	66
Injection Drug Use (IDU)	9	3	12	9	9	9	9	13	5	3	7
Men who have sex with men and Injection Drug Use (MSM/IDU)	9	6	7	14	2	6	1	3	10	8	7
Heterosexual Contact	16	19	22	29	22	22	16	27	26	28	8
Hemophilia/Coagulation disorder	0	0	0	0	0	0	0	0	0	0	0
Receipt of blood or tissue	0	1	0	1	0	0	0	0	0	0	0
Risk not reported/other (NIR)	19	26	16	19	19	17	11	13	9	11	30
Mode of Exposure – Pediatric											
Mother with/at risk of HIV infection	0	2	0	1	0	0	1	3	1	1	2
Hemophilia/coagulation disorder	0	0	0	0	0	0	0	0	0	0	0
Receipt of blood or tissue	0	0	0	0	0	0	0	0	0	0	0
Risk not reported/other (NIR)	0	0	0	0	0	0	0	0	0	0	0

[1] HIV diagnoses reflect all persons diagnosed with HIV infection for the first time, regardless of AIDS status, who were residents of Iowa at the time of diagnosis.

[2] A person diagnosed at 13 years of age or older (adult/adolescent) may have had a pediatric exposure. In such an instance, the person would be classified as adult/adolescent at time of diagnosis, but would be listed under pediatric exposures.

Table 2.4 HIV Diagnoses among Iowa Males 13 Years of Age or Older by Exposure Category by Year of HIV Diagnosis: 2001 through 2012

Exposure Category	Year of HIV Diagnosis									
	2012[1]		2011[2]		2010[3]		2001 to 2010[4]		2006 to 2010[5]	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Male-to-male sexual contact (MSM)	66	(67)	68	(69)	64	(67)	539	(64)	319	(68)
Injection drug use (IDU)	3	(3)	1	(1)	5	(5)	59	(7)	36	(8)
Male-to-male sexual contact and injection drug use (MSM/IDU)	7	(7)	8	(8)	10	(11)	65	(8)	22	(5)
Any MSM (MSM + MSM/IDU)	73	(74)	76	(78)	74	(78)	604	(72)	341	(73)
Any IDU (IDU + MSM/IDU)	10	(10)	9	(9)	15	(16)	124	(15)	58	(12)
Heterosexual contact	3	(3)	11	(11)	9	(9)	74	(9)	40	(9)
Hemophilia/coagulation disorder	0	--	0	--	0	--	0	--	0	--
Receipt of blood, components or tissue	0	--	0	--	0	--	2	--	0	--
No identified risk, other (NIR)	19	(19)	10	(10)	7	(7)	99	(12)	53	(11)

[1] 98 males age 13 years or older were diagnosed in 2012
[2] 98 males age 13 years or older were diagnosed in 2011
[3] 95 males age 13 years or older were diagnosed in 2010
[4] 838 males age 13 years or older were diagnosed from 2001 through 2010
[5] 470 males age 13 years or older were diagnosed from 2006 through 2010

Table 2.5 HIV Diagnoses among Iowa Females 13 Years of Age or Older by Exposure Category by Year of HIV Diagnosis: 2001 through 2012

Exposure Category	Year of HIV Diagnosis									
	2012[1]		2011[2]		2010[3]		2001 to 2010[4]		2006 to 2010[5]	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Injection drug use (IDU)	4	(20)	2	(10)	--	--	23	(10)	9	(9)
Heterosexual contact	5	(25)	17	(85)	17	(89)	148	(63)	73	(74)
Hemophilia/coagulation disorder	0	--	0	--	0	--	0	--	0	--
Receipt of blood, components or tissue	0	--	0	--	0	--	0	--	0	--
No identified risk, other (NIR)	11	(55)	1	(5)	2	(11)	63	(27)	16	(16)

[1] 20 Females age 13 years or older were diagnosed in 2012
[2] 20 Females age 13 years or older were diagnosed in 2011
[3] 19 Females age 13 years or older were diagnosed in 2010
[4] 234 Females age 13 years or older were diagnosed from 2001 through 2010
[5] 98 Females age 13 years or older were diagnosed from 2006 through 2010

Table 2.6 Iowa HIV Diagnoses, AIDS Diagnoses, HIV (not-AIDS) Deaths, and AIDS Deaths: 1982 through 2012

