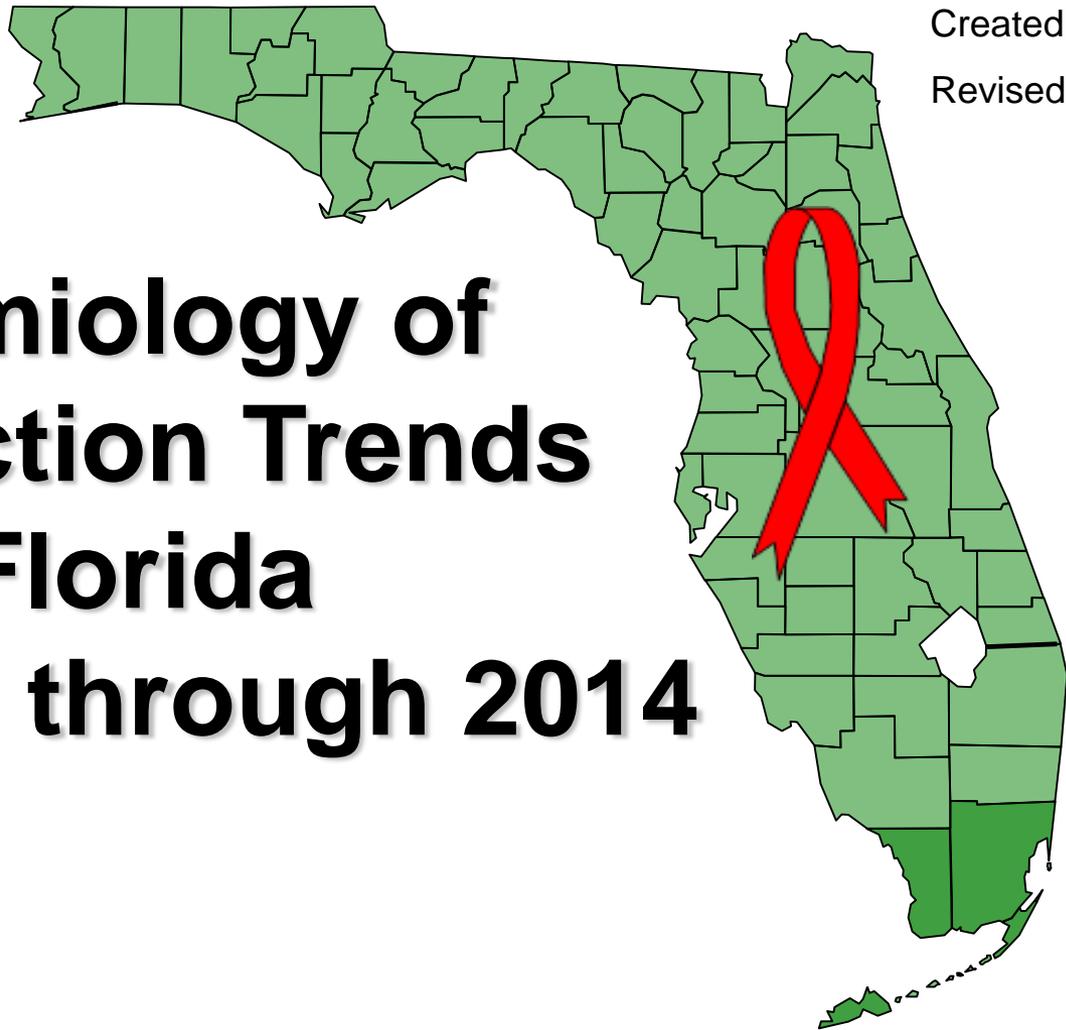


Created: 12/15/15

Revised: 03/31/16



# Epidemiology of HIV Infection Trends in Florida Diagnosed through 2014

**Florida Department of Health  
HIV/AIDS Section**

**Division of Disease Control and Health Protection  
Annual data as of 12/31/2015**

To protect, promote and improve the health of all people in Florida through integrated state, county, and community efforts.



# HIV and AIDS Case Data

- ⌘ HIV Infection reporting represents newly Diagnosed HIV cases, regardless of AIDS status at time of report.**
- ⌘ HIV infection cases classified as Stage 3 (AIDS) became reportable in Florida in 1981.**
- ⌘ HIV infection cases (without an AIDS diagnosis) became reportable in Florida on July 1, 1997.**
- ⌘ AIDS cases and HIV infection cases by Year of Diagnosis are NOT mutually exclusive and CANNOT be added together.**
- ⌘ Frozen databases of year-end data are generated at the end of each calendar year. These are the same data used for Florida CHARTS and all grant-related data where annual data are included.**
- ⌘ HIV prevalence data are prepared later in the year, when most of the “expected” death data are complete, usually in July.**

# HIV and AIDS Case Data (con't)

- ⦿ **Adult cases represent ages 13 and older, pediatric cases are those under the age of 13. For data by year, the age is by age of diagnosis. For living data, the age is by current age at the end of the most recent calendar year, regardless of age at diagnosis.**
- ⦿ **Unless otherwise noted, whites are non-Hispanic and blacks are non-Hispanic.**
- ⦿ **Total statewide data will include Department of Correction Cases (DOC) unless otherwise noted. County data will exclude DOC cases.**
- ⦿ **HIV “incidence estimates” are approximations of the numbers of people who are newly infected, which include those whose infection has not yet been diagnosed or Diagnosed.**

# Surveillance Case Definition for AIDS in Florida under age 6

**Laboratory evidence and/or medical documentation by a physician of a person with a positive confirmatory HIV antibody test and/or positive virologic test (qualitative or quantitative) *and***

**For children under age 6:**

-  Has been diagnosed with one or more AIDS-defining illness (Opportunistic Infections)**

# Surveillance Case Definition for AIDS in Florida age 6 and older

**Laboratory evidence and/or medical documentation by a physician of a person with a positive confirmatory HIV antibody test and/or positive virologic test (qualitative or quantitative) *and***

**For persons 6 years of age or older:**

- ⦿ Has a CD4 absolute lymphocyte count below 200, or a CD4 of less than 14% total lymphocytes and/or**
- ⦿ Has been diagnosed with one or more AIDS-defining illness (i.e., Opportunistic Infections) excluding multiple or recurrent bacterial infections**

# Surveillance Case Definition for HIV in Florida

## Laboratory Criteria

**Positive result on a screening test for HIV antibody, followed by a positive result on a confirmatory test for HIV antibody (e.g., Western blot, IFA, multispot, etc)**

**OR**

** Positive result or report of a detectable quantity of any of the following HIV virologic (non-antibody) tests:**

- HIV nucleic acid (DNA or RNA) detection test (e.g., polymerase chain reaction [PCR])
- Has a CD4 of less than 14 percent total lymphocytes
- HIV p24 antigen test, (excluding neutralization assay)
- HIV isolation (viral culture)

# HIV Infection Reporting in Florida

**HIV Case Reporting in Florida is based on a positive antibody or antigen test for HIV:**

- ⦿ HIV (not AIDS) cases became reportable in Florida on 07/1997, but only via confirmatory Western Blot (antibody) HIV tests. Reporting was NOT retroactive. Previously positive tests required re-testing with a confirmatory test before they could become reportable.**
- ⦿ Viral load (antigen) HIV tests became reportable in Florida on 11/20/2006.**
- ⦿ As of 2009, all states now have confidential name-based HIV infection reporting.**

# Reporting Sources of HIV and AIDS Cases

- ⦿ Private MDs
- ⦿ Medical Records
- ⦿ Death Certificates
- ⦿ Laboratories
- ⦿ Medical Examiners
- ⦿ Counseling & Testing Sites
- ⦿ Correctional Facilities
- ⦿ Hospitals (ICD-9), Billing
- ⦿ HIV Patient Care Clinics
- ⦿ Registries (e.g., AZT, TB, Cancer)

Surveillance for HIV/AIDS relies on reporting from the above sources. Additionally, local public health professionals are responsible for case finding and/or epidemiologic follow-up, resulting in a very high completeness of reporting and decent classification of exposure (risk) category.

# The Epidemic in Florida

**Population in 2015: 19.8 million →**

*(3<sup>rd</sup> in the nation)*

**Newly *diagnosed*\*\* HIV infections in 2014: 4,613**

*(2<sup>nd</sup> in the nation in 2014)*

**Newly *diagnosed*\*\* AIDS cases in 2014: 2,370**

*(1<sup>st</sup> in the nation in 2014)*

**Cumulative pediatric AIDS cases *diagnosed*\*\* through 2014: 1,548**

*(2<sup>nd</sup> in the nation in 2014)*

**Persons *diagnosed* and living\*\*\*  
with HIV disease through 2014: 110,000→**

*(3<sup>rd</sup> in the nation in 2013)*

**HIV prevalence estimate through 2014: 126,100**  
*(accounts for 12.8% national estimated unaware of their status)*

**HIV Incidence Estimates in 2013: 4,120**

*(There was a 18% decrease from 2007-2013)*

**HIV-related deaths in 2014: 878**

*(Down 6% from 2013)*

56% White  
16% Black  
24% Hispanic  
4% Other\*

30% White  
47% Black  
21% Hispanic  
2% Other\*

\* Other = Asian/Pacific Islanders; American Indians/Alaskan Natives; multi-racial.

