

# *HIV Surveillance Report, 2006*



Minnesota Department of Health  
HIV/AIDS Surveillance System



## Introduction (I)

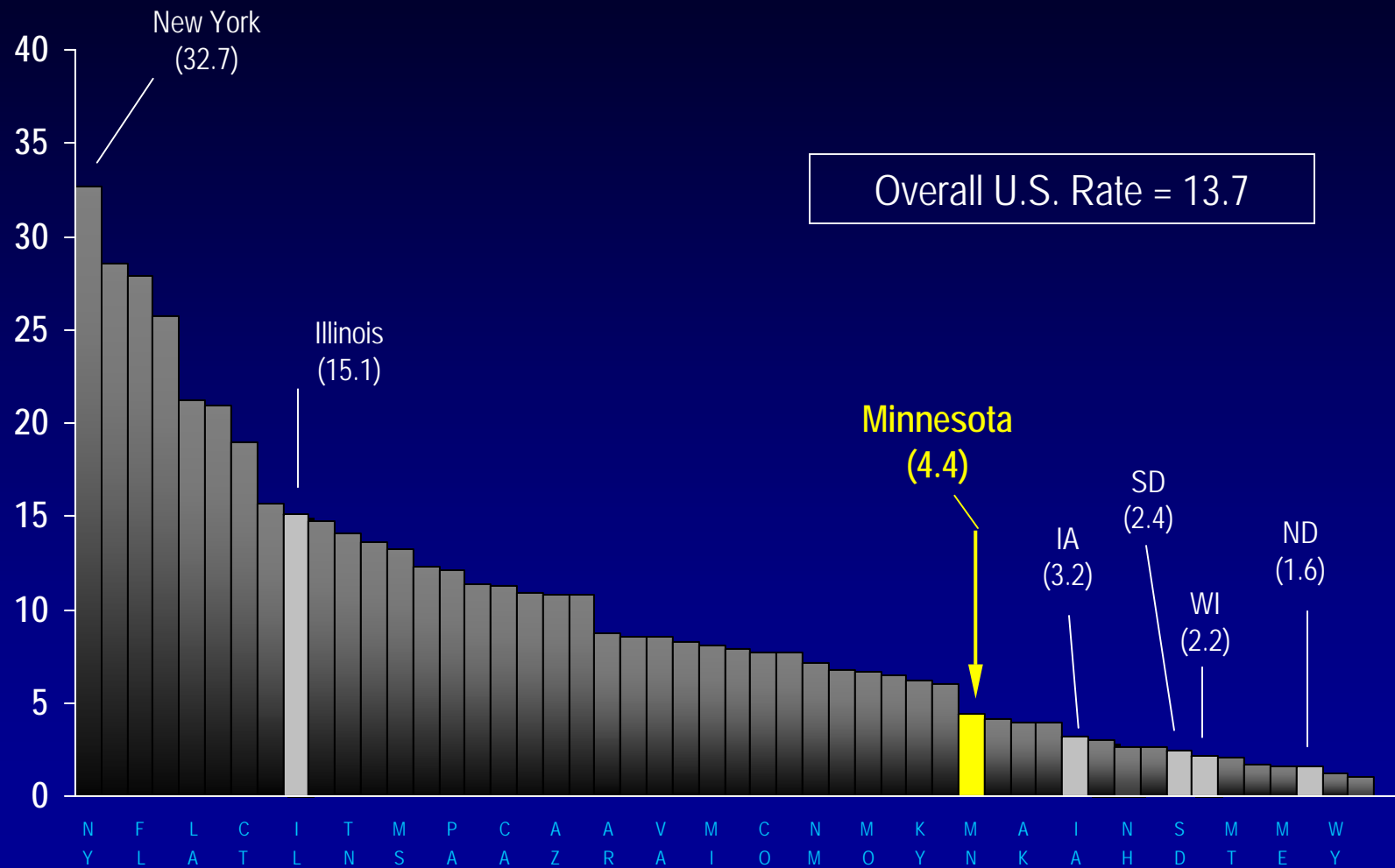
- These two introduction slides provide a general context for the data used to create this slide set. If you have questions about any of the slides please refer to the *Companion Text to the Minnesota HIV Surveillance Report, 2006* or *HIV Surveillance Technical Notes*.
- This slide set describes new HIV infections (including AIDS at first diagnosis) in Minnesota by person, place, and time.
- The slides rely on data from HIV/AIDS cases diagnosed through 2006 and reported to the Minnesota Department of Health (MDH) HIV/AIDS Surveillance System.
- The data are displayed by year of HIV diagnosis.

## Introduction (II)

- Data analyses exclude persons diagnosed in federal or private correctional facilities, but include state prisoners (number of state prisoners believed to be living with HIV/AIDS = 116).
- Data analyses for new infections exclude persons arriving to Minnesota through the HIV+ Refugee Resettlement Program (total primary refugees in this program since its inception in August 2000 = 173), as well as, other refugees/immigrants reporting a positive test prior to their arrival in Minnesota (n=38).
- Some limitations of surveillance data:
  - ◆ Data do not include HIV-infected persons who have not been tested for HIV
  - ◆ Data do not include persons whose positive test results have not been reported to the MDH
  - ◆ Data do not include HIV-infected persons who have only tested anonymously
  - ◆ Case numbers for the most recent years may be undercounted due to delays in reporting

# National Context

# U.S. State-Specific AIDS Rates per 100,000 Population Year 2005



SOURCE:  
U.S. HIV/AIDS Surveillance Report, Year-end 2005  
National Center for HIV, STD, and TB Prevention, CDC

*HIV/AIDS in Minnesota: Annual Review*

# Overview of HIV/AIDS in Minnesota

## Minnesota HIV/AIDS Surveillance: *Cumulative Cases*

- As of December 31, 2006, a cumulative total of 8,149\* persons have been diagnosed and reported with HIV infection in Minnesota. Of these:
  - ◆ 3,163 persons have been diagnosed with HIV infection (non-AIDS)
  - ◆ 4,986 have progressed to AIDS
- Of these 8,149 persons, 2,838 are known to be deceased

\* This number includes only persons who reported Minnesota as their state of residence at the time of their HIV and/or AIDS diagnosis.

## Estimated Number of Persons *Living with HIV/AIDS in Minnesota*

- As of December 31, 2006, 5,566\* persons are assumed alive and living in Minnesota with HIV/AIDS
  - ◆ 3,105 living with HIV infection (non-AIDS)
  - ◆ 2,461 living with AIDS
- This number includes 920 persons who were first reported with HIV or AIDS elsewhere and subsequently moved to Minnesota
- This number excludes 860 persons who were first reported with HIV or AIDS in Minnesota and subsequently moved out of the state

*\* This number includes persons who reported Minnesota as their current state of residence, regardless of residence at time of diagnosis. Includes state prisoners and refugees arriving through the HIV+ Refugee Resettlement Program, as well as, HIV+ refugee/immigrants arriving through other programs.*

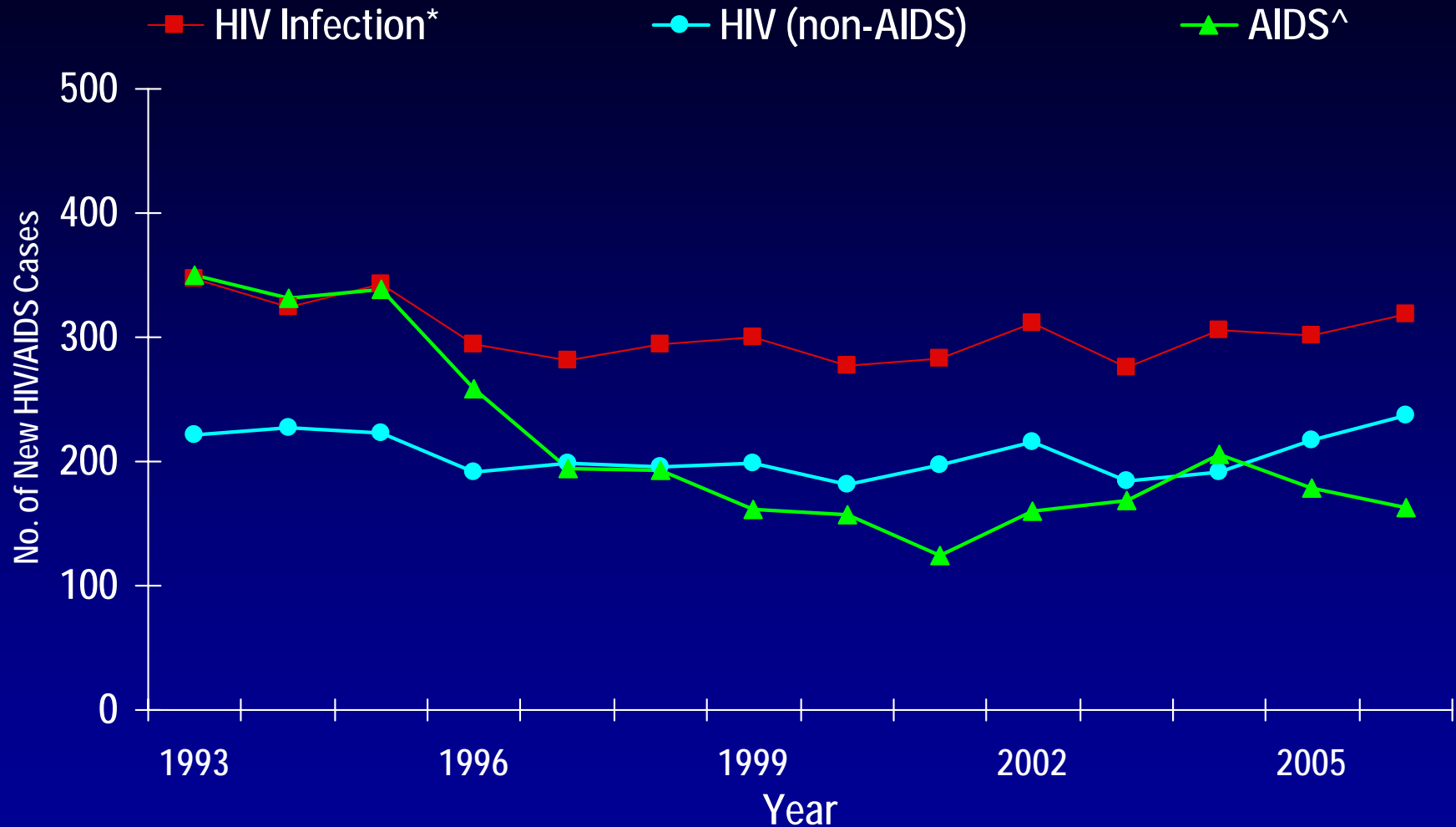
Data Source: *Minnesota HIV/AIDS Surveillance System*

*HIV/AIDS in Minnesota: Annual Review*



# HIV/AIDS in Minnesota:

## New HIV Infection, HIV (non-AIDS) and AIDS Cases by Year, 1993-2006



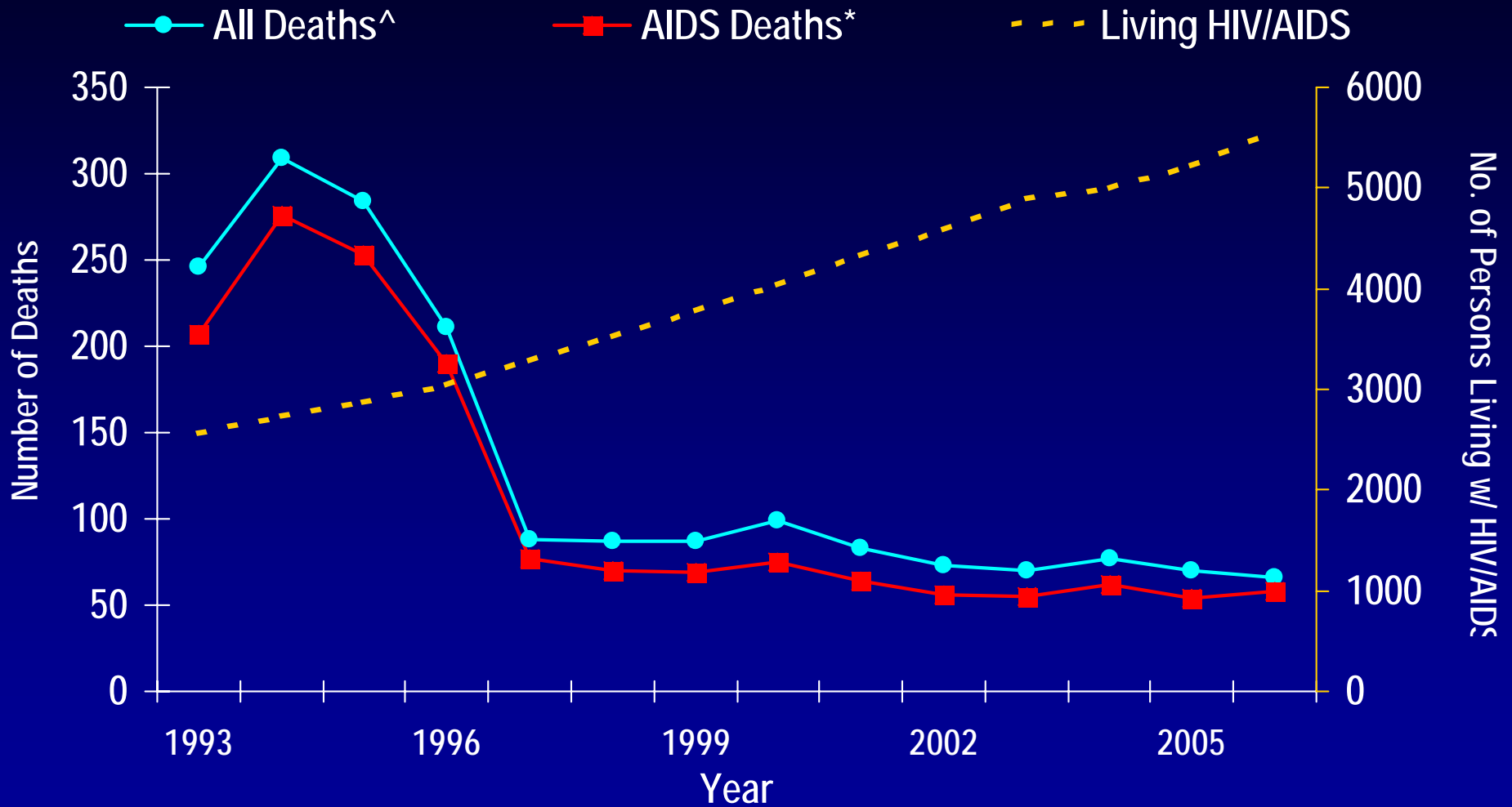
\*Includes all new cases of HIV infection (both HIV (non-AIDS) and AIDS at first diagnosis) diagnosed within a given calendar year.

^Includes all new cases of AIDS diagnosed within a given calendar year, including AIDS at first diagnosis. This includes refugees in the HIV+ Resettlement Program, as well as, other refugee/immigrants diagnosed with AIDS subsequent to their arrival in the United States.

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# HIV/AIDS in Minnesota: Number of Prevalent Cases, and Deaths by Year, 1993-2006



*\*Deaths among MN AIDS cases, regardless of location of death and cause.*

*<sup>^</sup>Deaths in Minnesota among people with HIV/AIDS, regardless of location of diagnosis and cause.*

*Data Source: Minnesota HIV/AIDS Surveillance System*

*HIV/AIDS in Minnesota: Annual Review*

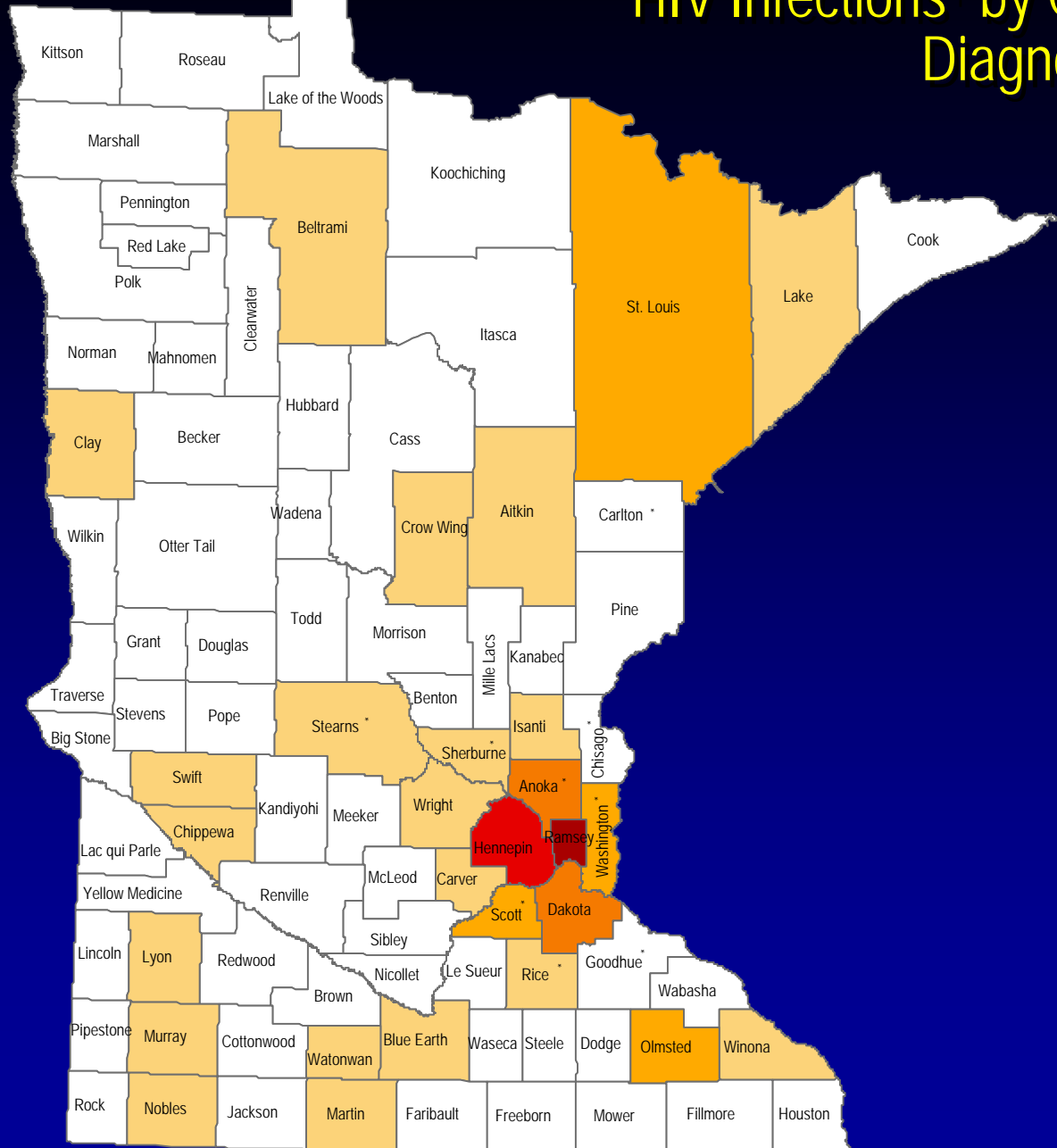
# HIV Infections\* in Minnesota by Person, Place, and Time

\* *HIV or AIDS at first diagnosis*

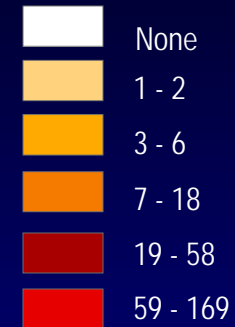
*HIV/AIDS in Minnesota: Annual Review*

# Place

# HIV Infections<sup>†</sup> by County of Residence at Diagnosis, 2006



## Number of Infections



City of Minneapolis – 124

City of St. Paul – 48

Suburban# – 111

Greater Minnesota - 33

Total number = 318

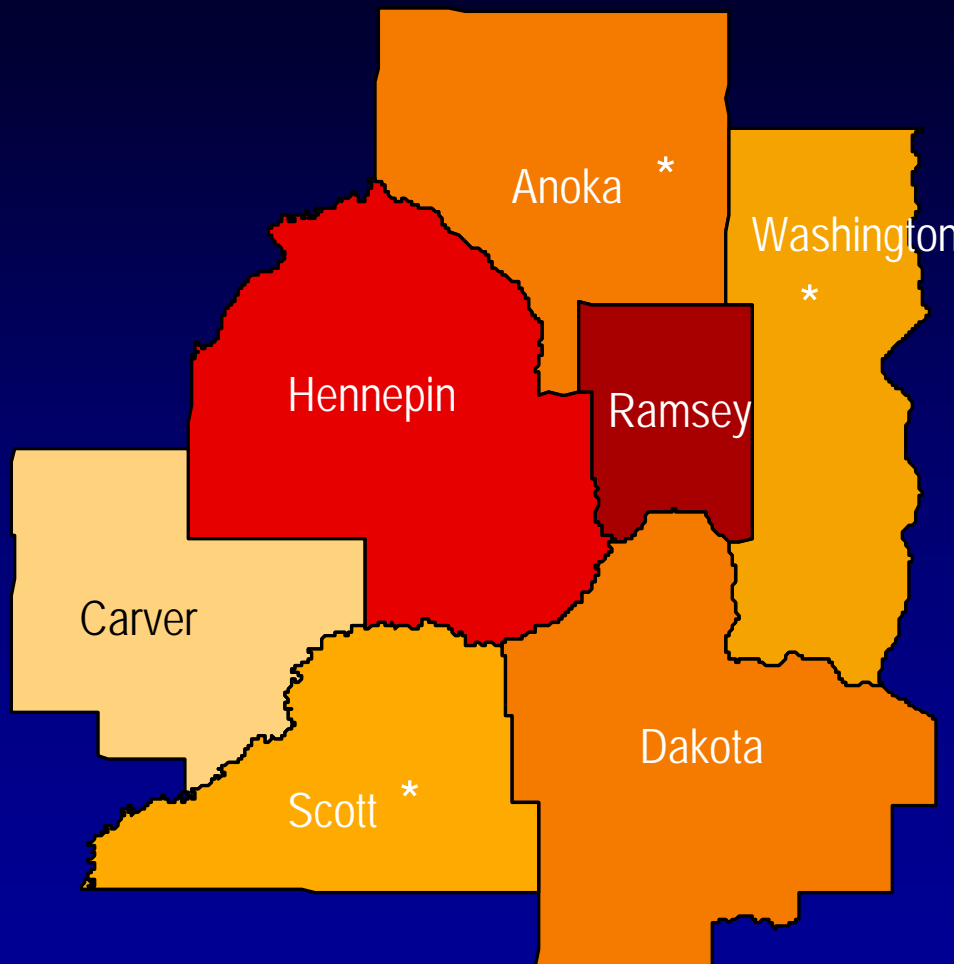
(2 people missing residence information)

\* Counties in which a state correctional facility is located

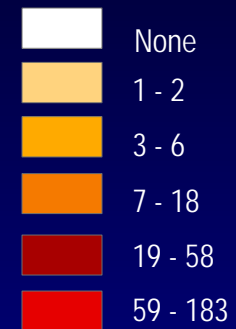
# 7-county metro area, excluding the cities of Minneapolis and St. Paul

<sup>†</sup>HIV or AIDS at first diagnosis

# Map of Metro Area: HIV Infections<sup>†</sup> by County of Residence at Diagnosis, 2006



Number of Infections



City of Minneapolis – 124

City of St. Paul – 48

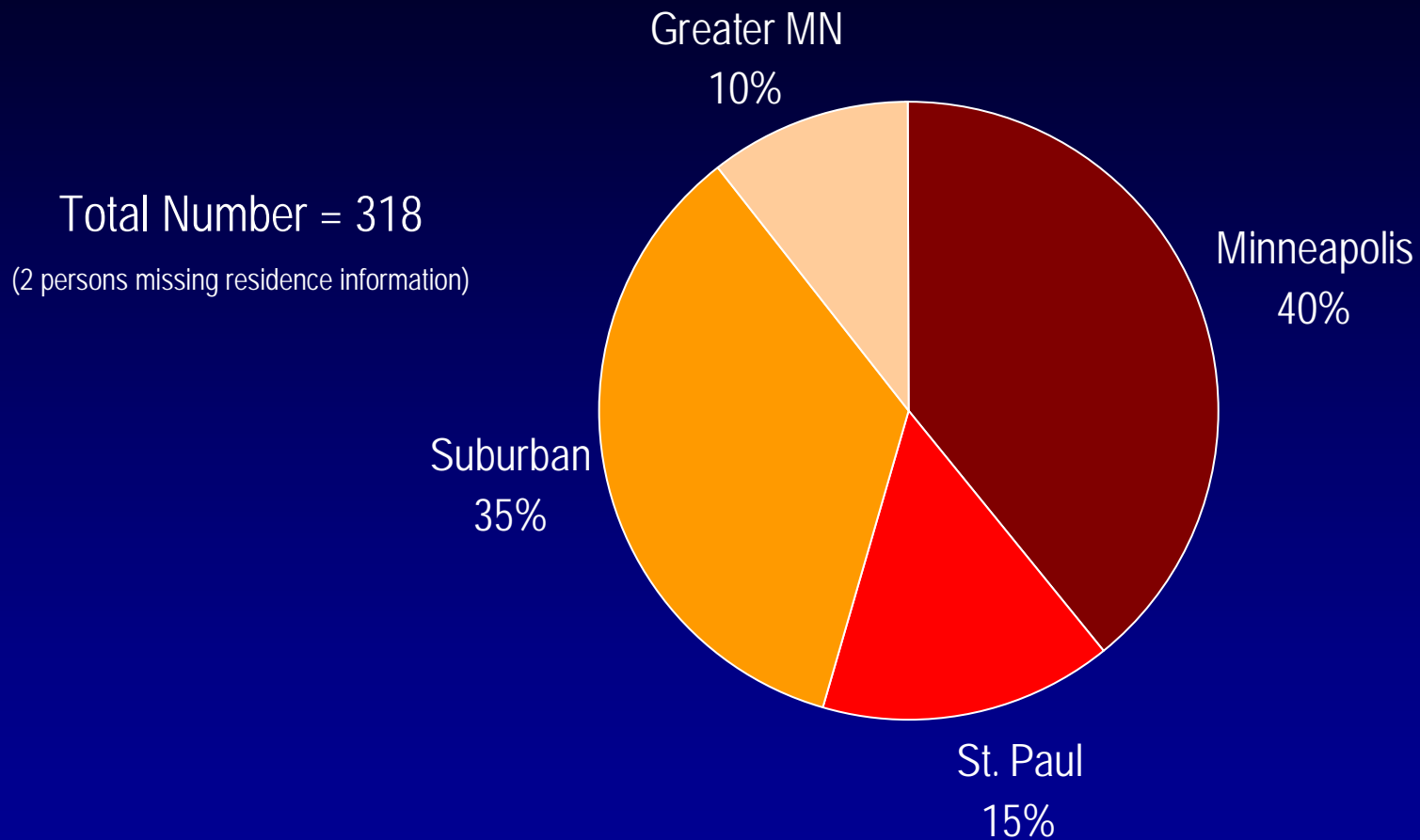
Suburban<sup>#</sup> – 111

Total number (Metro only) = 283

\* Counties in which a state correctional facility is located

<sup>#</sup> 7-county metro area, excluding the cities of Minneapolis and St. Paul

# HIV Infections\* in Minnesota by Residence at Diagnosis, 2006



Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (except Minneapolis), Ramsey (except St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties, outside the seven-county metro area.

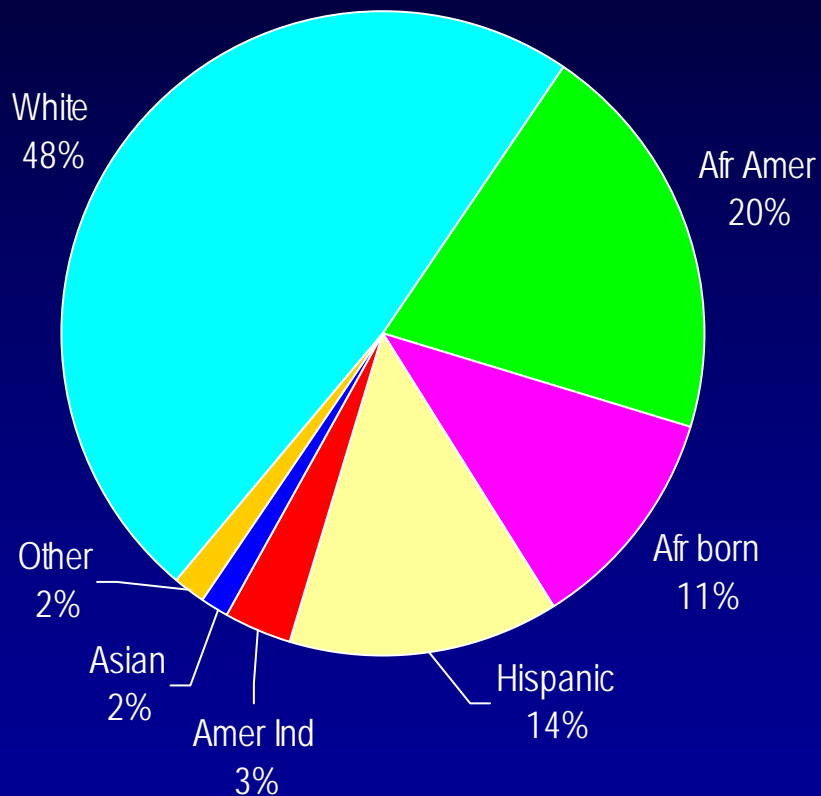
\* HIV or AIDS at first diagnosis

# Gender and Race/Ethnicity

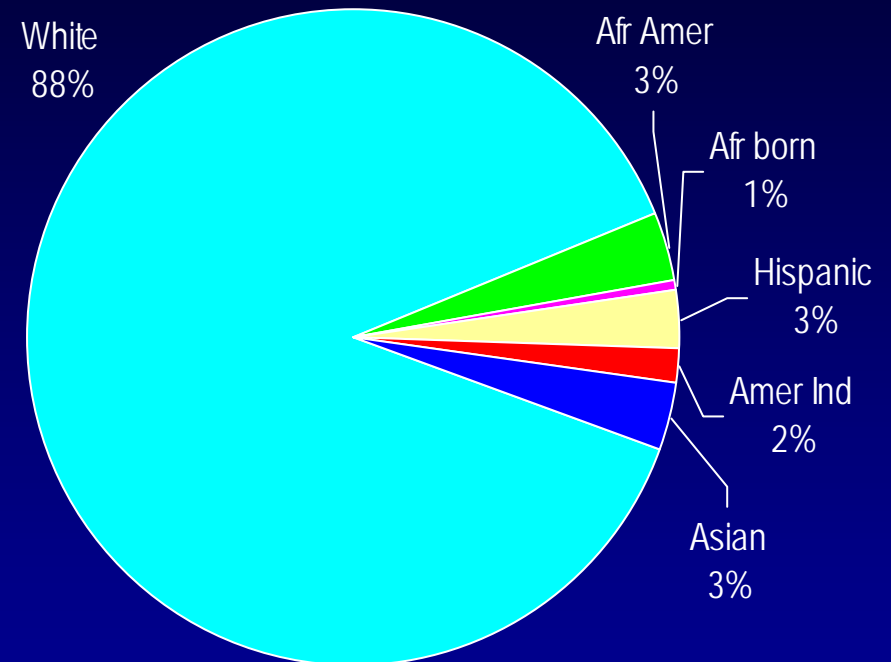


# HIV Infections\* Diagnosed in Year 2006 and General Population in Minnesota by Race/Ethnicity

HIV Diagnoses  
(n = 318)



Population†  
(n = 4,919,479)



\* HIV or AIDS at first diagnosis

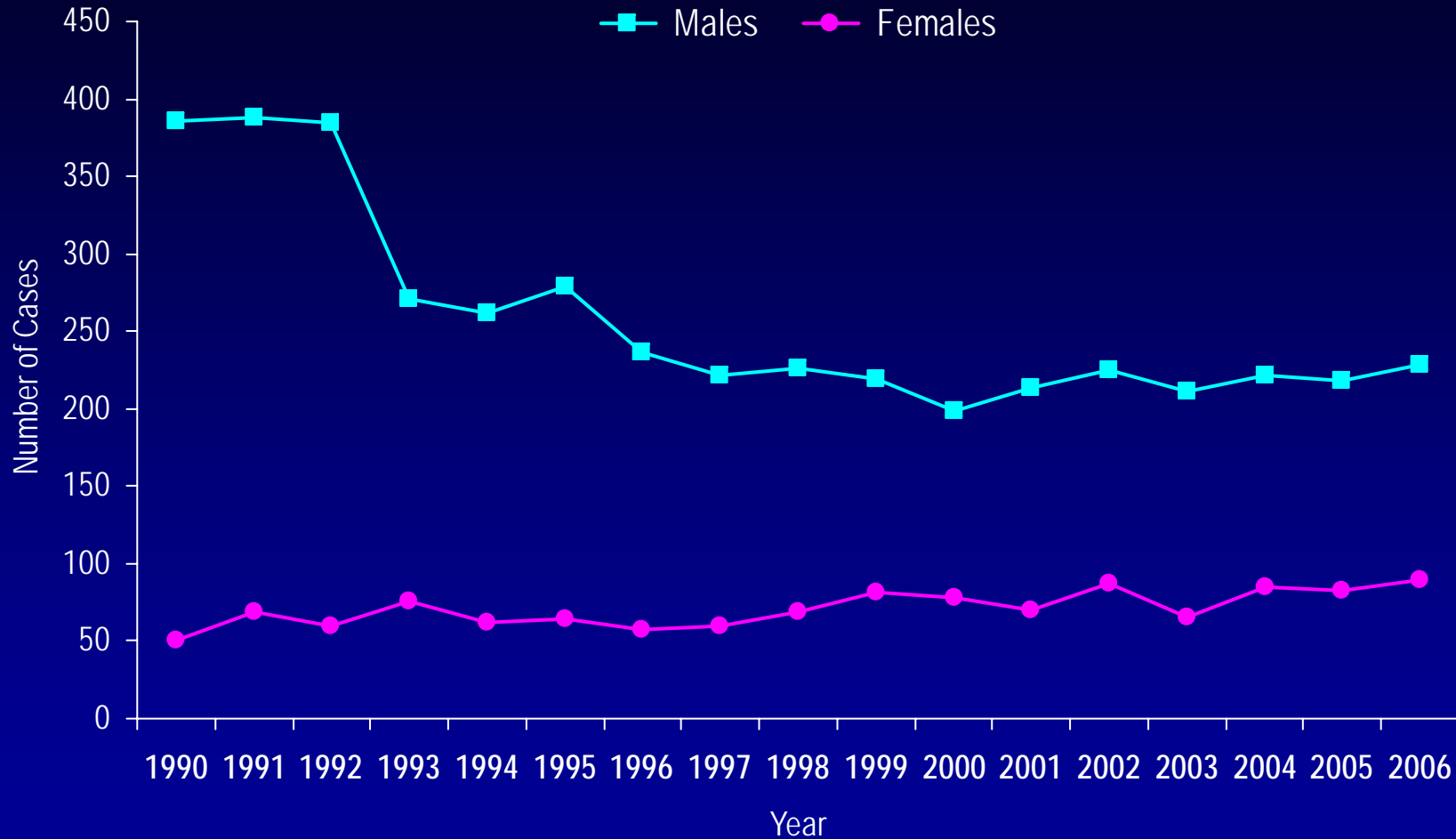
† Population estimates based on 2000 U.S. Census data.

Data source: Minnesota HIV/AIDS Surveillance System

n = Number of persons    Amer Ind = American Indian  
Afr Amer = African American (Black, not African-born persons)  
Afr born = African-born (Black, African-born persons)



# HIV Infections\* by Gender and Year of Diagnosis, 1990-2006

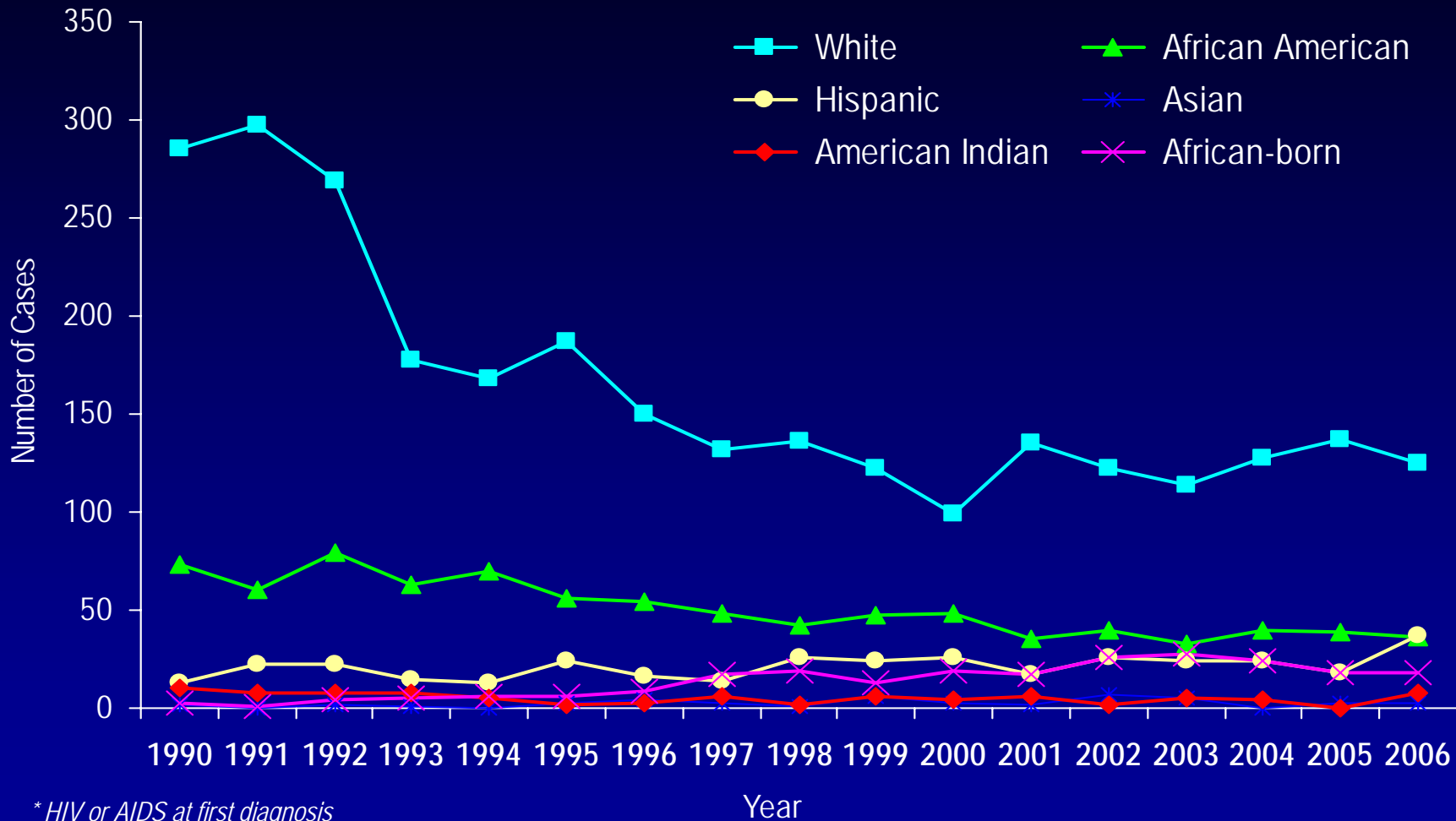


\* HIV or AIDS at first diagnosis

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

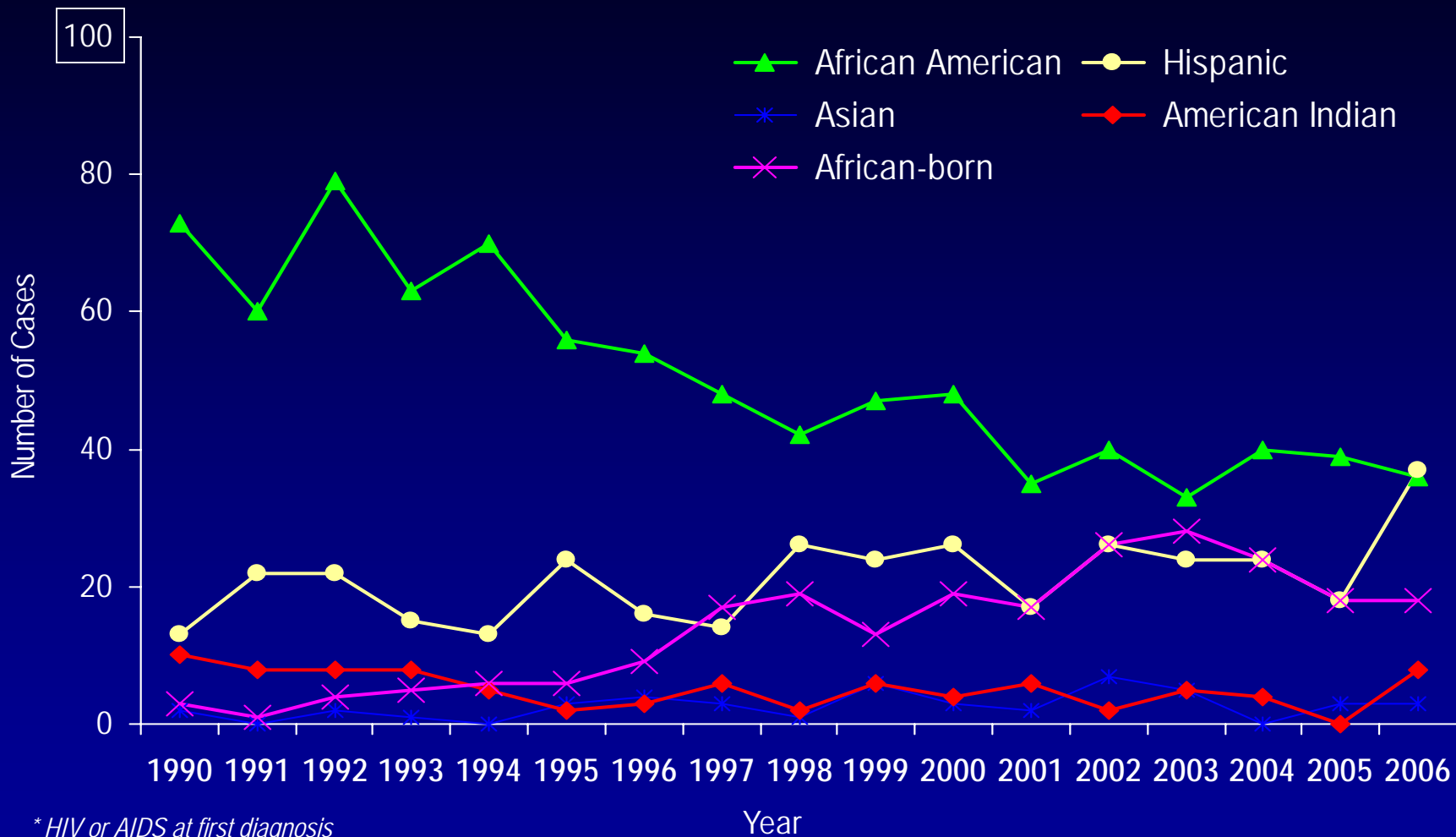
# HIV Infections\* Among Males by Race/Ethnicity† and Year of Diagnosis, 1990-2006



\* HIV or AIDS at first diagnosis

† "African-born" refers to Blacks who reported an African country of birth; "African American" refers to all other Blacks. Cases with unknown race are excluded.