	HIV[1]		AIDS[2]	
Year	**Diagnoses**	**Deaths[3]**	**Diagnoses**	**Deaths[4]**
1982	–		1	1
1983	–		1	1
1984	–		7	3
1985	–		24	8
1986	–		23	16
1987	–		46	24
1988	–		49	22
1989	–		68	35
1990	–		76	39
1991	–		117	78
1992	–		157	70
1993	–	1	103	80
1994	–	0	110	85
1995	–	1	104	103
1996	–	1	97	66
1997	70	0	75	29
1998[5]	73	1	60	18
1999	64	2	77	23
2000	92	2	80	28
2001	95	2	80	32
2002	105	2	75	33
2003	89	4	75	31
2004	105	1	70	30
2005	113	4	78	24
2006	108	2	79	21
2007	124	5	68	31
2008	101	4	66	20
2009	125	4	91	29
2010	115	4	73	22
2011	119	4	73	20
2012[6]	120	3	72	17
Total	**–**	**47**	**2,175**	**1,039**

[1] HIV diagnoses reflect all persons diagnosed with HIV infection for the first time, regardless of AIDS status, who were residents of Iowa at diagnosis. Some may also be counted as AIDS cases if they received an AIDS diagnosis during the same period of time.
[2] AIDS diagnoses reflect all residents of Iowa who first met the criteria for AIDS in that time period, regardless of when and where they were initially diagnosed with HIV infection.
[3] Data include persons whose diagnosis at time of death was HIV (not-AIDS). Deaths are from all causes, not just HIV disease.
[4] Data include persons whose diagnosis at time of death was AIDS. Deaths are from all causes, not just HIV disease.
[5] HIV reporting by name began on July 1, 1998. HIV diagnosis data for 1998 and the preceding years are unreliable and have been denoted by a dash (–).
[6] Death data for 2012 are incomplete. Matching in August 2013 to the state death registry and other death databases will provide updated death data.

Trends in Diagnoses of HIV Infection among Iowans

Figure 2.1

- Although there has been year- to- year variability, HIV diagnoses, on average, have been increasing at the rate of about 2.2 per year since 2002.
- In 2012, diagnoses increased to 120 from 119 in 2011, above the five-year average of 117 for 2007 through 2011.

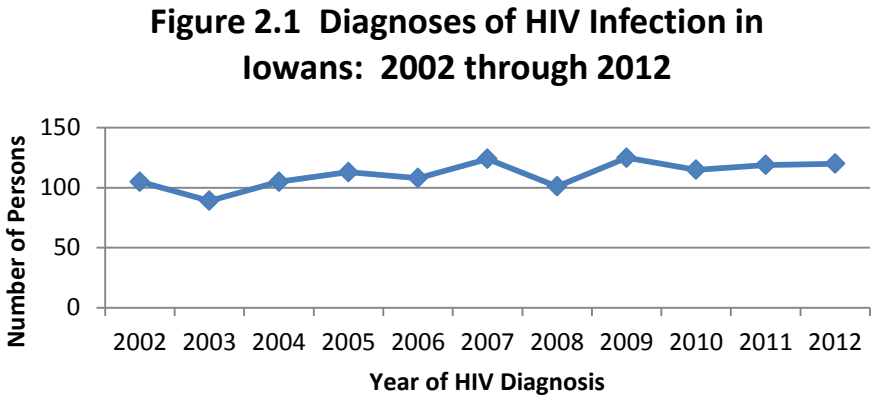


Figure 2.2

- Late diagnoses dipped from a high of 61% in 2001 to a low of 37% in 2007, only to increase to 47% in 2010 and fall again to 35% in 2011.
- Late diagnoses are already at 38% for 2012 with a projected outcome of 42% by the end of the one year evaluation period.

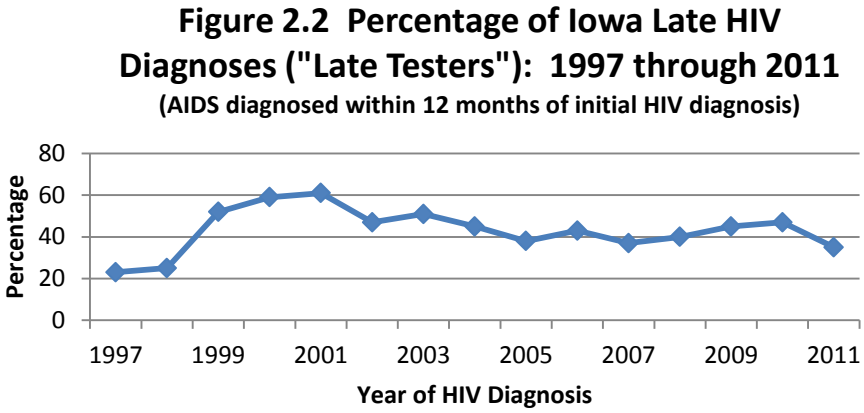


Figure 2.3

- While males have always been the majority of HIV diagnoses, this disproportion has become even more pronounced since 2003.
- Diagnoses among females, decreasing since 2003, have held steady at around 20 each year since 2006.
- Five male diagnoses for every one female diagnosis since 2007.