\*\* Data by year of diagnosis for 2014, data as of 06/30/2015

\*\*\* Living (prevalence) data as of 06/30/2015

# HIV Incidence Estimates, 2007-2012, Florida\*

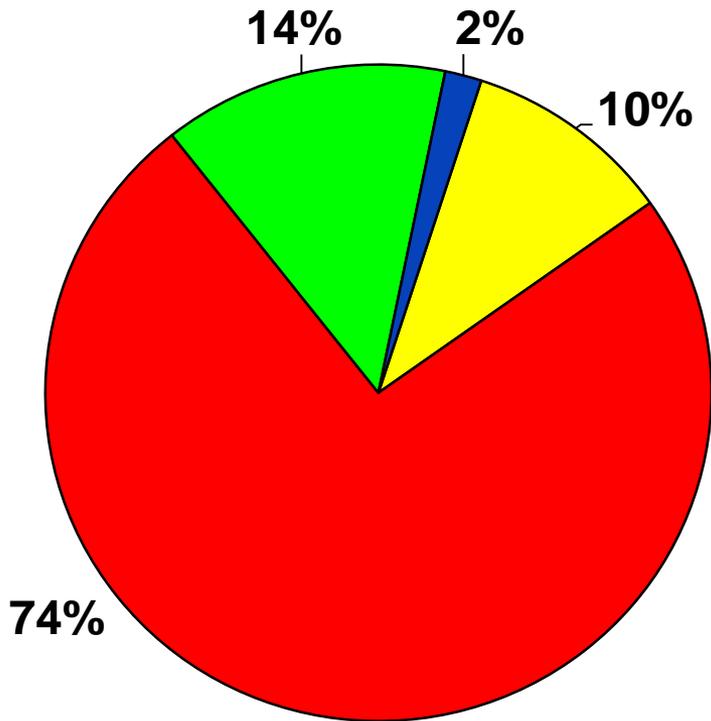
Year	No.	Change From Previous Year	Change From 2007 To 2012
<b>2007</b>	5,026	--	--
<b>2008</b>	5,504	+10%	--
<b>2009</b>	4,491	-18%	--
<b>2010</b>	3,555	-21%	--
<b>2011</b>	4,198	+18%	--
<b>2012</b>	4,147	-1%	-17%

\* Florida HIV incidence is calculated using the Centers for Disease Control and Prevention's Stratified Extrapolation Approach. The complex statistical algorithm uses data collected by the HIV Incidence Surveillance unit, which includes STARHS results and data collected on testing and treatment behavior.

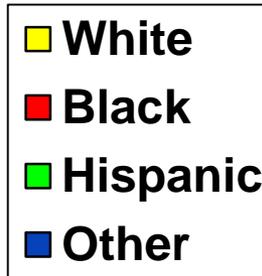
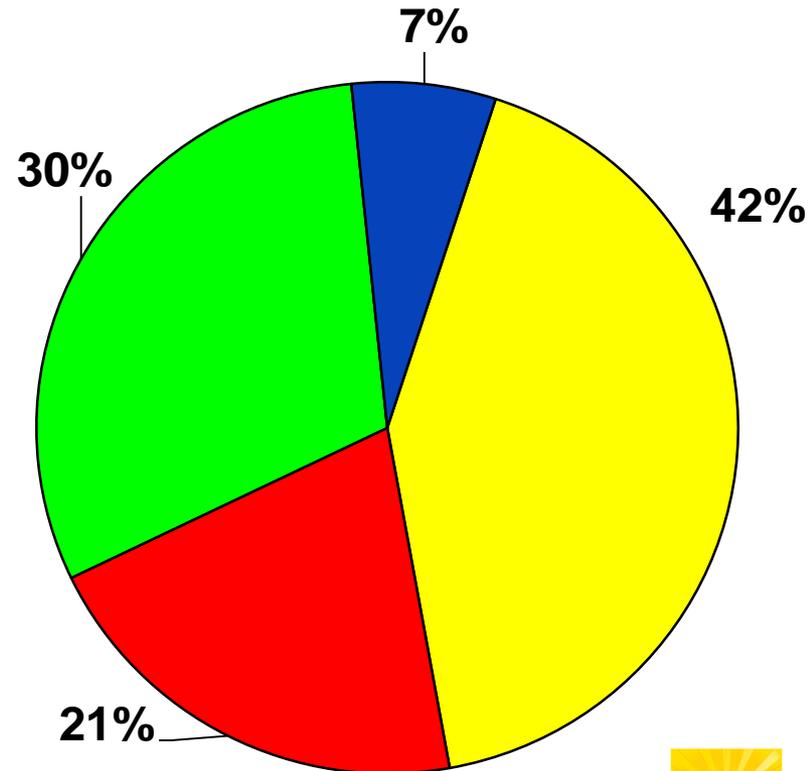


# Pediatric HIV Infection Cases and State Population\*\* in Children <13 years of age, by Race/Ethnicity, Diagnosed through 2014, Florida