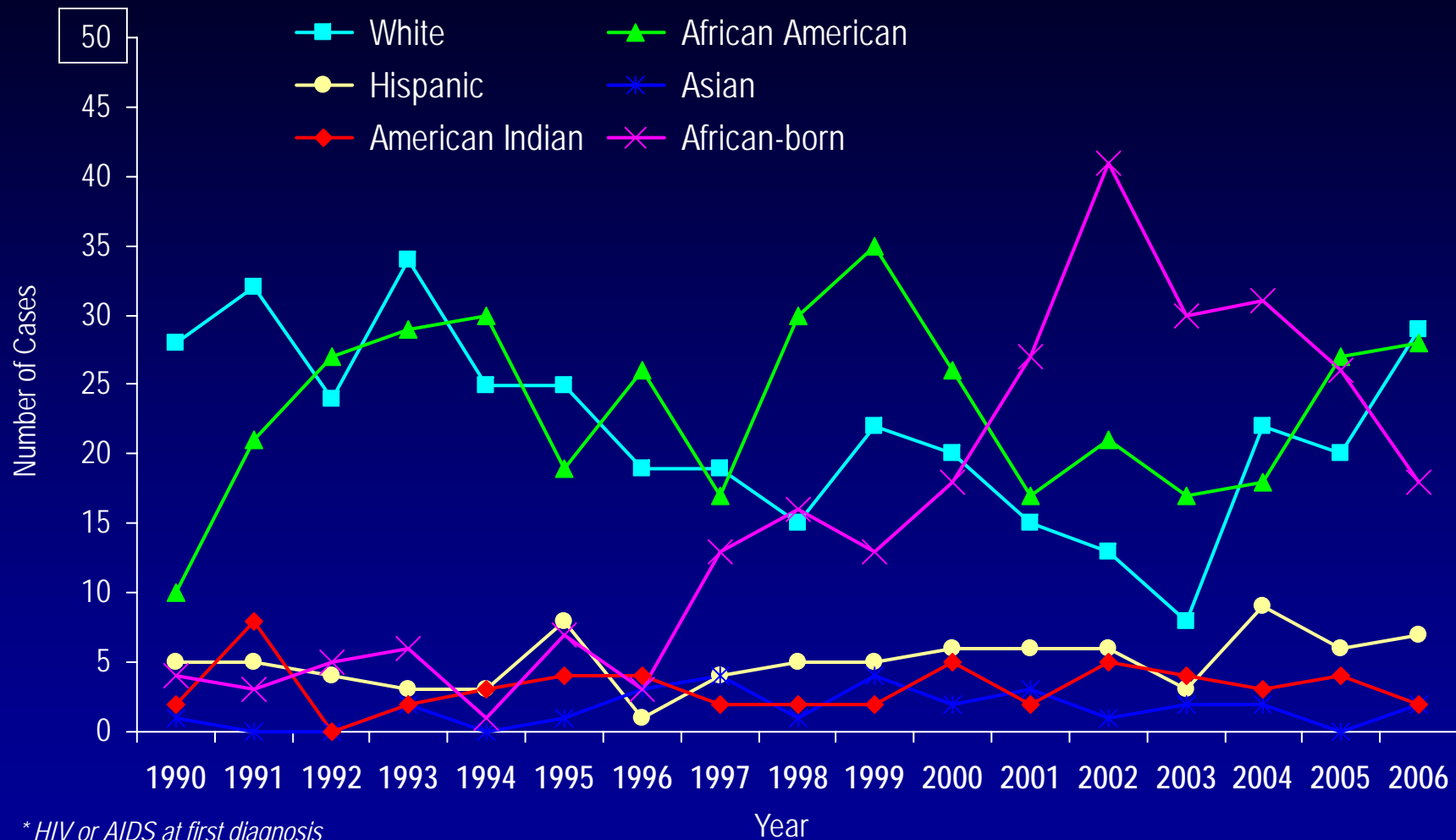
# HIV Infections\* Among Males by Race/Ethnicity† and Year of Diagnosis, 1990-2006 (excluding Whites)



\* HIV or AIDS at first diagnosis

† "African-born" refers to Blacks who reported an African country of birth; "African American" refers to all other Blacks. Cases with unknown race are excluded.

# HIV Infections\* Among Females by Race/Ethnicity† and Year of Diagnosis, 1990-2006

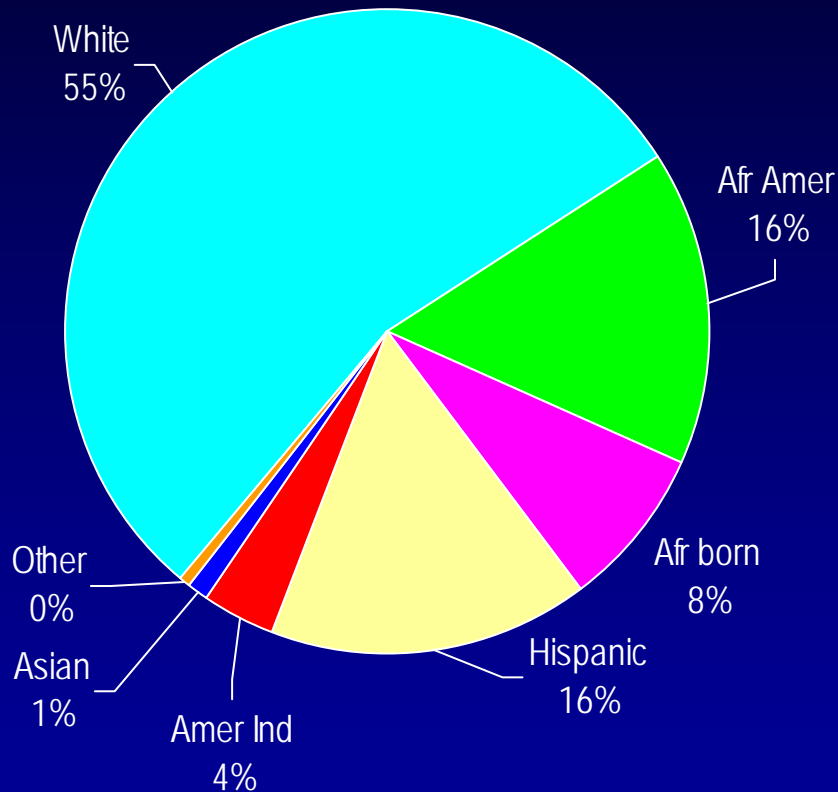


\* HIV or AIDS at first diagnosis

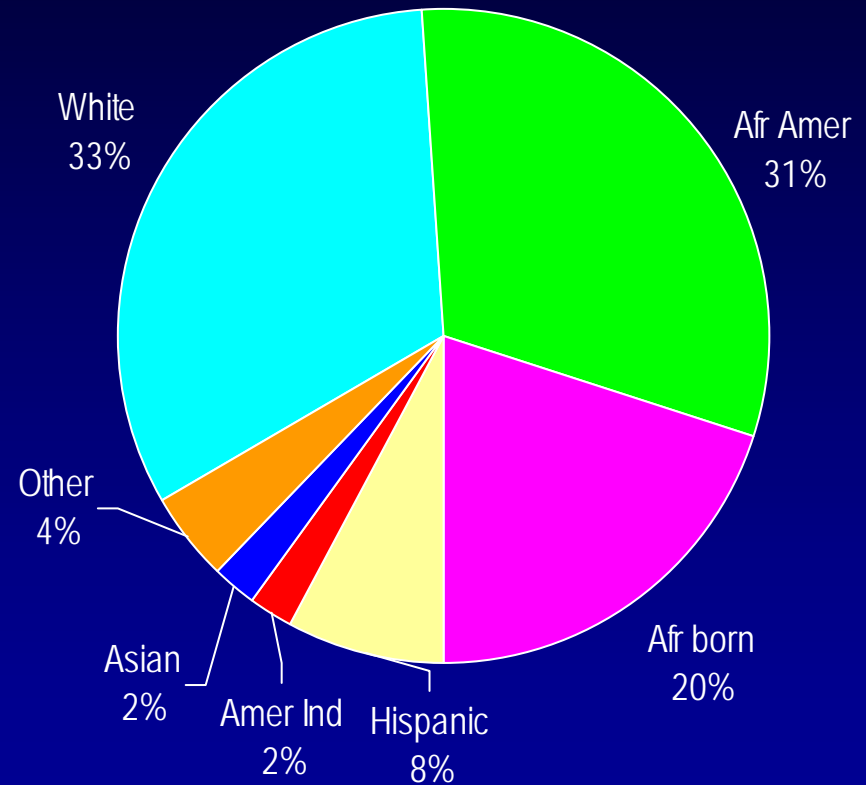
† "African-born" refers to Blacks who reported an African country of birth; "African American" refers to all other Blacks. Cases with unknown race are excluded.

# HIV Infections\* Diagnosed in Year 2006 by Gender and Race/Ethnicity

Males (n = 228)



Females (n = 90)



n = Number of persons    Afr Amer = African American (Black, not African-born persons)  
 Afr born = African-born (Black, African-born persons)    Amer Ind = American Indian  
 Other = Multi-racial persons or persons with unknown race

\* HIV or AIDS at first diagnosis

## Number of Cases and Rates (per 100,000 persons) of HIV Infection\* by Race/Ethnicity<sup>†</sup> – Minnesota, 2006

<i>Race/Ethnicity</i>	<i>Cases</i>	<i>%</i>	<i>Rate</i>
White, non-Hispanic	<b>154</b>	<b>48%</b>	<b>3.6</b>
Black, African-American	<b>64</b>	<b>20%</b>	<b>38.1</b>
Black, African-born	<b>36</b>	<b>11%</b>	<b>72-102.3<sup>††</sup></b>
Hispanic	<b>44</b>	<b>14%</b>	<b>30.7</b>
American Indian	<b>10</b>	<b>3%</b>	<b>12.3</b>
Asian/Pacific Islander	<b>5</b>	<b>2%</b>	<b>3.0</b>
Other <sup>^</sup>	<b>5</b>	<b>2%</b>	<b>X</b>
<b><i>Total</i></b>	<b>318</b>	<b>100%</b>	<b>6.5</b>

\* HIV or AIDS at first diagnosis; 2000 U.S. Census Data used for rate calculations.

<sup>†</sup> "African-born" refers to Blacks who reported an African country of birth; "African American" refers to all other Blacks. Cases with unknown race are excluded.

<sup>††</sup> Accurate population estimates for African-born persons living in Minnesota are unavailable – anecdotal (50,000) and 2000 US Census data (35,188) were used to create the range of rates reported for African-born.

<sup>^</sup> Other = Multi-racial persons or persons with unknown race

# Age



## Average Age at HIV Diagnosis Among Males: Three-Year Averages

Race/Ethnicity	Average age in years (Number of cases)			
	1989-1991	1994-1996	1999-2001	2004-2006
White	33 (893)	35 (505)	38 (356)	37 (390)
Black				
African American	32 (206)	34 (179)	36 (130)	34 (115)
African-born	29 (5)	36 (21)	37 (49)	36 (60)
Hispanic	31 (52)	33 (53)	32 (67)	32 (79)
Asian	25 (5)	38 (7)	37 (11)	39 (6)
American Indian	29 (28)	29 (10)	34 (16)	41 (12)

Cases with unknown or multiple race or unknown age were excluded.

## Average Age at HIV Diagnosis Among Females: Three-Year Averages

Race/Ethnicity	Average age in years (Number of cases)			
	1989-1991	1994-1996	1999-2001	2004-2006
White	30 (85)	32 (69)	33 (57)	36 (71)
Black				
African American	29 (50)	31 (75)	32 (78)	32 (73)
African-born	24 (8)	31 (11)	30 (58)	34 (75)
Hispanic	33 (15)	36 (12)	28 (17)	32 (22)
Asian	--	--	34 (9)	--
American Indian	29 (15)	30 (11)	34 (9)	29 (9)

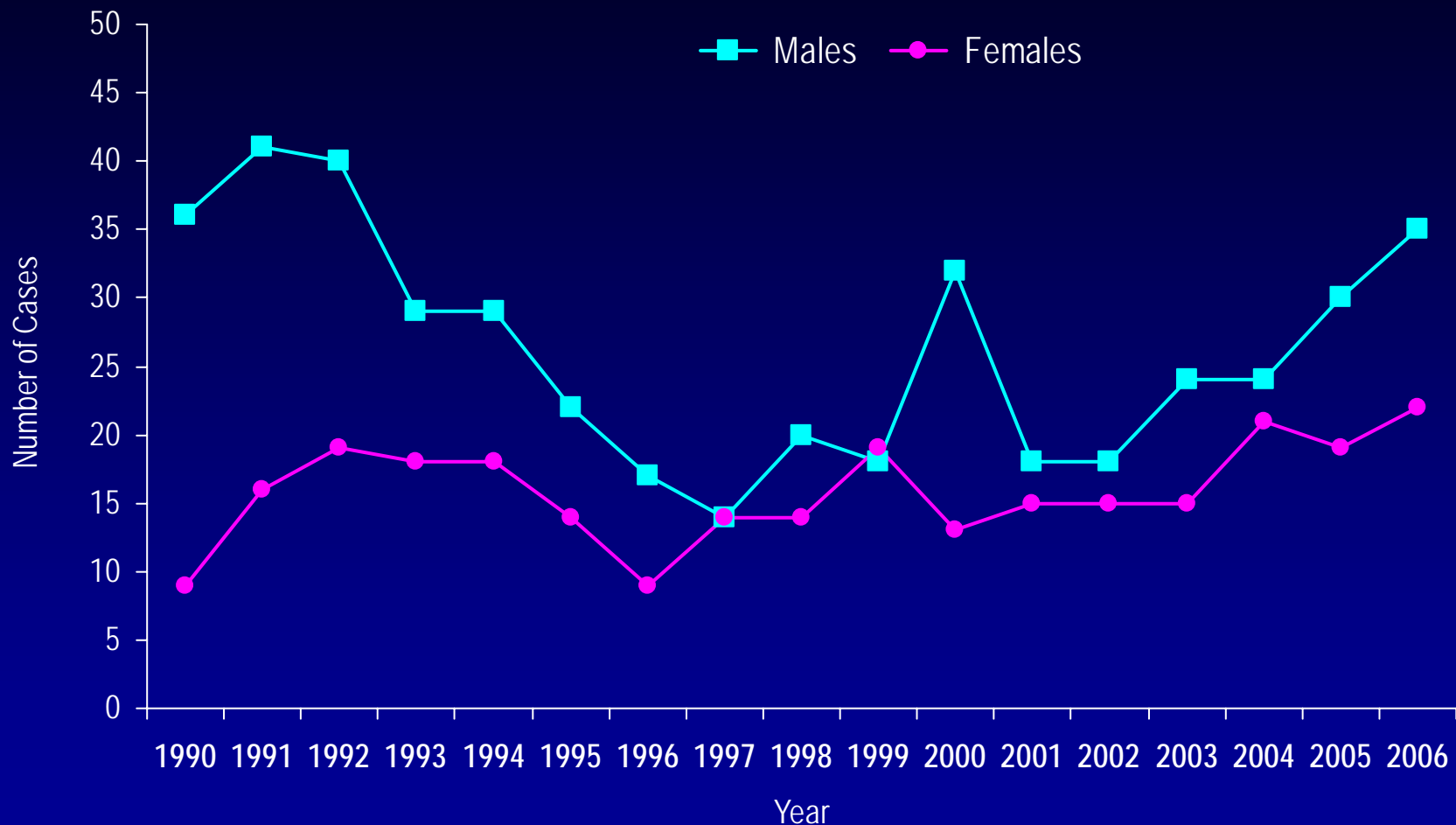
\* Average age not displayed for subgroups with less than 5 cases.

Cases with unknown or multiple race or unknown age were excluded.

# Adolescents & Young Adults (Ages 13-24)\*

*\* Case numbers are too small to present meaningful data separately for adolescents and young adults.*

# HIV Infections\* Among Adolescents and Young Adults† by Gender and Year of Diagnosis, 1990-2006

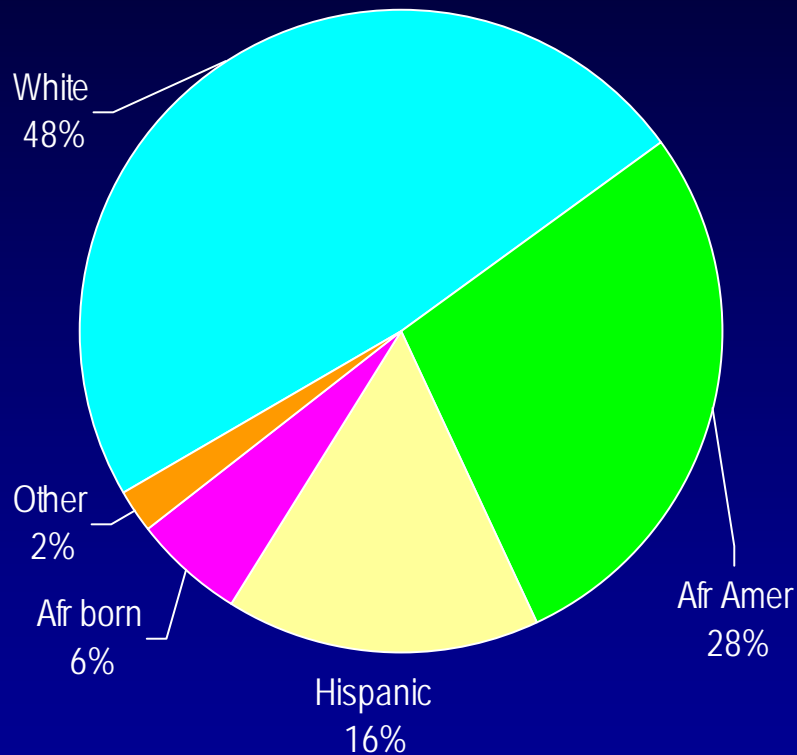


\* HIV or AIDS at first diagnosis

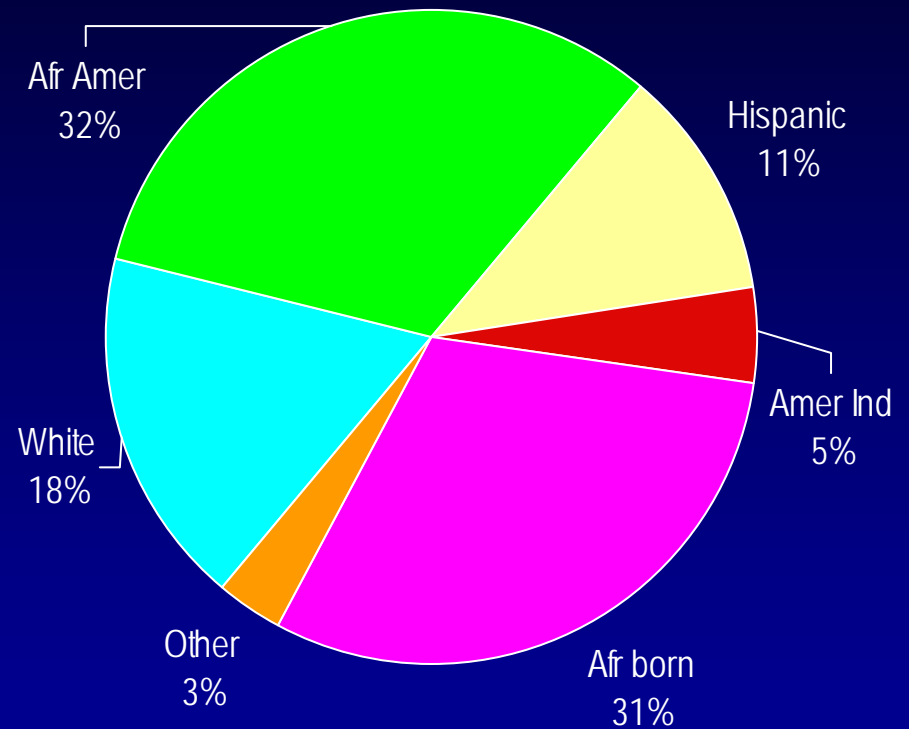
† Adolescents defined as 13-19 year-olds; Young Adults defined as 20-24 year-olds.

# HIV Infections\* Among Adolescents and Young Adults† by Gender and Race/Ethnicity, 2004-2006 Combined

Males (n = 89)



Females (n = 62)



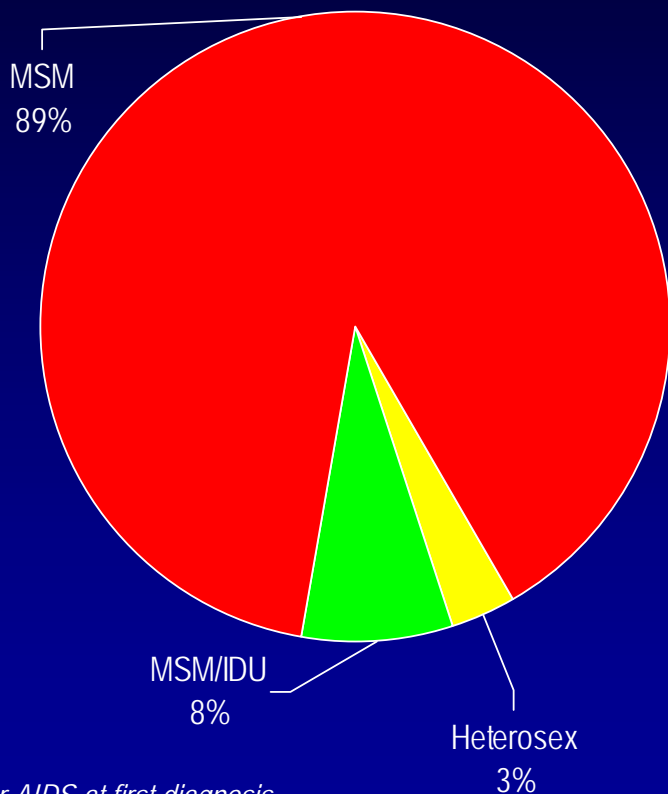
\* HIV or AIDS at first diagnosis

† Adolescents defined as 13-19 year-olds;  
Young Adults defined as 20-24 year-olds.

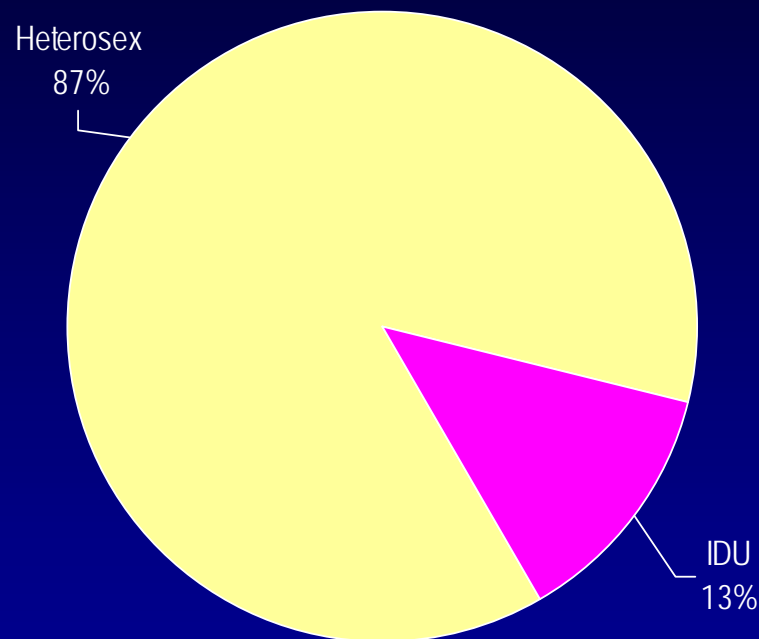
n = Number of persons    Amer Ind = American Indian  
Afr Amer = African American (Black, not African-born persons)  
Afr born = African-born (Black, African-born persons)  
Other = Multi-racial persons or persons with unknown race

# HIV Infections\* Among Adolescents and Young Adults† by Gender and Estimated Exposure Group#, 2004-2006 Combined

Males (n = 89)



Females (n = 62)



\* HIV or AIDS at first diagnosis

† Adolescents defined as 13-19 year-olds; Young Adults defined as 20-24 year-olds.

# Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.

n = Number of persons

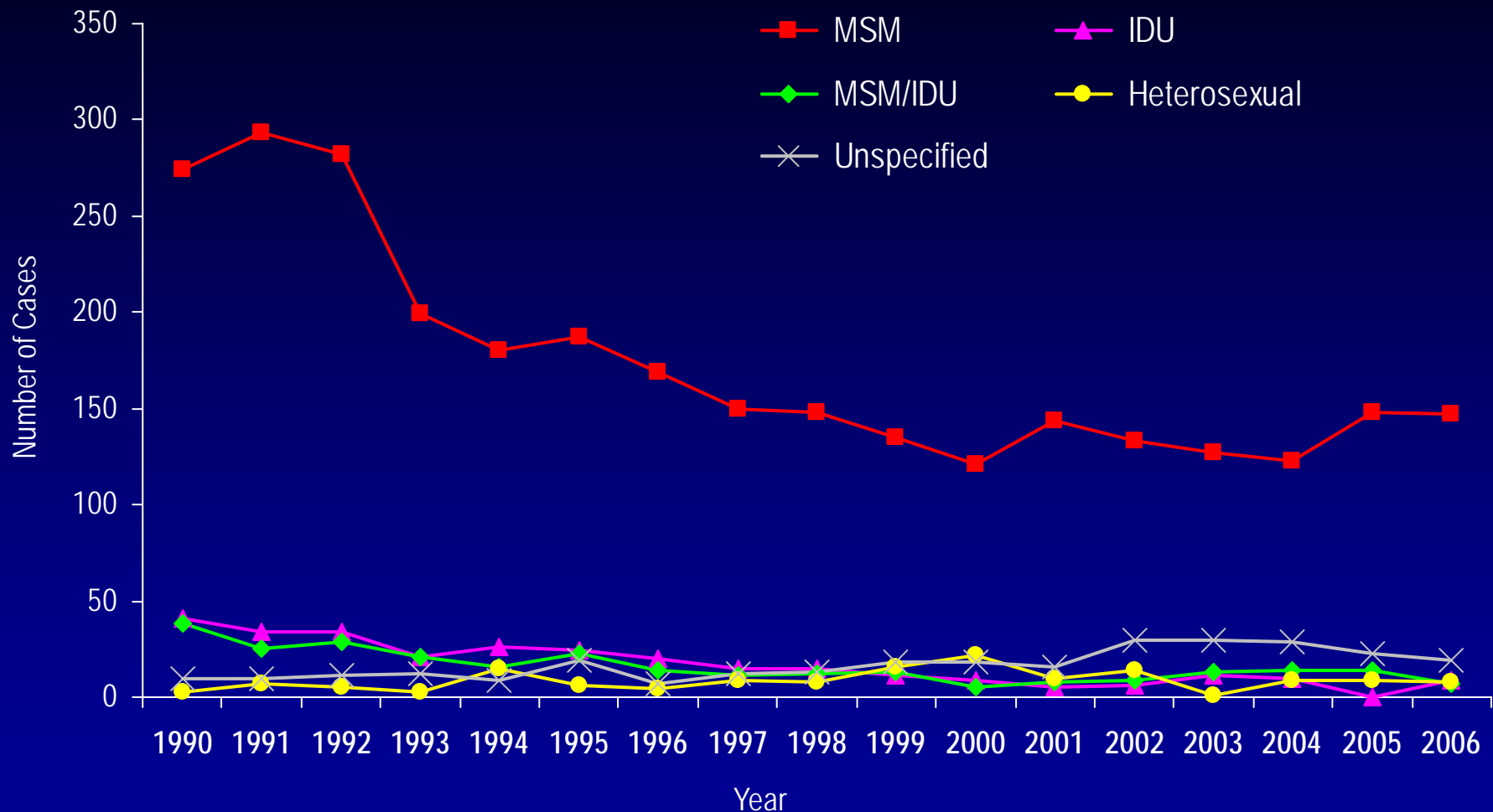
IDU = Injecting drug use

MSM = Men who have sex with men

Heterosex = Heterosexual contact

# Mode of Exposure

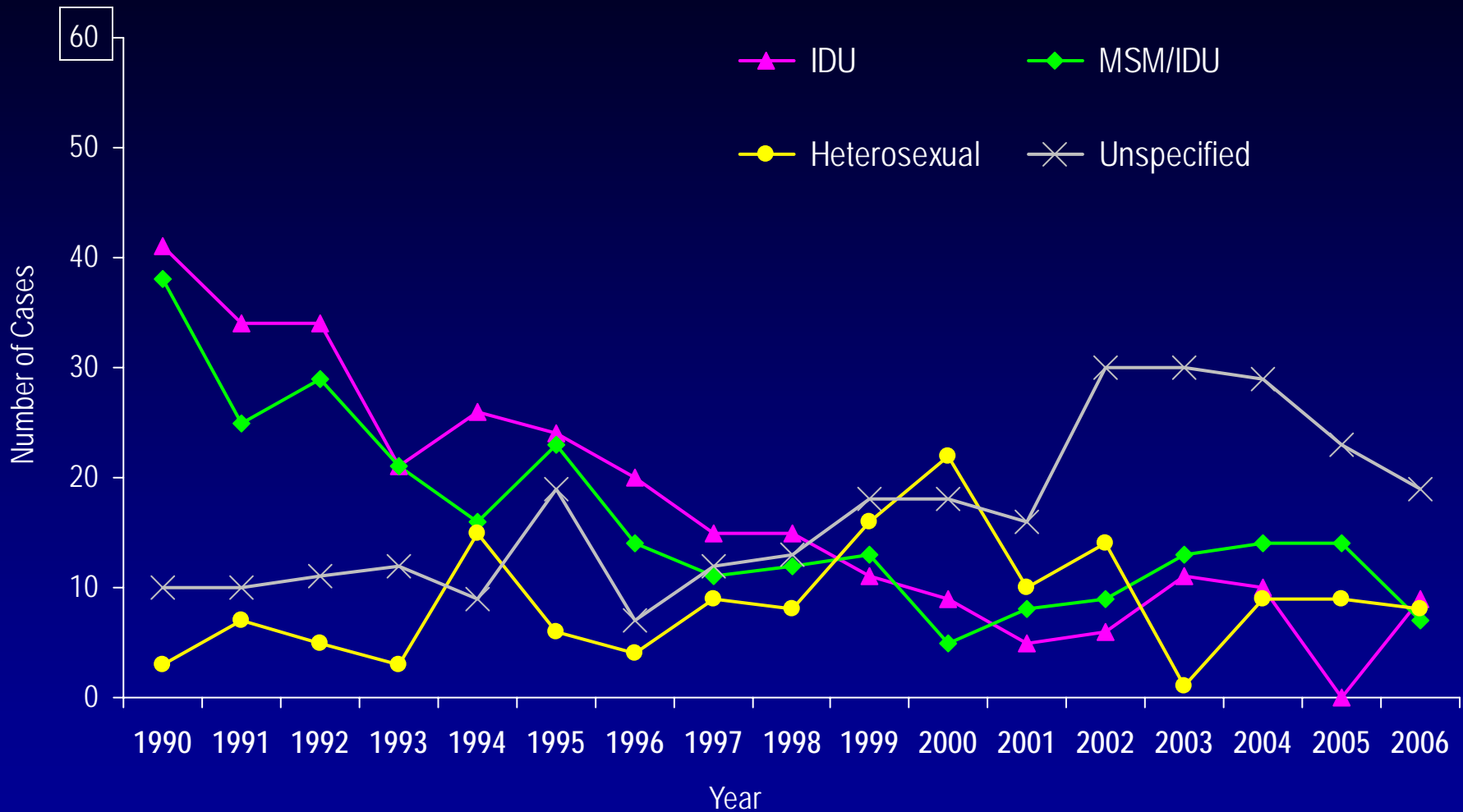
# HIV Infections\* Among Males by Mode of Exposure and Year of Diagnosis, 1990-2006



MSM = Men who have sex with men    IDU = Injecting drug use    Heterosexual = Heterosexual contact  
 \* HIV or AIDS at first diagnosis    Unspecified = No mode of exposure ascertained

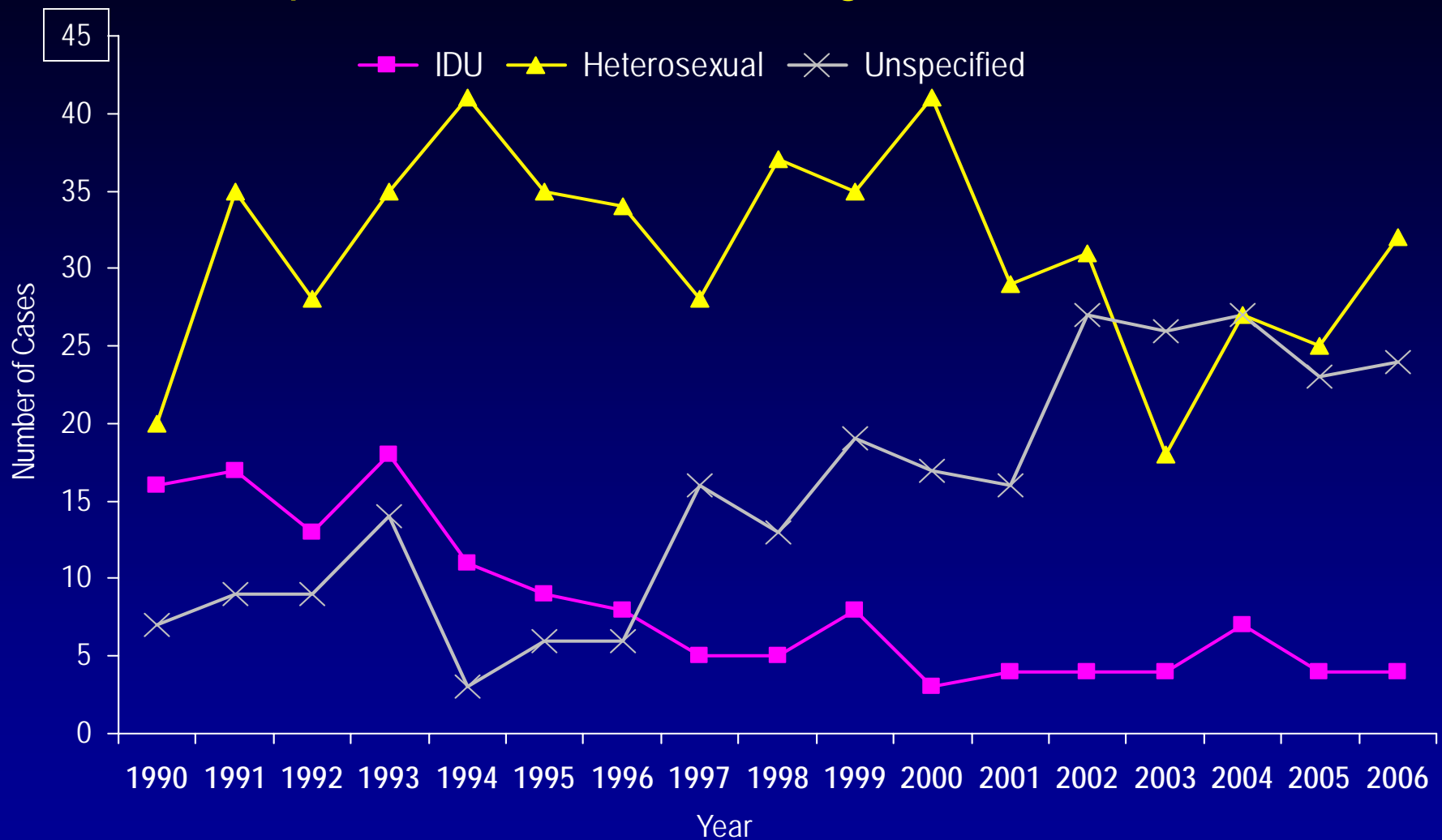


# HIV Infections\* Among Males by Mode of Exposure and Year of Diagnosis, 1990-2006 (excluding MSM)



MSM = Men who have sex with men    IDU = Injecting drug use    Heterosexual = Heterosexual contact  
 \* HIV or AIDS at first diagnosis    Unspecified = No mode of exposure ascertained