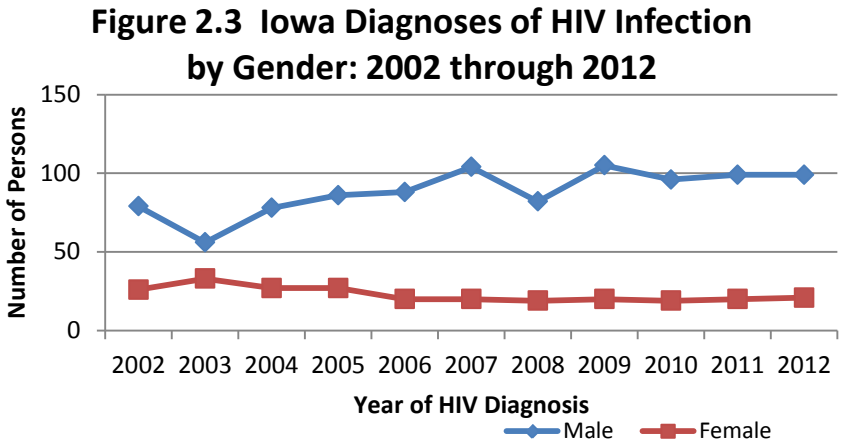


Figure 2.4

- The gradual increase in HIV diagnoses since 2003 is largely due to diagnoses among males, especially among those 13 to 24 years of age and 45 years or older.
- Diagnoses among persons 25 to 44 years accounted for 51% of diagnoses in 2012.

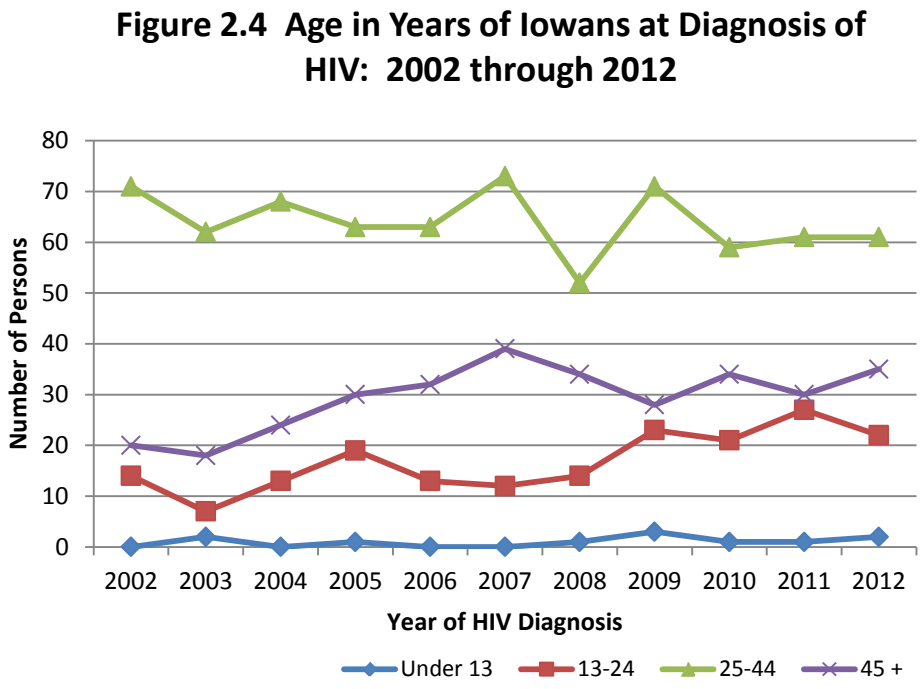


Figure 2.5

- Following a substantial decrease in 2010, diagnoses among non-Hispanic white persons rose in 2011 and 2012.
- Diagnoses among non-Hispanic black/African American persons increased in 2012 after decreasing in 2011.
- After a considerable increase in 2011, diagnoses among Hispanics dropped in 2012.