**Pediatric HIV Infection Cases**  
N=2,474

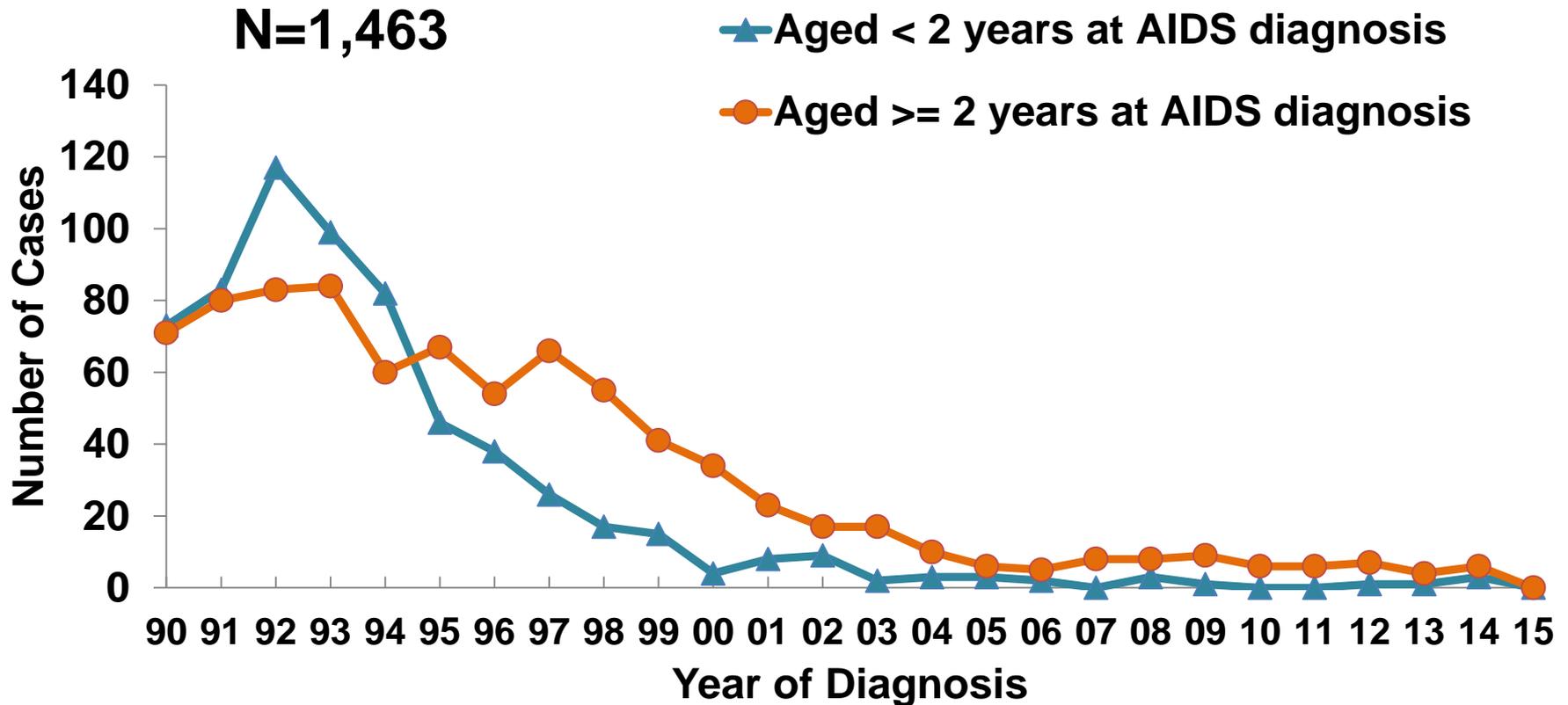


**Population Estimates**  
N= 2,954,994



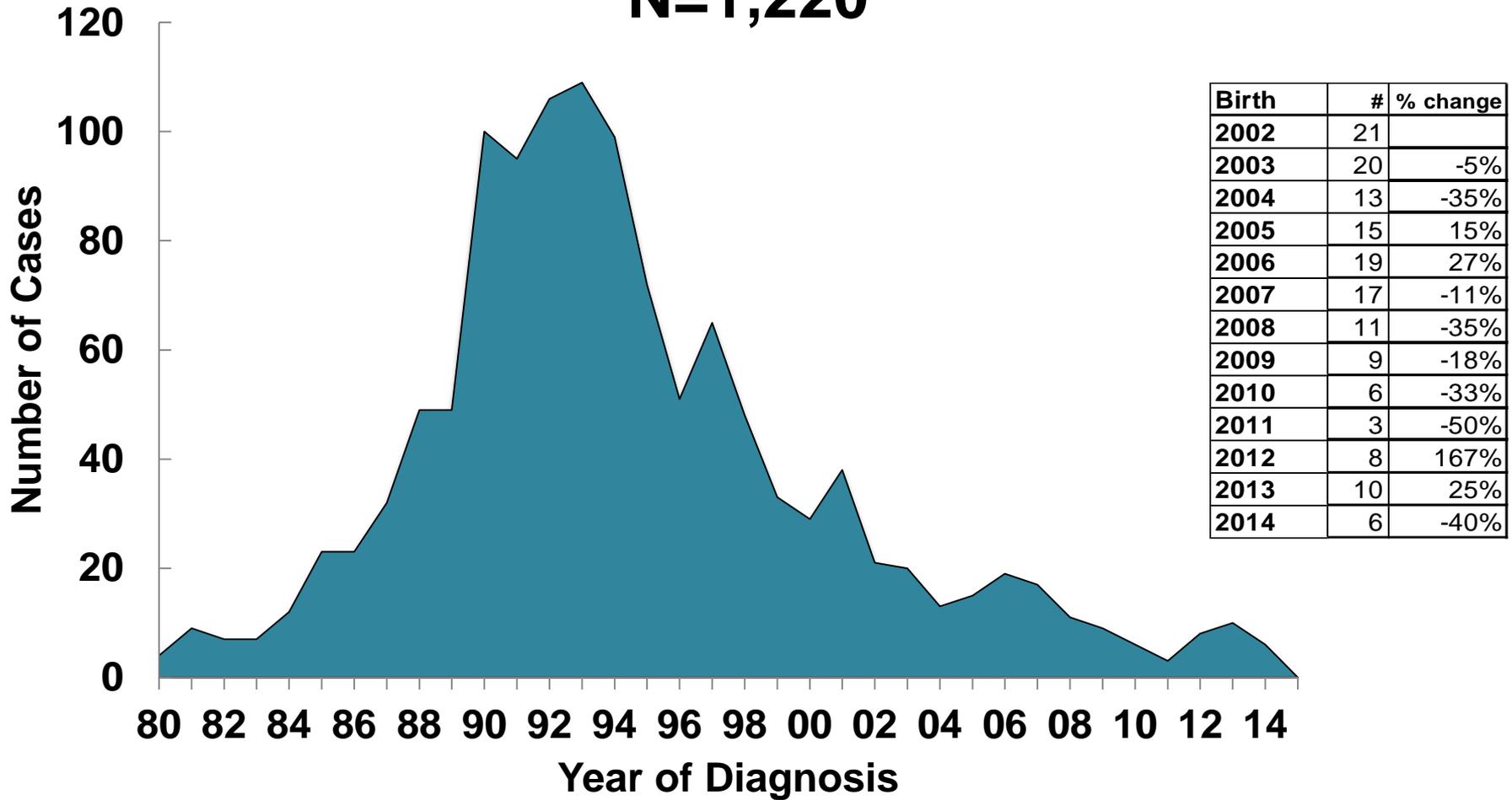
\*\*Source: Population estimates are provided by Florida CHARTS as of 12/15/2015.

# Pediatric AIDS Cases by Age Group at Diagnosis and Year of Diagnosis, 1990-2015, Florida



These data represent a 100% decline in pediatric AIDS cases *by year of diagnosis* from 1992 (N=200) to 2015 (N=0). Due to reporting lags, 2015 data by year of diagnosis are provisional. Data as of 12/31/2015.

# Perinatally Acquired HIV Infected Cases, Born in Florida, by Year of Birth, 1979-2014, N=1,220

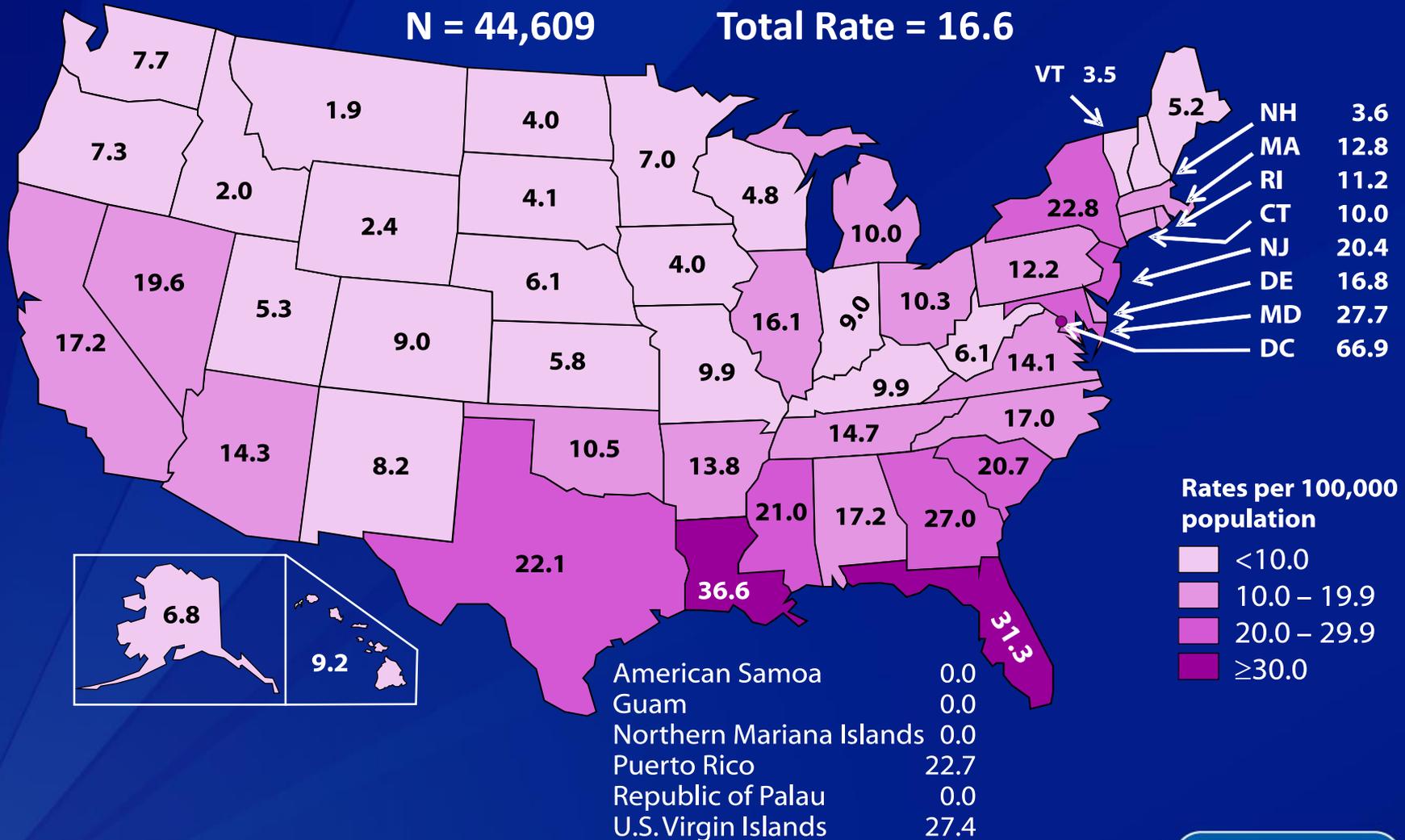


Note: These data represent a 95% decline in HIV-perinatally infected births from 1993 (N=109) to 2014 (N=6). These data include ALL perinatally acquired HIV Infection cases BORN in Florida. 2014 data are provisional. One of the babies born in 2014 have developed AIDS. Data as of 06/30/2015.

# Rates of Diagnoses of HIV Infection among Adults and Adolescents, 2014—United States and 6 Dependent Areas

N = 44,609

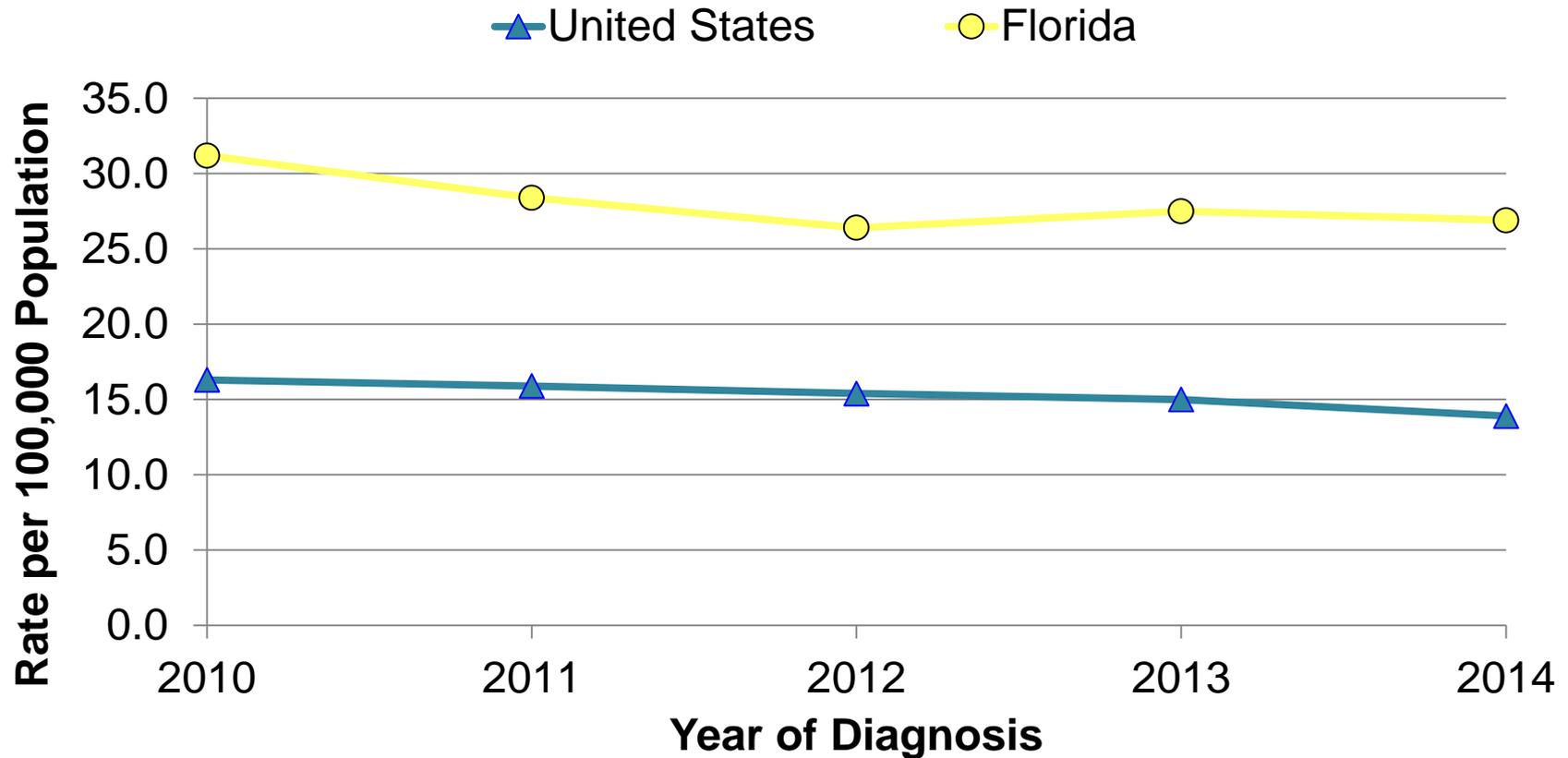
Total Rate = 16.6



Note: Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. All displayed data have been statistically adjusted to account for reporting delays, but not for incomplete reporting.