# HIV Infections\* Among Females by Mode of Exposure and Year of Diagnosis, 1990-2006



IDU = Injecting drug use

Heterosexual = Heterosexual contact

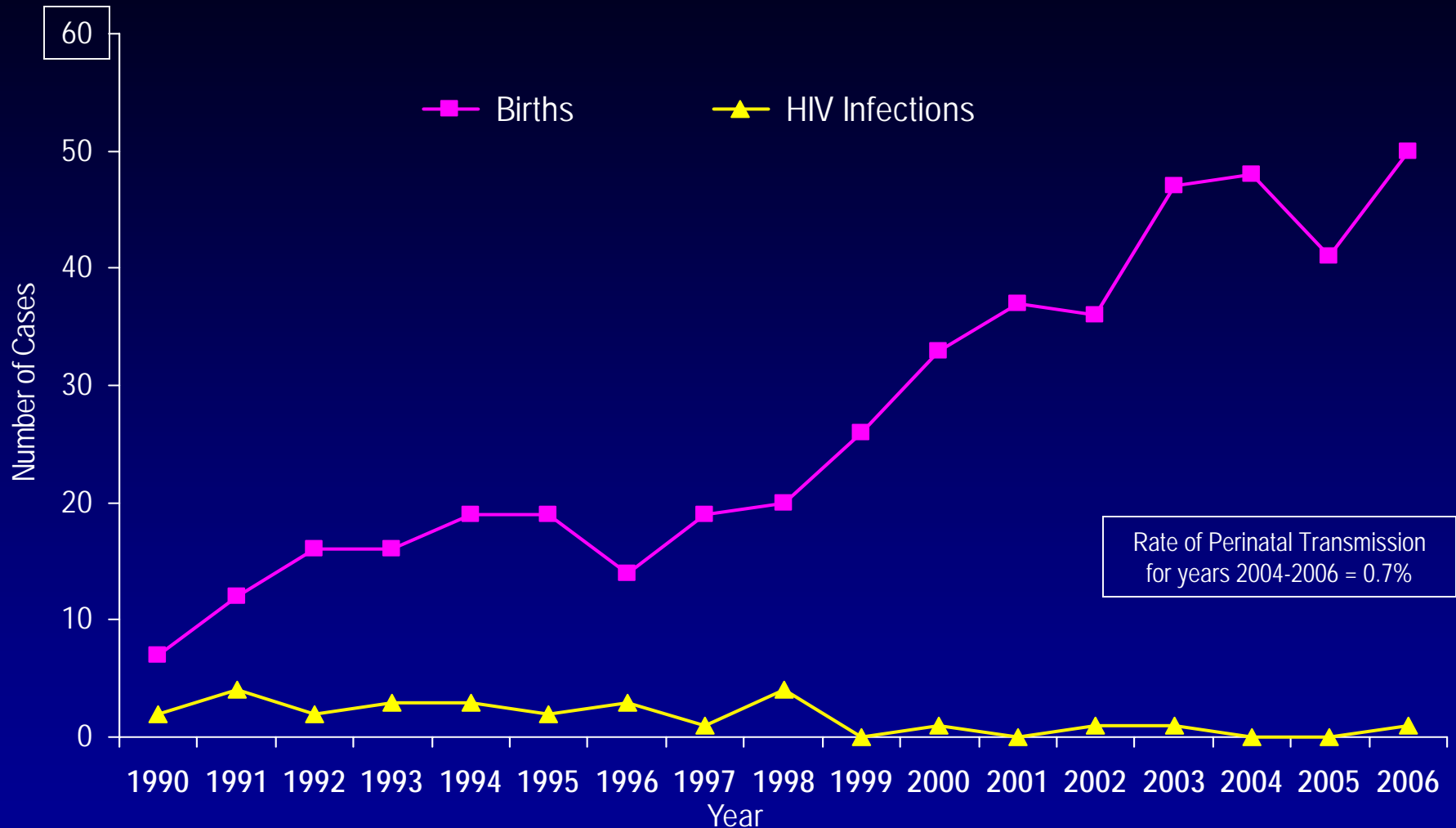
Unspecified = No mode of exposure ascertained

\* HIV or AIDS at first diagnosis

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

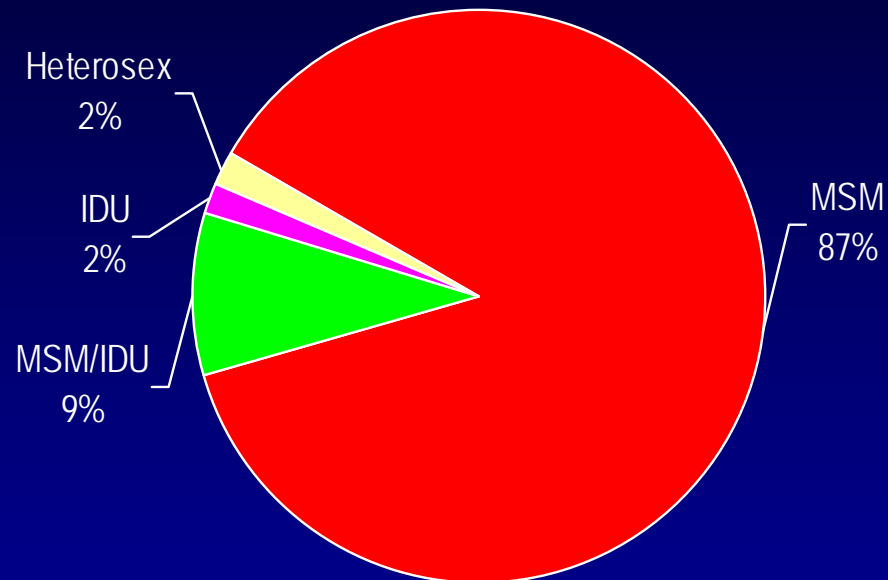
# Births to HIV-Infected Women and Number of Perinatally Acquired HIV Infections\* by Year of Birth, 1990-2006



\* HIV or AIDS at first diagnosis for a child exposed to HIV during mother's pregnancy, at birth, and/or during breastfeeding.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

White Males (n = 390)



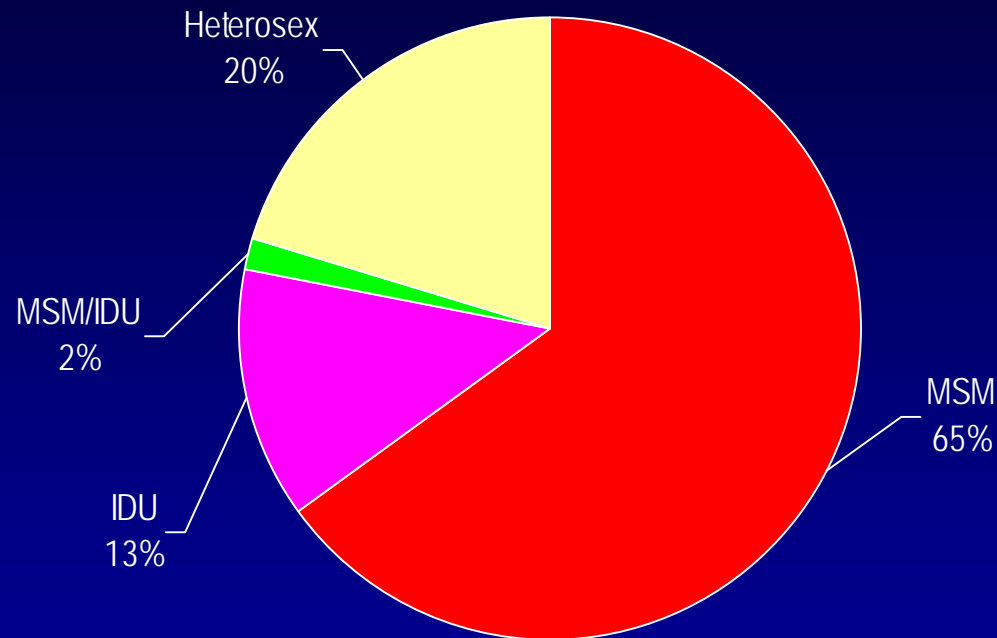
n = Number of persons    MSM = Men who have sex with men    IDU = Injecting drug use    Heterosex = Heterosexual contact

\* HIV or AIDS at first diagnosis

† Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

African American Males†† (n = 115)



n = Number of persons    MSM = Men who have sex with men    IDU = Injecting drug use    Heterosex = Heterosexual contact

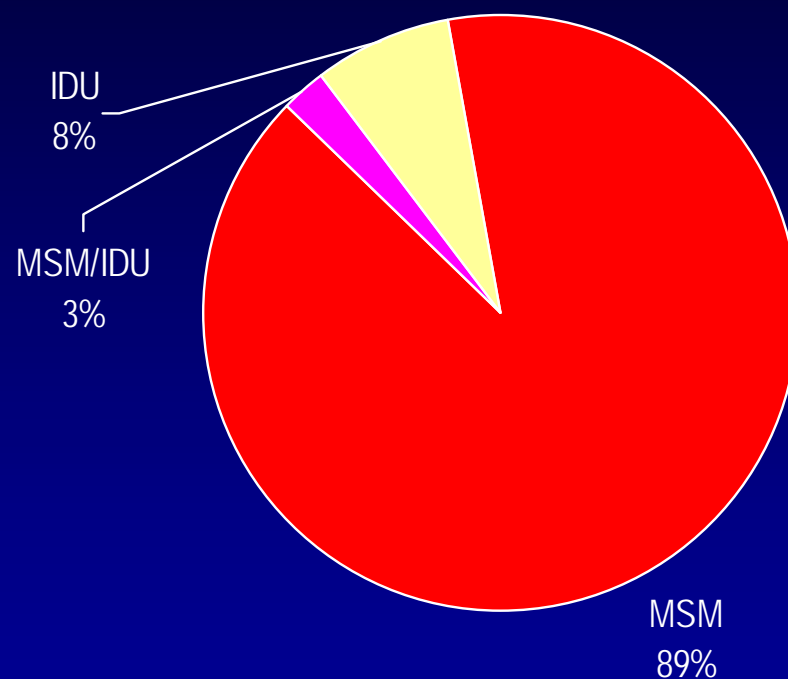
\* HIV or AIDS at first diagnosis

† Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.

†† Refers to Black, African American (not African-born) males.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

Hispanic Males (n = 79)



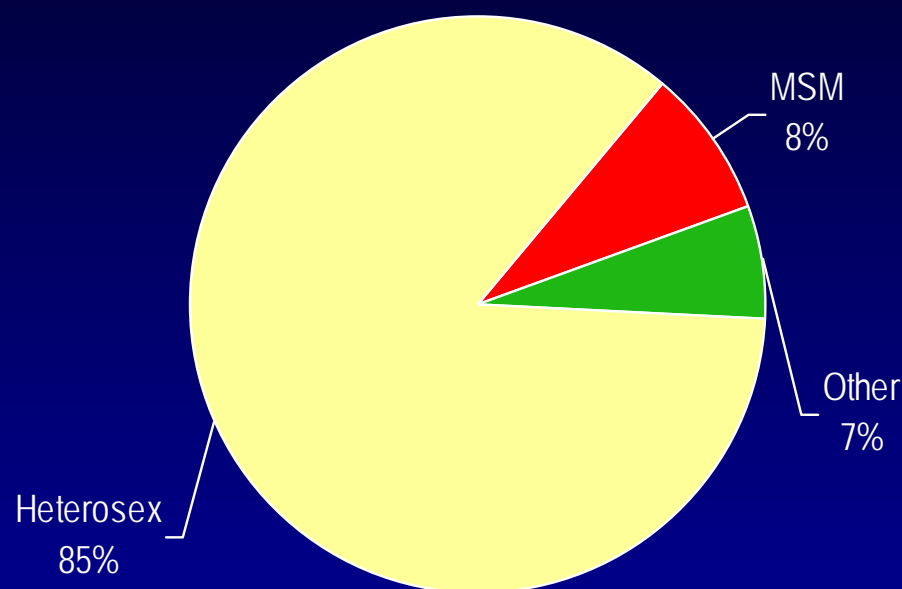
n = Number of persons    MSM = Men who have sex with men    IDU = Injecting drug use    Heterosex = Heterosexual contact

\* HIV or AIDS at first diagnosis

† Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

African-born Males<sup>††</sup> (n = 60)



MSM = Men who have sex with men    Heterosex = Heterosexual contact    Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk  
n = number of persons

\* *HIV or AIDS at first diagnosis*

† Mode of Exposure has been estimated for cases with unknown risk using the following: 5% - MSM, 90% - Heterosexual, and 5%-Other.

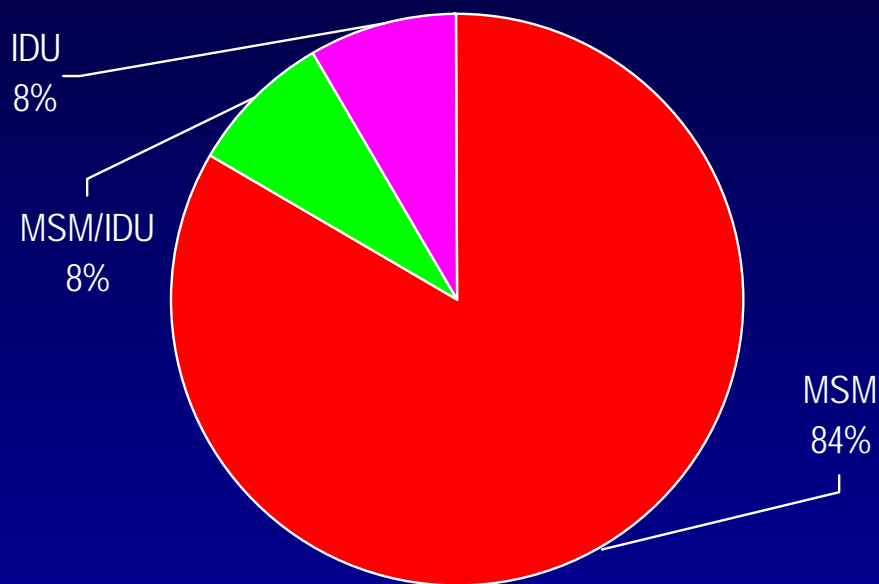
For more detail see the HIV Surveillance Technical notes.

†† *Refers to Black, African-born males.*

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

American Indian Males (n = 12)

CAUTION: Small number of cases – interpret carefully.



n = Number of persons    MSM = Men who have sex with men    IDU = Injecting drug use    Heterosex = Heterosexual contact

\* HIV or AIDS at first diagnosis

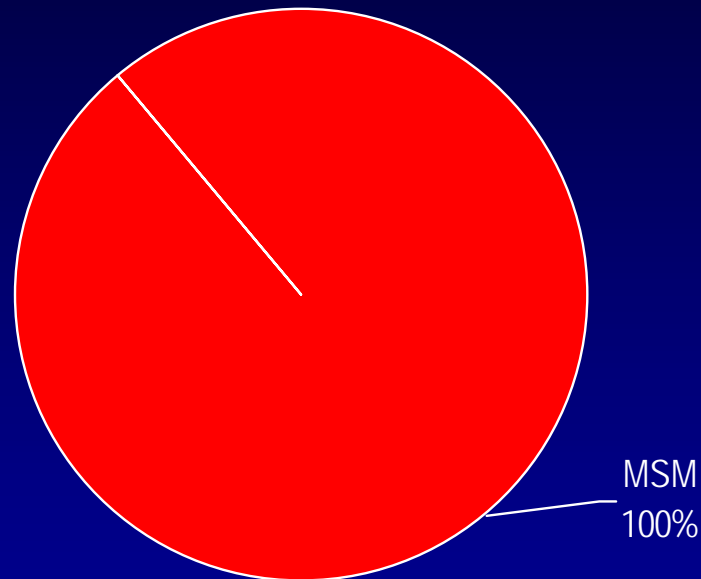
† Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.



# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

Asian Males (n = 6)

CAUTION: Small number of cases – interpret carefully.



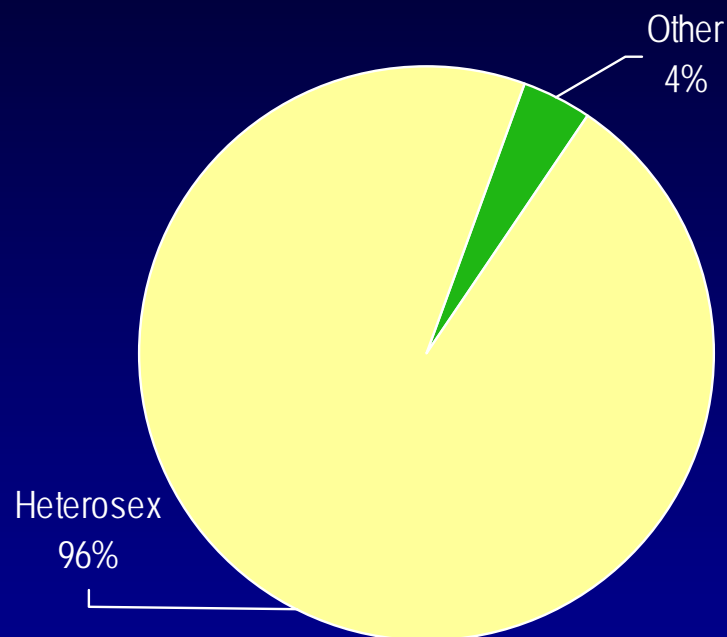
n = Number of persons    MSM = Men who have sex with men    IDU = Injecting drug use    Heterosex = Heterosexual contact

\* HIV or AIDS at first diagnosis

† Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

African-born Females†† (n = 75)



n = Number of persons    Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk    Heterosex = Heterosexual contact

\* HIV or AIDS at first diagnosis

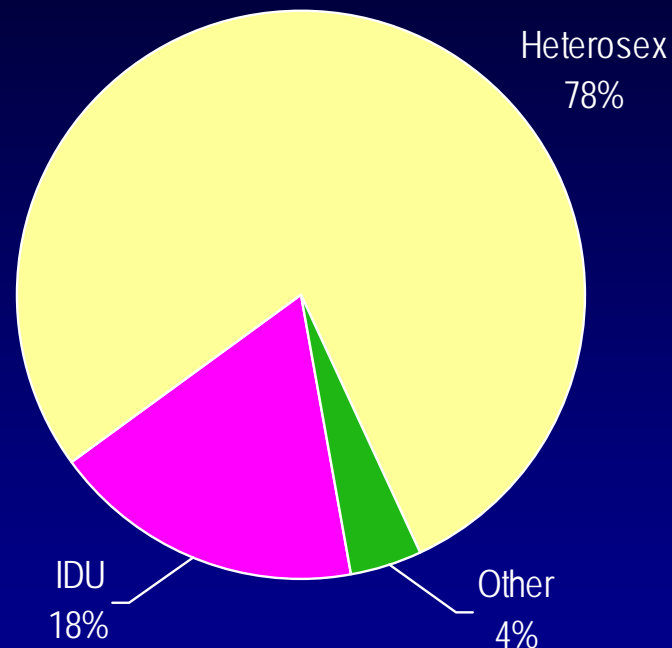
† Mode of Exposure has been estimated for cases with unknown risk using the following: 95% - Heterosexual and 5%-Other.

For more detail see the HIV Surveillance Technical notes.

†† Refers to Black, African-born females.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

African American Females†† (n = 73)



IDU = Injecting drug use    Heterosex = Heterosexual contact    Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

n = Number of persons

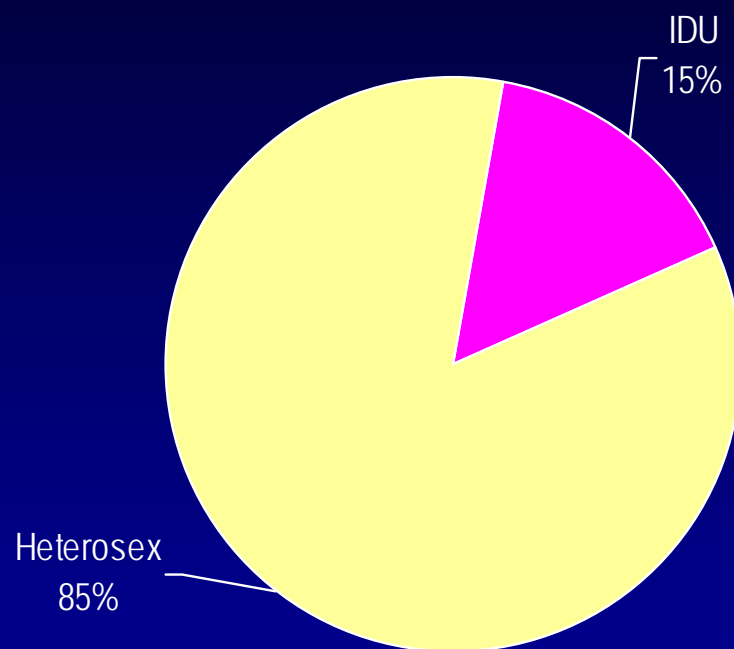
\* HIV or AIDS at first diagnosis

† Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.

†† Refers to Black, African American (not African-born) females.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

White Females (n = 71)



n = Number of persons    IDU = Injecting drug use    Heterosex = Heterosexual contact    Other = Other risk, including perinatal

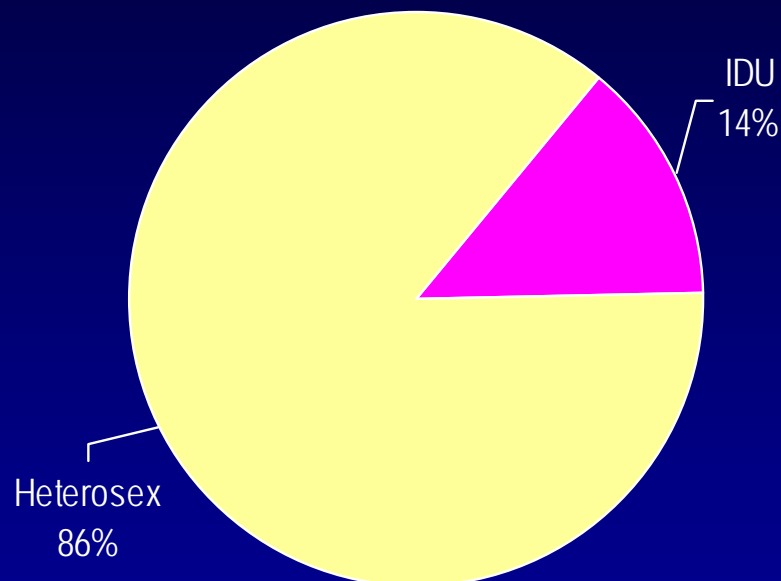
\* HIV or AIDS at first diagnosis

† Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

Hispanic Females (n = 22)

CAUTION: Small number of cases – interpret carefully.



IDU = Injecting drug use Heterosex = Heterosexual contact Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

n = Number of persons

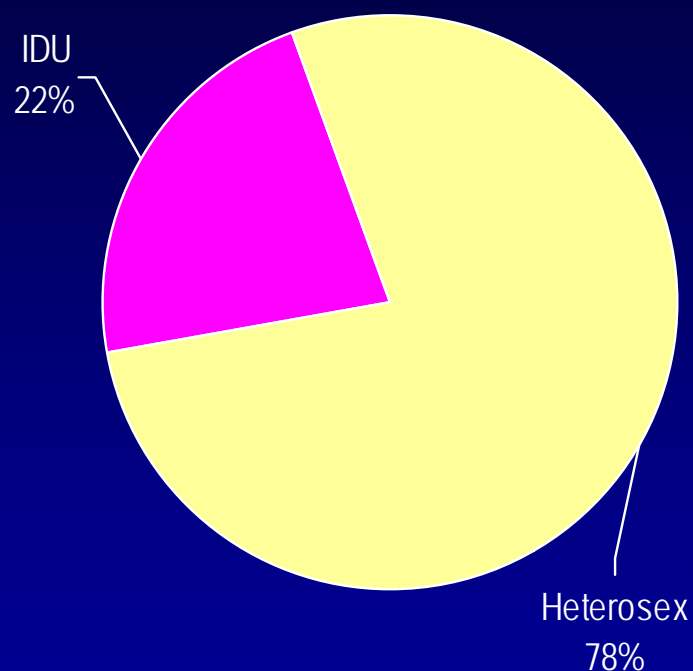
\* HIV or AIDS at first diagnosis

† Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

American Indian Females (n = 9)

CAUTION: Small number of cases – interpret carefully.



IDU = Injecting drug use

Heterosex = Heterosexual contact

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

n = Number of persons

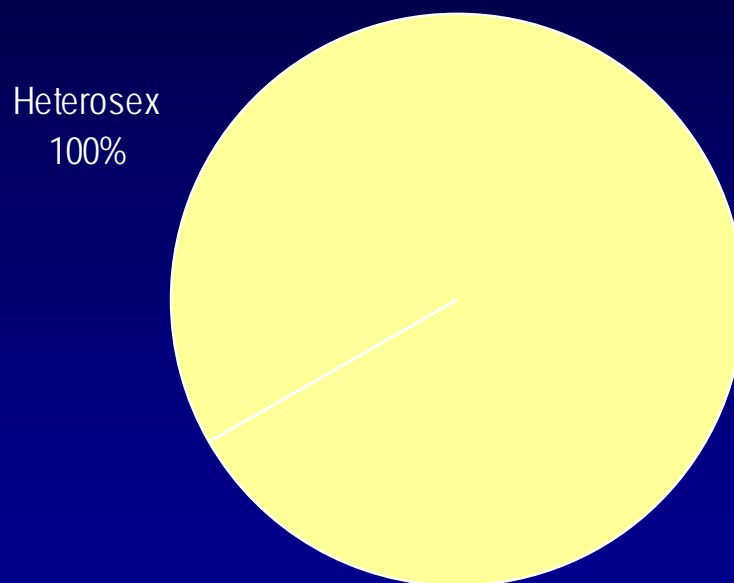
\* HIV or AIDS at first diagnosis

† Mode of Exposure proportions have been estimated using cases for 2004-2006 with known risk. For more detail see the HIV Surveillance Technical notes.

# HIV Infections\* by Estimated Mode of Exposure† Diagnosis Years 2004-2006 combined

Asian Females (n = 4)

CAUTION: Small number of cases – interpret carefully.



n = Number of persons    Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk    Heterosex = Heterosexual contact

\* HIV or AIDS at first diagnosis

† Mode of Exposure has been estimated for cases with unknown risk using the following: 95% - Heterosexual and 5%-Other.

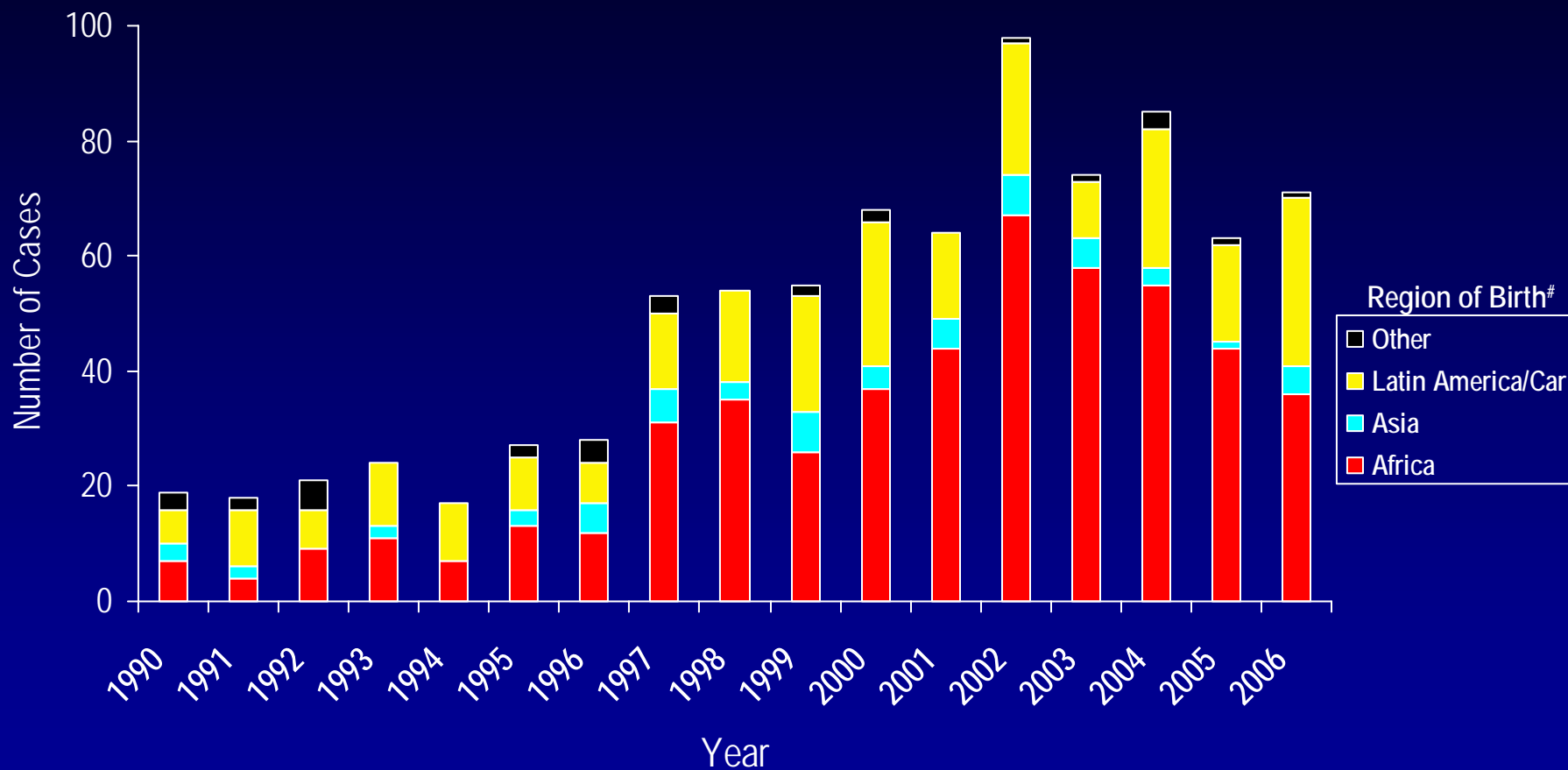
For more detail see the HIV Surveillance Technical notes.

# Special Populations



# Foreign-born Cases

# HIV Infections\* among Foreign-Born Persons† in Minnesota by Year of Diagnosis and Region of Birth, 1990-2006



\* HIV or AIDS at first diagnosis

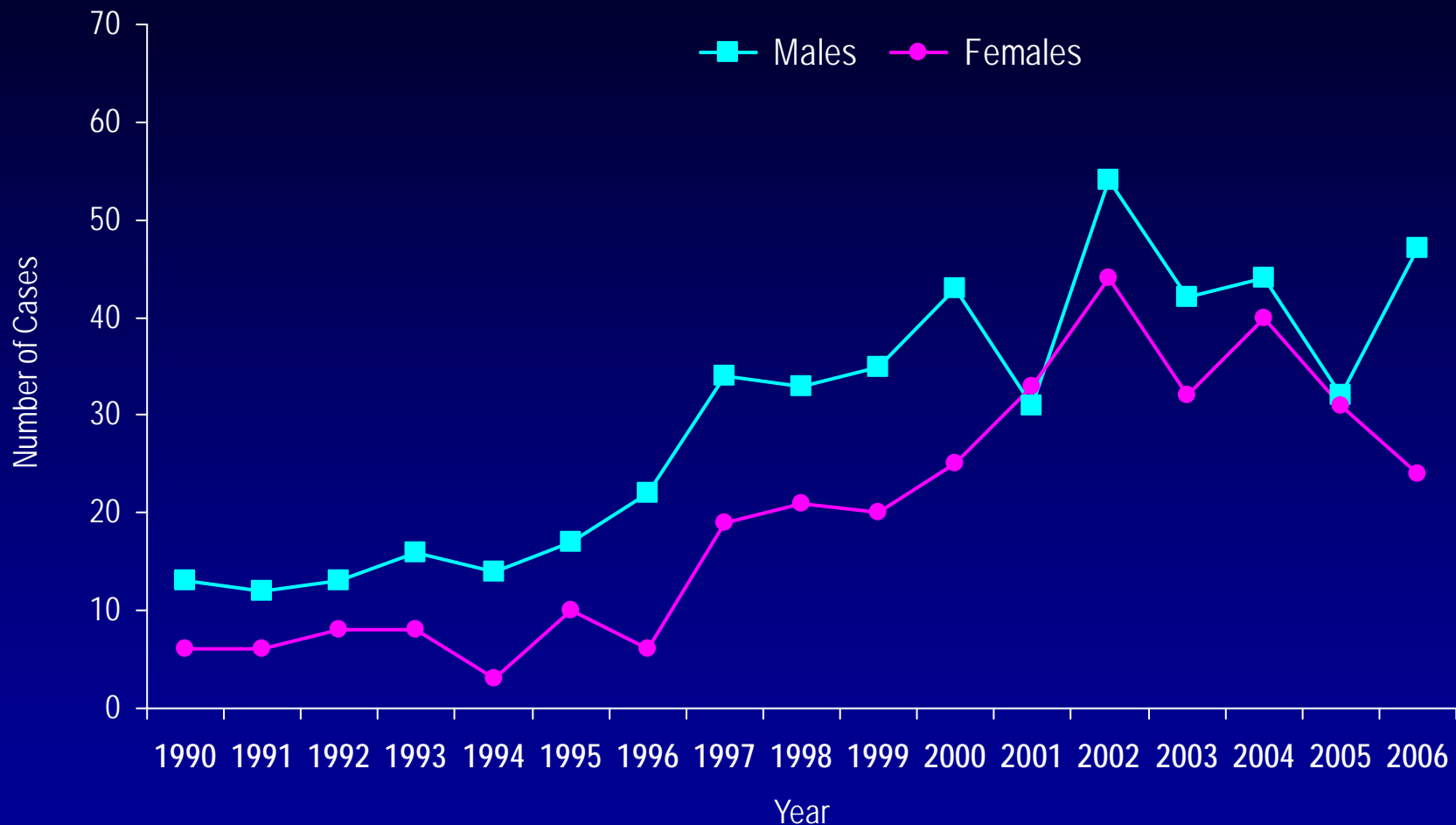
† Excludes persons arriving to Minnesota through the HIV+ Refugee Resettlement Program, as well as, other refugee/immigrants with an HIV diagnosis prior to arrival in Minnesota.

# Latin America/Car includes Mexico and all Central, South American, and Caribbean countries.

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# HIV Infections\* Among Foreign-Born Persons† by Gender and Year of Diagnosis, 1990-2006



\*HIV or AIDS at first diagnosis

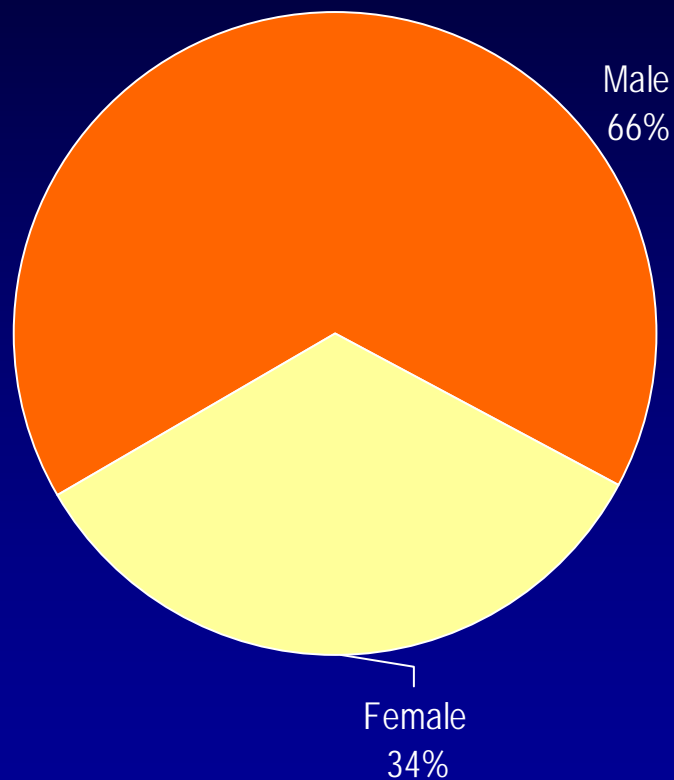
† Excludes persons arriving to Minnesota through the HIV+ Refugee Resettlement Program, as well as, other refugee/immigrants with an HIV diagnosis prior to arrival in Minnesota..

Data Source: Minnesota HIV/AIDS Surveillance System

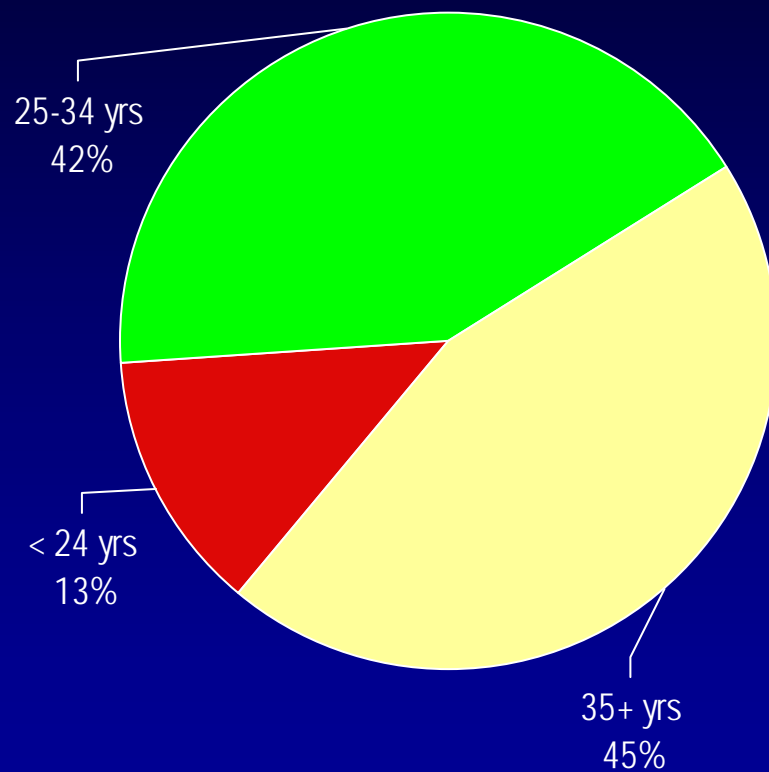
HIV/AIDS in Minnesota: Annual Review

# HIV Infections\* Among Foreign-Born Persons† by Gender and Age, 2006

Gender (n=71)



Age (n = 71)



\* HIV or AIDS at first diagnosis

† Excludes persons arriving to Minnesota through the HIV+ Refugee Resettlement Program, as well as, other refugee/immigrants with an HIV diagnosis prior to arrival in Minnesota..