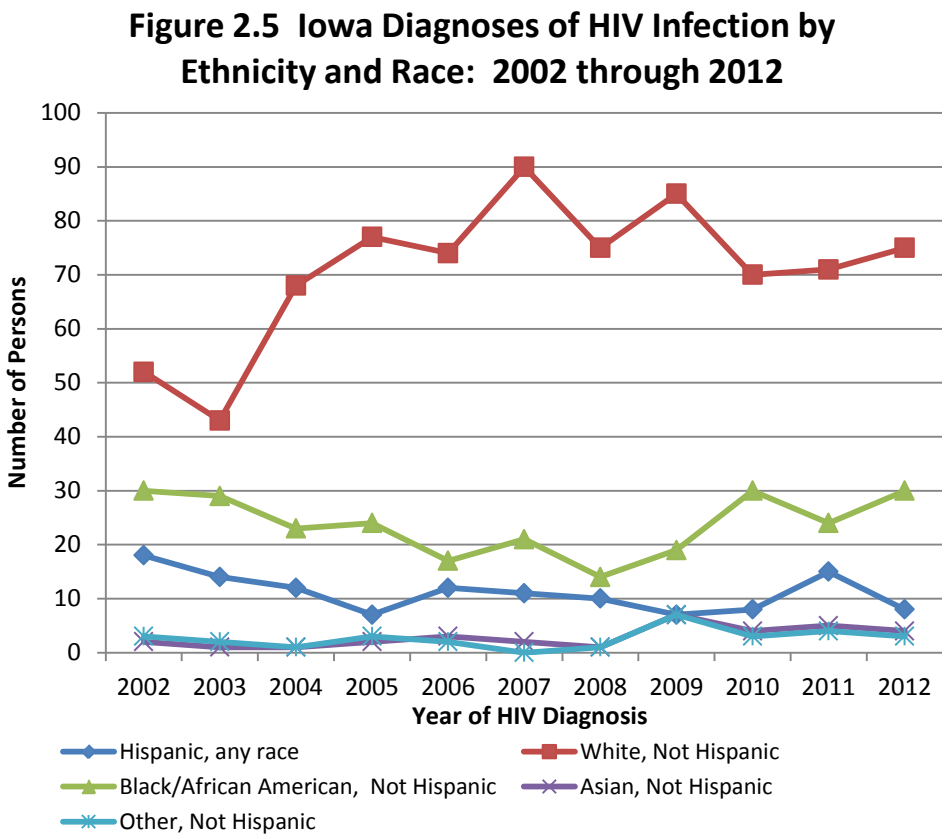


Figure 2.6 Disparities in the Ethnic and Racial Composition of the General Population of Iowa and that of Iowans Diagnosed with HIV Infection in 2012

Population of Iowa by Ethnicity and Race: 2010 United States Census

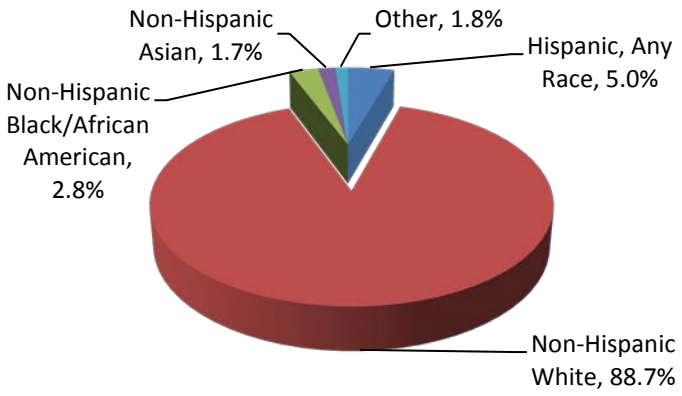


Figure 2.6

- Blacks/African Americans and Hispanics continued to be over-represented in comparison to the sizes of their respective populations.
- Blacks/African Americans were 12 times more likely than whites to be diagnosed with HIV in 2012.
- Hispanics were almost twice as likely to be diagnosed as were whites.