# HIV Infection Case Rates Per 100,000 Population by Year of Diagnosis, United States vs. Florida, 2010 – 2014



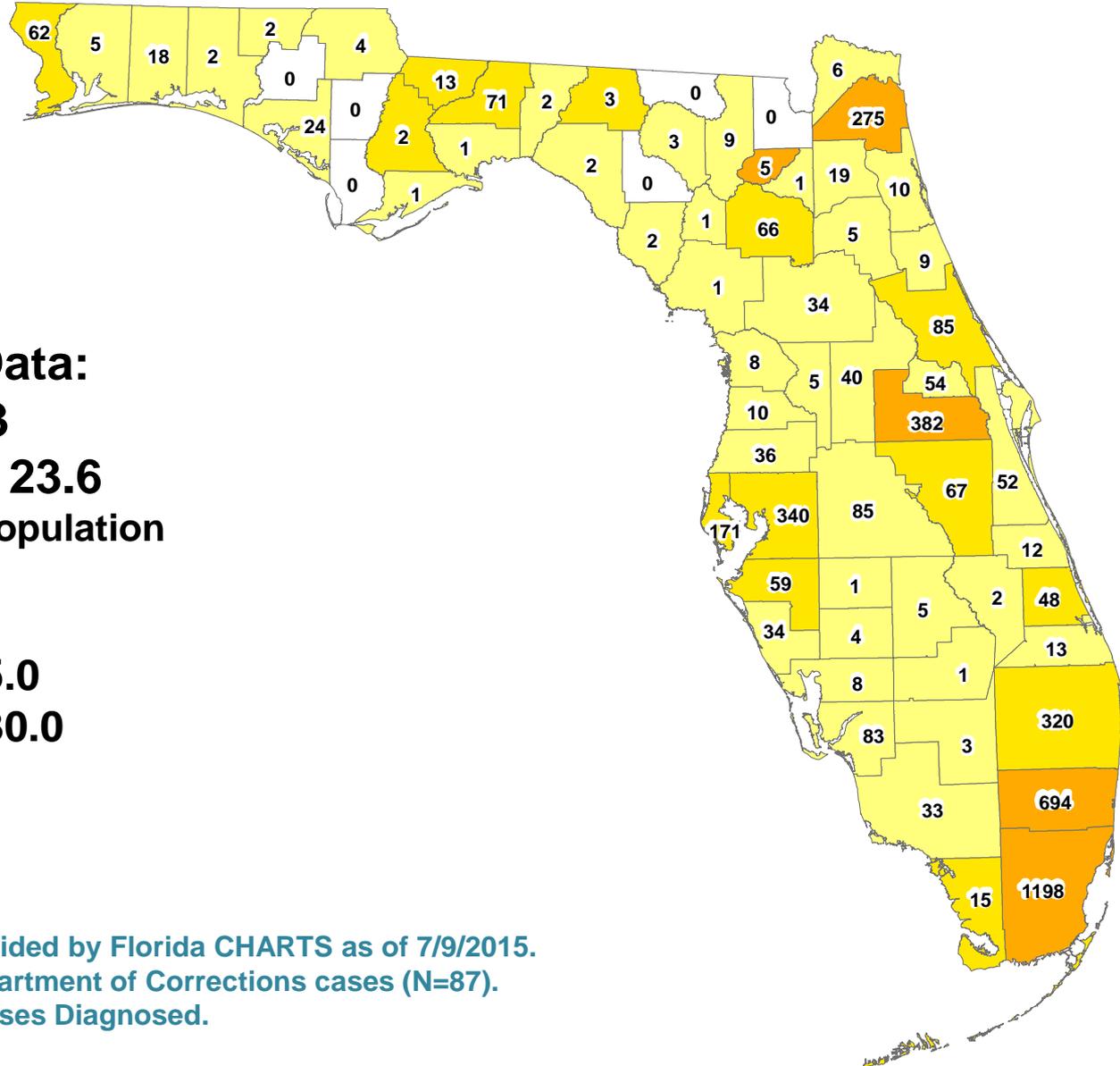
Source: HIV Surveillance Reports, 2010-2014 (Vol. 22-26)

<http://www.cdc.gov/hiv/topics/surveillance/resources/reports/index.htm>

Data as of June 30 for each previous calendar year



# HIV Infection Case Rates\* by County of Residence,\*\* Diagnosed in 2014, Florida



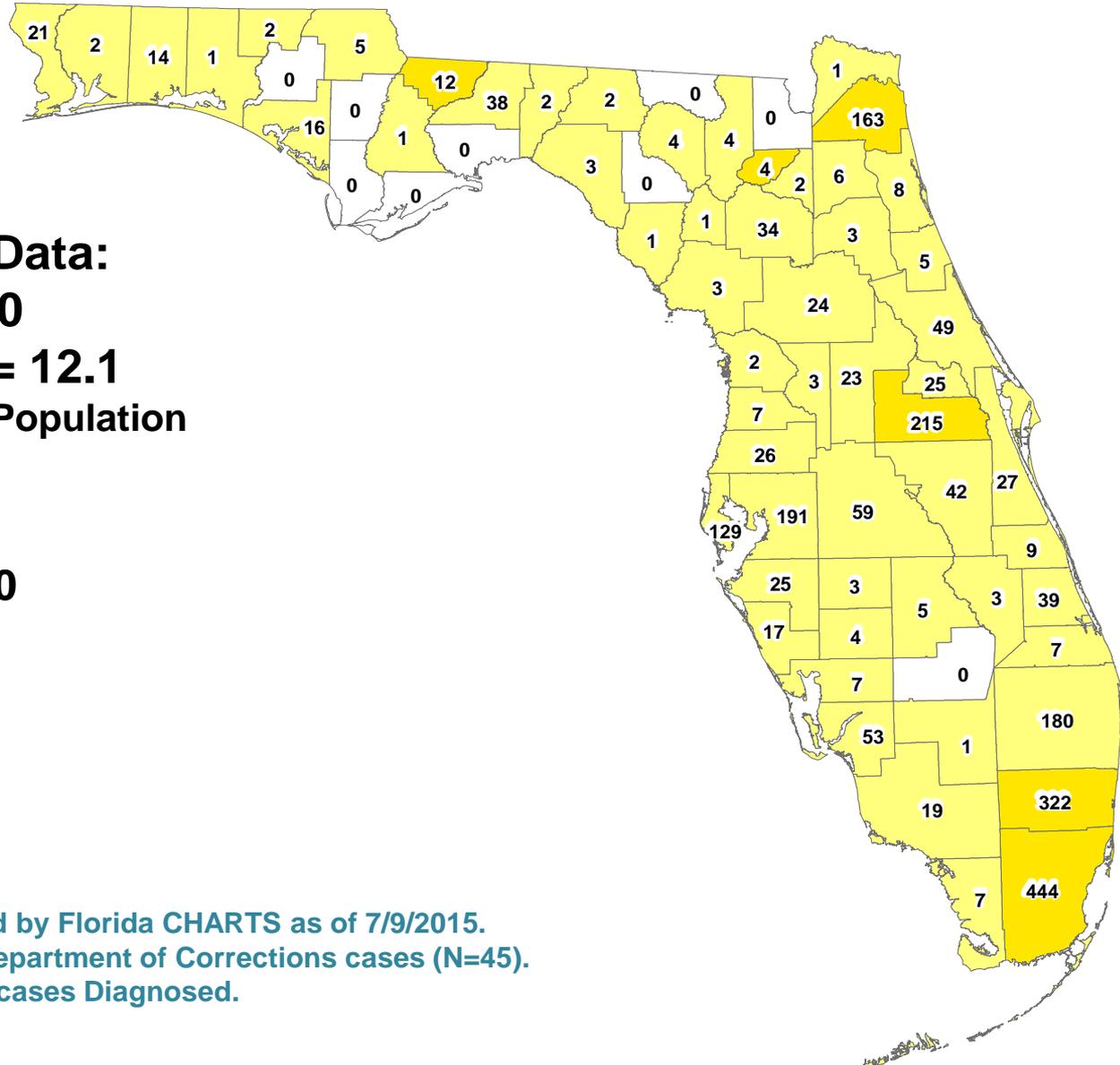
**Statewide Data:**  
**N= 4,613**  
**State Rate = 23.6**  
 Rate per 100,000 population

- 0
- 0.1 to 15.0
- 15.1 to 30.0
- > 30.0

\*Population data were provided by Florida CHARTS as of 7/9/2015.  
 \*\*County totals exclude Department of Corrections cases (N=87).  
 Numbers on counties are cases Diagnosed.