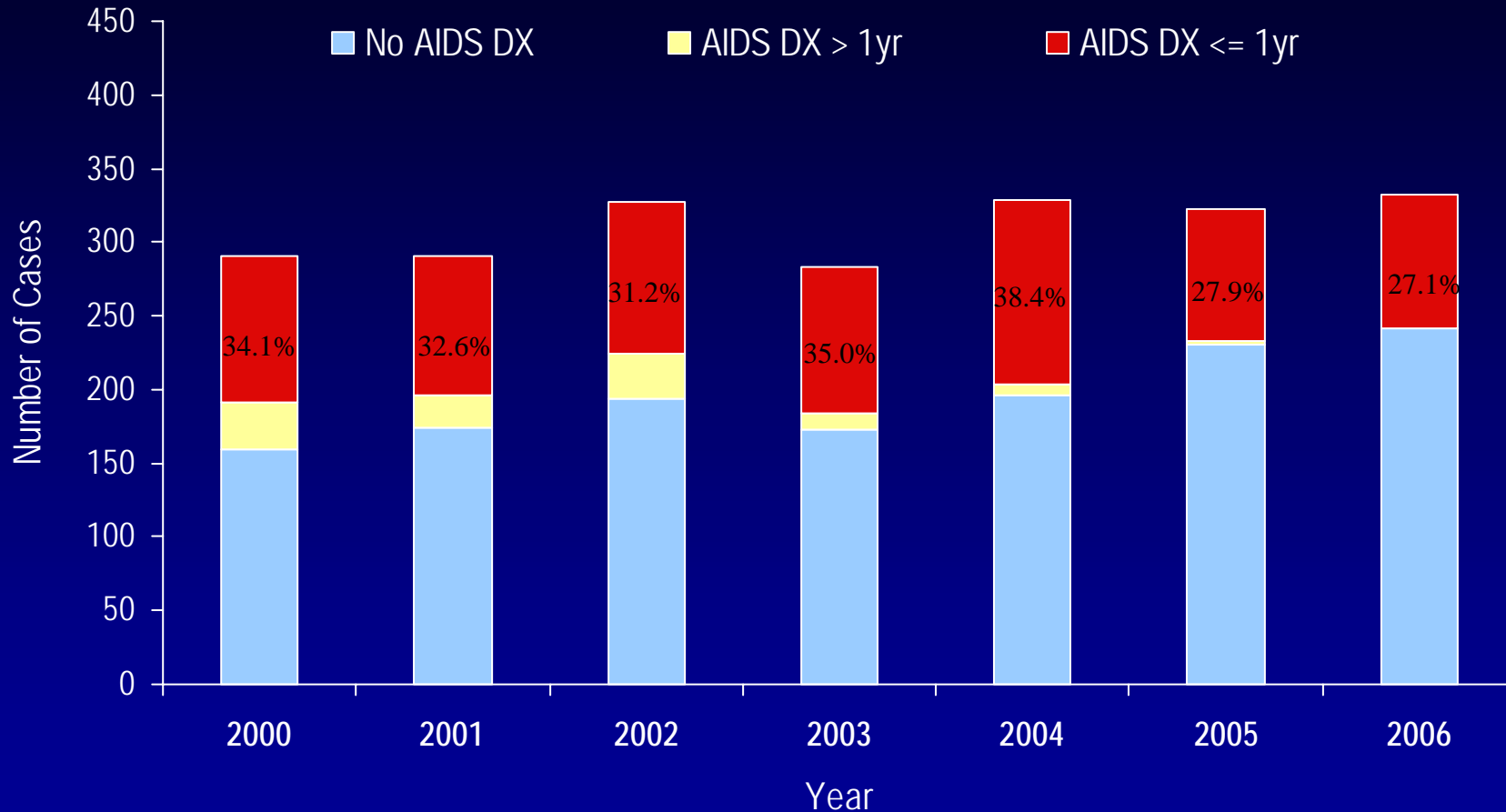
Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Late Testers

(AIDS Diagnosis within one year of HIV Infection Diagnosis)

# Time of Progression to AIDS for HIV Infections Diagnosed in Minnesota\*, 2000 - 2006†



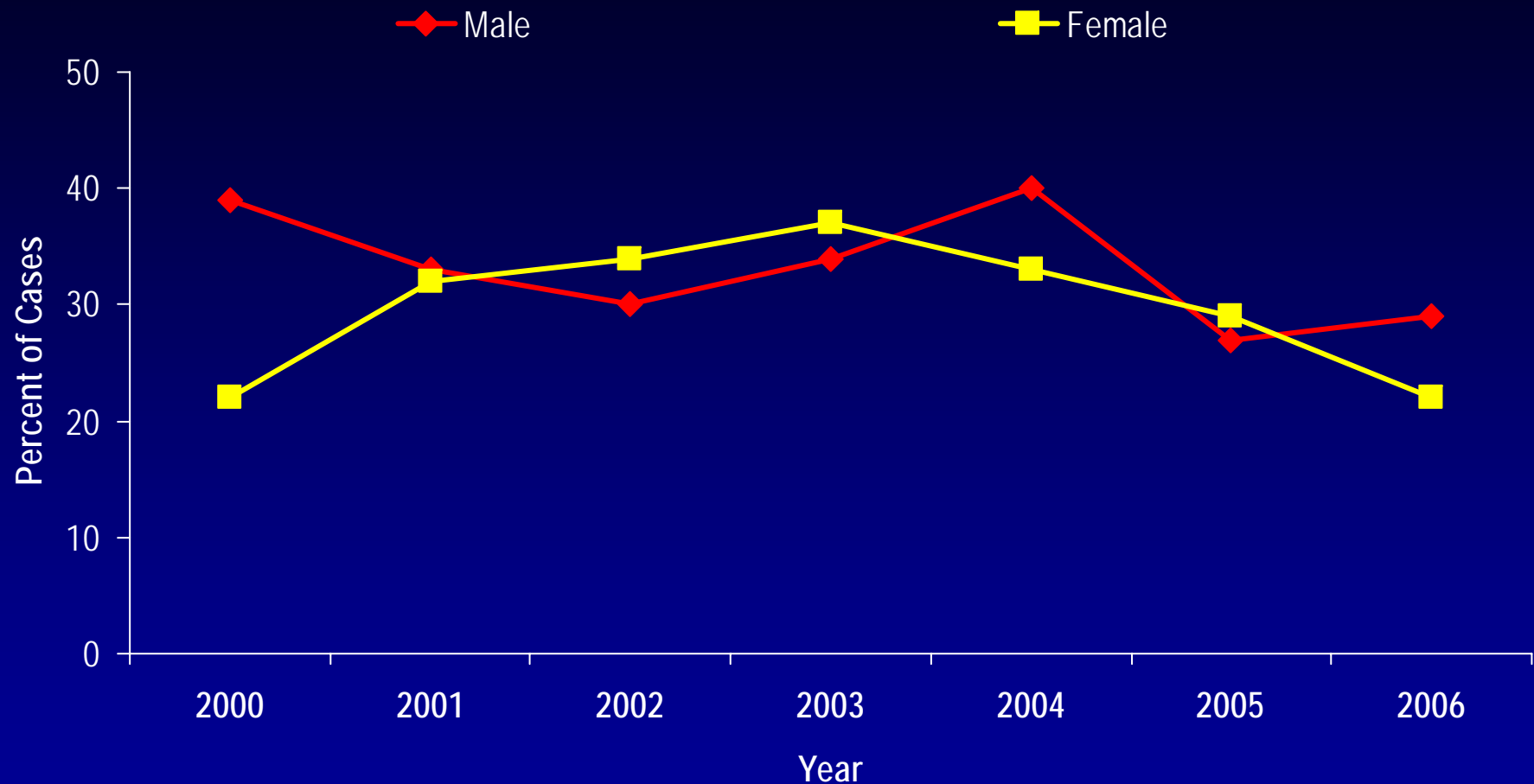
\*Numbers include AIDS at 1<sup>st</sup> report and refugees in the HIV+ Refugee Resettlement Program, as well as, other refugee/immigrants diagnosed with AIDS subsequent to their arrival in the U.S.

† Numbers/Percent for cases diagnosed in 2006 only represents cases progressing to AIDS through March 2007

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Progression to AIDS within 1 year of HIV Infection\* Diagnosis by Gender, 2000-2006†



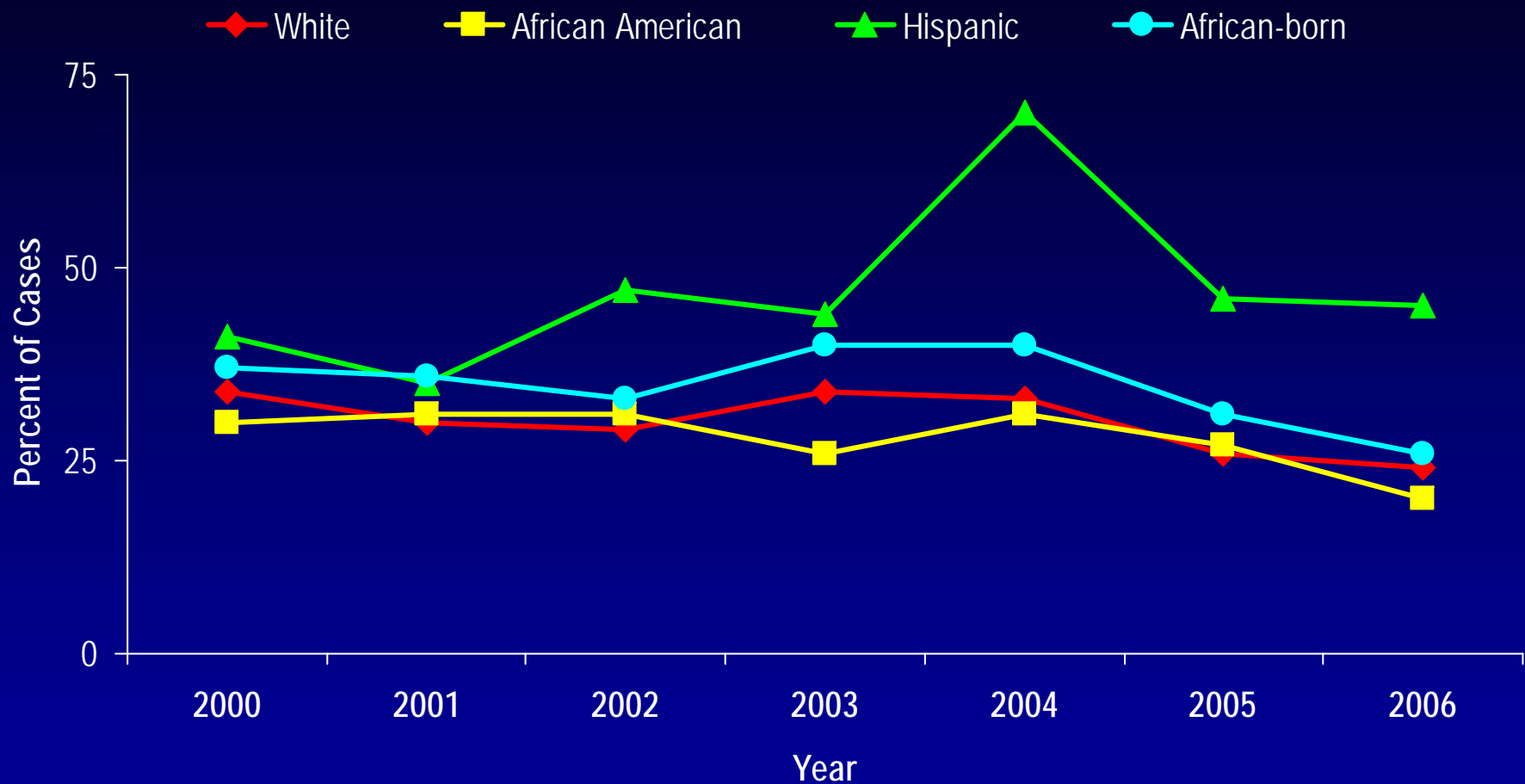
\*Numbers include AIDS at 1<sup>st</sup> report and refugees in the HIV+ Refugee Resettlement Program, as well as, other refugee/immigrants diagnosed with AIDS subsequent to their arrival in the U.S.

† Numbers/Percent for cases diagnosed in 2006 only represents cases progressing to AIDS through March 2007

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Progression to AIDS within 1 year of HIV Infection\* Diagnosis by Race/Ethnicity<sup>^</sup>, 2000-2006<sup>†</sup>



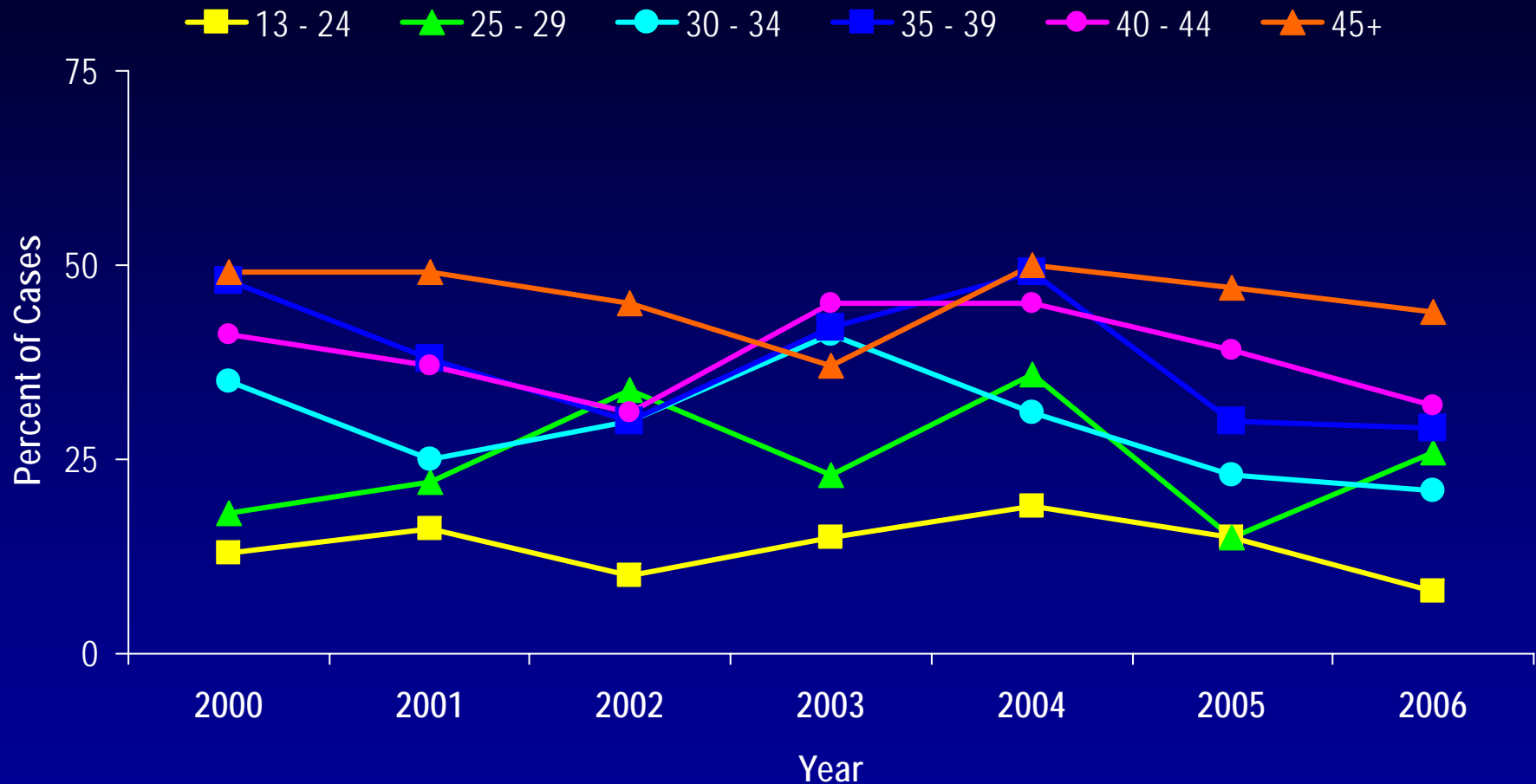
\*Numbers include AIDS at 1<sup>st</sup> report and refugees in the HIV+ Refugee Resettlement Program, as well as, other refugee/immigrants diagnosed with AIDS subsequent to their arrival in the U.S.

<sup>†</sup> Numbers/Percent for cases diagnosed in 2006 only represents cases progressing to AIDS through March 2007

<sup>^</sup>Percentage not calculated if less than 10 cases diagnosed per year  
Data Source: Minnesota HIV/AIDS Surveillance System



# Progression to AIDS within 1 year of HIV Infection\* Diagnosis by Age<sup>^</sup>, 2000-2006<sup>†</sup>



\*Numbers include AIDS at 1<sup>st</sup> report and refugees in the HIV+ Refugee Resettlement Program, as well as, other refugee/immigrants diagnosed with AIDS subsequent to their arrival in the U.S.

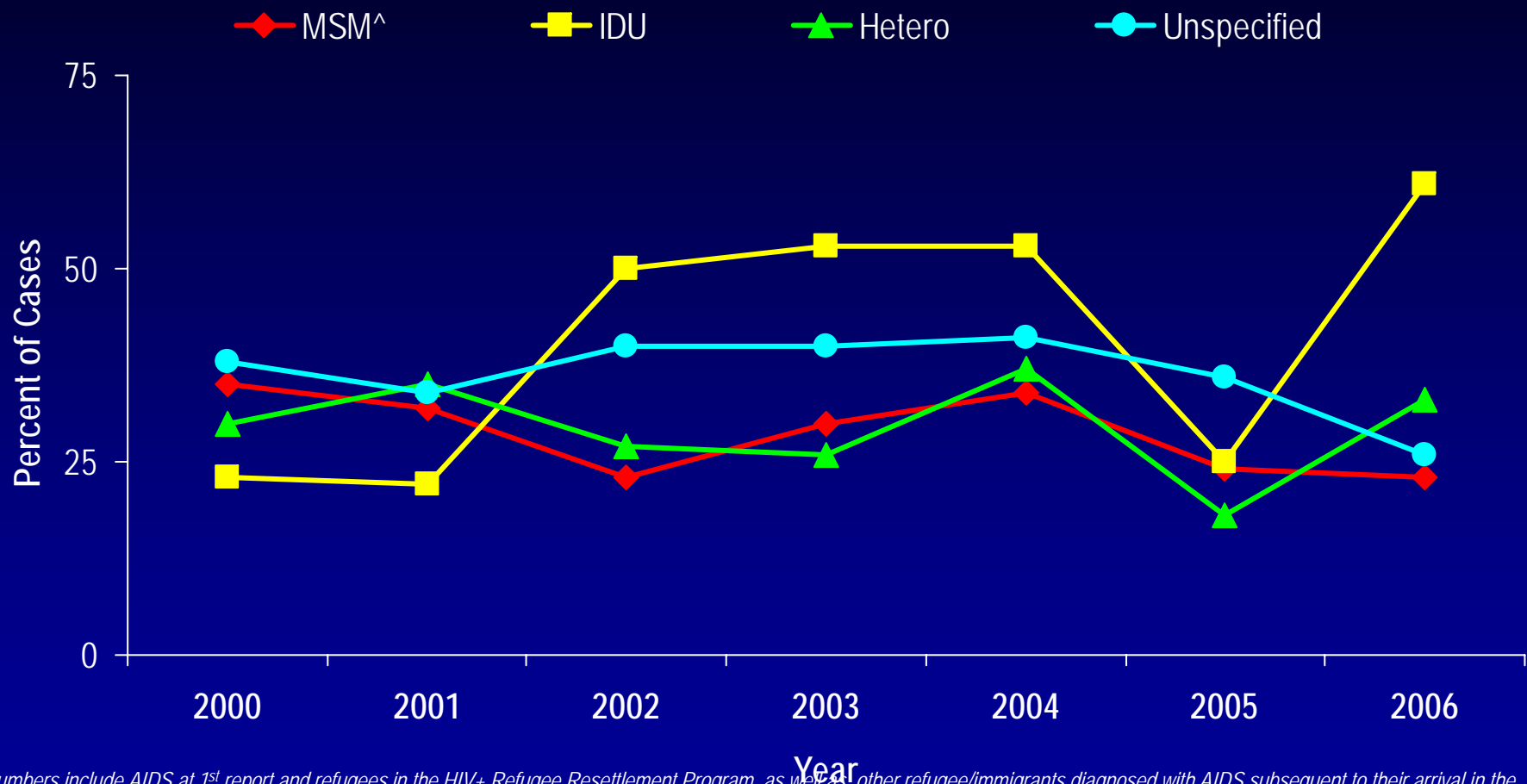
<sup>†</sup> Numbers/Percent for cases diagnosed in 2006 only represents cases progressing to AIDS through March 2007

<sup>^</sup>Percentage not calculated if less than 10 cases diagnosed per year

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Progression to AIDS within 1 year of HIV Infection\* Diagnosis by Mode of Transmission, 2000-2006†



\*Numbers include AIDS at 1<sup>st</sup> report and refugees in the HIV+ Refugee Resettlement Program, as well as, other refugee/immigrants diagnosed with AIDS subsequent to their arrival in the U.S.

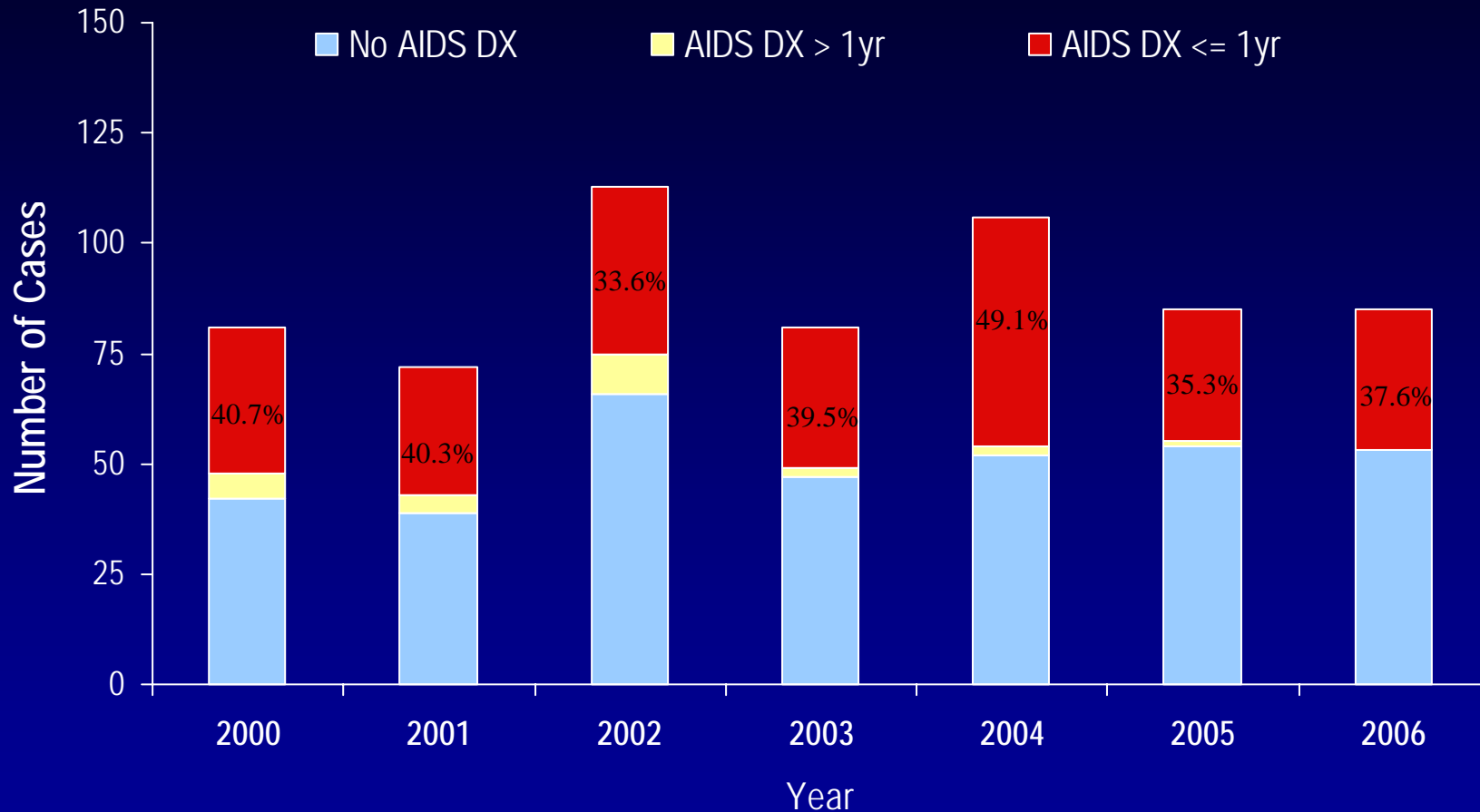
† Numbers/Percent for cases diagnosed in 2006 only represents cases progressing to AIDS through March 2007

^Includes MSM/IDU

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Progression to AIDS within 1 year of HIV Infection\* Among Foreign-Born Persons, 2000 - 2006†



\*Numbers include AIDS at 1<sup>st</sup> report and refugees in the HIV+ Refugee Resettlement Program, as well as, other refugee/immigrants diagnosed with AIDS subsequent to their arrival in the U.S.

† Numbers/Percent for cases diagnosed in 2006 only represents cases progressing to AIDS through March 2007

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Companion Text for the Slide Set: *Minnesota HIV Surveillance Report, 2006*

## INTRODUCTION

### **Overview**

The *Minnesota HIV Surveillance Report, 2006* describes the occurrence of reported HIV infections in Minnesota by person, place, and time through December 31, 2006. Such data provide information about where and among whom HIV transmission is likely occurring. This knowledge can in turn be used to help educate, target prevention efforts, plan for services, and develop policy.

### **Data Source**

The data in this report are based on confidential case reports collected through the Minnesota Department of Health (MDH) HIV/AIDS Surveillance System. In Minnesota, laboratory-confirmed infections of human immunodeficiency virus (HIV) are monitored by the MDH through this active and passive surveillance system. State rules (Minnesota Rule 4605.7040) requires both physicians and laboratories to report all cases of HIV infection (HIV or AIDS) directly to the MDH (passive surveillance). Additionally, regular contact is maintained with several clinical sites to help ensure completeness of reporting (active surveillance).

Data in this report include cases diagnosed with HIV as of December 31, 2006 and reported to the MDH as of April 2007. All data are displayed by earliest date of HIV diagnosis. Refer to the *HIV Surveillance Technical Notes* for a more detailed description of data inclusions and exclusions.

### **Data Limitations**

Factors that impact the completeness and accuracy of the available surveillance data on HIV/AIDS include the level of screening and compliance with case reporting. Thus, any changes in numbers of infections may be due to one of these factors, or due to actual changes in HIV/AIDS occurrence.

The data presented in this report are not adjusted for reporting delays. Thus, the case number presented for the most recent reporting year can be viewed as a minimum and will likely increase in the future as further case reports are received. Changes in past years' totals are updated in every new annual surveillance report.

### **HIV/AIDS in the UNITED STATES**

Compared with the rest of the nation, Minnesota is considered to be a low to moderate HIV/AIDS incidence state. In 2005, state-specific AIDS rates ranged from 1.0 per 100,000 persons in Vermont to 32.7 per 100,000 persons in New York. Minnesota had the 16th lowest AIDS rate (4.4 AIDS cases reported per 100,000 persons). Compared with states in the Midwest region, Minnesota had a moderate AIDS rate. State-specific HIV rates cannot be compared nationally because some states have just begun name-based HIV case surveillance. At present 47 states have confidential name-based HIV case reporting.

### **HIV/AIDS IN MINNESOTA**

#### **MDH HIV/AIDS Surveillance: Cumulative cases**

AIDS has been tracked in Minnesota since 1982. In 1985, AIDS officially became a reportable disease to state and territorial health departments nationwide. Also in 1985, when the Food and Drug Administration approved the first diagnostic test for HIV, Minnesota became the first state to make HIV infection a reportable condition. As of December 31, 2006, a cumulative total of 8,149 cases of HIV infection have been reported among Minnesota residents.<sup>1</sup> This includes 4,986 AIDS cases and 3,163 HIV, non-AIDS cases. Of these 8,149 HIV/AIDS cases, 2,838 are known to be deceased through correspondence with the reporting source, other health departments, reviews of death certificates, active surveillance, and matches with the National Death Index.

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<sup>1</sup> This number includes persons who reported Minnesota as their state of residence at the time of their HIV and/or AIDS diagnosis. It also includes persons who may have been diagnosed in a state that does not have HIV reporting and who subsequently moved to Minnesota and were reported here. HIV-infected persons currently residing in Minnesota, but who resided in another HIV-reporting state at the time of diagnosis are excluded.

## **Overview of HIV/AIDS in Minnesota, 1990-2006**

The annual number of new AIDS cases increased steadily from the beginning of the epidemic to the early 1990s, reaching a peak of 361 cases in 1992. Beginning in 1996, both the number of newly diagnosed AIDS cases and the number of deaths among AIDS cases declined sharply, primarily due to the success of new antiretroviral therapies including protease inhibitors. These treatments do not cure, but can delay progression to AIDS among persons with HIV (non-AIDS) infection and improve survival among those with AIDS. Thus between 2001 and 2004 we saw a slow increase in the number of AIDS cases diagnosed, from 124 in 2001 to 206 in 2004, a 66 percent increase. The number of AIDS cases diagnosed has again declined in the past two years to 163 in 2006. The number of HIV (non-AIDS) diagnoses has remained fairly constant since the mid 1990s at approximately 200 cases per year. However, over the past 4 years there has been a slight but constant increase from 185 cases in 2003 to 237 cases in 2006, a 28 percent increase. By the end of 2006, an estimated 5,566 persons with HIV/AIDS were assumed to be living in Minnesota.<sup>2</sup>

## **NEW HIV INFECTIONS IN MINNESOTA**

In this report, the term “new HIV infections” refers to HIV-infected Minnesota residents who were diagnosed in a particular calendar year and reported to the MDH. This includes persons whose first diagnosis of HIV infection is AIDS (AIDS at first diagnosis). HIV infection data are displayed by earliest known date of HIV diagnosis.

### **New HIV Infections by Geography**

Historically, about 90% of new HIV infections diagnosed in Minnesota have occurred in Minneapolis, St. Paul and the surrounding seven-county metropolitan area. This has not changed over time. Although HIV infection is more common in communities with higher population densities and greater poverty, HIV or AIDS has been diagnosed in over 90% of counties in Minnesota.

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<sup>2</sup> This number includes persons whose most recently reported state of residence was Minnesota, regardless of residence at time of diagnosis. This estimate does not include persons with undiagnosed HIV infection.

## **New HIV Infections by Gender**

Since the beginning of the epidemic, males have accounted for a majority of new HIV infections diagnosed per year. However, the number and the proportion of cases among females have increased over time. In 1990, males accounted for 89% of new HIV infections. In 2006, 72% of new infections occurred among males and 28% among females.

## **New HIV Infections by Race/Ethnicity<sup>3</sup>**

Trends in the annual number of new HIV infections diagnosed among males differ by racial/ethnic group. New cases among White males drove the epidemic in the 1980s and early 1990s. Although Whites still account for the largest number of new infections among males, this number decreased steadily between 1991 and 2000, but has stayed steady at around 130 since 2001.

In contrast to the overall large decline in the annual number of cases among White males, the decline among African American males was more gradual. The annual number of cases for African American males peaked in 1992 at 81 and gradually decreased to 33 in 2003. Since 2004 the number of cases among African American males has been stable around 40 with 38 cases diagnosed in 2006. The numbers of new cases in all other racial/ethnic groups during this same time remained stable or increased. Increases in the annual number of HIV infections diagnosed among Hispanic and African-born males, in particular, have been recorded since the late 1990s. In 2006, the number of cases diagnosed among Hispanic males is the highest ever recorded in Minnesota, doubling the number seen in 2005. The percentage of new HIV infections diagnosed among men of color as a whole has been increasing over time as the number of cases among White males has dropped.

Similarly, trends in the annual number of HIV infections diagnosed among females differ by racial/ethnic group. In the beginning of the epidemic, White women accounted for a majority of newly diagnosed cases among females. Since 1991, the number of new infections among women of color has exceeded the number among White women. Since 2000, the annual number of new infections diagnosed among African American females had been stable at around 20 cases per year, however in the past two years that number has increased slightly with 28 cases

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<sup>3</sup> Black race was broken down into African-born and African American (Black, not African-born). The numbers exclude persons arriving through the HIV-Positive Refugee Resettlement Program and other refugee/immigrants with an HIV diagnosis prior to arrival.

diagnosed in 2006. Between 1999 and 2002 the number of cases among African-born females increased significantly, from 18 to 41 cases. However since 2003 the number has decreased steadily with 18 new infections diagnosed in 2006. The annual number of new infections diagnosed among Hispanic, American Indian, and Asian females continues to be quite small (10 cases or fewer per year for each of these groups).

The most recent data illustrate that men and women of color continue to be disproportionately affected by HIV/AIDS. Whites make up approximately 88% of the male population in Minnesota and 55% of the new HIV infections diagnosed among men in 2006. Men of color make up approximately 12% of the male population and 45% of the infections diagnosed among men in 2006. Similarly for females, Whites make up approximately 89% of the female population and 32% of new infections among women in 2006 whereas women of color make up approximately 11% of the female population and 68% of the new infections among women.<sup>4</sup>

Note that race is not considered a biological reason for disparities in the occurrence of HIV experienced by persons of color. Race, however, can be considered a marker for other personal and social characteristics that put a person at greater risk for HIV exposure. These characteristics may include, but are not limited to, lower socioeconomic status, less education, and greater prevalence of drug use.

### **Average Age at HIV Diagnosis, Three-year Averages**

In recent years, Hispanic (approximate age = 32 years) and African American (approximate age = 34 years) males were slightly younger than White, African-born, American Indian, and Asian males (approximate age = 38 years) at the time of HIV diagnosis. During the past three years, the average age at HIV diagnosis has been approximately 33 years among African American, African-born and Hispanic females. American Indian females were slightly younger (approximate age = 29 years), while White (approximate age = 36) females were older. The number of new cases among Asian females over the past three years was too small to calculate average age. Age at HIV diagnosis can be used as a proxy for age at HIV *infection*. However, due to differences in testing behavior (e.g. variable lengths of time between HIV

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<sup>4</sup> Population estimates based on U.S. Census 2000 data.



infection and diagnosis) across time and between sociodemographic groups, comparisons of average age at diagnosis are difficult to interpret.

### **New HIV Infections among Adolescents and Young Adults<sup>5</sup>, 1990-2006**

Many people are infected with HIV for years before they actually seek testing and become aware of their HIV status. This phenomenon especially affects the observed case counts for younger age groups. As a result, the reported number of HIV infections among youth<sup>5</sup> (with few or no reports of AIDS at first diagnosis) is likely to underestimate the *true* number of new infections occurring in the population more than the reported number of cases in older age groups does.

In 1990, 10% (45/436) of new HIV infections reported to the MDH were among youth. In 2006 this percentage was 18% (57/318). Among young men, the number of new HIV diagnoses peaked in 1991 at 41 cases and then declined through the mid 1990s to a low of 14 cases in 1997. Since 1997 the annual number of cases diagnosed among young men increased steadily to 32 in 2000, but then dropped to 18 cases in 2002. However, over the past four years that number has increased steadily from 18 cases in 2002 to 35 cases in 2006, close to a hundred percent increase.

Unlike young men, the annual number of new HIV infections diagnosed among young women has remained relatively consistent over time. For example, 19 cases of HIV infection were diagnosed among young women in 1992 and 22 cases in 2006. Females accounted for 38% (22/57) of new HIV infections diagnosed among adolescents and young adults in 2006. In addition, young women accounted for 25% (22/90) of new infections among females, while young males accounted for 16% (35/228) of new infections among males.

Similar to the adult HIV/AIDS epidemic, persons of color account for a disproportionate number of new HIV infections among adolescents and young adults. Among young men, Whites accounted for 48% of new HIV infections diagnosed between 2004 and 2006, African Americans accounted for 28%, Hispanics 16%, and African-born 6% of the cases. Among young women, Whites accounted for 18%, African Americans 32%, African-born 31%, and Hispanics 11% of the new infections diagnosed during the same time period.

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<sup>5</sup> In this report, adolescents are defined as 13-19 year-olds and young adults as 20-24 year-olds; these two groups are jointly referred to as "youth." Analyses are performed for adolescents and young adults combined because case numbers are too small to present meaningful data separately for each.

Starting in 2004, MDH has used a risk re-distribution method to estimate mode of exposure among those cases with unknown risk. For additional details on how this was done please read the *HIV Surveillance Technical Notes*. All mode of exposure numbers referred to in the text are based on the risk re-distribution.

Men having sex with men (MSM) was the predominant mode of HIV exposure among adolescent and young adult males, accounting for an estimated 89% of the new HIV infections diagnosed between 2004 and 2006. The joint risk of MSM and injecting drug use (IDU) accounted for an estimated 8%, and heterosexual contact accounted for an estimated 3% of the cases in the same time period.

Heterosexual contact accounted for an estimated 87% of new HIV infections diagnosed among adolescent and young adult females between 2004 and 2006, while IDU accounted for an estimated 13% of the cases.

### **New HIV Infections by Mode of Exposure**

Since the beginning, men have driven the HIV/AIDS epidemic in Minnesota and male-to-male sex has been the predominant mode of exposure reported. Though still the majority, both the number and proportion of new HIV infections attributed to MSM have been decreasing since 1991 reaching an apparent plateau in 2000 at just under 130 cases per year. However in the past two years this number has gone back up with 147 infections attributed to MSM in both 2005 and 2006. On a much smaller scale, the numbers of male cases attributed to IDU and MSM/IDU also have been decreasing over the past decade, while the number of cases attributed to heterosexual contact has been increasing. The number of cases without a specified risk has also been increasing.

Throughout the epidemic, heterosexual contact has been the predominant mode of HIV exposure reported among females. IDU is the second most common mode of transmission making up 4% of cases among women in 2006. Unspecified risk has been designated for a growing percentage of cases for the past several years. In 1996, 7% of women diagnosed with HIV infection did not have a specified mode of transmission. This percentage grew to 27% in 2006 with an additional 33% of female cases who would not agree to or could not be interviewed

by a Disease Intervention Specialist<sup>6</sup> from the MDH. Some cases may yet be interviewed, thus, a portion of these women will later have an identified mode of transmission. This explains *part* of the higher percentage of cases in recent years with an unspecified mode of exposure.

According to a study conducted by the Centers for Disease Control and Prevention (CDC)<sup>7</sup>, it is likely that at least 80% of women with unspecified risk acquired HIV through heterosexual contact. Heterosexual contact as a mode of HIV transmission is currently only assigned to a female case if she knows that a male sexual partner of hers was HIV-infected or at increased risk for HIV. As mentioned above, in starting in 2004 MDH has used a risk re-distribution method to estimate mode of exposure among those with no risk and the numbers below reflect the risk re-distribution (see *HIV Surveillance Technical Notes* for further details).

The proportion of cases attributable to a certain mode of exposure differs not only by gender, but also by race. Of the new HIV infections diagnosed among males between 2004 and 2006, MSM or MSM/IDU accounted for an estimated 96% of cases among White males, 92% of cases among Hispanic males, 67% of cases among African American males, and 8% of cases among African-born males. The latter three also had the highest proportions of cases with unspecified risk (37%, 34%, and 90%, respectively – this includes cases for whom no interview has been obtained; see *HIV Surveillance Technical Notes* for further information about re-distribution of mode of exposure categories). It is hypothesized that due, in part, to social stigma many of the cases with unspecified risk were unclassified MSM cases and is reflected in the risk re-distribution. This may not hold as true for African-born cases given that heterosexual contact and contaminated medical equipment have been established modes of HIV exposure in their countries of origin. IDU was estimated as a risk in 13% of male African American cases, 8% of Hispanic cases and 2% of male White cases diagnosed during 2004-2006. The number of cases among Asian and American Indian men during the years 2004-2006 was insufficient to make generalizations regarding risk (less than 20 cases in each group), but male-to-male sex appears to be the most prominent mode of exposure among both groups.

Heterosexual contact with a partner who has or is at increased risk for HIV infection accounted for an estimated 78% of cases among African American females, 85% of cases among White females, and 96% of cases among African-born females between 2004 and 2006. More

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<sup>6</sup> Disease Intervention Specialists attempt to contact all persons recently diagnosed with HIV in order to provide HIV education, partner notification, and connect the person with medical care or other resources.

<sup>7</sup> MMWR 2001; 50(RR-6):31-40.

than 40% of cases in each of these groups had no specified risk (including cases for whom no interview has been obtained; see *HIV Surveillance Technical Notes* for further information about re-distribution of mode of exposure categories). IDU was estimated as a risk for 15% of cases among Whites, 18% among African Americans, and 0% among African-born. The number of cases among Hispanic, Asian, and American Indian women during the years 2004-2006 were insufficient to make generalizations regarding risk (less than 20 cases in each group).

### **Mother-to-Child HIV Transmission**

The ability to interrupt the transmission of HIV from mother to child via antiretroviral therapy and appropriate perinatal care is an important accomplishment in the history of the HIV/AIDS epidemic. Newborn HIV infection rates range from 25-30% without antiretroviral therapy, but decrease to 1-2% with appropriate medical intervention. Unfortunately, these benefits have largely only been realized in the developed world where antiretroviral therapies are more accessible than in undeveloped countries.

Over the past 10 years the number of births to HIV-infected women has increased steadily from 19 in 1994 to 50 in 2006. During the same time period the rate of transmission has decreased from 15% between 1994 and 1996 to just below 1% in the past three years. However in the same time period the rate of transmission for foreign-born mothers was 1.4%.

The rate of transmission in Minnesota between 1982 and 1994 (before widespread use of zidovudine<sup>8</sup> to prevent mother-to-child HIV transmission) was 25%. Proper prenatal care, including HIV screening for all pregnant women and appropriate medical intervention for those infected, is a vital element in preventing the spread of HIV.