Iowa HIV Diagnoses by Ethnicity and Race: 2012

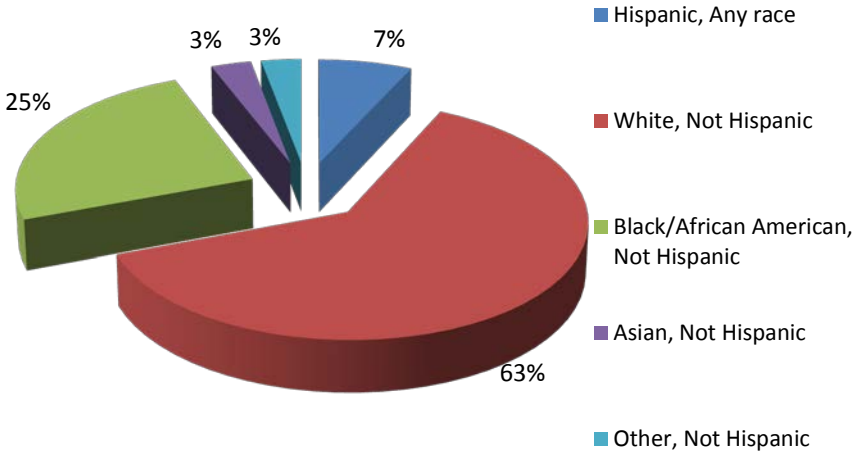


Figure 2.7

- While diagnoses among men who have sex with men (MSM), the leading mode of exposure in adults, decreased slightly in 2012, they have numbered 60 or above since 2007.
- After a large increase in 2009, diagnoses among heterosexuals have declined.
- After declining since 2009, diagnoses among persons who inject non-prescription drugs (IDU) increased in 2012.

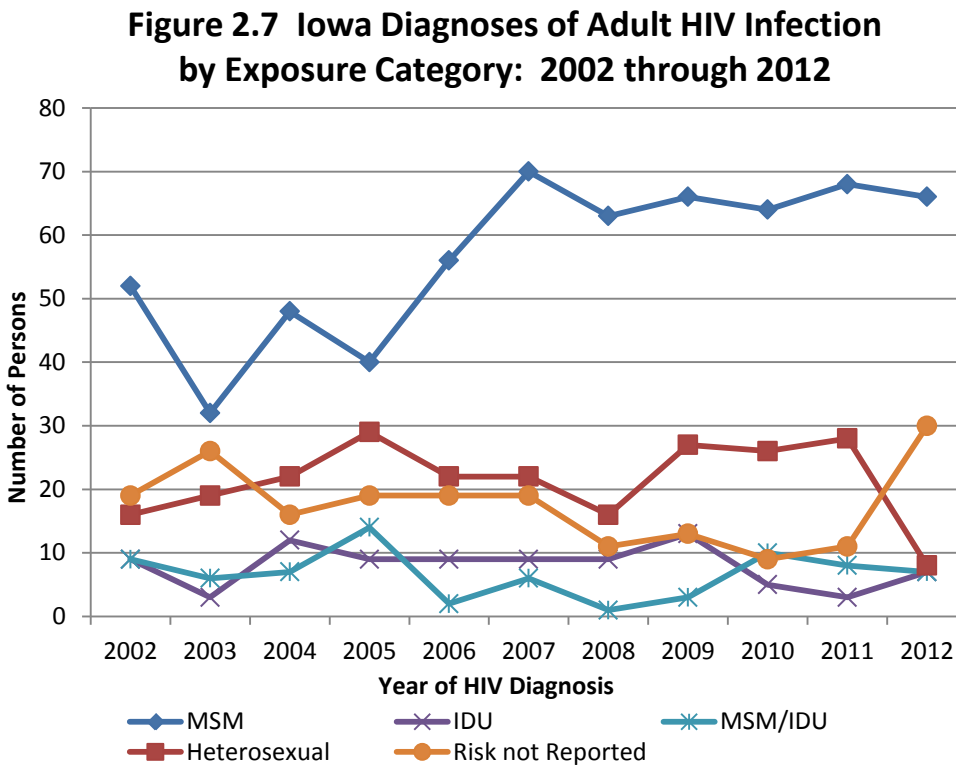


Figure 2.8

- Prevalence continues its upward climb.
- On December 31, 2012, 2,023 persons were living with HIV or AIDS, a prevalence of 66 per 100,000 Iowans.
- When undiagnosed persons (20%) and unreported diagnoses (1%) are included, there may have been as many as 2,554 Iowans living with HIV or AIDS as of December 31, 2012.