# AIDS Case Rates\* by County of Residence,\*\* Diagnosed in 2014, Florida



**Statewide Data:**

**N=2,370**

**State Rate = 12.1**

**Rate per 100,000 Population**

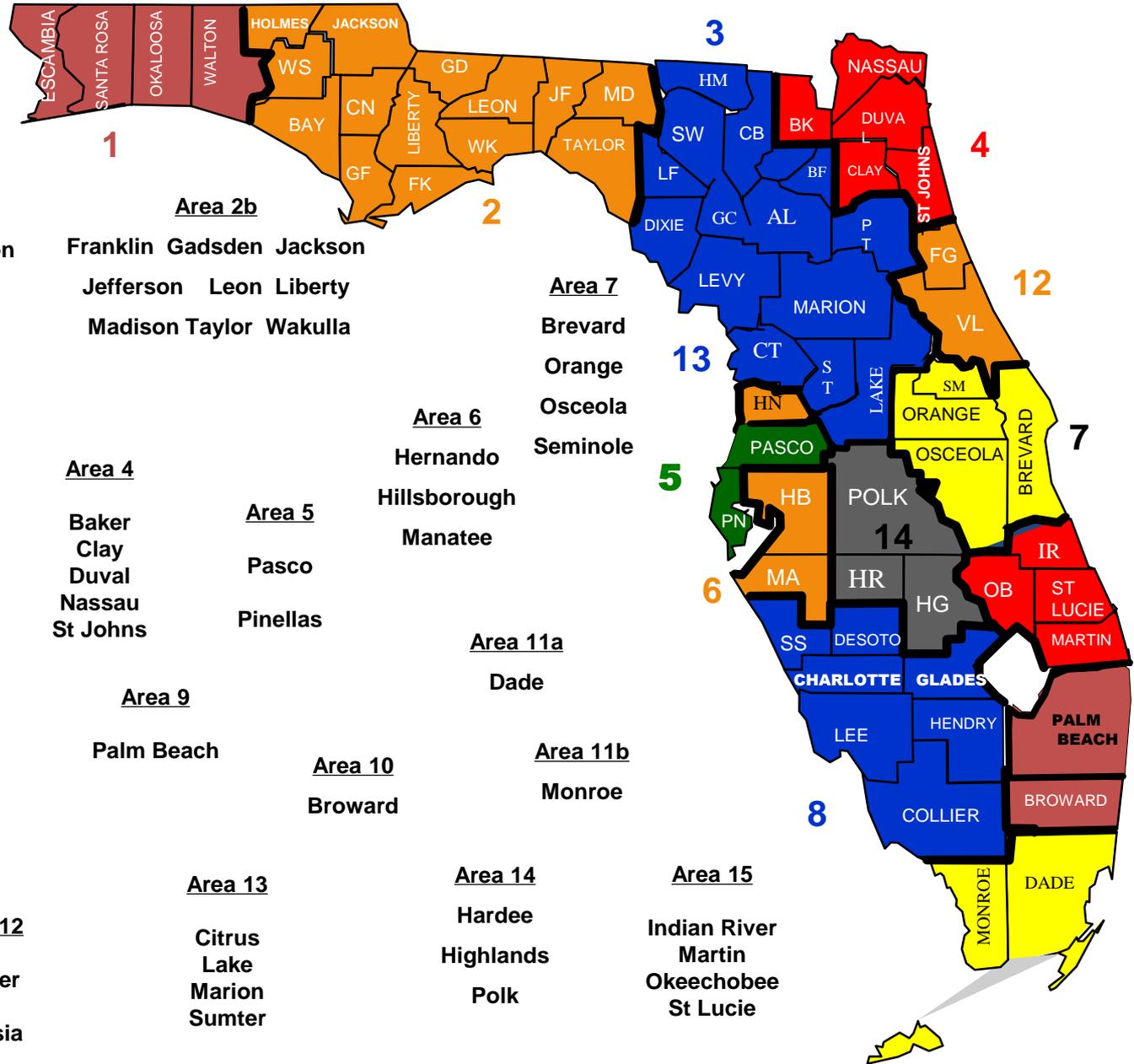


\*Population data provided by Florida CHARTS as of 7/9/2015.

\*\*County totals exclude Department of Corrections cases (N=45).

Numbers on counties are cases Diagnosed.

# Florida Areas



**Area 1**

Escambia  
Okaloosa  
Santa Rosa  
Walton

**Area 2a**

Bay Calhoun  
Gulf Holmes Jackson  
Washington

**Area 2b**

Franklin Gadsden Jackson  
Jefferson Leon Liberty  
Madison Taylor Wakulla

**Area 3**

Alachua Bradford  
Columbia  
Dixie Gilchrest Hamilton  
Lafayette Levy Putnam  
Suwannee Union

**Area 4**

Baker  
Clay  
Duval  
Nassau  
St Johns

**Area 5**

Pasco  
Pinellas

**Area 6**

Hernando  
Hillsborough  
Manatee

**Area 7**

Brevard  
Orange  
Osceola  
Seminole

**Area 8**

Charlotte DeSoto  
Glades Sarasota  
Hendry Collier  
Lee

**Area 9**

Palm Beach

**Area 10**

Broward

**Area 11a**

Dade

**Area 11b**

Monroe

**Area 13**

Citrus  
Lake  
Marion  
Sumter

**Area 14**

Hardee  
Highlands  
Polk

**Area 15**

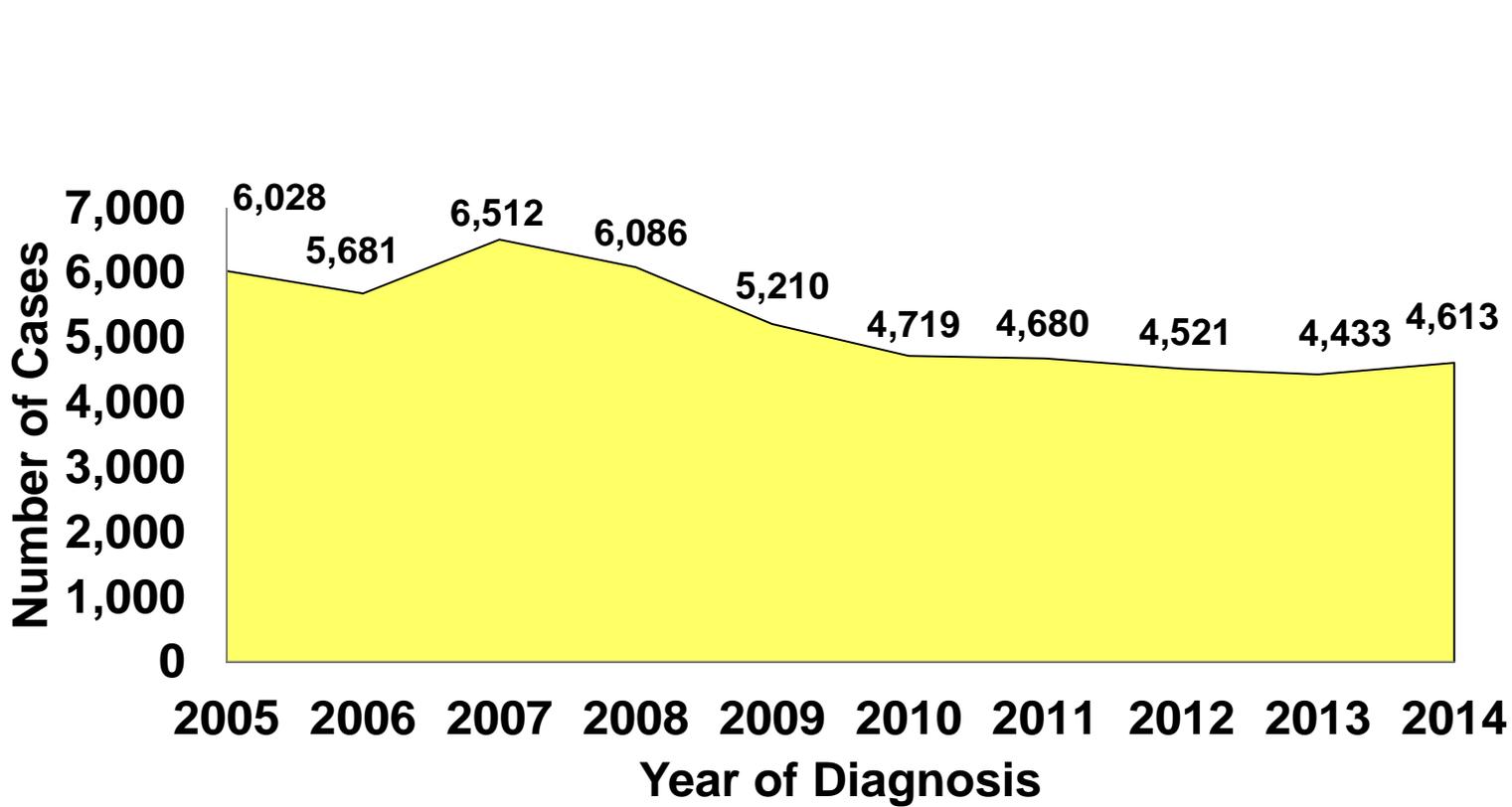
Indian River  
Martin  
Okeechobee  
St Lucie