### **Special Populations:**

#### **New HIV Infections among Foreign-born Persons**

The number of new HIV infections diagnosed among foreign-born persons in Minnesota has steadily increased from 19 cases in 1990 to 71 cases in 2006. This increase has been largely driven by the increase of cases among African-born persons from 7 cases in 1990 to 36 cases in 2006, as well as, persons from Mexico, Central and South America from 6 cases in 1990 to 29 cases in 2006. Among new HIV infections diagnosed in 2006, 22% were among foreign-born

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<sup>8</sup> A common antiretroviral drug.

persons. Based on U.S. Census 2000 data, foreign-born persons make up 5% of the total Minnesota population and are, therefore, disproportionately affected by HIV<sup>9</sup>. Among African-born this disparity is even more evident, while African-born persons make up less than 1% of the Minnesota population they accounted for 11% of new HIV infections in 2006.

### **Late Testers: Progression to AIDS within one year of HIV diagnosis**

Over the past six years approximately one third of all new HIV infection cases diagnosed in Minnesota have either been AIDS at first diagnosis, or have progressed to an AIDS diagnosis within one year of initial diagnosis with HIV (non-AIDS) infection. As with other characteristics of the HIV epidemic in Minnesota, the proportion of late testers varies by demographic characteristics. The most significant differences occur by race/ethnicity, with the proportion of late testers between 2000 and 2006 among Hispanics (47%) and African-born (35%) being higher than that among Whites (30%) and African Americans (28%). Differences by age are as expected with the percentage of late testers increasing with age at time of diagnosis. In 2006<sup>10</sup>, 8% of those diagnosed between the ages of 13 and 24 were late testers compared to 44% of those 45 years and older. Finally, the percentage of late testers is also significantly higher among foreign-born cases compared to other cases. In 2006, 38% of foreign-born cases were late testers compared to 23% of US-born cases.

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<sup>9</sup> Based on U.S. Census 2000 data, 260,463 foreign-born persons, including 35,188 African-born persons are living in Minnesota out of a total population of 4,919,479. Because there are many reasons foreign-born persons may not be included in the census count (e.g. difficulties with verbal or written English), these numbers are likely an underestimate of the actual size of the foreign-born population living in Minnesota.

<sup>10</sup> Percentage of late testers for 2006 includes only those progressing to AIDS through March 2007. As such, this percentage is likely through increase as additional reports are made to the MDH.

## **HIV SURVEILLANCE TECHNICAL NOTES**

### **Surveillance of HIV/AIDS**

The Minnesota Department of Health (MDH) collects case reports of HIV infection and AIDS diagnoses through a passive and active HIV/AIDS surveillance system. Passive surveillance relies on physicians and laboratories to report new cases of HIV infection or AIDS directly to the MDH in compliance with state rules<sup>1</sup>. Active surveillance conducted by MDH staff involves routine visits and correspondence with select HIV clinical facilities to ensure completeness of reporting and accuracy of the data.

Factors that impact the completeness and accuracy of HIV/AIDS surveillance data include: availability and targeting of HIV testing services, test-seeking behaviors of HIV-infected individuals, compliance with case reporting, and timeliness of case reporting.. Certain events have also impacted trends in HIV/AIDS surveillance data. For example changes over time in the surveillance case definition (most notably the 1993 expansion of the case definition for adults and adolescents<sup>2</sup>) have resulted in artificial jumps in AIDS case counts at the time the new definition went into effect or in the preceding year because changes in case definition allowed for retrospective diagnoses.

### **New HIV Infections**

New HIV infections refer to persons who are diagnosed with HIV infection and newly reported to the MDH. This includes case-patients that meet the CDC surveillance definition for AIDS at the time they are initially diagnosed with HIV infection (AIDS at first diagnosis). Cases of new HIV infection are displayed by year of earliest HIV diagnosis. The number of new HIV infections in Minnesota includes only persons who were first reported with HIV infection while residents of Minnesota. Persons moving to Minnesota already infected with HIV are excluded if they were previously reported in another state.

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<sup>1</sup> Minnesota Rule 4605.7040

<sup>2</sup> MMWR 1992;41[no.RR-17]:1-19

### **Vital Status of HIV/AIDS Cases**

Persons are assumed alive unless the MDH has knowledge of their death. Vital status information is updated by monthly visits to select reporting facilities, correspondence with other health departments, annual death certificate reviews, and periodic matches with the National Death Index. “AIDS deaths” refers to all deaths among AIDS cases regardless of the cause of death. “All deaths” refers to all deaths among HIV/AIDS cases regardless of the cause of death.

### **Place of Residence for HIV/AIDS Cases**

Persons are assumed to be residing in Minnesota if their most recently reported state of residence was Minnesota and the MDH has not received notice of relocation outside of the state. Likewise, a person’s county or city of residence is assumed to be the most recently reported value unless the MDH is otherwise notified. Residence information is updated through standard case reporting, monthly visits to select reporting facilities and/or correspondence with other state health departments. Persons diagnosed with HIV infection while imprisoned in a state correctional facility are included in the data presented unless otherwise noted (federal and private prisoners are excluded). Residential relocation, including release from state prison, is difficult to track and therefore data presented by *current* residence must be interpreted in this light. Data on residence *at time of diagnosis* are considered more accurate, limited only by the accuracy of self-reported residence location.

### **Data Tabulation and Presentation**

The data displayed are not adjusted to correct for reporting delays, case definition changes, or other factors.

MDH surveillance reports published before 2000 displayed data by year of report, the data in these documents are displayed by earliest date of HIV diagnosis. The report date is a function of reporting practices and may be months or years after the date of diagnosis and the date of infection. The date of diagnosis is temporally closer to the date of infection. Displaying data by year of diagnosis more closely approximates when infection occurred. Readers should bear in mind that diagnosis date is also an

approximation for infection date. Many years may pass between time of infection and diagnosis; the incubation period<sup>3</sup> for HIV/AIDS is approximately 10 years. It should also be noted that because of delays in reporting, the annual number of cases reportedly diagnosed in recent years is slightly lower than actual. This discrepancy corrects itself over time. The number of cases diagnosed within a calendar year changes relatively little after two years have passed.

Unless otherwise noted, data analyses exclude persons diagnosed in federal or private correctional facilities (inmates generally are not Minnesota residents before incarceration and do not stay in Minnesota upon their release), infants with unknown or negative HIV status who were born to HIV positive mothers, HIV-infected refugees who resettled in Minnesota as part of the HIV-Positive Refugee Resettlement Program, and other refugees/immigrants with an HIV diagnosis prior to their arrival in Minnesota. However, refugees in the HIV-Positive Refugee Resettlement Program, as well as, other refugees/immigrants diagnosed with AIDS subsequent to their arrival in the U.S. are included in the number of new AIDS cases.

### **Mode of Exposure Hierarchy**

All state and city HIV/AIDS surveillance systems funded by the Centers for Disease Control and Prevention use a standardized hierarchy of mode of exposure categories. HIV and AIDS cases with more than one reported mode of exposure to HIV are classified in the exposure category listed first in the hierarchy. In this way, each case is counted as having only one mode of exposure. The only exception to this rule is the joint risk of male-to-male sex (MSM) and injection drug use (IDU), which makes up a separate exposure category in the hierarchy. The following is a list of the hierarchy for adolescent/adult HIV/AIDS cases:

- (1) MSM
- (2) IDU
- (3) MSM/IDU
- (4) Hemophilia patient

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<sup>3</sup> Incubation period is the time between initial infection with the virus and the development of disease symptoms.



- (5) Heterosexual contact
- (6) Receipt of blood transfusion or tissue/organ transplant
- (7) Other (e.g. needle stick in a health care setting)
- (8) Risk not specified.

The following is the list of the hierarchy for pediatric HIV/AIDS cases:

- (1) Hemophilia patient
- (2) Mother with HIV or HIV risk
- (3) Receipt of blood transfusion or tissue/organ transplant
- (4) Other
- (5) Risk not specified.

Heterosexual contact is only designated if a male or female can report specific heterosexual contact with a partner who has, or is at increased risk for, HIV infection (e.g. an injection drug user). For females this includes heterosexual contact with a bisexual male (mainly due to the elevated prevalence of HIV infection among men who have sex with men).

“Risk not specified” refers to cases with no reported history of exposure to HIV through any of the routes listed in the hierarchy of exposure categories. These cases include persons who have not yet been interviewed by MDH staff; persons whose exposure history is incomplete because they died, declined to be interviewed, or were lost to follow-up; and persons who were interviewed or for whom follow-up information was available but no exposure was identified/acknowledged.

The growing number of cases with unspecified risk in recent years is, in part, artificial and due to interviews that have not yet been completed. In time, a number of these will be assigned a mode of exposure category. However, part of the observed increase is real. As stated above, a person must have intimate knowledge about his/her partner to meet the criteria for heterosexual mode of exposure. Often cases will not be certain about their partners’ HIV status or risk. Additionally, the perception of social stigma presumably decreases the likelihood that a person will acknowledge certain risk behaviors, particularly male-to-male sex or injection drug use. Thus, if the *true* numbers of cases due to heterosexual contact, MSM, and/or IDU increase, a larger number of cases without a specified risk would be expected.

A recent study by the Centers for Disease Control and Prevention used statistical methods to redistribute risk among female HIV/AIDS cases with unspecified risk<sup>4</sup>. The results are helpful but are based on national data and are not necessarily applicable at the state or local level. Speculation regarding the distribution of risk behaviors among those with unspecified risk is difficult, especially in men, for whom even a national study is not available.

**Re-distribution of Mode of Exposure**

In 2004 the Minnesota Department of Health began estimating mode of exposure for cases with unspecified risk in its annual summary slides. For 2006, estimation was done by using the risk distribution for cases reported between 2004 and 2006 with known risk by race and gender and applying it to those with unspecified risk of the same race and gender. There were two exceptions to this method, African-born cases and Asian/Pacific Islander women. For both African-born and Asian/Pacific Islander women a breakdown of 95% heterosexual risk and 5% other risk was used. For African-born males a breakdown of 5% male-to-male sex, 90% heterosexual risk, and 5% other risk was used. These percentages are based on epidemiological literature and/or community experience.

Below is an example of how the process worked for white, African American and African-born females:

**Reported Female cases 2003 - 2005**

Race/Risk	Heterosexual n (% <sup>†</sup> )	IDU n (% <sup>†</sup> )	Other <sup>5</sup> n (% <sup>†</sup> )	<i>Unspecified</i> <i>n</i>	Total N
White	26 (87)	4 (13)	0 (0)	23	53
African-American	23 (82)	4 (14)	1 (4)	38	66
African-born	12 (92)	0 (0)	1 (8)	76	89

<sup>†</sup> Percent of those with known risk.

<sup>4</sup> MMWR 2001; 50(RR-6):31-40.

<sup>5</sup> Other includes Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

**Female Cases for 2003 - 2005 with Estimated risk:**

Race/Risk	Heterosexual	IDU	Other	<i>Unspec.</i>	Total N
White	$(.87*23) + 26$ = <b>46</b>	$(.13*23) + 4 =$ <b>7</b>	0	0	53
African-American	$(.82*38) + 23$ = <b>54</b>	$(.14*38) + 4 =$ <b>9</b>	$(.04*38) + 1 =$ <b>3</b>	0	66
African-born <sup>‡</sup>	$(.95*76) + 12$ = <b>84</b>	0	$(.05*76) + 1 =$ <b>5</b>	0	89

<sup>‡</sup>Used a distribution of 95% heterosexual and 5% other.

**Definitions Related to Race/Ethnicity**

When data are stratified by race, Black race is broken down into African-born and African American (not African-born) based on reported country of birth.

The terms “persons of color” and “non-Whites” refer to all race/ethnicity categories other than White (Black, Hispanic, American Indian, and Asian/Pacific Islander).

**Interstate De-Duplication Project (IDEP)**

The Minnesota Department of Health (MDH) continues to participate in RIDR. RIDR is a CDC project aimed at eliminating duplicate reports of HIV and AIDS cases among states. Each case of HIV and AIDS is assigned to the state (or states when the diagnosis of HIV and AIDS occurs in two different states) where a person was first diagnosed. RIDR was the second such de-duplication initiative by CDC. The first initiative, IDEP, looked at cases reported through December 31, 2001. RIDR is now an ongoing activity that all states are expected to undertake. The latest de-duplication effort included cases from July 1, 2005 through June 30, 2006. Through this project, MDH identified 18 cases of HIV infection (including AIDS at first report) and no AIDS cases whose first diagnosis was not in Minnesota. These cases were previously considered as diagnosed in Minnesota and were counted in the cumulative number of cases diagnosed in Minnesota. As such, the change of “ownership” (where the case was diagnosed) has reduced both cumulative and yearly totals for Minnesota. Additionally, MDH also identified 47 cases that no longer live in Minnesota.

**Table 1. Number of New Cases and Rates (per 100,000 persons) of  
HIV Infection, HIV (non-AIDS), and AIDS<sup>I</sup>  
Minnesota, 1982-2006<sup>V</sup>**

Year	HIV Infection <sup>III</sup>		HIV (non-AIDS) <sup>III</sup>		AIDS <sup>IV</sup>	
	Cases	Rate	Cases	Rate	Cases	Rate
<b>1982-1993</b>	4239	--	3095	--	2054	--
<b>1994</b>	324	7.1	227	5.0	332	7.3
<b>1995</b>	343	7.5	223	4.9	339	7.4
<b>1996</b>	294	6.3	192	4.1	258	5.6
<b>1997</b>	281	6.0	199	4.2	194	4.1
<b>1998</b>	295	6.2	196	4.1	193	4.1
<b>1999</b>	300	6.2	199	4.1	161	3.3
<b>2000</b>	277	5.7	181	3.7	157	3.2
<b>2001</b>	283	5.8	197	4.0	124	2.5
<b>2002</b>	312	6.3	216	4.4	160	3.3
<b>2003</b>	276	5.6	185	3.8	169	3.4
<b>2004</b>	306	6.2	192	3.9	206	4.2
<b>2005</b>	301	6.1	217	4.4	179	3.6
<b>2006</b>	318	6.5	237	4.8	163	3.3
<b>Cumulative Total<sup>II</sup></b>	<i>8,149</i>	<i>165.6</i>	<i>5,756</i>	<i>117.0</i>	<i>4,689</i>	<i>95.3</i>

<sup>I</sup> HIV Infection = New cases of HIV infection (both HIV (non-AIDS) and AIDS at first diagnosis) diagnosed within a given calendar year. HIV (non-AIDS) = New cases of HIV infection (excluding AIDS at first diagnosis) diagnosed within a given calendar year. AIDS = All new cases of AIDS diagnosed within a given calendar year, including AIDS at first diagnosis.

<sup>II</sup> The cumulative rate is calculated by dividing the cumulative number of cases by the estimated current state population and multiplying by 100,000. Rates for individual calendar years were calculated using 2000 U.S. Census population data (2000-2005) and 1993-1999 population estimates were calculated using interpolation between U.S. Census 1990 data and U.S. Census 2000 data.

<sup>III</sup> Numbers and rates exclude federal and private prisoners and refugees in the HIV-Positive Refugee Resettlement Program, as well as, refugee/immigrants with an HIV diagnosis prior to arrival in Minnesota.

<sup>IV</sup> Numbers and rates include refugees in the HIV-Positive Refugee Resettlement Program, as well as, other refugee/immigrants diagnosed with AIDS subsequent to their arrival in the U.S.

<sup>V</sup> MDH participates in the Interstate De-Duplication Project administered by CDC and aimed at eliminating duplicate reporting of HIV and AIDS cases. For further detail on the impact of this project on Minnesota numbers please see the HIV Surveillance Technical Notes.

**Please Note:** The sum of HIV (non-AIDS) cases and AIDS cases will be greater than the number of cases of HIV Infection in a given year. The difference occurs because, unlike the HIV Infection category, the AIDS category includes both cases that are AIDS at first diagnosis as well as those cases that progress from HIV (non-AIDS) to AIDS during the year (see above definitions).

Table 2. Number of Cases and Rates (per 100,000 persons) of HIV Infection by Residence, Age, and Gender <sup>I</sup> -- Minnesota, 2006							
Group	Males		Females		Total		HIV Infection Rate
	Cases	%	Cases	%	Cases	%	
<b>Residence<sup>II</sup></b>							
Minneapolis	102	45%	22	25%	124	39%	32.4
St. Paul	32	14%	16	18%	48	15%	16.7
Suburban	68	30%	43	48%	111	35%	5.6
Greater Minnesota	25	11%	8	9%	33	10%	1.4
<i>Total</i>	227	100%	89	100%	316	100%	6.5
<b>Age</b>							
<13 yrs	2	1%	0	0%	2	1%	0.2
13-19 yrs	8	4%	6	7%	14	4%	2.7
20-24 yrs	27	12%	16	18%	43	14%	13.3
25-29 yrs	43	19%	15	17%	58	18%	18.1
30-34 yrs	28	12%	11	12%	39	12%	11.0
35-39 yrs	22	10%	12	13%	34	11%	8.2
40-44 yrs	50	22%	12	13%	62	19%	15.1
45-49 yrs	26	11%	6	7%	32	10%	8.8
50-54 yrs	11	5%	5	6%	16	5%	5.3
55-59 yrs	6	3%	5	6%	11	3%	4.8
60+ yrs	5	2%	2	2%	7	2%	0.9
<i>Total</i>	228	100%	90	100%	318	100%	6.5
<b>State Totals</b>	228		90		318		6.5

<sup>I</sup> HIV Infection includes all new cases of HIV infection (both HIV (non-AIDS) and AIDS at first diagnosis) among Minnesota residents in 2006.

<sup>II</sup> Residence information missing for 2 cases of HIV infection in 2006.

Suburban = Seven-county metropolitan area except Minneapolis & St. Paul (Anoka, Carver, Dakota, Hennepin (except Minneapolis), Ramsey (except St. Paul), Scott, and Washington counties). Greater Minnesota = Remaining 80 counties outside of the seven-county metropolitan area.

Numbers and rates exclude federal and private prisoners and refugees in the HIV-Positive Refugee Resettlement Program, as well as, refugee/immigrants with an HIV diagnosis prior to arrival in Minnesota. State prisoners are included (three diagnoses in 2006).

Rates calculated using U.S. Census 2000 data. Percentages may not add to 100 due to rounding

**Table 3. Number of Cases and Rates (per 100,000 persons) of HIV Infection by Race/Ethnicity & Mode of Exposure<sup>I</sup> -- Minnesota, 2006**

Group	Males			Females			Total		
	Cases	%	Rate <sup>IV</sup>	Cases	%	Rate <sup>IV</sup>	Cases	%	Rate <sup>III</sup>
<b>Race/Ethnicity</b>									
White, non-Hispanic	125	55%	#	29	32%	#	154	48%	3.6
Black <sup>II</sup> , African-American	36	16%	#	28	31%	#	64	20%	38.1
Black <sup>II</sup> , African-born	18	8%	#	18	20%	#	36	11%	72-102.3
Hispanic	37	16%	#	7	8%	#	44	14%	30.7
American Indian	8	4%	#	2	2%	#	10	3%	12.3
Asian/PI	3	1%	#	2	2%	#	5	2%	3.0
Other <sup>II</sup>	1	0%	#	4	4%	#	5	2%	X
<i>Total</i>	228	100%	9.4	90	100%	3.6	318	100%	6.5
<b>Mode of Exposure</b>									
MSM	147	64%	X	--	--	X	147	46%	X
IDU	9	4%	X	4	4%	X	13	4%	X
MSM/IDU	7	3%	X	--	--	X	7	2%	X
Heterosexual (Total)	(8)	4%	X	(32)	36%	X	(40)	13%	X
with IDU	3	--	X	6	--	X	9	--	X
with Bisexual Male	--	--	X	3	--	X	3	--	X
with Hemophiliac/other	0	--	X	0	--	X	0	--	X
with HIV+, unknown risk	5	--	X	23	--	X	28	--	X
Perinatal	1	0%	X	0	0%	X	1	0%	X
Other	1	0%	X	0	0%	X	1	0%	X
Unspecified	19	8%	X	24	27%	X	43	14%	X
No Interview	36	16%	X	30	33%	X	66	21%	X
<i>Total</i>	228	100%	9.4	90	100%	3.6	318	100%	6.5

<sup>I</sup> HIV infection includes all new cases of HIV infection (both HIV (non-AIDS) and AIDS at first diagnosis) among Minnesota residents in 2006.

<sup>II</sup> African-born Blacks are reported separately from other Blacks (born in the U.S. or elsewhere). "Other" includes multi-racial persons and persons with unknown race.

<sup>III</sup> Rates calculated using U.S. Census 2000 data. Accurate population estimates for Black, African-born persons living in Minnesota are unavailable – anecdotal (50,000) and 2000 U.S. Census data (35,188) were used to create the range of rates reported for African-born persons. The population estimate for Black, African-American persons (167,784) was calculated by subtracting the U.S. Census estimate for African-born persons (35,188) from the total Black population (202,972). Note that this assumes that all African-born persons are Black (as opposed to another race).

<sup>IV</sup> U.S. Census 2000 data necessary to calculate race-specific rates (specifically a breakdown of the state population by "Race alone or in Combination with one or more races" by gender) have not yet been released for Minnesota. When these data become available this table will be updated.

Numbers exclude federal and private prisoners and refugees in the HIV-Positive Refugee Resettlement Program, as well as, refugee/immigrants with an HIV diagnosis prior to arrival in Minnesota.

MSM = Men who have sex with men. IDU = Injecting drug use. Heterosexual = For males: heterosexual contact with a female known to be HIV+, an injecting drug user, or a hemophiliac/blood product or organ transplant recipient. For females: heterosexual contact with a male known to be HIV+, bisexual, an injecting drug user, or a hemophiliac/blood product or organ transplant recipient. Perinatal = Mother to child HIV transmission; birth may have occurred in a previous year. Unspecified = Cases who did not acknowledge any of the risks listed above. No Interview = Cases who refused to be, could not be or have not yet been interviewed.

Percentages may not add to 100 due to rounding.

**Table 4. Number of Cases and Rates (per 100,000 persons) of HIV Infection by County of Residence<sup>I</sup> -- Minnesota, 2006**

<b>County<sup>II</sup></b>	<b>HIV Infection Cases</b>	<b>HIV Infection Rate<sup>III</sup></b>
Aitkin	1	-
Anoka	17	5.7
Becker	0	-
Beltrami	1	-
Benton	0	-
Big Stone	0	-
Blue Earth	2	-
Brown	0	-
Carlton	0	-
Carver	2	-
Cass	0	-
Chippewa	1	-
Chisago	0	-
Clay	2	-
Clearwater	0	-
Cook	0	-
Cottonwood	0	-
Crow Wing	2	-
Dakota	14	3.9
Dodge	0	-
Douglas	0	-
Faribault	0	-
Fillmore	0	-
Freeborn	0	-
Goodhue	0	-
Grant	0	-
Hennepin	183	16.4
Houston	0	-
Hubbard	0	-
Isanti	1	-
Itasca	0	-
Jackson	0	-
Kanabec	0	-
Kandiyohi	0	-
Kittson	0	-
Koochiching	0	-
Lac Qui Parle	0	-
Lake	1	-
Lake of the Woods	0	-
Le Sueur	0	-
Lincoln	0	-
Lyon	1	-
McLeod	0	-
Mahnomen	0	-
Marshall	0	-
Martin	1	-
Meeker	0	-
Mille Lacs	0	-
Morrison	0	-
Mower	0	-

<b>Table 4. Number of Cases and Rates (per 100,000 persons) of HIV Infection by County of Residence<sup>I</sup> -- Minnesota, 2006</b>		
<b>County<sup>II</sup></b>	<b>HIV Infection Cases</b>	<b>HIV Infection Rate<sup>III</sup></b>
Murray	2	-
Nicollet	0	-
Nobles	1	-
Norman	0	-
Olmsted	4	-
Otter Tail	0	-
Pennington	0	-
Pine	0	-
Pipestone	0	-
Polk	0	-
Pope	0	-
Ramsey	58	11.3
Red Lake	0	-
Redwood	0	-
Renville	0	-
Rice	1	-
Rock	0	-
Roseau	0	-
St. Louis	3	-
Scott	4	-
Sherburne	2	-
Sibley	0	-
Stearns	2	-
Steele	0	-
Stevens	0	-
Swift	1	-
Todd	0	-
Traverse	0	-
Wabasha	0	-
Wadena	0	-
Waseca	0	-
Washington	5	2.5
Watonwan	2	-
Wilkin	0	-
Winona	1	-
Wright	1	-
Yellow Medicine	0	-
<i>State Total<sup>#</sup></i>	<i>318</i>	<i>6.5</i>

<sup>I</sup> HIV infection includes all new cases of HIV infection (both HIV (non-AIDS) and AIDS at first diagnosis) among Minnesota residents in 2006. County of residence as reported at time of diagnosis.

<sup>II</sup> Residence information missing for 2 cases of HIV infection in 2006; Total rate is based on all cases in the state (n = 318).

<sup>III</sup> Rates calculated using U.S. Census 2000 data. Rates not calculated for counties with fewer than 5 cases. Numbers and rates exclude federal and private prisoners and refugees in the HIV-Positive Refugee Resettlement Program, as well as, refugee/immigrants with an HIV diagnosis prior to arrival in Minnesota. HIV infection was diagnosed among three state prisoners during 2006 (State correctional facilities are located in the following counties: Anoka, Carlton, Chisago,



<b>Perinatal HIV Exposure<sup>I</sup></b>										
<b>Table 5a. Number of Births to HIV-Infected Women<sup>II</sup> by Year of Child's Birth and Mother's Race/Ethnicity, Minnesota 1982-2006</b>										
<b>Year(s)</b>	<b>Race/Ethnicity of Mother</b>							<b>Total</b>	<b>Foreign-born Mothers<sup>IV</sup></b>	
	White	Black, African-American <sup>III</sup>	Black, African-born <sup>III</sup>	Hispanic	American Indian	Asian/PI	Multi-racial		Number	(% of total in time period)
1982-1990	19	8	0	0	1	1	0	29	2	7%
1991	5	4	0	0	3	0	0	12	0	0%
1992	9	5	1	1	0	0	0	16	1	6%
1993	8	6	1	0	1	0	0	16	1	6%
1994	5	9	1	2	2	0	0	19	1	5%
1995	8	8	0	1	2	0	0	19	1	5%
1996	8	2	0	2	1	1	0	14	3	21%
1997	8	8	1	1	0	1	0	19	2	11%
1998	8	6	3	1	2	0	0	20	4	20%
1999	7	12	3	1	1	1	1	26	5	19%
2000	12	10	7	2	1	1	0	33	9	27%
2001	1	20	13	1	2	0	0	37	15	41%
2002	9	7	13	2	3	0	2	36	14	39%
2003	6	14	18	5	2	1	1	47	21	45%
2004	8	13	21	3	2	1	0	48	24	50%
2005	7	7	21	3	0	2	1	41	25	61%
2006	7	13	21	5	1	1	2	50	25	50%
<b>Cumulative Total</b>	135	152	124	30	24	10	7	482	153	32%

NOTE: A birth to an HIV-infected woman was only included in the table if her residence at the time of child's birth was reported as Minnesota.

<sup>I</sup> Exposure of child to HIV during pregnancy, at birth, and/or during breastfeeding.

<sup>II</sup> HIV-infected women may or may not have progressed to an AIDS diagnosis.

<sup>III</sup> African-born Blacks are reported separately from other Blacks (born in the U.S. or elsewhere).

<sup>IV</sup> Mothers' places of birth include: Africa (125), Asia/Pacific Islands (10), Latin America/Caribbean (17).

## Perinatal HIV Transmission<sup>I</sup>

**Table 5b. Number of Perinatally-Acquired HIV/AIDS Cases by Year of Child's Birth and Mother's Race/Ethnicity, Minnesota 1982-2006**

Year(s)	Race/Ethnicity of Mother							Total	Foreign-born Mothers <sup>III</sup>	
	White	Black, African-American <sup>II</sup>	Black, African-born <sup>II</sup>	Hispanic	American Indian	Asian/PI	Unknown		Number	(% of total in time period)
1982-1990	7	2	0	0	0	1	0	10	1	10%
1991	4	0	0	0	0	0	0	4	0	0%
1992	2	0	0	0	0	0	0	2	0	0%
1993	2	1	0	0	0	0	0	3	0	0%
1994	2	0	0	1	0	0	0	3	0	0%
1995	0	0	0	1	1	0	0	2	0	0%
1996	0	1	0	1	0	1	0	3	2	67%
1997	0	0	1	0	0	0	0	1	1	100%
1998	1	1	2	0	0	0	0	4	2	50%
1999	0	0	0	0	0	0	0	0	0	-
2000	0	1	0	0	0	0	0	1	0	0%
2001	0	0	0	0	0	0	0	0	0	-
2002	0	0	0	1	0	0	0	1	1	100%
2003	0	0	1	0	0	0	0	1	1	100%
2004	0	0	0	0	0	0	0	0	0	-
2005	0	0	0	0	0	0	0	0	0	-
2006	0	0	1	0	0	0	0	1	1	100%
<b>Cumulative Total</b>	18	6	5	4	1	2	0	36	9	25%
<b>Rate of Transmission 1996-2006</b>	1%	3%	4%	8%	--	--	--	3%	5%	--
<b>Cumulative Rate of Transmission<sup>IV</sup></b>	13%	4%	4%	13%	--	--	--	7%	6%	--

NOTE: Cases of perinatally-acquired HIV/AIDS were only included in the table if the child's residence at the time of birth was reported as Minnesota.

<sup>I</sup> Transmission of HIV from mother to child during pregnancy, at birth, and/or during breastfeeding.

<sup>II</sup> African-born Blacks are reported separately from other Blacks (born in the U.S. or elsewhere).

<sup>III</sup> Mothers' places of birth include: Africa (5), Asia/Pacific Islands (2), Latin America/Caribbean (2).

<sup>IV</sup> The cumulative rate of HIV transmission is calculated by dividing the total number of perinatally-acquired HIV infections by the total number of births in a category and multiplying by 100. Rates calculated only for categories where the cumulative number of births is 30 or greater.

# *HIV/AIDS Prevalence & Mortality Report, 2006*



Minnesota Department of Health  
HIV/AIDS Surveillance System



# Introduction (I)

- These three introduction slides provide a general context for the data used to create this slide set. If you have questions about any of the slides please refer to the *Companion Text to the Minnesota HIV/AIDS Prevalence & Mortality Report, 2006* or *HIV/AIDS Prevalence & Mortality Technical Notes*.
- This slide set displays estimates of the number of persons living with HIV/AIDS (**prevalence**) and mortality in Minnesota by person, place, and time.
- The slides rely on data from HIV/AIDS cases diagnosed through 2006 and reported to the Minnesota Department of Health (MDH) HIV/AIDS Surveillance System.

## Introduction (II)

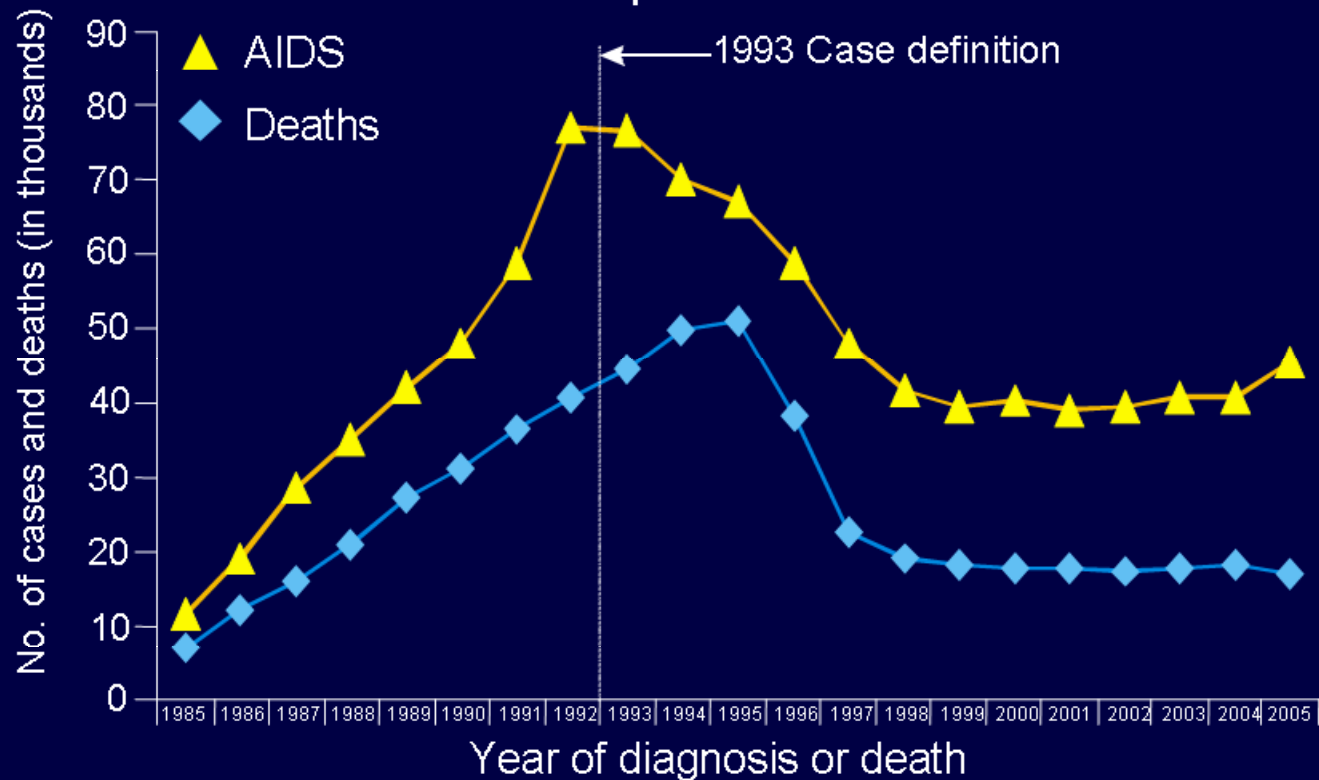
- Data analyses exclude persons diagnosed in federal or private correctional facilities, but include state prisoners (n=116) and persons arriving to Minnesota through the HIV+ Refugee Resettlement Program (n=156 prevalent cases) and other immigrants reporting a positive test prior to their arrival in Minnesota (n=35 prevalent cases).
- Some limitations of surveillance data:
  - ◆ Data do not include HIV-infected persons who have not been tested for HIV
  - ◆ Data do not include persons whose positive test results have not been reported to the MDH
  - ◆ Data do not include HIV-infected persons who have only tested anonymously
  - ◆ Case numbers for the most recent years may be undercounted due to delays in reporting

## Introduction (III)

- Persons are assumed to be alive unless the MDH has knowledge of their death.
- Persons whose most recently reported state of residence was Minnesota are assumed to be currently residing in Minnesota unless the MDH has knowledge of their relocation. Our ability to track changes of residence, including within the state, is limited.
- Vital status and current residence are updated through one or more of the following methods:
  - ◆ Standard case reporting
  - ◆ Correspondence with other health departments
  - ◆ Active surveillance (monthly)
  - ◆ Death certificate reviews (annually)
  - ◆ National Death Index match

# National Context

## Estimated Number of AIDS Cases and Deaths among Adults and Adolescents with AIDS, 1985–2005—United States and Dependent Areas



Note. Data have been adjusted for reporting delays.

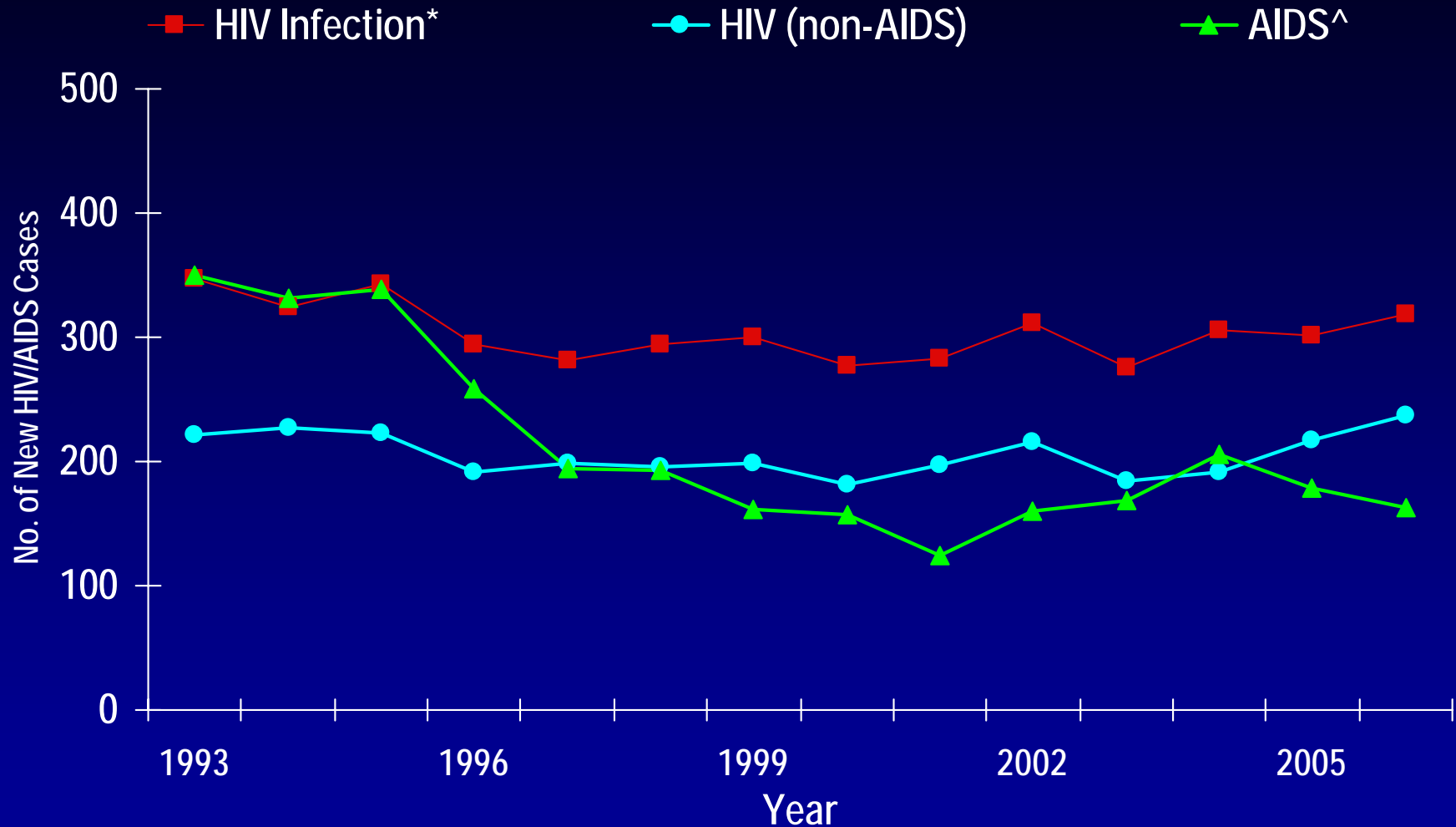




# Overview of HIV/AIDS in Minnesota

# HIV/AIDS in Minnesota:

## New HIV Infection, HIV (non-AIDS) and AIDS Cases by Year, 1993-2006



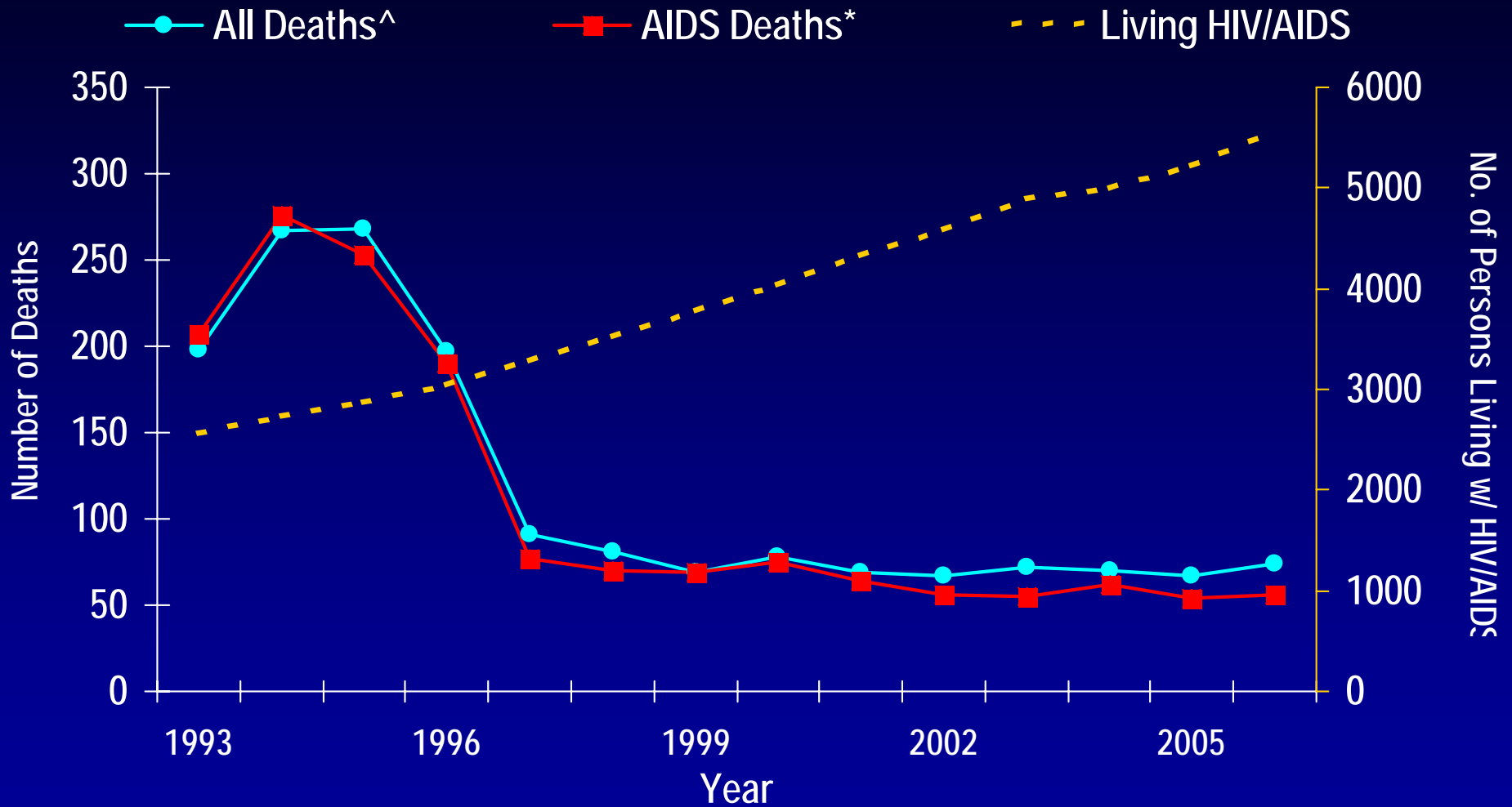
\*Includes all new cases of HIV infection (both HIV (non-AIDS) and AIDS at first diagnosis) diagnosed within a given calendar year.