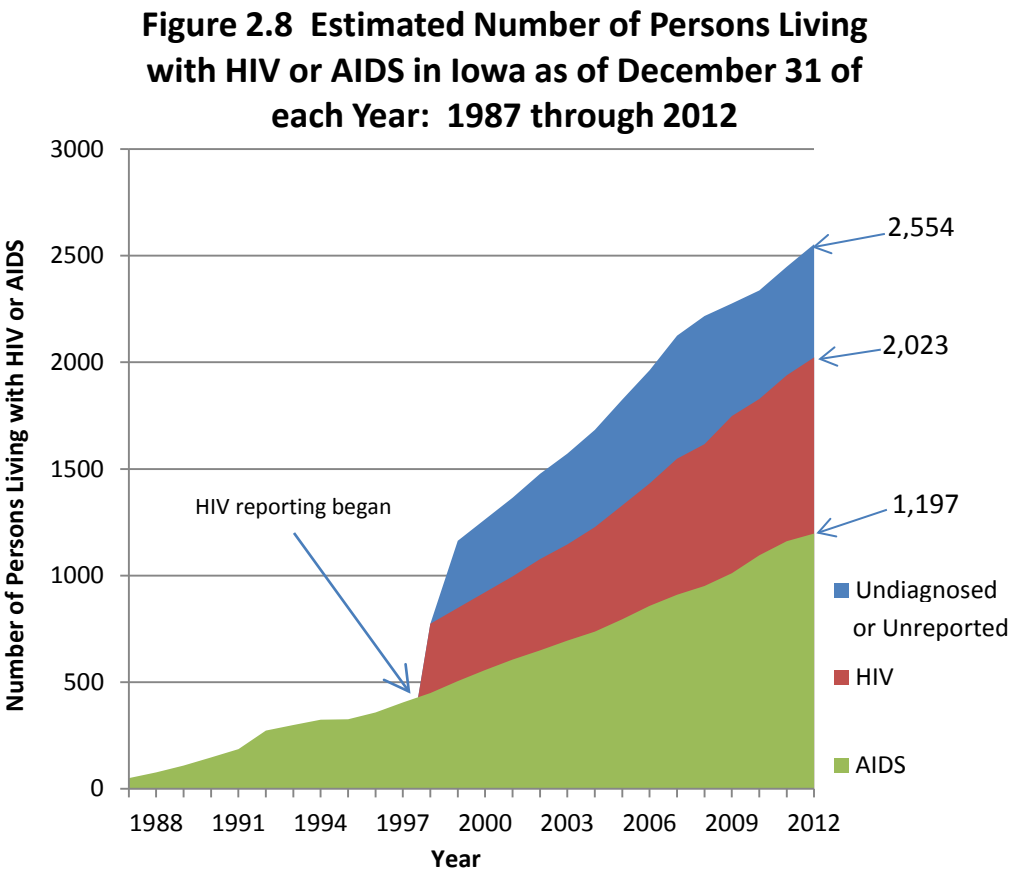
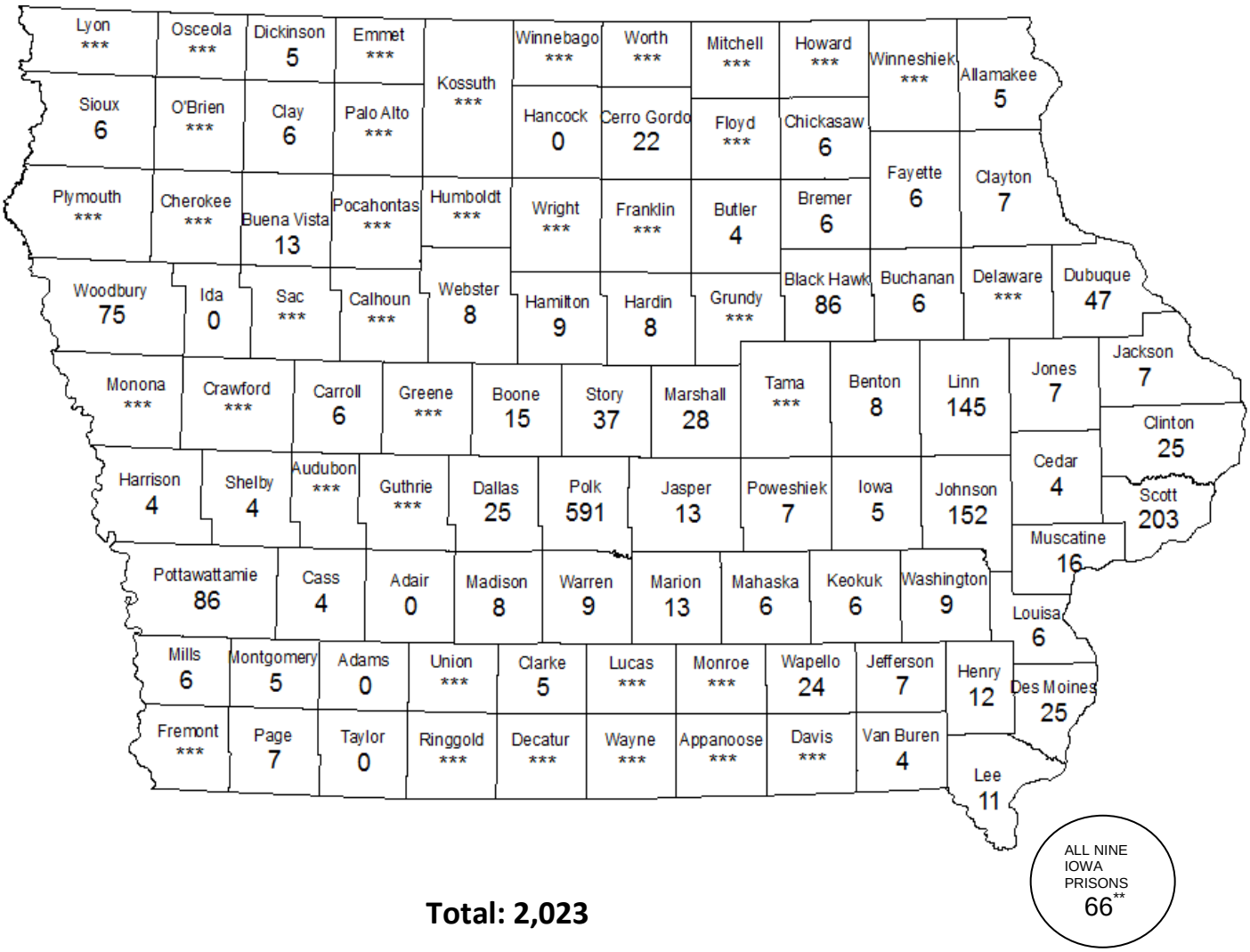