**Area 12**

Flagler  
Volusia



# HIV Infection Cases and Rates\*, by Year of Diagnosis, 2005-2014, Florida



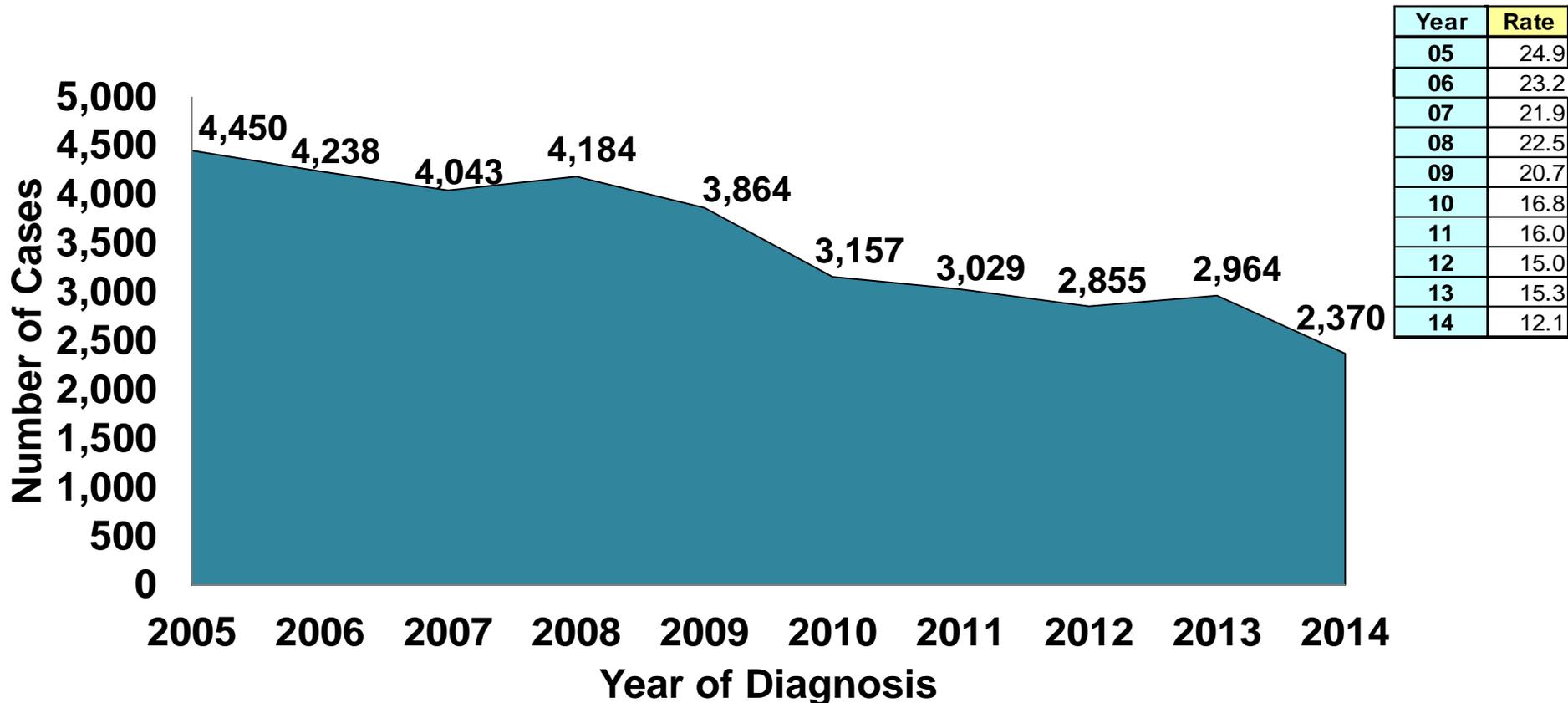
Year	Rate
05	33.7
06	31.1
07	35.2
08	32.7
09	27.8
10	25.1
11	24.7
12	23.7
13	22.9
14	23.6

Note: Enhanced laboratory reporting (ELR) laws in 2006 led to an artificial peak in newly diagnosed cases of HIV infection in 2007. This was followed by a general decline in diagnosed cases through 2012. Another surge in the expansion of ELR in 2013 was followed by another increase in newly diagnosed cases of HIV infection in 2014.

Data source: DOH HIV/AIDS surveillance data as of 12/31/2015



# AIDS Cases and Rates\*, by Year of Diagnosis, 2005-2014, Florida



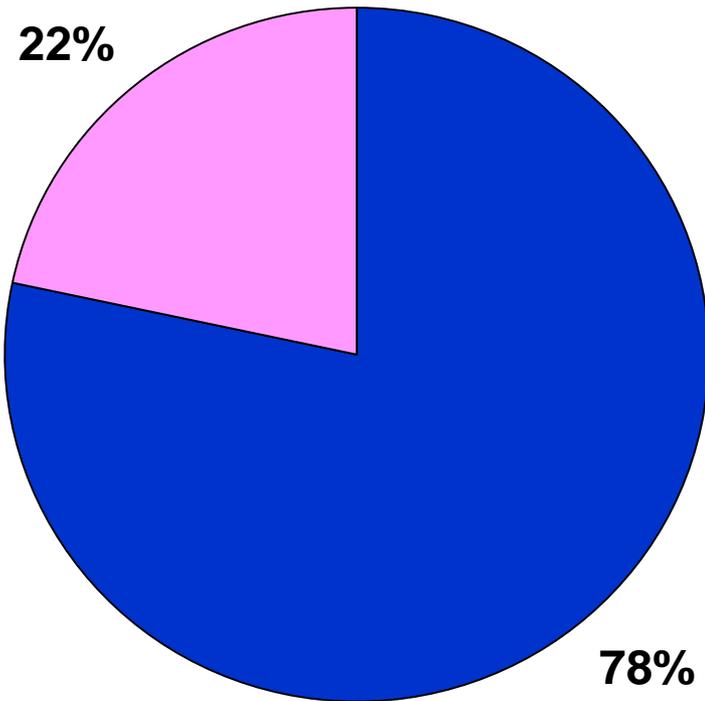
Note: Enhanced laboratory reporting (ELR) laws in 2006 and the expansion of ELR in 2007 led to an artificial peak in newly Diagnosed cases of AIDS in 2008. This was followed by a general decline in Diagnosed cases through 2012. Another surge in the expansion of ELR in 2012 was followed by another increase in newly Diagnosed cases of AIDS in 2013. AIDS cases in 2014 dropped by 20% from the previous year. Expanded efforts to link people and retain people in care may be a contributor to this decrease.

\*Source: Population estimates are provided by Florida CHARTS as of 12/16/2015.

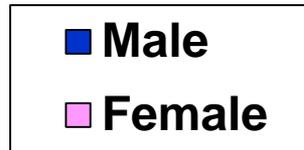
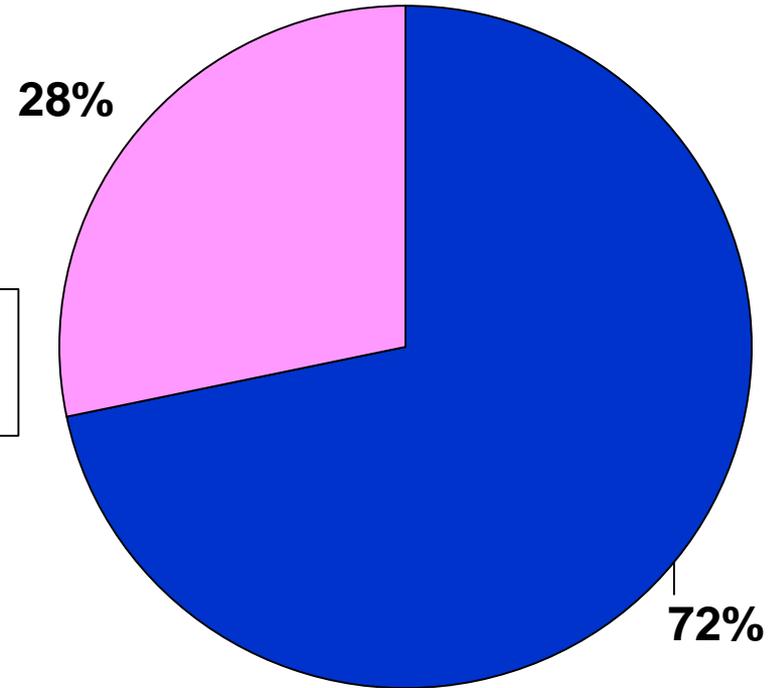