^Includes all new cases of AIDS diagnosed within a given calendar year, including AIDS at first diagnosis. This includes refugees in the HIV+ Resettlement Program, as well as, other refugee/immigrants diagnosed with AIDS subsequent to their arrival in the United States.

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# HIV/AIDS in Minnesota: Number of Prevalent Cases, and Deaths by Year, 1993-2006



*\*Deaths among MN AIDS cases, regardless of cause and location of death.*

*<sup>^</sup>Deaths in Minnesota among people with HIV or AIDS, regardless of cause and location of diagnosis.*

*Data Source: Minnesota HIV/AIDS Surveillance System*

*HIV/AIDS in Minnesota: Annual Review*

# Persons Living with HIV/AIDS in Minnesota

## Estimated Number of Persons *Living with HIV/AIDS in Minnesota*

- As of December 31, 2006, 5,566\* persons are assumed alive and living in Minnesota with HIV/AIDS
  - ◆ 3,105 living with HIV infection (non-AIDS)
  - ◆ 2,461 living with AIDS
- This number includes 920 persons who were first reported with HIV or AIDS elsewhere and subsequently moved to Minnesota
- This number excludes 860 persons who were first reported with HIV or AIDS in Minnesota and subsequently moved out of the state

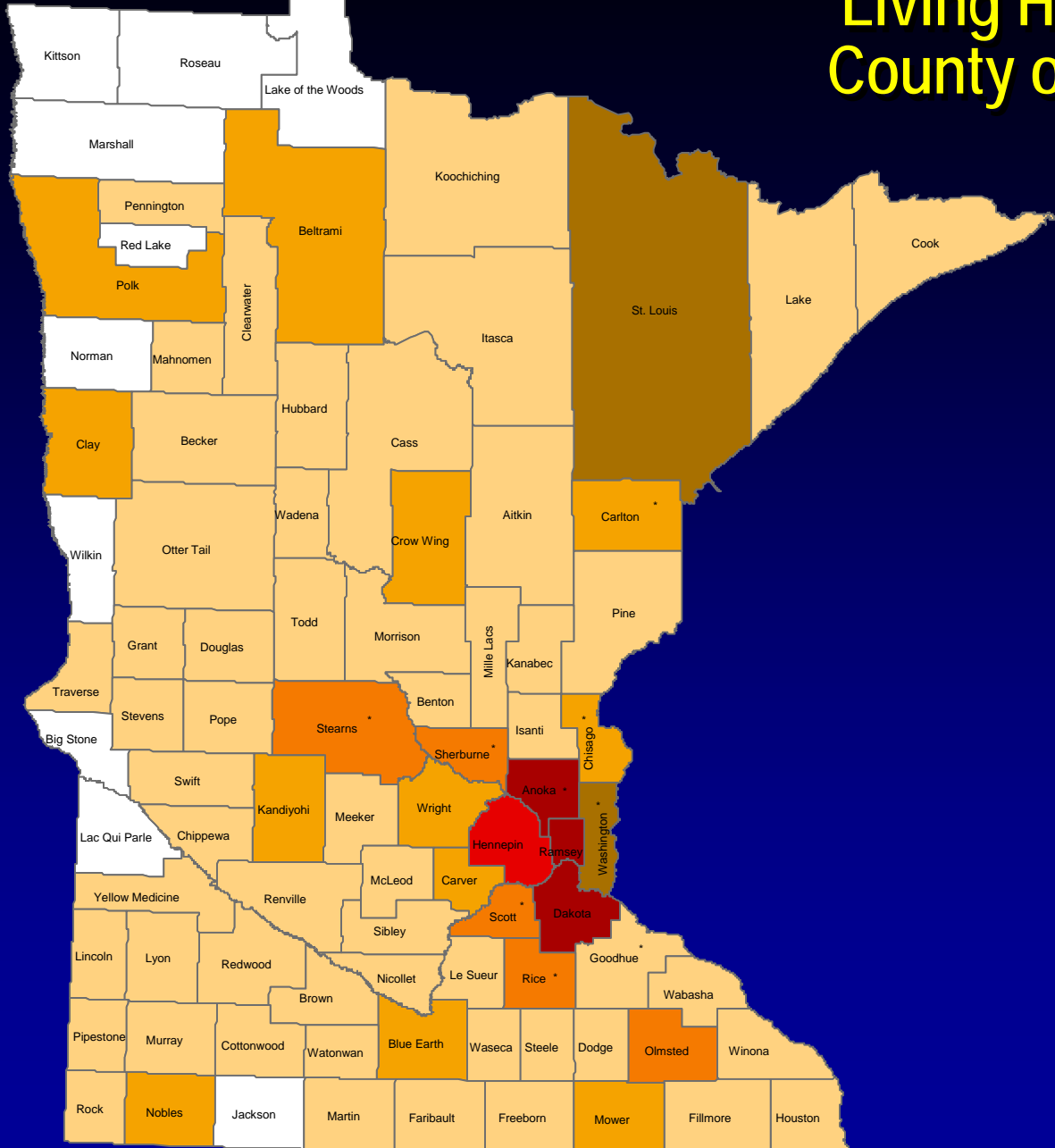
\* This number includes persons who reported Minnesota as their current state of residence, regardless of residence at time of diagnosis. Includes state prisoners and refugees arriving through the HIV+ Refugee Resettlement Program, as well as, HIV+ refugee/immigrants arriving through other programs.

Data Source: Minnesota HIV/AIDS Surveillance System

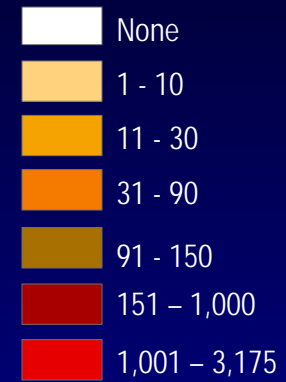
HIV/AIDS in Minnesota: Annual Review

# Place

# Living HIV/AIDS Cases by County of Residence, 2006



## Number Living with HIV/AIDS



City of Minneapolis – 2,309

City of St. Paul – 808

Suburban# – 1,674

Greater Minnesota - 741

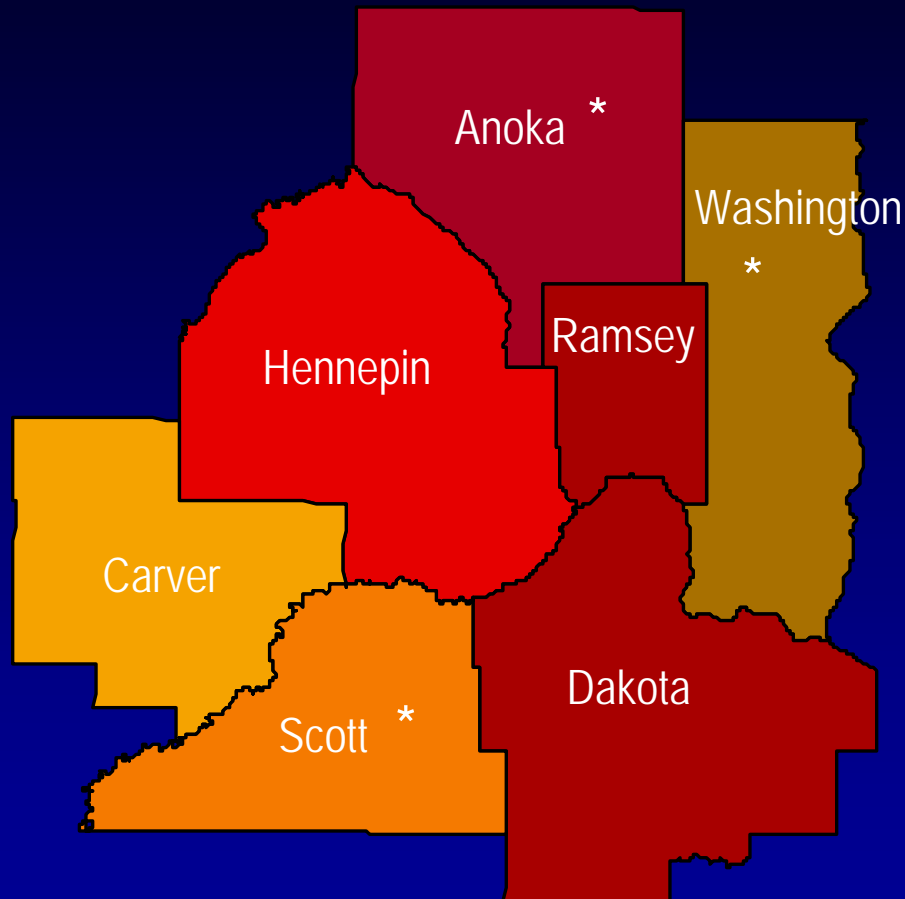
Total number = 5,566

(34 people missing residence information)

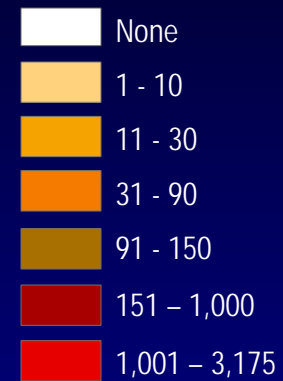
# 7-county metro area, excluding the cities of Minneapolis and St. Paul

\* Counties in which a state correctional facility is located.

# Map of Metro Area: Living HIV/AIDS Cases by County of Residence, 2006



Number Living with HIV/AIDS



City of Minneapolis – 2,309

City of St. Paul – 808

Suburban<sup>#</sup> – 1,674

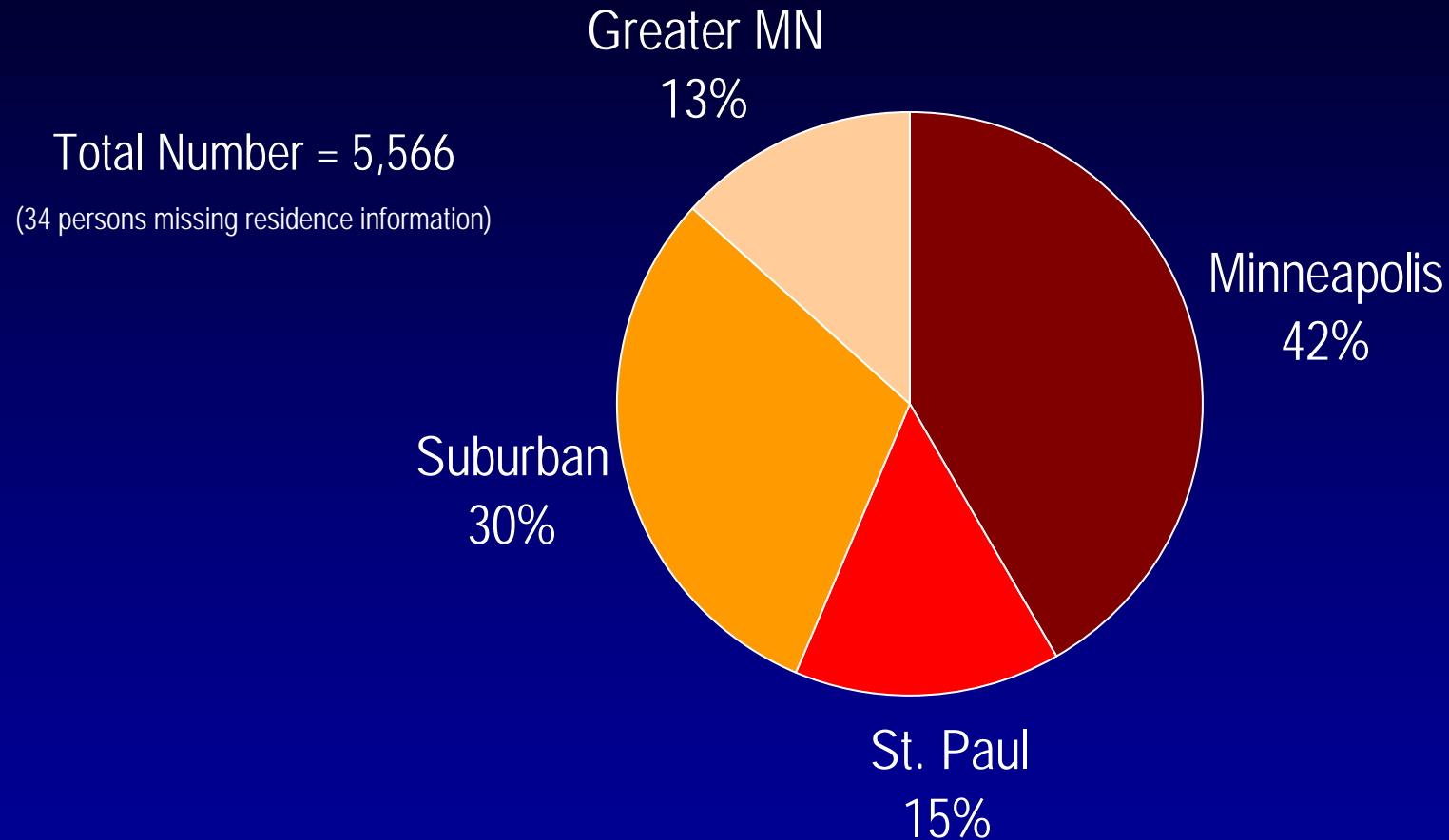
Total number (Metro only) = 4,791

\* Counties in which a state correctional facility is located

<sup>#</sup> 7-county metro area, excluding the cities of Minneapolis and St. Paul



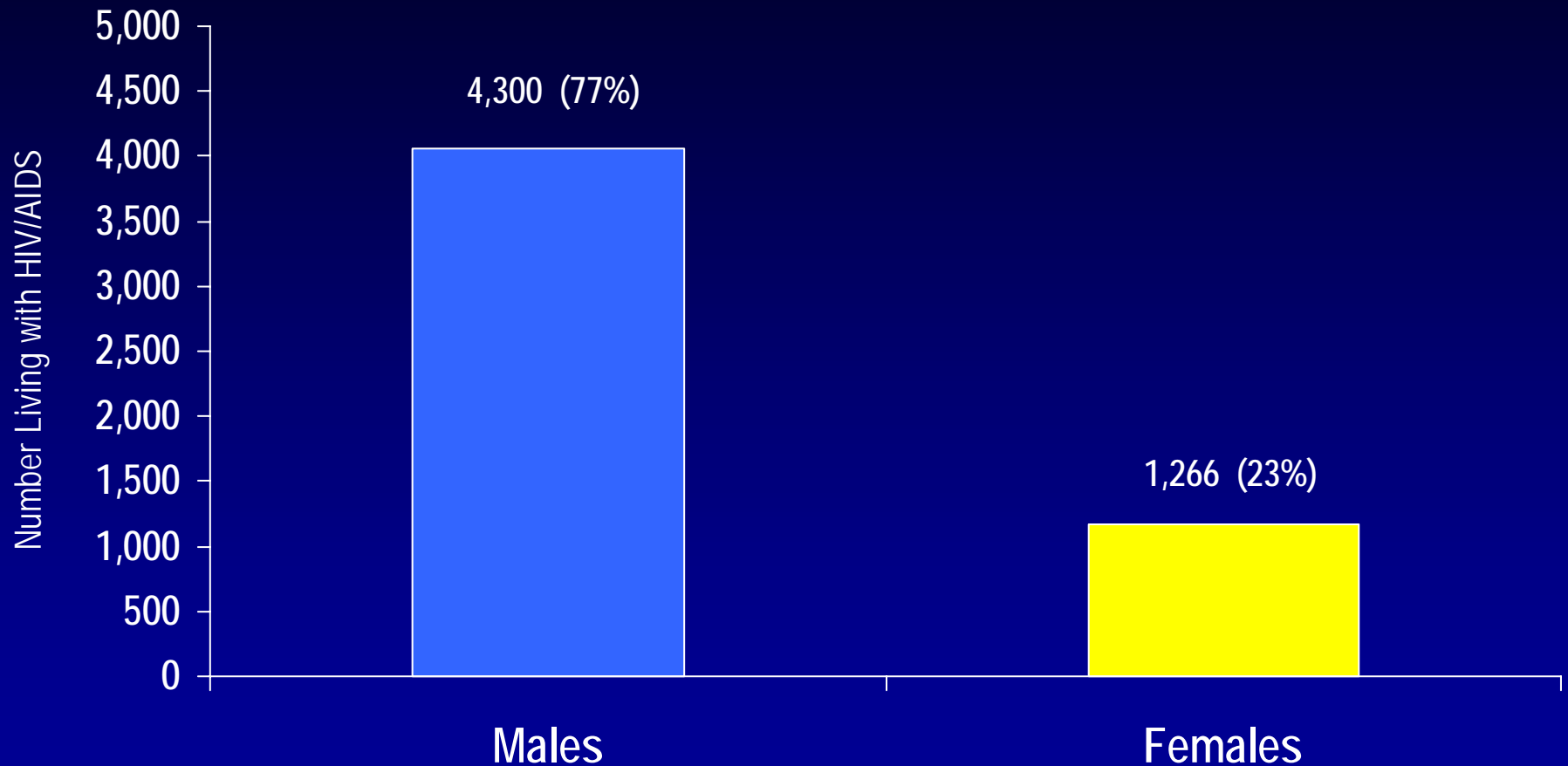
# Persons Living with HIV/AIDS in Minnesota by Current Residence, 2006



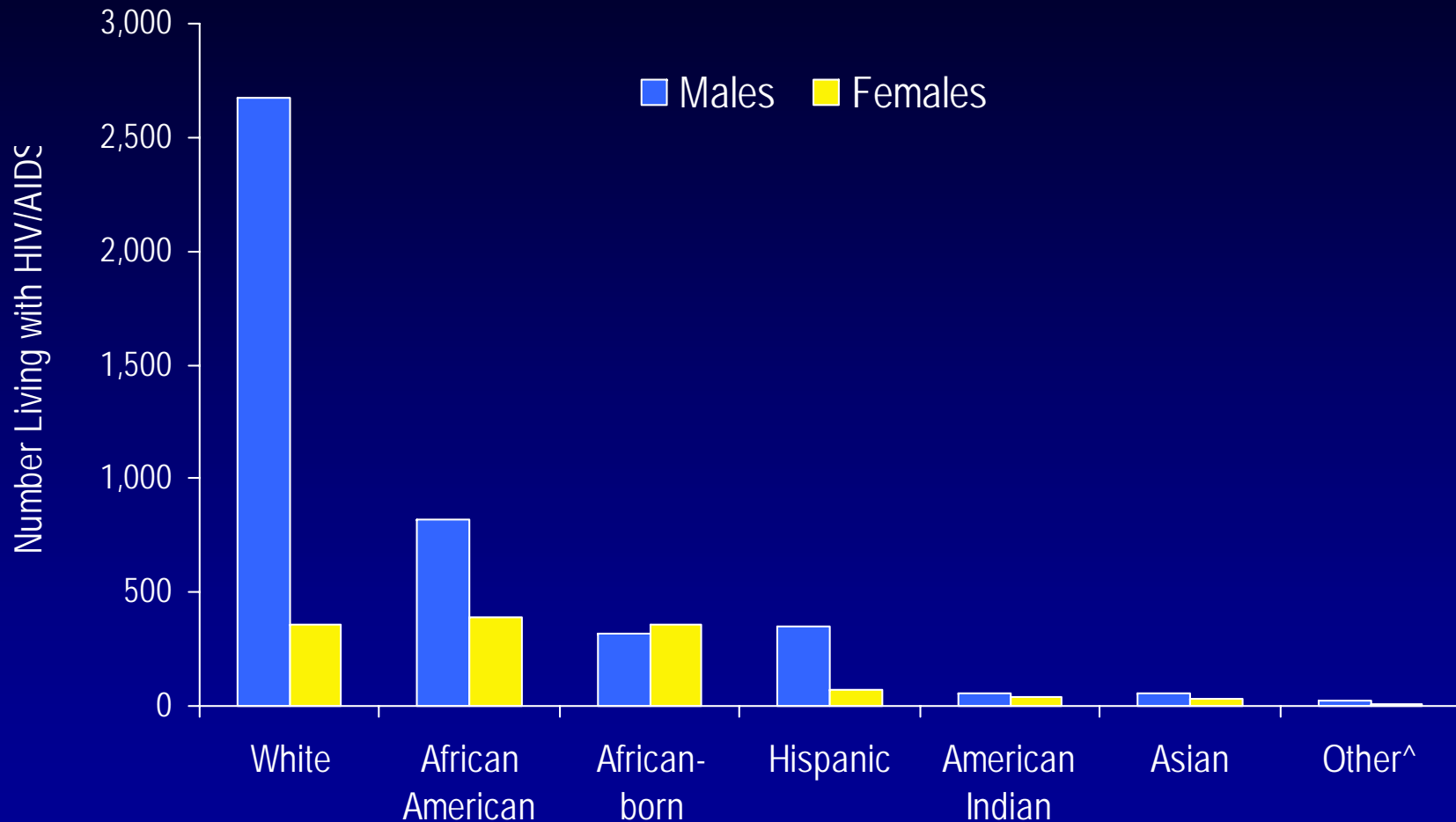
Suburban = Seven-county metro area including Anoka, Carver, Dakota, Hennepin (except Minneapolis), Ramsey (except St. Paul), Scott, and Washington counties. Greater MN = All other Minnesota counties, outside the seven-county metro area.

# Gender and Race/Ethnicity

# Persons Living with HIV/AIDS in Minnesota by Gender, 2006



## Persons Living with HIV/AIDS in Minnesota by Gender and Race/Ethnicity\*, 2006

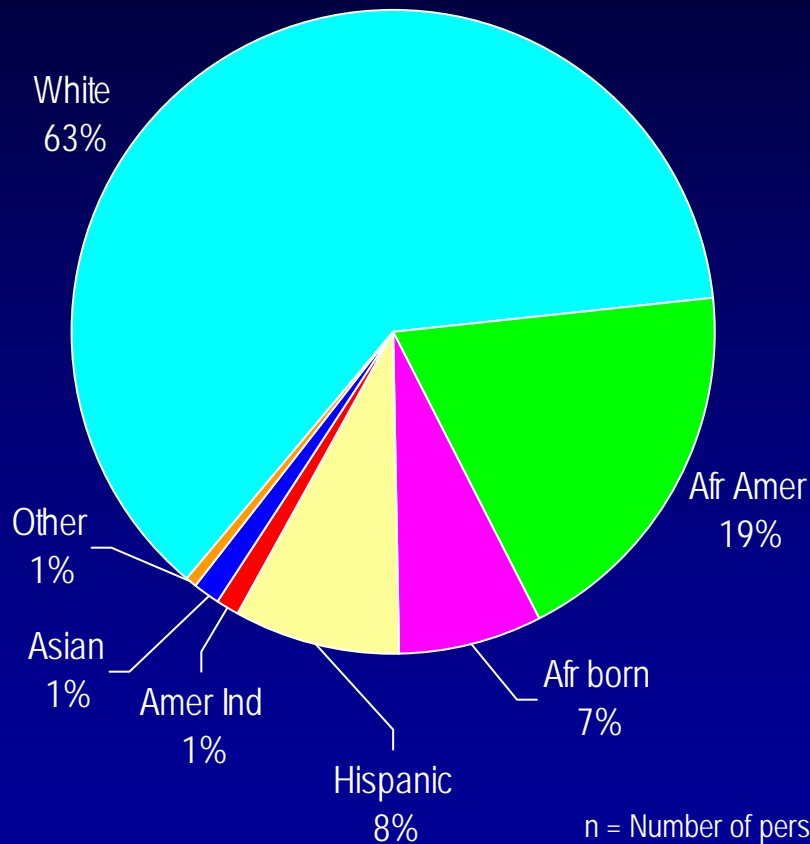


\* "African-born" refers to Blacks who reported an African country of birth; "African American" refers to all other Blacks.

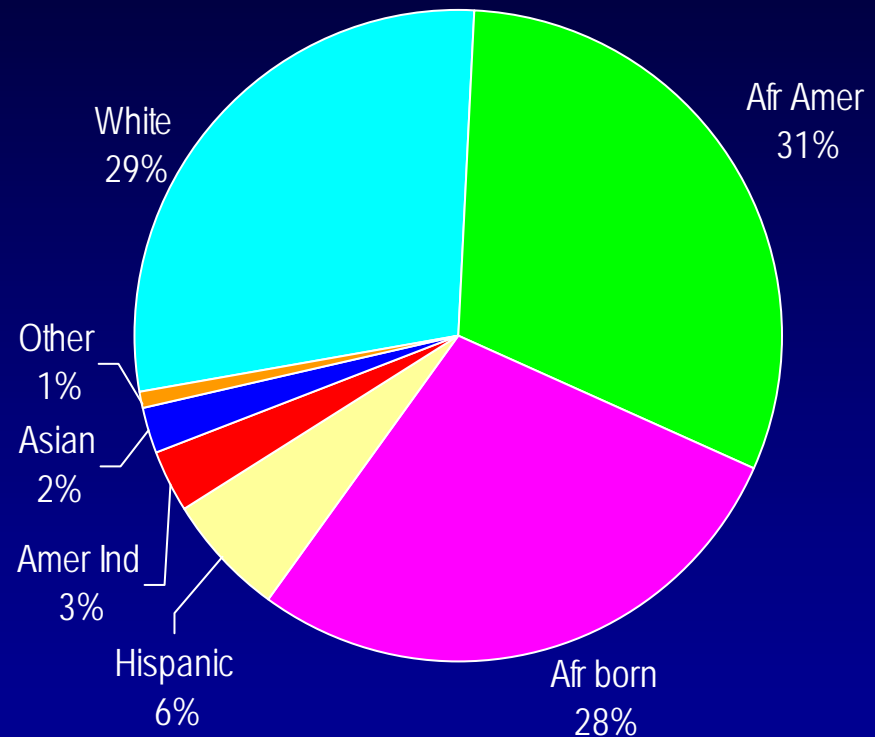
^ Other includes persons with unknown or multiple races (n=35).

# Persons Living with HIV/AIDS in Minnesota by Gender and Race/Ethnicity, 2006

Males (n = 4,300)



Females (n = 1,266)



n = Number of persons    Afr Amer = African American (Black, not African-born persons)  
 Afr born = African-born (Black, African-born persons)    Amer Ind = American Indian  
 Other = Multi-racial persons or persons with unknown race

## Number of Cases and Rates (per 100,000 persons) of Persons Living with HIV/AIDS by Race/Ethnicity<sup>†</sup> – Minnesota, 2006

<i>Race/Ethnicity</i>	<i>Cases</i>	<i>%</i>	<i>Rate</i>
White, non-Hispanic	<b>3,035</b>	<b>55%</b>	<b>70.2</b>
Black, African-American	<b>1,214</b>	<b>22%</b>	<b>723.5</b>
Black, African-born	<b>675</b>	<b>12%</b>	<b>1350-1918<sup>††</sup></b>
Hispanic	<b>427</b>	<b>8%</b>	<b>297.8</b>
American Indian	<b>97</b>	<b>2%</b>	<b>119.6</b>
Asian/Pacific Islander	<b>83</b>	<b>1%</b>	<b>49.3</b>
Other <sup>^</sup>	<b>35</b>	<b>1%</b>	<b>X</b>
<b><i>Total</i></b>	<b><i>5,566</i></b>	<b><i>100%</i></b>	<b><i>113.1</i></b>

Census Data used for rate calculations.

<sup>†</sup> "African-born" refers to Blacks who reported an African country of birth; "African American" refers to all other Blacks. Cases with unknown race are excluded.

<sup>††</sup> Accurate population estimates for African-born persons and MSM (any race) living in Minnesota are unavailable – anecdotal (50,000) and 2000 US Census data (35,188) were used to create the range of rates reported for African-born.

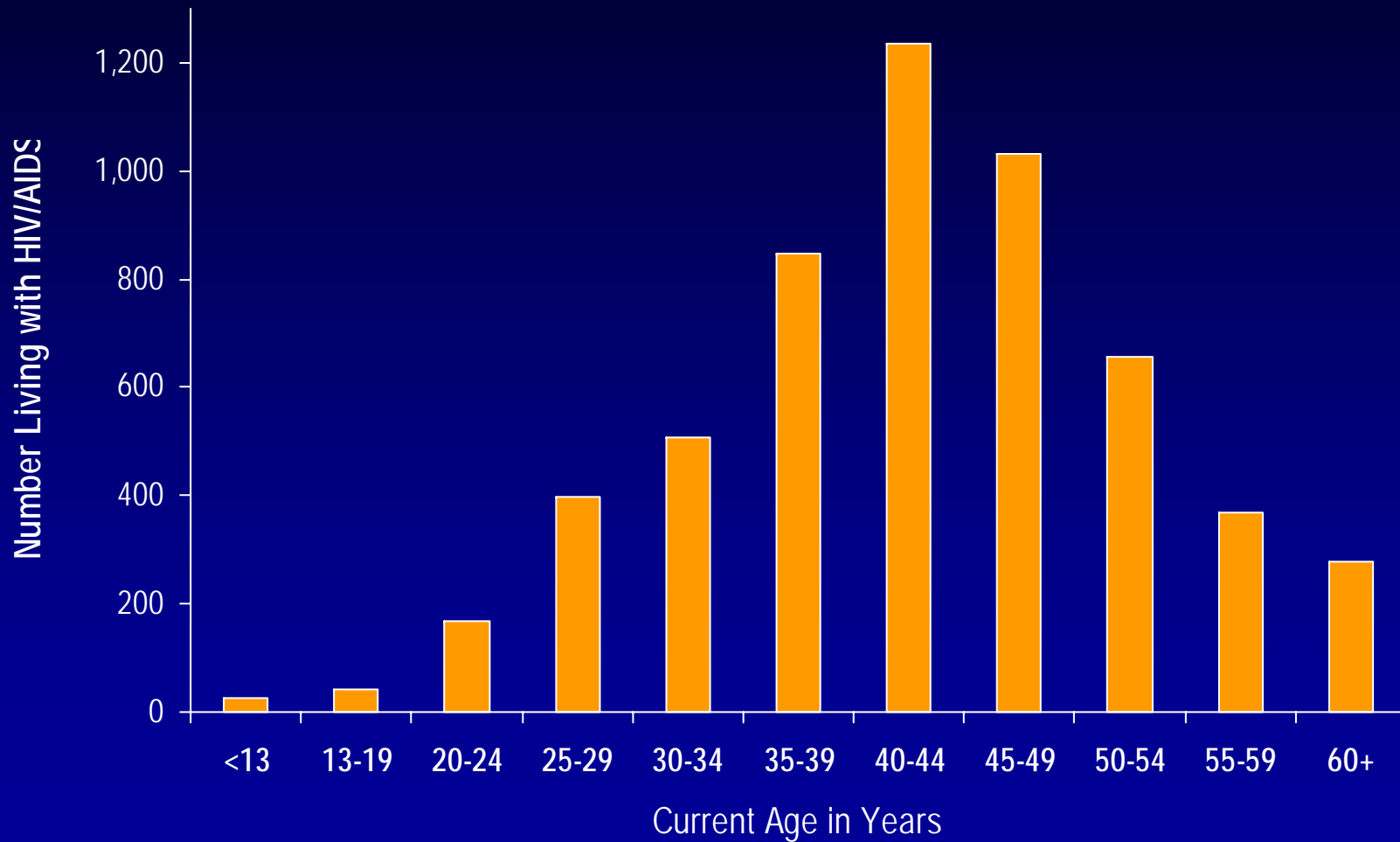
<sup>^</sup> Other = Multi-racial persons or persons with unknown race

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Age

# Persons Living with HIV/AIDS in Minnesota by Age Group, 2006

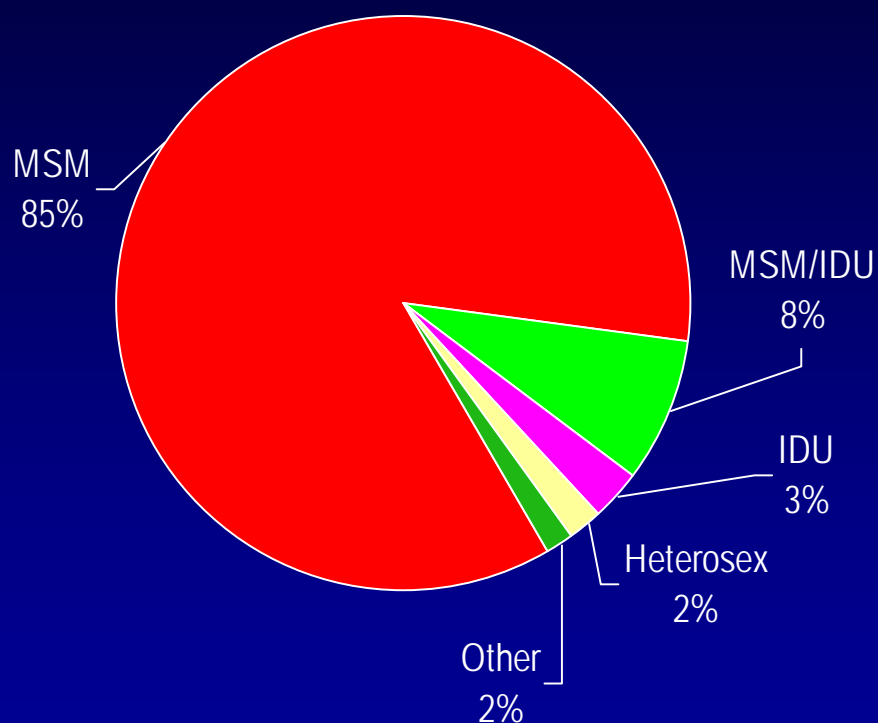




# Mode of Exposure

# Males Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

White Males (n = 2,674)



n = Number of persons

MSM = Men who have sex with men

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

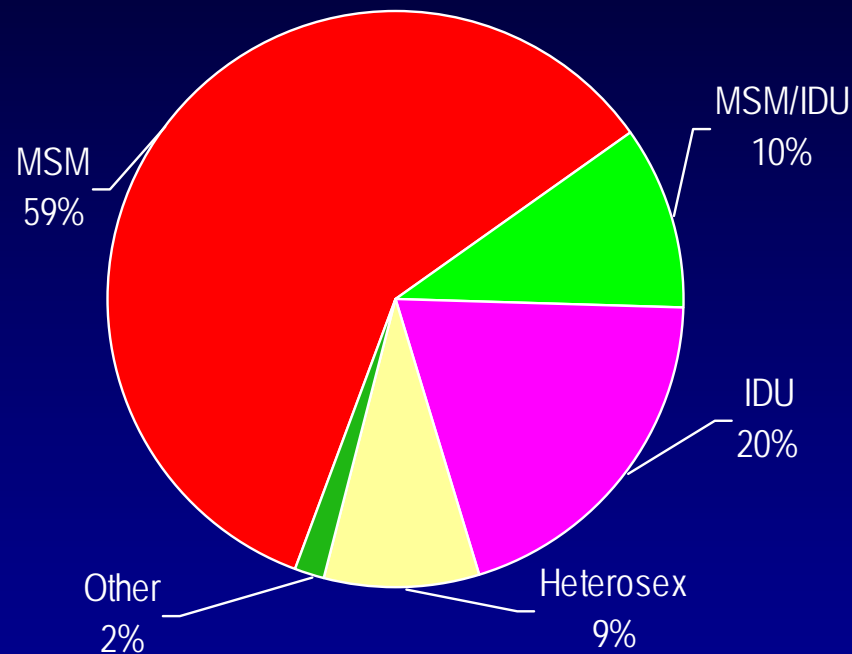
IDU = Injecting drug use

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using prevalent cases with known risk. For additional detail see the HIV Prevalence & Mortality Technical Notes.

# Males Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

African American Males<sup>††</sup> (n = 821)



n = Number of persons

MSM = Men who have sex with men

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

IDU = Injecting drug use

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using prevalent cases with known risk. For additional detail see the HIV Prevalence & Mortality Technical Notes.

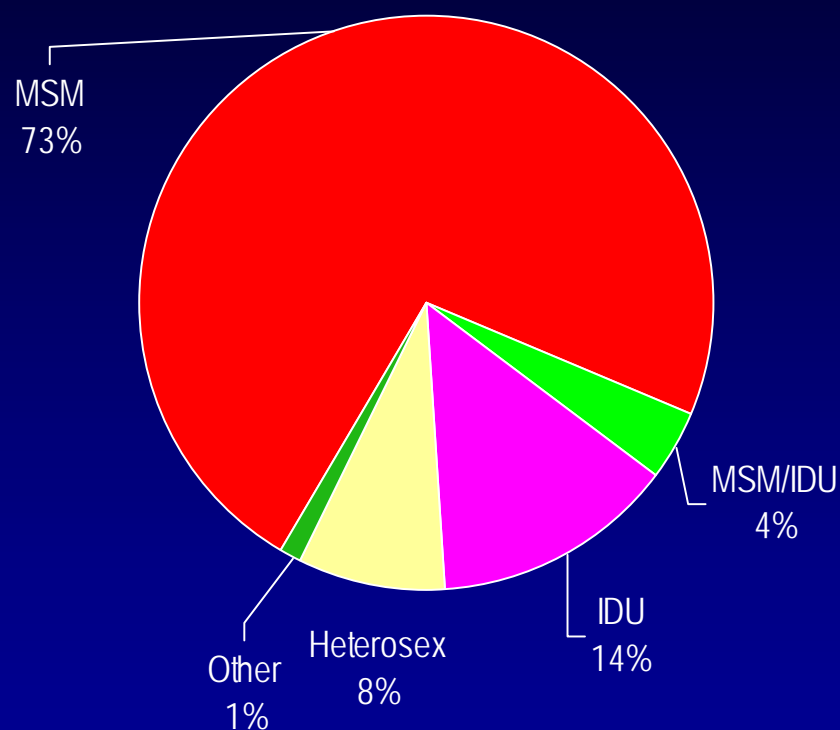
<sup>††</sup> Refers to Black, African American (not African-born) males.