Figure 2.9 Number of Iowans Living with HIV or AIDS as of December 31, 2012, by County of Residence at Diagnosis of HIV or AIDS



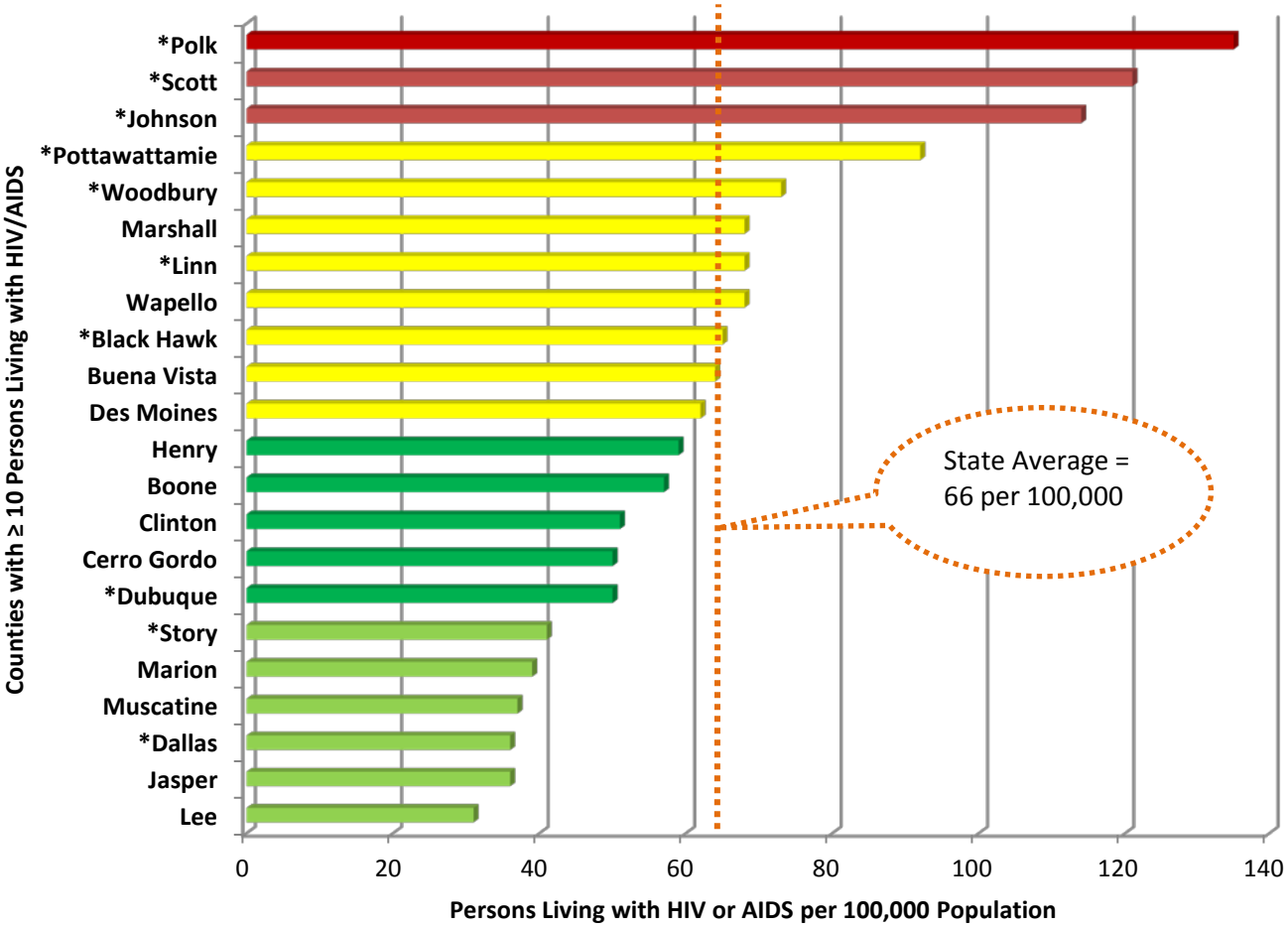
Total: 2,023

This map shows the number of persons living with HIV or AIDS as of December 31, 2012. It indicates where persons resided at the time of diagnosis. Persons may not be currently living in these counties. All deaths may not have been reported. Prisoners were diagnosed while being held in the following counties: Johnson (52), Jasper (5), Webster (2), Henry (2), Polk (3), Lee (1) and Page (1).

** Indicates prison diagnoses in Iowa Department of Corrections facilities. These persons are excluded from county totals shown on the map.

*** Indicates counties with between one and three persons living with HIV or AIDS. These persons are included in the total of 2,023 but, due to IDPH rules governing confidentiality, are not shown on the map.

Figure 2.10 Prevalence of HIV Disease by County of Residence at Diagnosis: Iowans Living with HIV or AIDS per 100,000 Population as of December 31, 2012



*Indicates one of the 10 most populous counties

- County numbers do not include prison diagnoses
- Population data are from 2011 U.S. Census estimates

Reporting HIV and AIDS in Iowa

What's reportable

AIDS has been a reportable disease in Iowa since February 1983. HIV became reportable by name in Iowa on July 1, 1998. On that same date, laboratory reporting was initiated, infants born to HIV-infected women (i.e., perinatal exposures) became reportable, and anonymous testing, except for those tests performed through home-collection kits, ceased in Iowa.

Reportable events

- Confirmed positive results on any HIV diagnostic test, including antibody tests, antigen tests, cultures, and qualitative polymerase chain reaction (PCR) tests.