# Adult HIV Infection and AIDS Cases, by Sex, Diagnosed in 2014, Florida

**HIV Infection**  
N=4,599

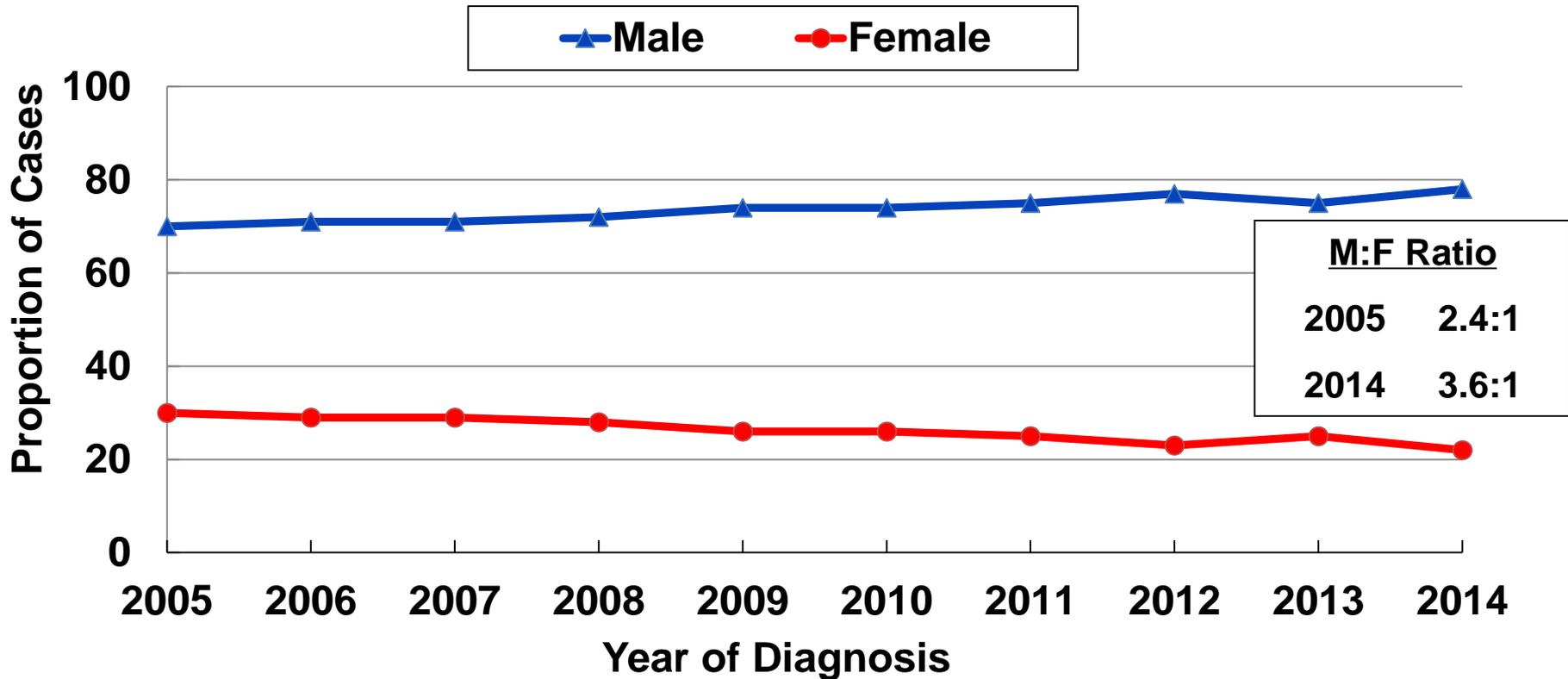


**AIDS**  
N=2,362



Note: In 2014, a larger proportion of AIDS cases were diagnosed among women compared to the proportion of HIV infection diagnosed among women.

# Proportion of Adult HIV Infection Cases, by Sex and Year of Diagnosis, 2005-2014, Florida



Note: In 2014, 78% of the adult HIV infection cases were male, compared to 70% in 2005. Over the past ten years, the proportion of HIV infection cases among men has increased while the proportion among women has decreased. The result is an increase in the male-to-female ratio, from 2.4:1 in 2005 to 3.6:1 in 2014. The relative increase in male HIV cases might be attributed to proportional increases in HIV transmission among men who have sex with men (MSM).

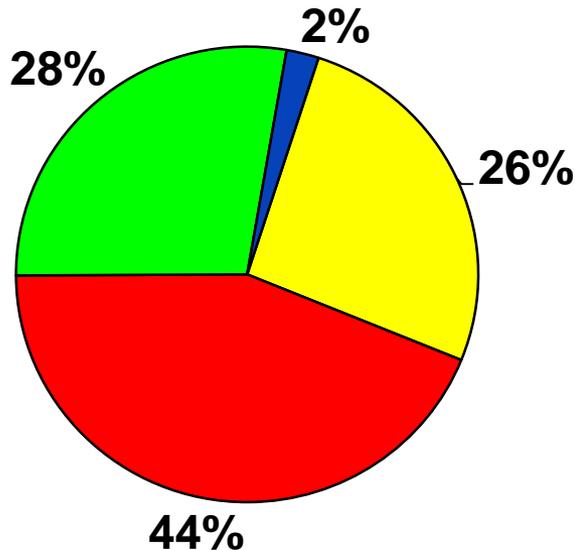
# Underlying Factors Affecting HIV/AIDS Disparities

- Amount of HIV already in the community
- Late diagnosis of HIV or AIDS\*
- Access to/acceptance of care\*
- Stigma, denial\*
- Discrimination, homophobia\*
- HIV/AIDS complacency\*
- Poverty and unemployment

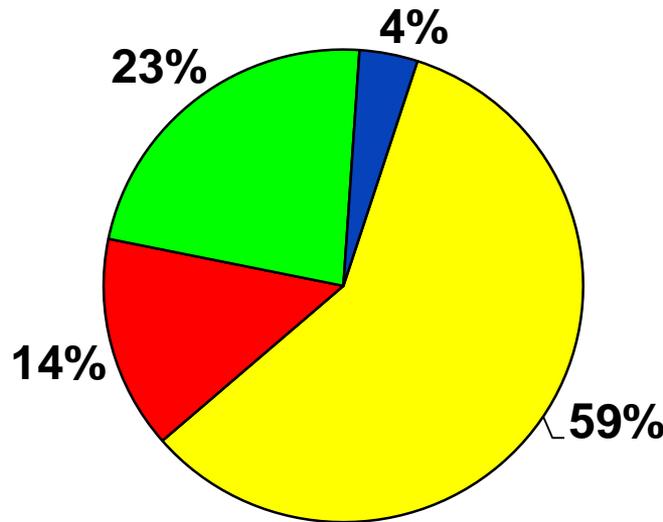
\*Factors that HIV/AIDS initiatives can impact.

# Adult HIV Infection and AIDS Cases Diagnosed in 2014 and Population, by Race/Ethnicity, Florida

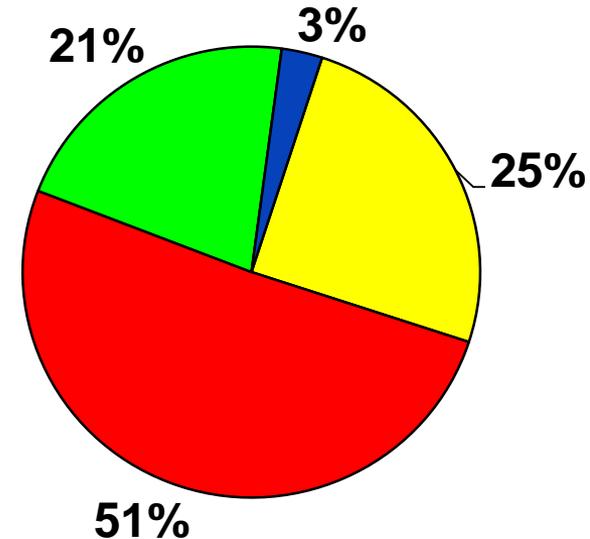
**HIV**  
N=4,599



**2014 Florida\***  
**Population Estimates**  
N=16,623,794



**AIDS**  
N=2,362



■ White
 ■ Black
 ■ Hispanic
 ■ Other\*\*

Note: Blacks comprise only 14% of the adult population in Florida, but represent 44% of adult HIV infection cases and 51% of adult AIDS cases diagnosed in 2014. Similarly, Hispanics comprise 23% of Florida's adult population, yet account for 28% of the HIV infection cases and 21% of the AIDS cases.

\*Source: Population estimates are provided by Florida CHARTS as of 7/9/2015.

\*\*Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and multi-racial individuals.

# THE FORMULA USED FOR CALCULATING RATE IS:

$$\text{RATE} = \frac{\text{Number of cases in a specified time}}{\text{Population at that time}} \times 100,000$$

- A specific example, using Florida AIDS data:

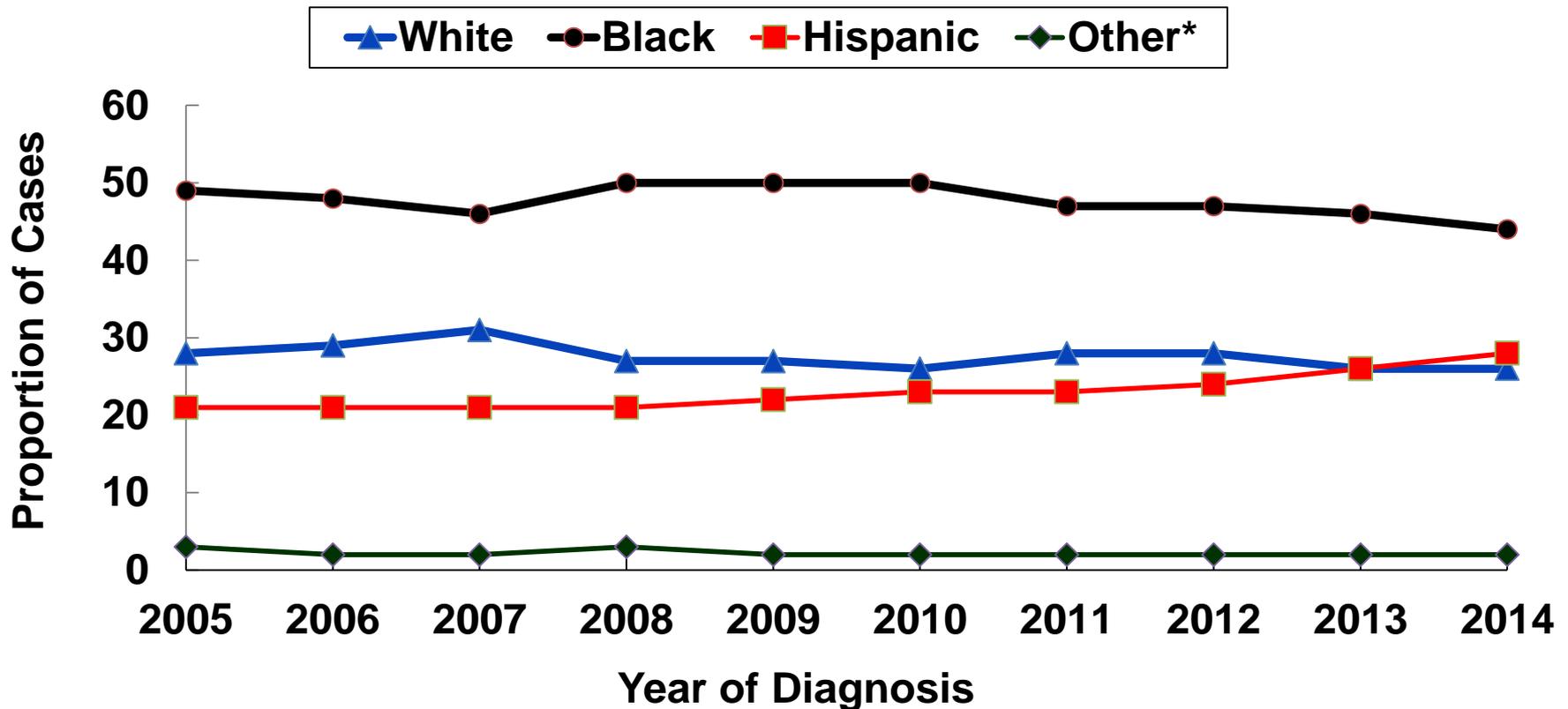
$$\frac{\text{Number of AIDS Cases Diagnosed in 1996} \times 100,000}{\text{Estimated Population of Florida in 1996}} = \frac{7,300 \times 100,000}{14,000,000}$$

$$= 52.1 \text{ per } 100,000 \text{ population}$$

*(This is the same rate as 5.21 per 10,000 population or 0.521 per 1,000 or 0.0521 percent.)*