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Males Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

Hispanic Males (n = 352)



n = Number of persons

MSM = Men who have sex with men

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

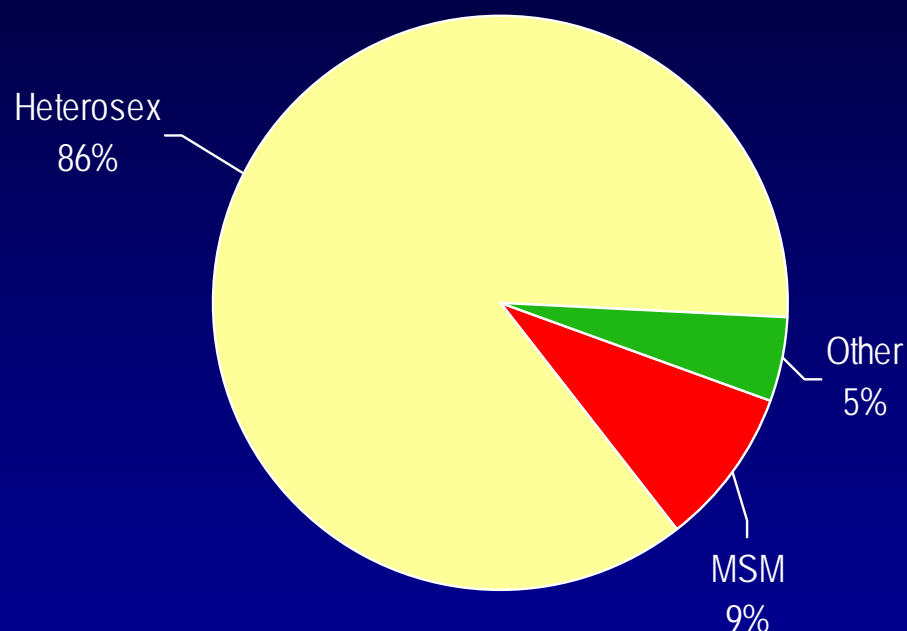
IDU = Injecting drug use

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using prevalent cases with known risk. For additional detail see the HIV Prevalence & Mortality Technical Notes.

# Males Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

African-born Males<sup>††</sup> (n = 317)



n = Number of persons

MSM = Men who have sex with men

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using the following breakdown: 5% - MSM, 90% - Heterosex, and 5% - Other.

For additional detail see the HIV Prevalence & Mortality Technical Notes.

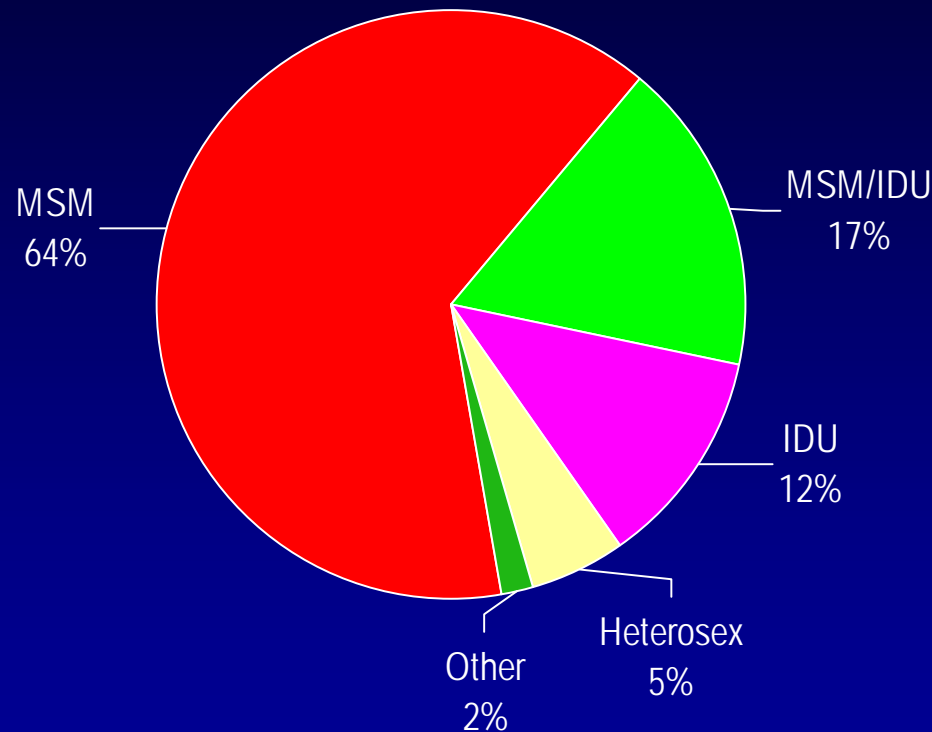
<sup>††</sup> Refers to Black, African-born males.

Data Source: *Minnesota HIV/AIDS Surveillance System*

*HIV/AIDS in Minnesota: Annual Review*

# Males Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

American Indian Males (n = 58)



n = Number of persons

MSM = Men who have sex with men

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

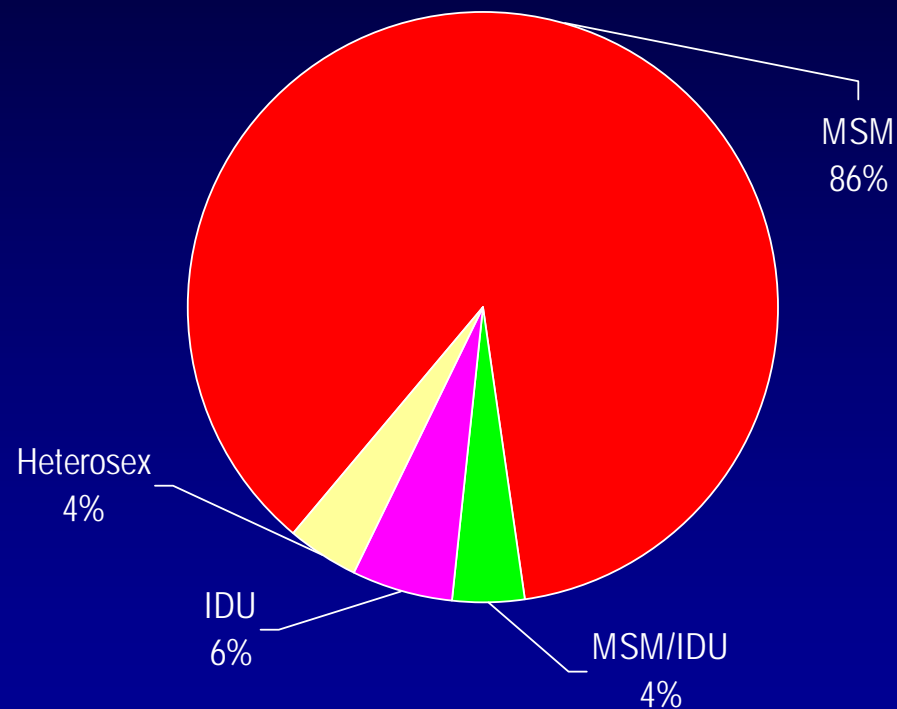
IDU = Injecting drug use

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using prevalent cases with known risk. For additional detail see the HIV Prevalence & Mortality Technical Notes.

# Males Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

Asian Males (n = 53)



n = Number of persons

IDU = Injecting drug use

MSM = Men who have sex with men

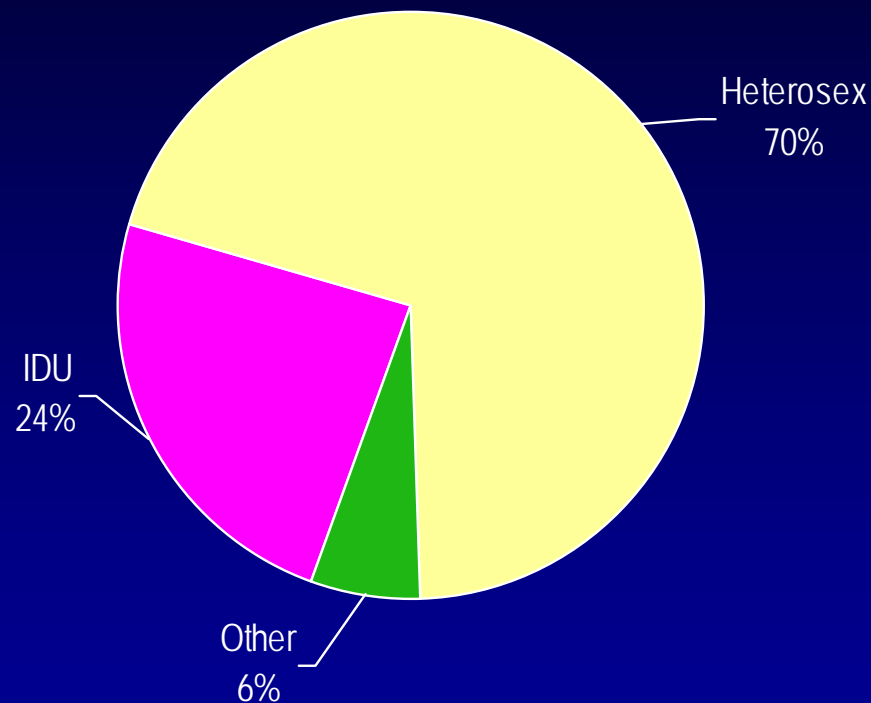
Heterosex = Heterosexual contact

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

<sup>†</sup> Mode of Exposure has been estimated using prevalent cases with known risk. For additional detail see the HIV Prevalence & Mortality Technical Notes.

# Females Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

African American Females<sup>††</sup> (n = 393)



n = Number of persons

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

IDU = Injecting drug use

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using prevalent cases with known risk. For additional detail see the HIV Prevalence & Mortality Technical Notes.

<sup>††</sup> Refers to Black, African American (not African-born) females.

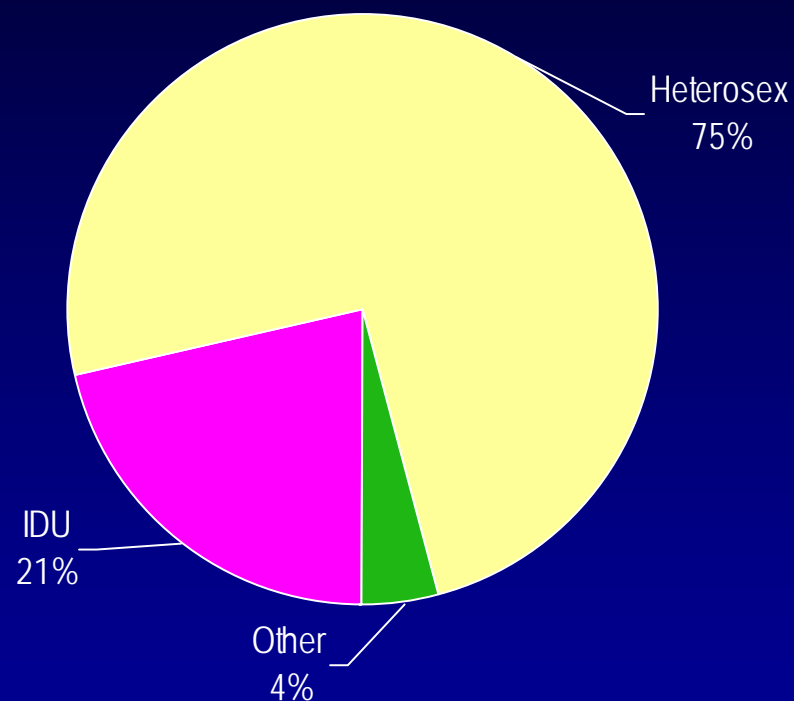
Data Source: *Minnesota HIV/AIDS Surveillance System*

*HIV/AIDS in Minnesota: Annual Review*



# Females Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

White Females (n = 361)



n = Number of persons

IDU = Injecting drug use

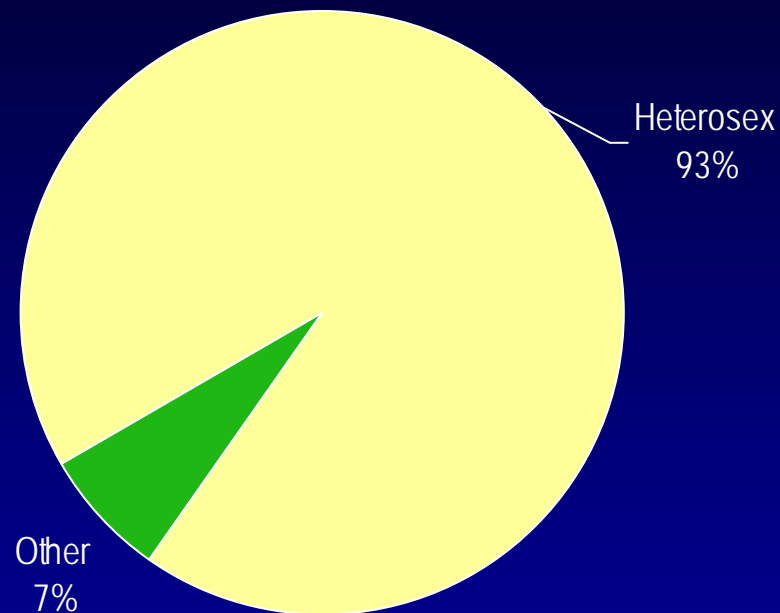
Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using prevalent cases with known risk. For additional detail see the HIV Prevalence & Mortality Technical Notes.

# Females Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

African-born Females<sup>††</sup> (n = 358)



n = Number of persons

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

IDU = Injecting drug use

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using the following proportions: 95% - Heterosexual, 5% - Other.

For additional detail see the HIV Prevalence & Mortality Technical Notes.

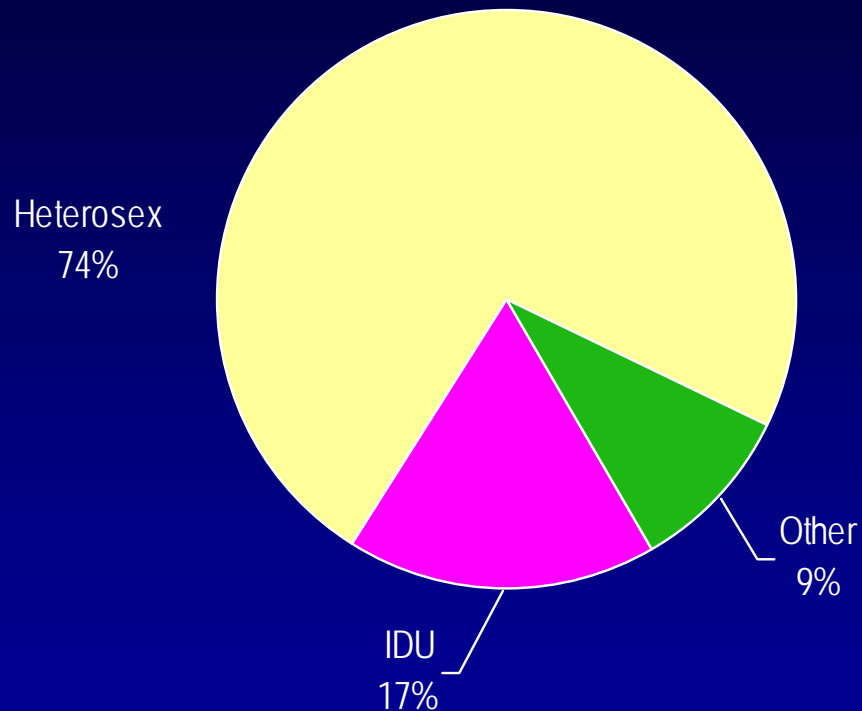
<sup>††</sup> Refers to Black, African-born females.

Data Source: *Minnesota HIV/AIDS Surveillance System*

*HIV/AIDS in Minnesota: Annual Review*

# Females Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

Hispanic Females (n = 75)



n = Number of persons

IDU = Injecting drug use

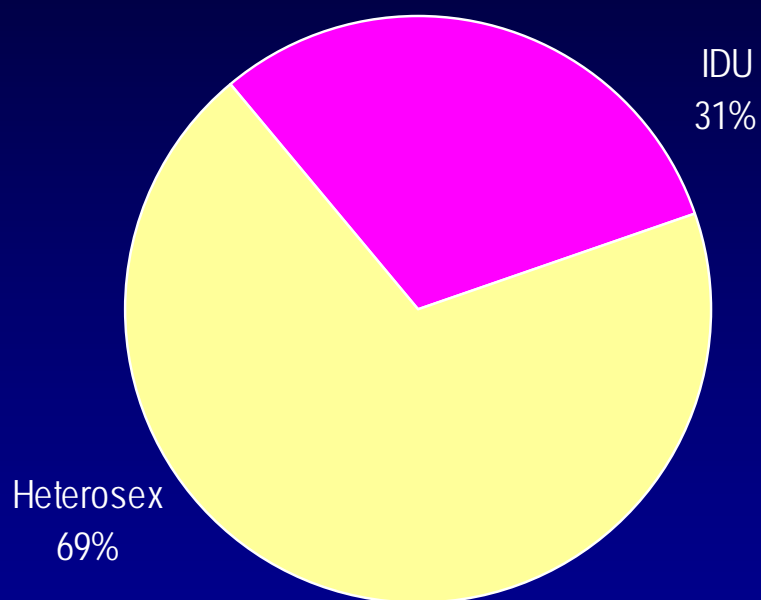
Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using prevalent cases with known risk. For additional detail see the HIV Prevalence & Mortality Technical Notes.

# Females Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

American Indian Females (n = 39)



n = Number of persons

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

IDU = Injecting drug use

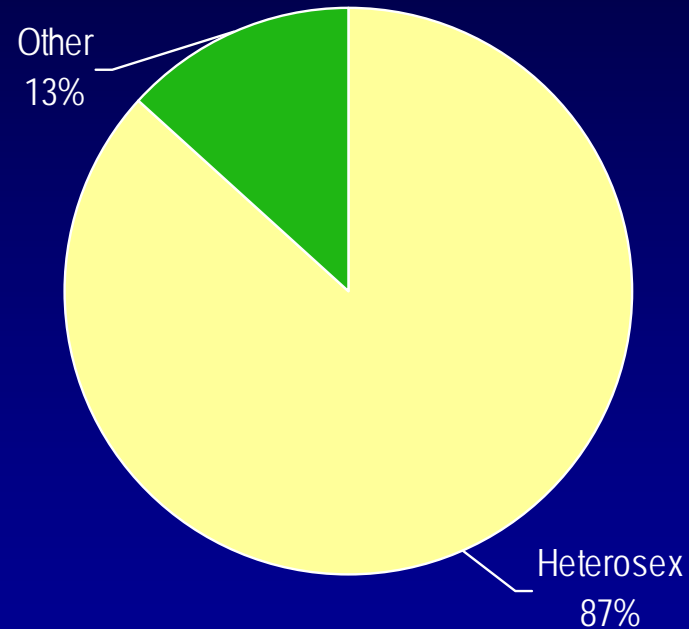
Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using prevalent cases with known risk. For additional detail see the HIV Prevalence & Mortality Technical Notes.

# Females Living with HIV/AIDS in Minnesota by Estimated Mode of Exposure<sup>†</sup>, 2006

Asian Females (n = 30)

CAUTION: Small number of cases – interpret carefully.



n = Number of persons

Other = Hemophilia, transplant, transfusion, mother w/ HIV or HIV risk

IDU = Injecting drug use

Heterosex = Heterosexual contact

<sup>†</sup> Mode of Exposure has been estimated using the following proportions: 95% - Heterosexual, 5% - Other.

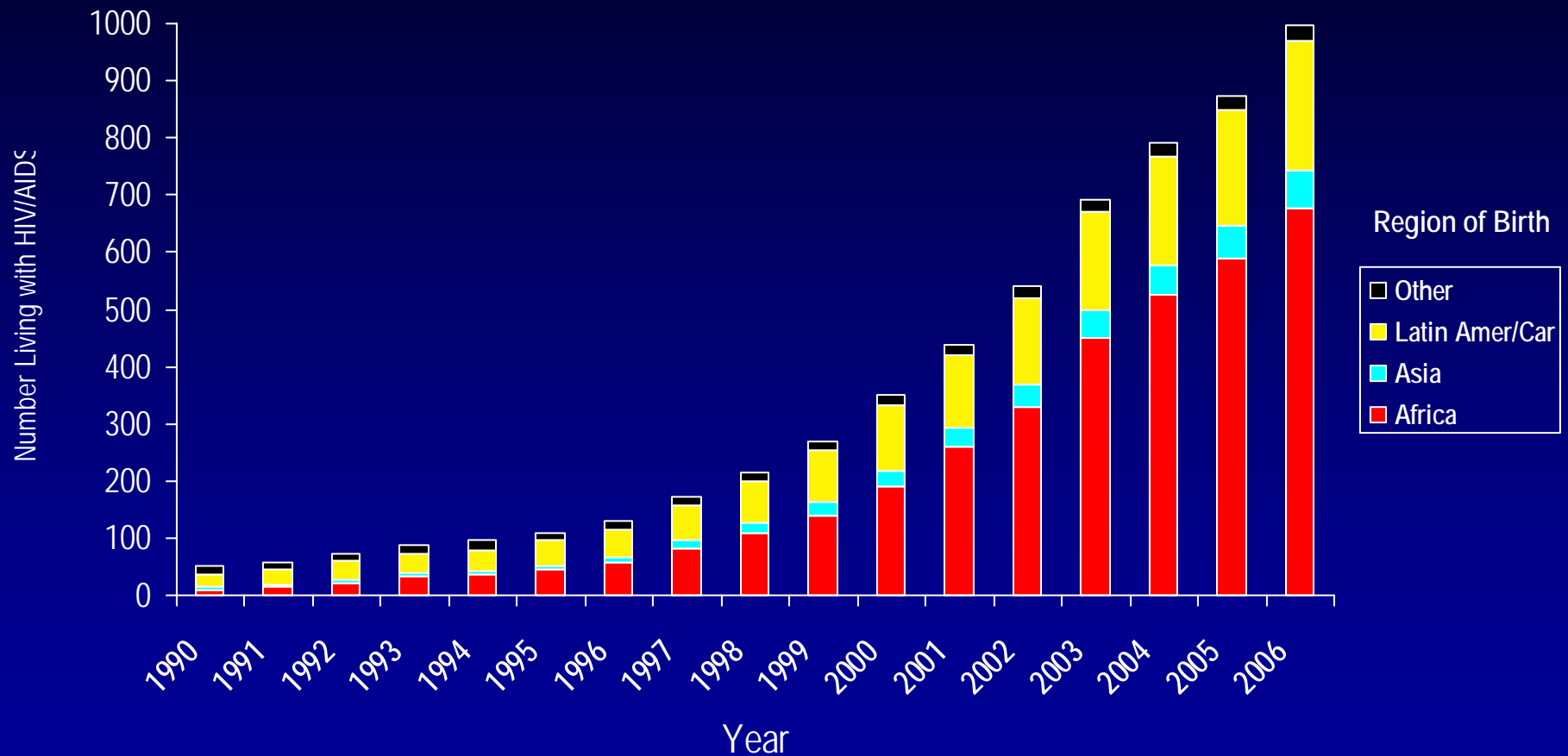
For additional detail see the HIV Prevalence & Mortality Technical Notes.

Data Source: *Minnesota HIV/AIDS Surveillance System*

*HIV/AIDS in Minnesota: Annual Review*

# Special Populations

# Foreign-Born Persons Living with HIV/AIDS in Minnesota by Region of Birth, 1990-2006



Latin Amer/Car – Includes Mexico, Caribbean, and Central/South American countries

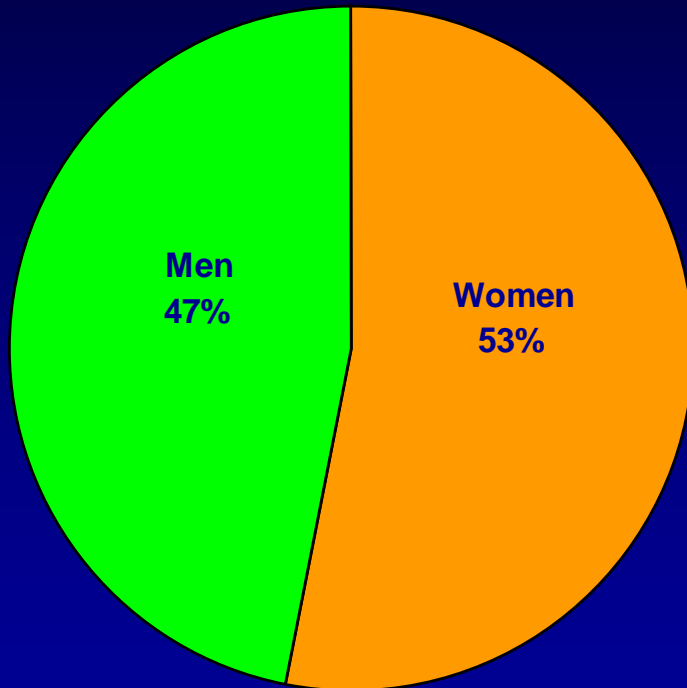
Data Source: *Minnesota HIV/AIDS Surveillance System*

*HIV/AIDS in Minnesota: Annual Review*

# African-Born<sup>†</sup> Persons Living with HIV/AIDS Compared to Other Minnesota Cases by Gender, 2006

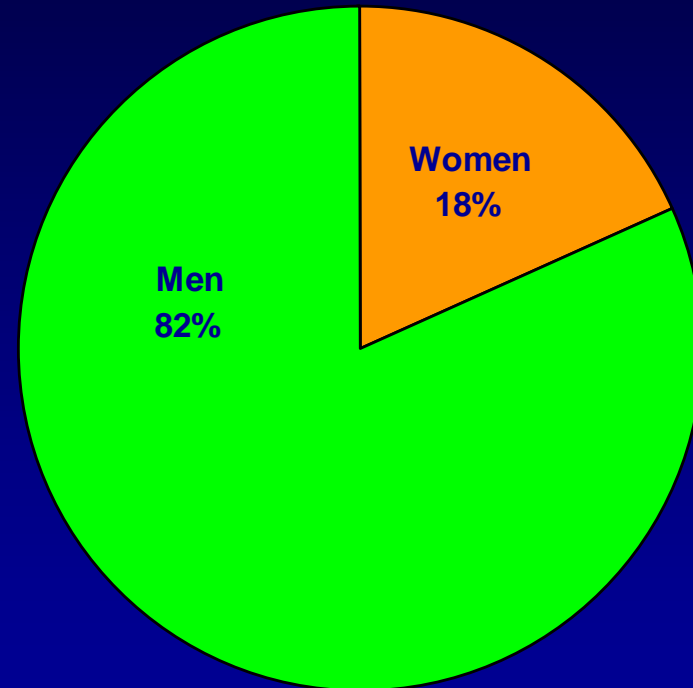
## African-born Persons

Total Number = 678



## U.S.-born Cases

Total Number = 4,569



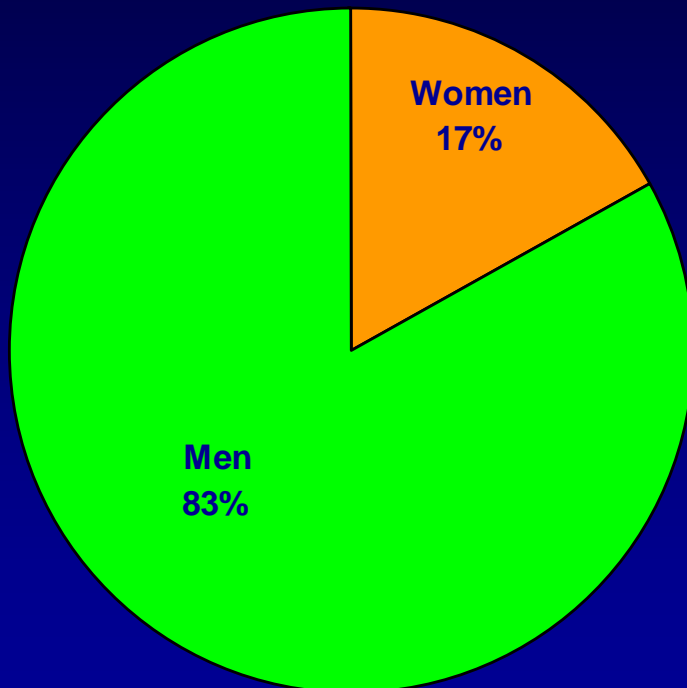
<sup>†</sup> Includes persons arriving to Minnesota through the HIV+ Refugee Resettlement Program and other refugee/immigrant programs and 3 White African-born persons



# Persons Living with HIV/AIDS born in Latin America/Caribbean<sup>†</sup> Countries Compared to Other Minnesota Cases by Gender, 2006

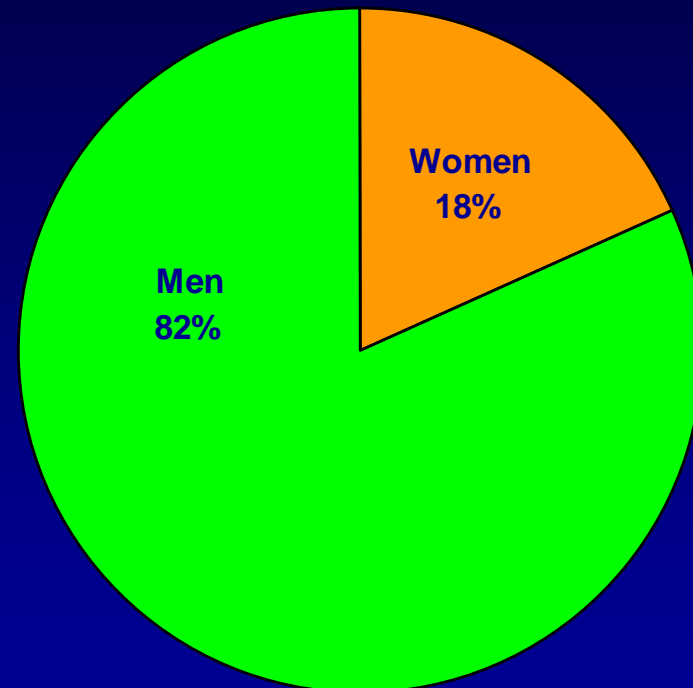
## Latin/Caribbean Persons

Total Number = 229



## U.S.-born Cases

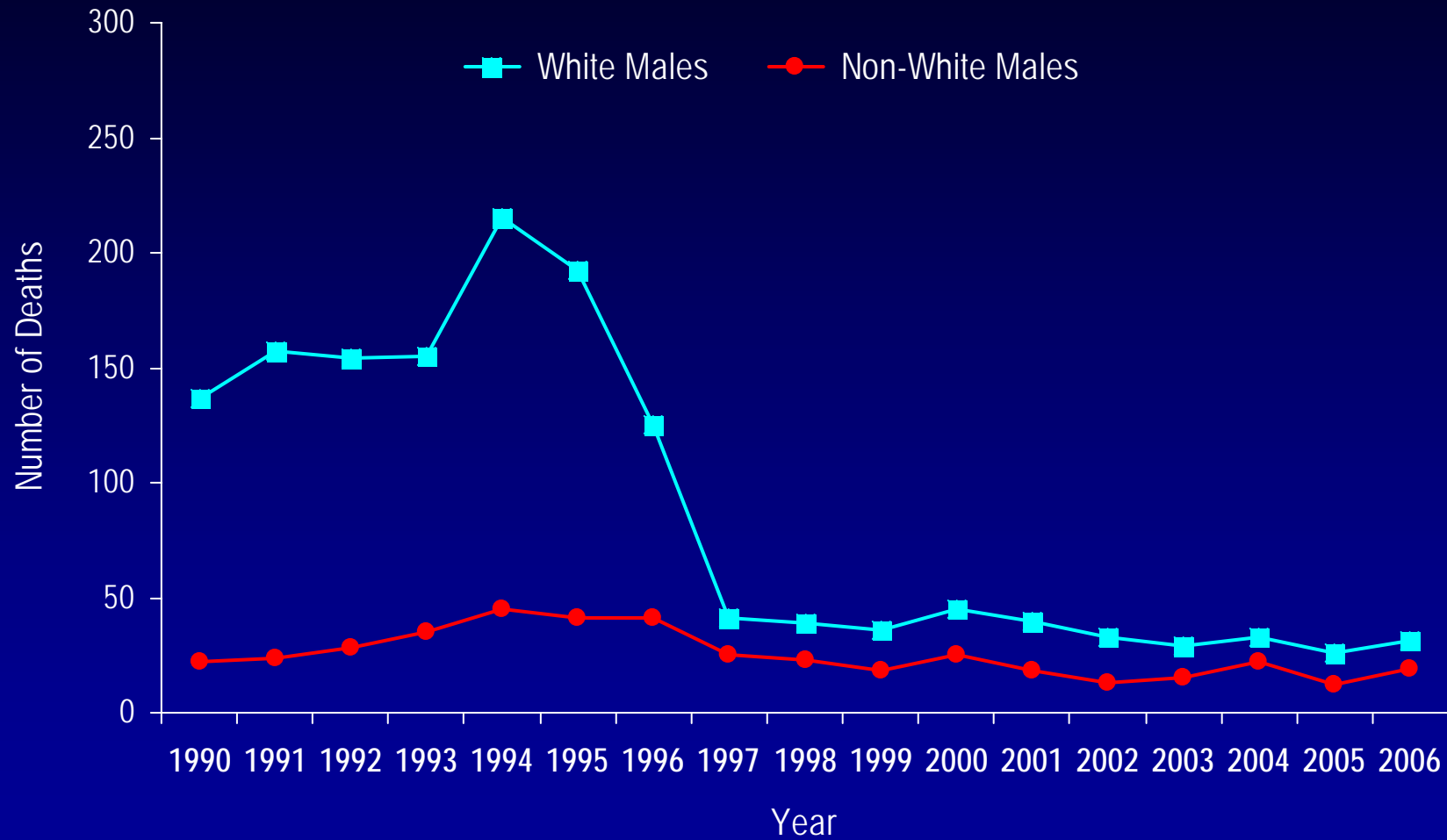
Total Number = 4,569



<sup>†</sup> Includes Mexico and all Central/South American and Caribbean countries.

# Mortality

# Reported Deaths\* among Male MN AIDS Cases 1990-2006

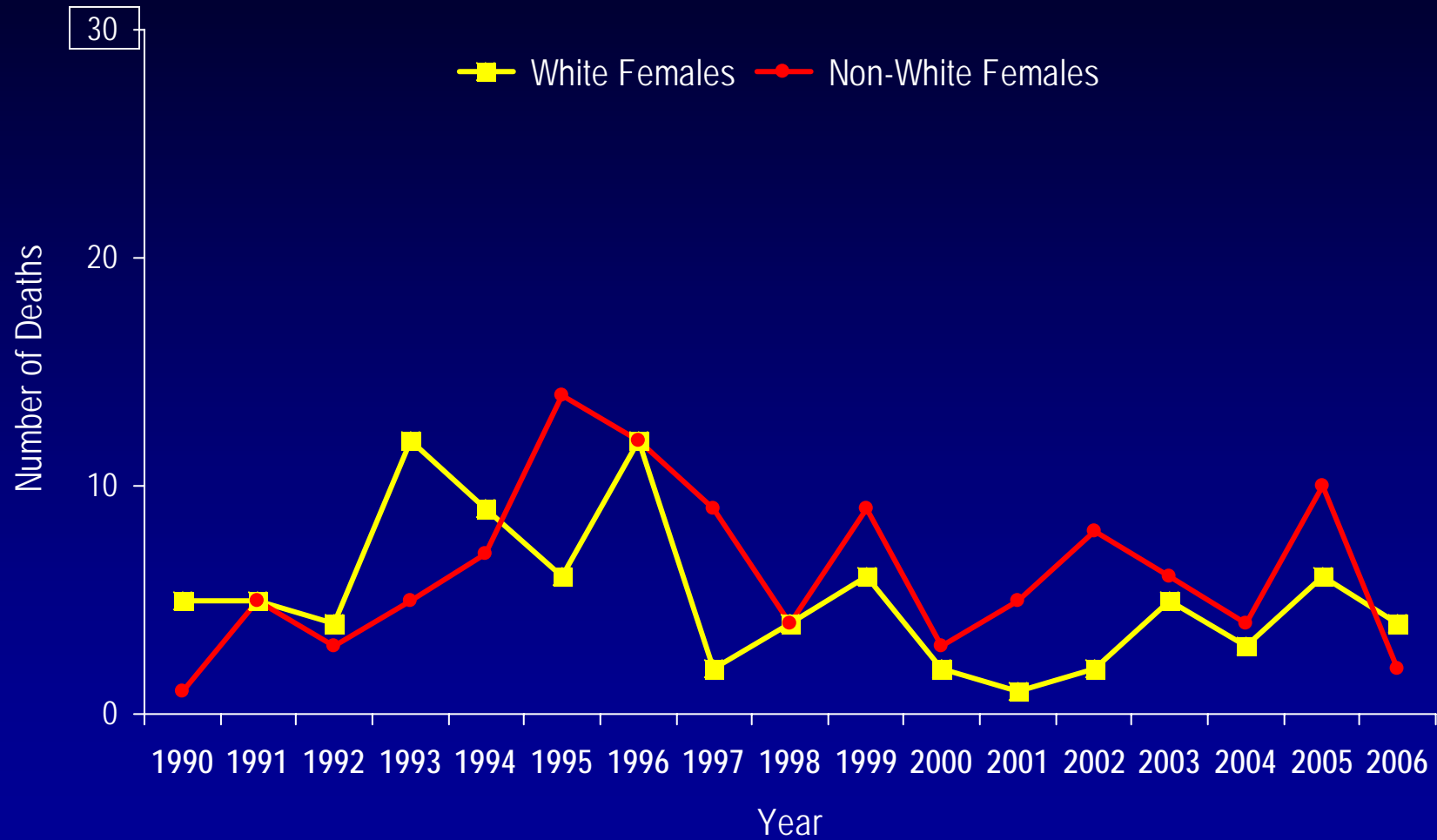


\* Deaths among MN AIDS cases, regardless of location and cause.

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Reported Deaths\* among Female MN AIDS Cases 1990-2006

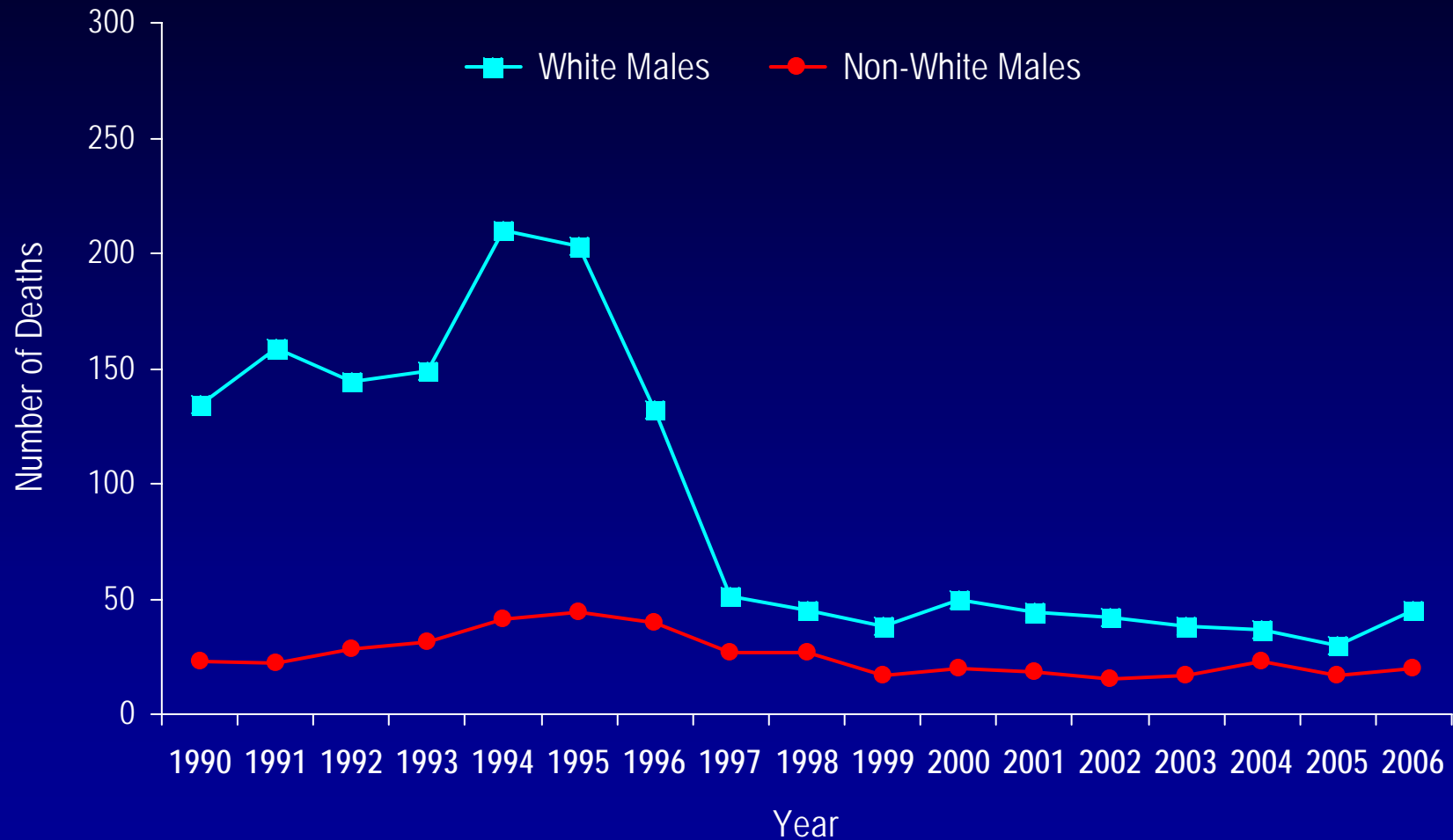


\* Deaths among MN AIDS cases, regardless of location and cause.