- A positive result or report of a detectable quantity on any other HIV detection (non-antibody) tests, and results of all viral loads, including non-detectable levels.
- Acquired Immune Deficiency Syndrome (AIDS) and AIDS-defining conditions, including all levels of CD4+ T-lymphocyte cell counts.
- Birth of an infant to an HIV-infected mother (perinatal exposure) or <u>any</u> (positive, negative, or undetectable) non-antibody detection test (antigen test, viral culture, viral load, or qualitative PCR detection test) on an infant less than or equal to 18 months of age. These are tests indicative of perinatal exposures. Negative <u>antibody</u> tests (EIA, immunofluorescence, or Western blot) are not reportable.
- Death resulting from an AIDS-related condition, or death of a person with HIV/AIDS.

Who shall report and how – <u>reports must be made within seven days of the reportable event</u>

- Hospitals – by mail or phone, report cases and births to HIV-infected women
- Laboratories – by mail, report results of positive HIV detection tests, cultures, and all levels of viral loads and CD4+ cell counts
- Physicians, report by mail or by telephone
  - all new HIV diagnoses
  - all new AIDS diagnoses
  - all new patients with HIV disease, <u>regardless of whether they are newly diagnosed</u>
  - all deaths of HIV infected persons

For forms and other questions about reporting, call
Jerry Harms at 515-242-5141 or Alagie "Al" Jatta at 515-281-6918.

Iowa Department of Public Health
Bureau of HIV, STD, and Hepatitis
321 East 12th Street
Des Moines, IA 50319-0075

See http://www.idph.state.ia.us/HivStdHep/HIV-AIDS.aspx?prog=Hiv&pg=HivSurv for this report and a 2012 slide set.