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Reported Deaths\* in Minnesota among Males with HIV Infection†, 1990-2006



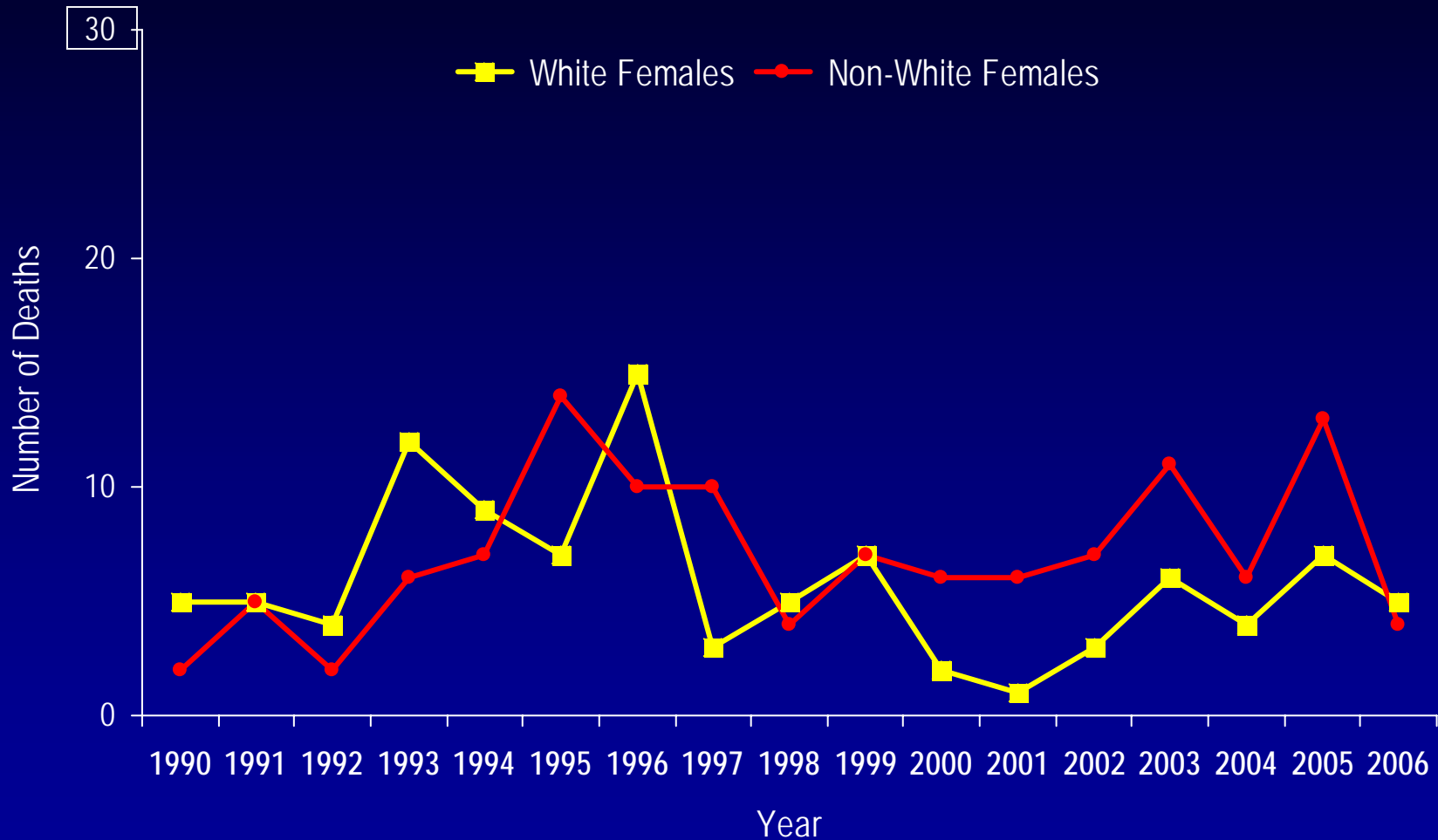
\* Deaths in Minnesota among people with HIV infection regardless of location of diagnosis and cause of death.

† HIV (non-AIDS) or AIDS

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# Reported Deaths\* in Minnesota among Females with HIV Infection†, 1990-2006



\* Deaths in Minnesota among people with HIV infection regardless of location of diagnosis and cause of death.

† HIV (non-AIDS) or AIDS

Data Source: Minnesota HIV/AIDS Surveillance System

HIV/AIDS in Minnesota: Annual Review

# **Companion Text for the Slide Set:** ***Minnesota HIV/AIDS Prevalence & Mortality Report, 2006***

## **INTRODUCTION**

The *Minnesota HIV/AIDS Prevalence & Mortality Report, 2006* contains estimates of HIV/AIDS prevalence (the number of persons living with HIV or AIDS) and mortality in Minnesota. These estimates can be used to help educate, plan for HIV/AIDS services and develop policy.

### **Data Source**

The data in this report are based on confidential case reports collected through the Minnesota Department of Health (MDH) HIV/AIDS Surveillance System. In Minnesota, laboratory-confirmed infections of human immunodeficiency virus (HIV) are monitored by the MDH through this active and passive surveillance system. State rules (Minnesota Rule 4605.7040) requires both physicians and laboratories to report all cases of HIV infection (HIV or AIDS) directly to the MDH (passive surveillance). Additionally, regular contact is maintained with several clinical sites to ensure completeness of reporting (active surveillance).

### **Data Limitations**

The prevalence estimate is calculated by totaling the number of HIV and AIDS cases diagnosed through December 31, 2006 who are not known to be deceased and whose most recently reported state of residence was Minnesota. It bears noting that persons who are HIV-infected but not yet tested are not included in this prevalence estimate. Migration (known HIV-infected persons moving in or out of the state) also affects the estimate. Refer to the *HIV/AIDS Prevalence & Mortality Technical Notes* for a more detailed description of data inclusions and exclusions.

Factors that impact the completeness and accuracy of the available surveillance data on HIV/AIDS include the level of screening and compliance with case reporting. Thus, any changes in numbers of infections may be due to one of these factors, or due to actual changes in HIV/AIDS occurrence.

## **PERSONS LIVING WITH HIV/AIDS IN THE UNITED STATES**

According to the Centers for Disease Control & Prevention (CDC), at the end of 2003, 1,039,000 to 1,185,000 persons in the United States were living with HIV/AIDS, with 24-27% undiagnosed and unaware of their HIV infection<sup>1</sup>. The number of people specifically living with AIDS in the United States has been increasing in recent years: from approximately 290,400 in 1998 to approximately 425,910 in 2005.<sup>2</sup>

## **PERSONS LIVING WITH HIV/AIDS IN MINNESOTA**

### **Overview of HIV/AIDS in Minnesota, 1990-2006**

The number of persons assumed to be living with HIV/AIDS in Minnesota has been steadily increasing over time. As of December 31, 2006, 5,566 persons known to be living with HIV/AIDS resided in Minnesota, a 6.3% increase from 2005. The number of HIV (non-AIDS) diagnoses had remained steady since the mid-1990s at just under 200 cases per year, however since 2003 that number has been increasing steadily. In contrast, both the number of newly diagnosed AIDS cases and the number of deaths among AIDS cases declined between 1996 and 2000. These decreases were primarily due to the success of new treatments introduced in 1995 (protease inhibitors) and 1996 (highly active antiretroviral therapy or HAART). These treatments do not cure, but can delay progression to AIDS among persons with HIV (non-AIDS) infection and improve survival among those with AIDS. Thus, the declines slowed during the late 1990s and between 2001 and 2004 the numbers of AIDS cases increased slowly. In 2005 and 2006, the numbers of AIDS cases decreased once more.

### **Living HIV/AIDS Cases, 2006**

Among the estimated 5,566 prevalent cases in Minnesota, 3,105 are diagnosed with HIV (non-AIDS) and 2,461 are diagnosed with AIDS. The majority (87%) of prevalent cases reside in the seven-county metropolitan area surrounding the Twin Cities

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<sup>1</sup> Glynn M, Rhodes P. Estimated HIV prevalence in the United States at the end of 2003. National HIV Prevention Conference; June 2006; Atlanta. Abstract 595.

<sup>2</sup> Centers for Disease Control and Prevention. *HIV/AIDS Surveillance Report* 2005:17.



of Minneapolis and St. Paul (Hennepin, Ramsey, Anoka, Dakota, Scott, and Washington counties). Although HIV infection is more common in communities with higher population densities and greater poverty, there are people living with HIV or AIDS in over 88% of counties in Minnesota.

### **Gender & Race/Ethnicity**

Seventy-seven percent (77%) of prevalent HIV/AIDS cases are males. Broken down by race/ethnicity, 62% of male cases are White, 19% African American, 8% Hispanic, 7% African-born, 1% American Indian, and 1% Asian/Pacific Islander. In total, 38% of males living with HIV/AIDS are non-White whereas only 12% of the general male population is Non-White. Among female cases, the distribution is even more skewed toward women of color: 28% White, 31% African American, 28% African-born, 6% Hispanic, 3% American Indian, and 2% Asian/Pacific Islander. Thus, 72% of prevalent female HIV/AIDS cases are non-White whereas only 11% of the general female population in Minnesota is non-White.

Please note that race is not considered a biological reason for disparities related to HIV/AIDS experienced by persons of color. Race, however, can be considered a marker for other personal and social characteristics that put a person at greater risk for HIV exposure. These characteristics may include, but are not limited to, lower socioeconomic status, less education, and less access to health care.

### **Age**

Eighty percent (80%) of persons living with HIV/AIDS in 2006 are currently 35 years of age or older. Broken down into five-year age groups, 40-44 year olds make up the largest group (22% of cases), followed by 45-49 year olds (19%) and 35-39 year olds (15%).

### **Mode of Exposure**

In 2006, MDH used a risk re-distribution method to estimate the mode of exposure among cases with unknown risk. For additional details on how this was done

please read the *HIV Prevalence and Mortality Technical Notes*. All mode of exposure numbers referred to in the text are based on the risk re-distribution.

The proportions of living cases attributable to particular modes of exposure differ among gender and race groups. While male-to-male sex (MSM or MSM/IDU) accounts for an estimated 93% of White male cases, it accounts for an estimated 61% of non-White male cases. The estimated percent of male cases that identified IDU as a risk factor was particularly high for African Americans (20%), Hispanics (14%), and American Indians (12%). These percentages among Asian, White, and African-born males were estimated at 6%, 3%, and 0%, respectively. Similar to the MSM category, IDU may be underreported due to social stigma.

Across all race/ethnicity groups, females most frequently report heterosexual contact as their mode of HIV exposure. However, IDU also accounts for a large percentage of female cases among most race/ethnicity groups. The largest estimated percentage of IDU cases are among American Indians (31%) followed by African Americans, Whites, and Hispanics with 24%, 21%, and 17%, respectively. There were no cases either among African-born females or among Asian females. The number of prevalent HIV/AIDS cases among Asian females was too small ( $n = 30$ ) to make generalizations about risk.

While risk re-distribution was used to make better sense of mode of exposure information there are differences by race and gender on how many cases have unspecified risk. Among males 16% of prevalent cases have no risk information, compared to 45% of females. Additionally, among males only 6% of White prevalent cases have unspecified risk, compared to 90% of African-born, 42% of Asian, and 20% and 10% for Hispanic and African American cases, respectively. Among women, the disparity between White females (27% unspecified) and women of color is not as striking, except for African-born (80% unspecified) and Asian (60%) females. See the *HIV/AIDS Prevalence & Mortality Technical Notes* for a detailed discussion of mode of exposure categories.

### **Emerging Trend**

Between 1990 and 2006, the number of foreign-born persons living with HIV/AIDS in Minnesota increased substantially, especially among the African-born population. In 1990, 50 foreign-born persons were reported to be living with HIV/AIDS in Minnesota, and by 2003 this number had increased twelve-fold to 692 persons. In 2006, the total number of foreign-born persons living with HIV/AIDS in Minnesota was 1,005, a 15% increase from 2005. This trend illustrates the growing diversity of the infected population in Minnesota and the need for culturally appropriate HIV care services and prevention efforts.

The characteristics of foreign-born persons living with HIV/AIDS in Minnesota differ from U.S.-born, especially in gender. While females account for 18% of cases among U.S.-born persons, they account for 43% of foreign-born cases. This is especially noticeable among African-born cases, where women account for 53% of those living with HIV/AIDS in Minnesota. Among Asian-born cases, women account for 40% of cases. The gender distribution among cases born in Latin America, the Caribbean and Europe is similar to that of U.S.-born cases, where approximately 20% of prevalent cases are among women.

### **HIV/AIDS MORTALITY IN MINNESOTA**

The number of deaths<sup>3</sup> among Minnesota AIDS cases decreased between 1995 and 1997 and remained relatively constant between 1997 and 2006. The largest declines in mortality were observed among White males in the mid 1990s. In recent years, the number of deaths among AIDS cases has been comparable between White and non-White males and between White and non-White females. In 2006, a total of 56 deaths were reported among AIDS cases. Of these deaths, six (6) were among women and 50 among men. The number of deaths<sup>4</sup> reported in Minnesota for those living with HIV infection (HIV (non-AIDS) or AIDS) was slightly higher (74 deaths) than the number of deaths among MN AIDS cases.

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<sup>3</sup> Includes all deaths, regardless of location of death and cause of death.

<sup>4</sup> Includes all deaths in Minnesota to persons with HIV infection, regardless of location of diagnosis and cause of death.

## **HIV/AIDS PREVALENCE & MORTALITY**

### **TECHNICAL NOTES**

#### **Surveillance of HIV/AIDS**

The Minnesota Department of Health (MDH) collects case reports of HIV infection and AIDS diagnoses through a passive and active HIV/AIDS surveillance system. Passive surveillance relies on physicians and laboratories to report new cases of HIV infection or AIDS directly to the MDH in compliance with state rules<sup>1</sup>. Active surveillance conducted by MDH staff involves routine visits and correspondence with select HIV clinical facilities to ensure completeness of reporting and accuracy of the data.

Factors that impact the completeness and accuracy of HIV/AIDS surveillance data include: availability and targeting of HIV testing services, test-seeking behaviors of HIV-infected individuals, compliance with case reporting, and timeliness of case reporting. Certain events have also impacted trends in HIV/AIDS surveillance data. For example changes over time in the surveillance case definition (most notably the 1993 expansion of the case definition for adults and adolescents<sup>2</sup>) have resulted in artificial jumps in AIDS case counts at the time the new definition went into effect or in the preceding year because changes in case definition allowed for retrospective diagnoses.

#### **Vital Status of HIV/AIDS Cases**

Persons are assumed alive unless the MDH has knowledge of their death. Vital status information is updated by monthly visits to select reporting facilities, correspondence with other health departments, annual death certificate reviews, and periodic matches with the National Death Index. “AIDS deaths” refers to all deaths among AIDS cases regardless of the cause of death. “All deaths” refers to all death among HIV/AIDS cases regardless of the cause of death.

#### **Place of Residence for HIV/AIDS Cases**

Persons are assumed to be residing in Minnesota if their most recently reported state of residence was Minnesota and the MDH has not received notice of relocation

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<sup>1</sup> Minnesota Rule 4605.7040

<sup>2</sup> MMWR 1992;41[no.RR-17]:1-19

outside of the state. Likewise, a person's county or city of residence is assumed to be the most recently reported value unless the MDH is otherwise notified. Residence information is updated through standard case reporting, monthly visits to select reporting facilities and/or correspondence with other state health departments. Persons diagnosed with HIV infection while imprisoned in a state correctional facility are included in the data presented unless otherwise noted (federal and private prisoners are excluded). Residential relocation, including release from state prison, is difficult to track and therefore data presented by *current* residence must be interpreted in this light. Data on residence *at time of diagnosis* are considered more accurate, limited only by the accuracy of self-reported residence location.

### **Data Tabulation and Presentation**

Unless otherwise noted, data analyses exclude persons diagnosed in federal or private correctional facilities (inmates generally are not Minnesota residents before incarceration and do not stay in Minnesota upon their release), infants with unknown or negative HIV status who were born to HIV positive mothers. Data include HIV-infected refugees who resettled in Minnesota as part of the HIV-Positive Refugee Resettlement Program, as well as, other refugees/immigrants that resettled to Minnesota but had an HIV diagnosis prior to arrival..

The HIV/AIDS surveillance system is a live database that is continuously updated to reflect the most current information available. Variables such as current state of residence are over-written when updates are made. Annual archive files were initiated in 2001. Thus, the numbers of HIV/AIDS cases residing in Minnesota in 2000 and 2001 were estimated using the current state of residence variable while the number in previous years (1990-1999) was estimated using state of residence at time of diagnosis, vital status, and date of death variables. The number of HIV/AIDS cases alive in a certain year was calculated by summing cases with an HIV/AIDS diagnosis in that year or prior whose vital status in 2001 was "alive" or whose date of death was either after the calendar year of interest or missing.

### **Mode of Exposure Hierarchy**

All state and city HIV/AIDS surveillance systems funded by the Centers for Disease Control and Prevention use a standardized hierarchy of mode of exposure categories. HIV and AIDS cases with more than one reported mode of exposure to HIV are classified in the exposure category listed first in the hierarchy. In this way, each case is counted as having only one mode of exposure. The only exception to this rule is the joint risk of male-to-male sex (MSM) and intravenous drug use (IDU), which makes up a separate exposure category in the hierarchy. The following is a list of the hierarchy for adolescent/adult HIV/AIDS cases:

- (1) MSM
- (2) IDU
- (3) MSM/IDU
- (4) Hemophilia patient
- (5) Heterosexual contact
- (6) Receipt of blood transfusion or tissue/organ transplant
- (7) Other (e.g. needle stick in a health care setting)
- (8) Risk not specified.

The following is the list of the hierarchy for pediatric HIV/AIDS cases:

- (1) Hemophilia patient
- (2) Mother with HIV or HIV risk
- (3) Receipt of blood transfusion or tissue/organ transplant
- (4) Other
- (5) Risk not specified.

Heterosexual contact is only designated if a male or female can report specific heterosexual contact with a partner who has, or is at increased risk for, HIV infection (e.g. an intravenous drug user). For females this includes heterosexual contact with a bisexual male (mainly due to the elevated prevalence of HIV infection among men who have sex with men).

“Risk not specified” refers to cases with no reported history of exposure to HIV through any of the routes listed in the hierarchy of exposure categories. These cases include persons who have not yet been interviewed by MDH staff; persons whose

exposure history is incomplete because they died, declined to be interviewed, or were lost to follow-up; and persons who were interviewed or for whom follow-up information was available but no exposure was identified/acknowledged.

The growing number of cases with unspecified risk in recent years is, in part, artificial and due to interviews that have not yet been completed. In time, a number of these will be assigned a mode of exposure category. However, part of the observed increase is real. As stated above, a person must have intimate knowledge about his/her partner to meet the criteria for heterosexual mode of exposure. Often cases will not be certain about their partners' HIV status or risk. Additionally, the perception of social stigma presumably decreases the likelihood that a person will acknowledge certain risk behaviors, particularly male-to-male sex or injecting drug use. Thus, if the *true* numbers of cases due to heterosexual contact, MSM, and/or IDU increase, a larger number of cases without a specified risk would be expected.

A recent study by the Centers for Disease Control and Prevention used statistical methods to redistribute risk among female HIV/AIDS cases with unspecified risk<sup>3</sup>. The results are helpful but are based on national data that are not necessarily applicable to the state or local level. Speculation regarding the distribution of risk behaviors among those with unspecified risk is difficult, especially in men, for whom even a national study is not available.

### **Re-distribution of Mode of Exposure**

In 2004 the Minnesota Department of Health began estimating mode of exposure for cases with unspecified risk in its annual summary slides. Estimation was done by using the risk distribution for living cases with known risk by race and gender and applying it to those with unspecified risk of the same race and gender. There were two exceptions to this method, African-born cases and Asian/Pacific Islander women. For both African-born and Asian/Pacific Islander women a breakdown of 95% heterosexual risk and 5% other risk was used. For African-born males a breakdown of 5% male-to-male sex, 90% heterosexual risk, and 5% other risk was used. These percentages are based on epidemiological literature and/or community experience.

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<sup>3</sup> MMWR 2001; 50(RR-6):31-40.

Below is an example of how the process worked for white, African American and African-born females:

**Living Cases among Females in 2005**

Race/Risk	Heterosexual n (% <sup>†</sup> )	IDU n (% <sup>†</sup> )	Other n (% <sup>†</sup> )	Unspecified n	Total N
White	186 (73)	57 (22)	11 (4)	89	343
African-American	177 (69)	63 (25)	16 (6)	118	374
African-born	53 (85)	0 (0)	9 (15)	248	310

<sup>†</sup> Percent of those with known risk.

**Female Cases with Estimated risk:**

Race/Risk	Heterosexual	IDU	Other	Total N
White	$(.73*89) + 186$ <b>= 251</b>	$(.22*89) + 57 =$ <b>77</b>	$(.04*89) + 11 =$ <b>15</b>	343
African-American	$(.69*118) + 177$ <b>= 259</b>	$(.25*118) + 63 =$ <b>92</b>	$(.06*118) + 16 =$ <b>23</b>	374
African-born <sup>‡</sup>	$(.95*248) + 53 =$ <b>289</b>	0	$(.05*248) + 9 =$ <b>21</b>	310

<sup>‡</sup> Used a distribution of 95% heterosexual and 5% other.

**Definitions Related to Race/Ethnicity**

When data are stratified by race, Black race is broken down into African-born and African American (not African-born) based on reported country of birth.

The terms “persons of color” and “non-Whites” refer to all race/ethnicity categories other than White (Black, Hispanic, American Indian, and Asian/Pacific Islander).

**Interstate De-Duplication Project (IDEP)**

The Minnesota Department of Health (MDH) continues to participate in RIDR. RIDR is a CDC project aimed at eliminating duplicate reports of HIV and AIDS cases among states. Each case of HIV and AIDS is assigned to the state (or states when the



diagnosis of HIV and AIDS occurs in two different states) where a person was first diagnosed. RIDR was the second such de-duplication initiative by CDC. The first initiative, IDEP, looked at cases reported through December 31, 2001. RIDR is now an ongoing activity that all states are expected to undertake. The latest de-duplication effort included cases from July 1, 2005 through June 30, 2006. Through this project, MDH identified 18 cases of HIV infection (including AIDS at first report) and no AIDS cases whose first diagnosis was not in Minnesota. These cases were previously considered as diagnosed in Minnesota and were counted in the cumulative number of cases diagnosed in Minnesota. As such, the change of “ownership” (where the case was diagnosed) has reduced both cumulative and yearly totals for Minnesota. Additionally, MDH also identified 47 cases that no longer live in Minnesota.

Table 1. Number <sup>I</sup> and Rate <sup>II</sup> (per 100,000) of Persons Living with HIV (non-AIDS) and AIDS by Residence, Age, and Gender -- Minnesota, 2006 <sup>V</sup>							
Group	HIV (non-AIDS)		AIDS		Total		HIV/AIDS Prevalence Rate
	Cases	%	Cases	%	Cases	%	
<b>Residence<sup>III</sup></b>							
Minneapolis	1,316	43%	993	40%	2,309	42%	603.5
St. Paul	438	14%	370	15%	808	15%	281.4
Suburban	943	31%	731	30%	1,674	30%	84.9
Greater Minnesota	382	12%	359	15%	741	13%	32.5
<i>Total</i>	<i>3,079</i>	<i>100%</i>	<i>2,453</i>	<i>100%</i>	<i>5,532</i>	<i>100%</i>	<i>113.1</i>
<b>Age<sup>IV</sup></b>							
<13 yrs	21	1%	6	0%	27	0%	3.0
13-19 yrs	30	1%	13	<1%	43	1%	8.2
20-24 yrs	133	4%	36	1%	169	3%	52.4
25-29 yrs	294	9%	104	4%	398	7%	124.4
30-34 yrs	324	10%	183	7%	507	9%	143.5
35-39 yrs	501	16%	345	14%	846	15%	205.1
40-44 yrs	660	21%	575	23%	1,235	22%	300.0
45-49 yrs	530	17%	500	20%	1,030	19%	282.8
50-54 yrs	310	10%	345	14%	655	12%	217.3
55-59 yrs	173	6%	196	8%	369	7%	162.7
60+ yrs	121	4%	158	6%	279	5%	36.1
<i>Total</i>	<i>3,097</i>	<i>100%</i>	<i>2,461</i>	<i>99%</i>	<i>5,558</i>	<i>100%</i>	<i>106.4</i>
<b>Gender</b>							
Male	2,336	75%	1,964	80%	4,300	77%	176.5
Female	769	25%	497	20%	1,266	23%	51.0
<i>Total</i>	<i>3,105</i>	<i>100%</i>	<i>2,461</i>	<i>100%</i>	<i>5,566</i>	<i>100%</i>	<i>113.1</i>
<b>State Totals</b>	<i>3,105</i>		<i>2,461</i>		<i>5,566</i>		<i>113.1</i>

<sup>I</sup> Cases reported to the MDH, assumed to be alive, and currently residing in Minnesota as of 12/31/06.

<sup>II</sup> HIV/AIDS prevalence rate calculated by dividing the total number of prevalent cases in a stratum (e.g persons aged 20-24 years) by the estimated population for that stratum and multiplying by 100,000. Population estimates are based on 2000 U.S. Census data.

<sup>III</sup> Residence information missing for 26 persons living with HIV and 8 persons living with AIDS.

<sup>IV</sup> Age missing for 8 persons living with HIV and 0 persons living with AIDS.

<sup>V</sup> MDH participates in the Interstate De-Duplication Project administered by CDC and aimed at eliminating duplicate reporting of HIV and AIDS cases. For further detail on the impact of this project on Minnesota numbers please see the HIV Surveillance Technical Notes.

Suburban = Seven-county metropolitan area except Minneapolis & St. Paul (Anoka, Carver, Dakota, Hennepin (except Minneapolis), Ramsey (except St. Paul), Scott, and Washington counties). Greater Minnesota = Remaining 80 counties outside of the seven-county metropolitan area.

Numbers exclude federal and private prisoners, but include 116 state prisoners and 156 refugees in the HIV-Positive Refugee Resettlement Program and 35 additional refugees/immigrants with HIV infection prior to resettling in Minnesota.

Percentages may not add to 100 due to rounding.

**Table 2. Number of Males & Females and Rates (per 100,000) Living with HIV (non-AIDS) and AIDS by Race/Ethnicity and Mode of Exposure<sup>I</sup> - Minnesota, 2006**

Group	Males				Females				Total				
	HIV (non-AIDS)	AIDS	Total		HIV (non-AIDS)	AIDS	Total		HIV (non-AIDS)	AIDS	Grand Total		
			Cases	%			Cases	%			Cases	%	Rate <sup>III</sup>
<b>Race/Ethnicity</b>													
White, non-Hispanic	1,494	1,180	2,674	62%	224	137	361	29%	1,718	1,317	3,035	55%	70.2
Black <sup>II</sup> , African-American	446	375	821	19%	241	152	393	31%	687	527	1,214	22%	723.5
Black <sup>II</sup> , African-born	169	148	317	7%	215	143	358	28%	384	291	675	12%	1350- 1918
Hispanic	151	201	352	8%	44	31	75	6%	195	232	427	8%	297.8
American Indian	27	31	58	1%	21	18	39	3%	48	49	97	2%	119.6
Asian/PI	31	22	53	1%	17	13	30	2%	48	35	83	1%	49.3
Other <sup>II</sup>	18	7	25	1%	7	3	10	1%	25	10	35	1%	x
<i>Total</i>	2,336	1,964	4,300	100%	769	497	1,266	100%	3,105	2,461	5,566	100%	113.1
<b>Mode of Exposure</b>													
MSM	1,577	1,267	2,844	66%	--	--	--	--	1,577	1,267	2,844	51%	x
IDU	127	129	256	6%	61	77	138	11%	188	206	394	7%	x
MSM/IDU	147	142	289	7%	--	--	--	--	147	142	289	5%	x
Heterosexual (Total)	(77)	(70)	(147)	3%	(314)	(201)	(515)	41%	(391)	(271)	(662)	12%	x
with IDU	30	34	64	--	78	74	152	--	108	108	216	--	x
with Bisexual Male	-	-	-	--	56	31	87	--	56	31	87	--	x
with Hemophiliac/other	1	2	3	--	4	0	4	--	5	2	7	--	x
with HIV+, unknown risk	46	34	80	--	176	96	272	--	222	130	352	--	x
Perinatal	7	9	16	0%	26	8	34	3%	33	17	50	1%	x
Other	14	27	41	1%	8	4	12	1%	22	31	53	1%	x
Unspecified	131	136	267	6%	157	99	256	20%	288	235	523	9%	x
No Interview	256	184	440	10%	203	108	311	25%	459	292	751	13%	x
<i>Total</i>	2,336	1,964	4,300	100%	769	497	1,266	100%	3,105	2,461	5,566	100%	113.1

<sup>I</sup> Cases reported to the MDH, assumed to be alive and currently residing in Minnesota as of 12/31/06.

<sup>II</sup> African-born Blacks are reported separately from other Blacks (born in the U.S. or elsewhere). "Other" includes multi-racial persons and persons with unknown race.

MSM = Men who have sex with men. IDU = Injecting drug use. Heterosexual = For males: heterosexual contact with a female known to be HIV+, an injecting drug user, or a hemophiliac/blood product or organ transplant recipient. For females: heterosexual contact with a male known to be HIV+, bisexual, an injecting drug user, or a hemophiliac/blood product or organ transplant recipient. Perinatal = Mother to child HIV transmission. Other = Hemophilia patient/blood product or organ transplant recipient. Unspecified = Cases who did not acknowledge any of the risks listed above. No Interview = Cases who refused to be, could not be or have not yet been interviewed.

<sup>III</sup> HIV/AIDS prevalence rate calculated by dividing the total number of prevalent cases in a stratum (e.g White, non-Hispanic) by the estimated population for that stratum and multiplying by 100,000. Population estimates are based on 2000 U.S. Census data. Accurate population estimates for Black, African-born persons living in Minnesota are unavailable – anecdotal (50,000) and 2000 U.S. Census data (35,188) were used to create the range of rates reported for African-born persons. The population estimate for Black, African-American persons (167,784) was calculated by subtracting the U.S. Census estimate for African-born persons (35,188) from the total Black population (202,972). Note that this assumes that all African-born persons are Black (as opposed to another race).

Numbers exclude federal and private prisoners, but include 116 state prisoners and 156 refugees in the HIV-Positive Refugee Resettlement Program and an additional 35 refugees/immigrants with HIV infection prior to resettling in Minnesota.

Percentages may not add to 100 due to rounding.

**Table 3. Number and Rate (per 100,000) of Persons Living with HIV (non-AIDS) and AIDS by County of Residence -- Minnesota, 2006**

County <sup>i</sup>	HIV (non-AIDS)	AIDS	Total	Rate <sup>iii</sup>
Aitkin	3	1	4	-
Anoka	108	84	192	64.4
Becker	0	3	3	-
Beltrami	6	9	15	37.8
Benton	2	4	6	17.5
Big Stone	0	0	0	-
Blue Earth	14	12	26	46.5
Brown	4	4	8	29.7
Carlton	5	7	12	37.9
Carver	12	17	29	41.3
Cass	0	4	4	-
Chippewa	0	3	3	-
Chisago	2	4	6	14.6
Clay	14	10	24	46.8
Clearwater	1	0	1	-
Cook	0	2	2	-
Cottonwood	1	2	3	-
Crow Wing	5	9	14	25.4
Dakota	140	82	222	62.4
Dodge	2	2	4	-
Douglas	1	4	5	15.2
Faribault	2	7	9	55.6
Fillmore	3	4	7	33.1
Freeborn	1	3	4	-
Goodhue	6	1	7	15.9
Grant	1	1	2	-
Hennepin	1,801	1,373	3,174	284.4
Houston	1	1	2	-
Hubbard	3	3	6	32.7
Isanti	4	5	9	28.8
Itasca	3	6	9	20.5
Jackson	0	0	0	-
Kanabec	2	0	2	-
Kandiyohi	4	9	13	31.6
Kittson	0	0	0	-
Koochiching	1	0	1	-
Lac Qui Parle	0	0	0	-
Lake	1	1	2	-
Lake of the Woods	0	0	0	-
Le Sueur	2	4	6	23.6
Lincoln	2	0	2	-
Lyon	7	2	9	35.4
McLeod	3	1	4	-
Mahnomen	1	0	1	-
Marshall	0	0	0	-
Martin	4	2	6	27.5
Meeker	3	4	7	30.9
Mille Lacs	2	6	8	35.8
Morrison	4	5	9	28.4
Mower	12	9	21	54.4
Murray	2	1	3	-
Nicollet	2	5	7	23.5
Nobles	12	6	18	86.4
Norman	0	0	0	-
Olmsted	47	37	84	67.6
Otter Tail	1	3	4	-
Pennington	1	1	2	-
Pine	4	2	6	22.6
Pipestone	1	0	1	-
Polk	8	5	13	41.4
Pope	0	3	3	-
Ramsey	544	447	991	193.9
Red Lake	0	0	0	-
Redwood	0	1	1	-
Renville	1	1	2	-
Rice	11	6	17	30.0
Rock	1	2	3	-
Roseau	0	0	0	-
St. Louis	54	44	98	48.9
Scott	17	26	43	48.0

**Table 3. Number and Rate (per 100,000) of Persons Living with HIV (non-AIDS) and AIDS by County of Residence -- Minnesota, 2006**

County <sup>i</sup>	HIV (non-AIDS)	AIDS	Total	Rate <sup>iii</sup>
Sherburne	11	15	26	40.4
Sibley	1	1	2	-
Stearns	20	21	41	30.8
Steele	4	2	6	17.8
Stevens	1	2	3	-
Swift	0	2	2	-
Todd	2	0	2	-
Traverse	1	1	2	-
Wabasha	4	1	5	23.1
Wadena	3	3	6	43.8
Waseca	6	0	6	30.7
Washington	37	41	78	38.8
Watonwan	3	1	4	-
Wilkin	0	0	0	-
Winona	7	3	10	20.0
Wright	13	11	24	26.7
Yellow Medicine	1	0	1	-
<b>State Total<sup>ii</sup></b>	<b>3,105</b>	<b>2,461</b>	<b>5,566</b>	<b>113.1</b>

<sup>i</sup> Cases reported to the MDH, assumed to be alive and currently residing in a Minnesota county as of 12/31/06.

<sup>ii</sup> Residence information missing for 26 persons living with HIV and 8 persons living with AIDS. Total rate is based on all cases in the state (n=5,566)

Numbers by county exclude federal, and private prisoners, but include 156 refugees in the HIV-Positive Refugee Resettlement Program and 35 additional refugees/immigrants with HIV infection prior to resettling in Minnesota. Numbers for counties in which a state correctional facility is located, exclude those inmates. The total number of state prisoners is 116. State correctional facilities are located in the following counties: Anoka, Carlton, Chisago, Goodhue, Pine, Rice, Scott, St. Louis, Stearns, and Washington.

<sup>iii</sup> HIV/AIDS prevalence rate calculated by dividing the total number of prevalent cases in a stratum (e.g. persons living in Hennepin county) by the estimated population for that stratum and multiplying by 100,000. Population estimates are based on 2000 U.S. Census data. Rates not calculated for counties with fewer than 5 cases.

**Table 4. Number of HIV (non-AIDS) Cases, AIDS Cases, AIDS Deaths, People Living with HIV/AIDS (PLWHA) and All Deaths<sup>1</sup>  
Minnesota, 1991-2006**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
HIV (non-AIDS)	358	348	222	227	223	192	199	196	199	181	197	216	185	192	217	237
AIDS <sup>II</sup>	336	361	350	332	339	258	194	193	161	157	124	160	169	206	179	163
AIDS deaths	191	189	207	276	253	190	77	70	69	75	64	56	55	62	54	56
PLWHA	2,005	2,278	2,572	2,738	2,875	3,051	3,287	3,539	3,790	4,046	4,331	4,598	4,895	5,002	5,233	5,566
All deaths	191	178	198	267	268	197	91	81	69	78	69	67	72	70	67	74

<sup>1</sup> **HIV (non-AIDS)** = New cases of HIV infection (excluding AIDS at first diagnosis) diagnosed within a given calendar year.

**AIDS** = All new cases of AIDS diagnosed within a given calendar year, including AIDS at first diagnosis. **AIDS deaths** = Number of deaths known to have occurred among MN AIDS cases in a given calendar year, regardless of location of death and cause. **All deaths**= Number of deaths known to have occurred in MN among people with HIV infection, regardless of location of diagnosis and cause of death.

<sup>II</sup>Numbers include refugees in the HIV-Positive Refugee Resettlement Program, as well as, other refugees/immigrants diagnosed with AIDS subsequent to their arrival in the U.S.

**Please Note:** These numbers refer to events, not individuals. For example, a person diagnosed as an HIV (non-AIDS) case in 1992 and then diagnosed as an AIDS case in 2000 will be counted twice in Table 4, once for each event. Thus, the numbers of HIV (non-AIDS) and AIDS cases cannot be summed over years to obtain cumulative totals. Please refer to the Minnesota HIV Surveillance Report, 2006 New HIV Infections, Table 1 for cumulative totals. Case numbers exclude federal and private prisoners.

**Table 5. Known Mortality among Minnesota AIDS Cases  
by Year of Diagnosis -- Minnesota, through 2006<sup>I</sup>**

<b>Year</b>	<b>Cases Diagnosed</b>	<b>Cases Known to be Dead<sup>II</sup></b>	<b>Case-Fatality Rate<sup>III</sup></b>	<b>Deaths Occurring in this Interval</b>
1982-1990	1,007	960	95%	533
1991	336	306	91%	191
1992	361	281	78%	189
1993	350	253	72%	207
1994	332	204	61%	276
1995	339	125	37%	253
1996	258	87	34%	190
1997	194	54	28%	77
1998	193	43	22%	70
1999	161	30	19%	69
2000	157	27	17%	75
2001	124	14	11%	64
2002	160	25	16%	56
2003	169	20	12%	55
2004	206	25	12%	62
2005	179	18	10%	54
2006	163	5	3%	56
<b>Cumulative Total</b>	4,689	2,477	53%	2,477

<sup>I</sup> CDC 1993 AIDS definition used for all cases.

<sup>II</sup> Cases known to be dead (by any cause) as of 12/31/2006. Reporting of deaths is incomplete.

<sup>III</sup> Case-fatality rate is calculated by dividing the number of cases known to be dead by those diagnosed in a given interval and multiplying by 100.

Numbers exclude federal and private prisoners, but include state prisoners, refugees in the HIV-Positive Refugee Resettlement Program, as well as, other refugees/immigrants diagnosed with AIDS subsequent to their arrival in the U.S.