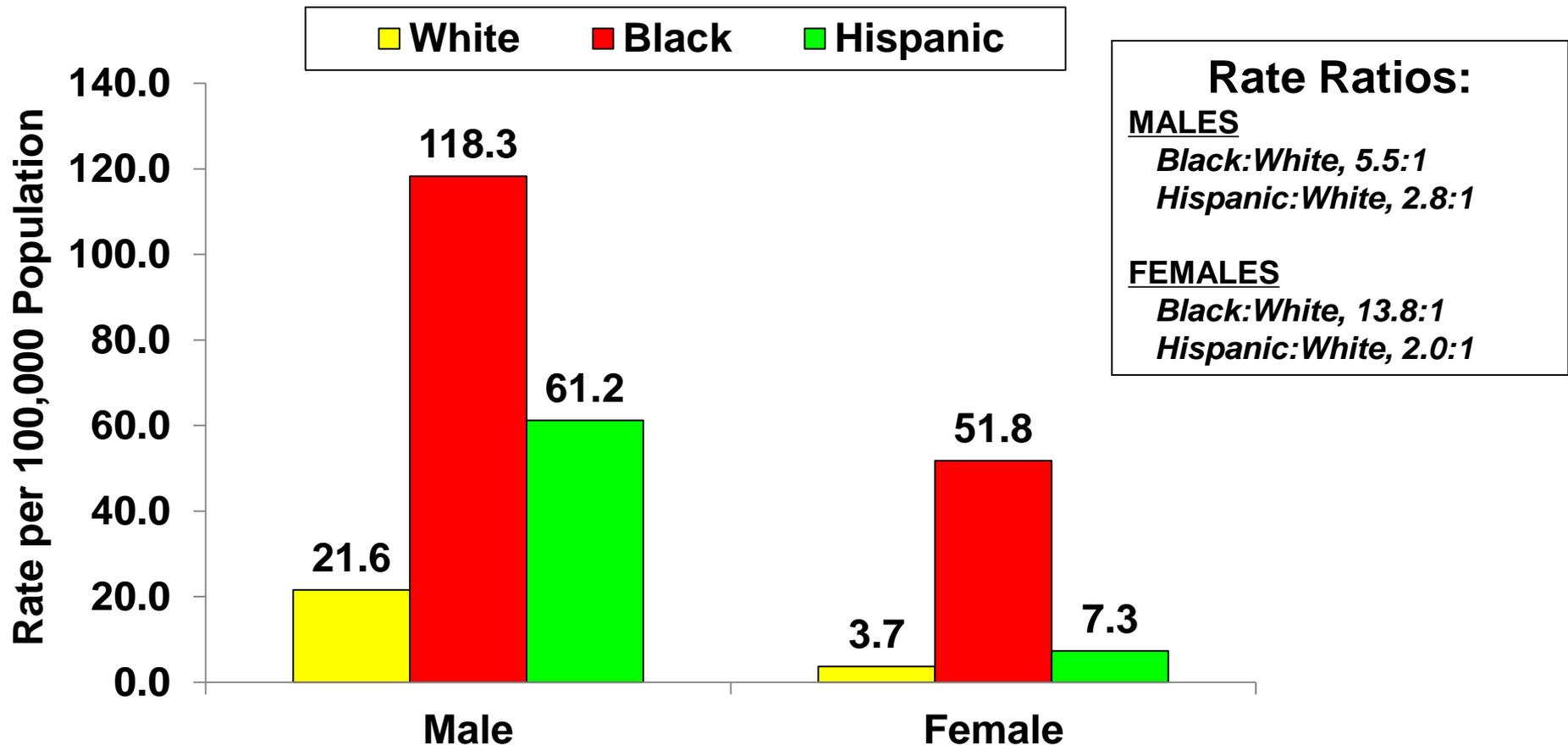
***Rates allow direct comparison of the burden of disease on various communities, by taking the population size into account.***

# Proportion of Adult HIV Infection Cases, by Race/Ethnicity, and Year of Diagnosis, 2005-2014, Florida



Note: From 2005 to 2014, the proportion of adult HIV cases among whites and blacks decreased by 2 and 5 percentage points, respectively. In contrast, increases were observed among Hispanics (7 percentage points) over this same time period.

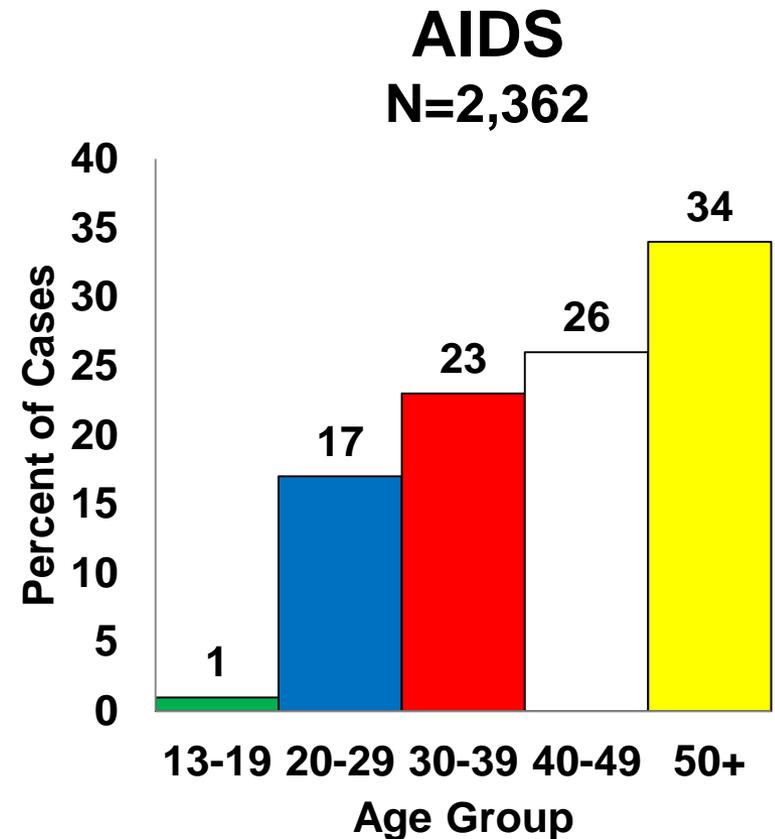
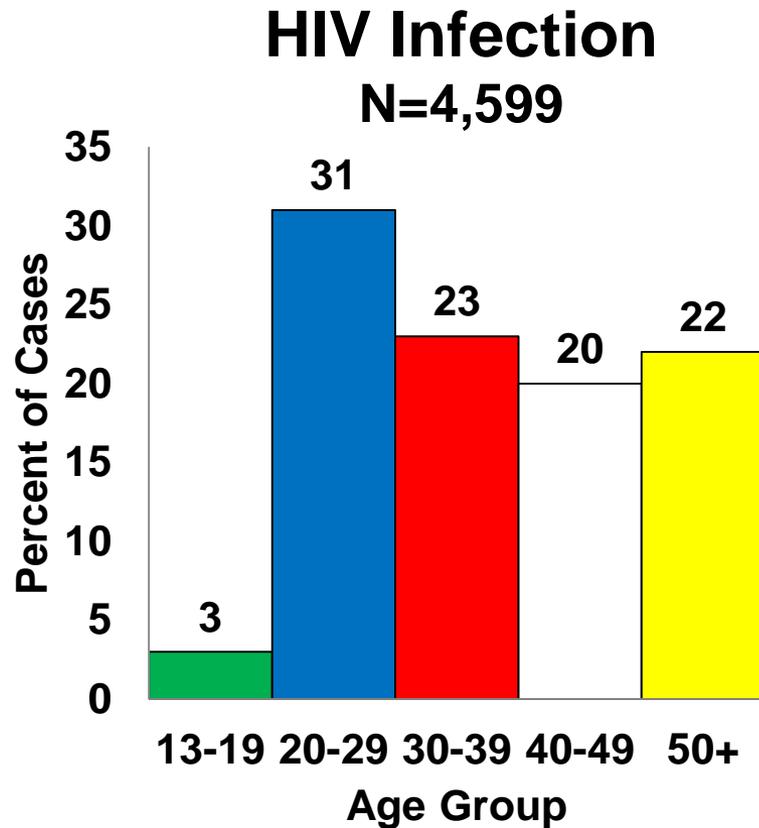
# Adult HIV Infection Case Rates\* by Sex and Race/Ethnicity, Diagnosed in 2014, Florida



Note: Similar to AIDS, black men and to an even greater extent, black women are over-represented in the HIV epidemic. The HIV case rate for 2014 is nearly 6 times higher among black men than the rate among white men. Among black women, the HIV case rate is nearly 14-fold greater than the rate among white women. Hispanic male and female HIV case rate is higher than the rate among their white counterparts.

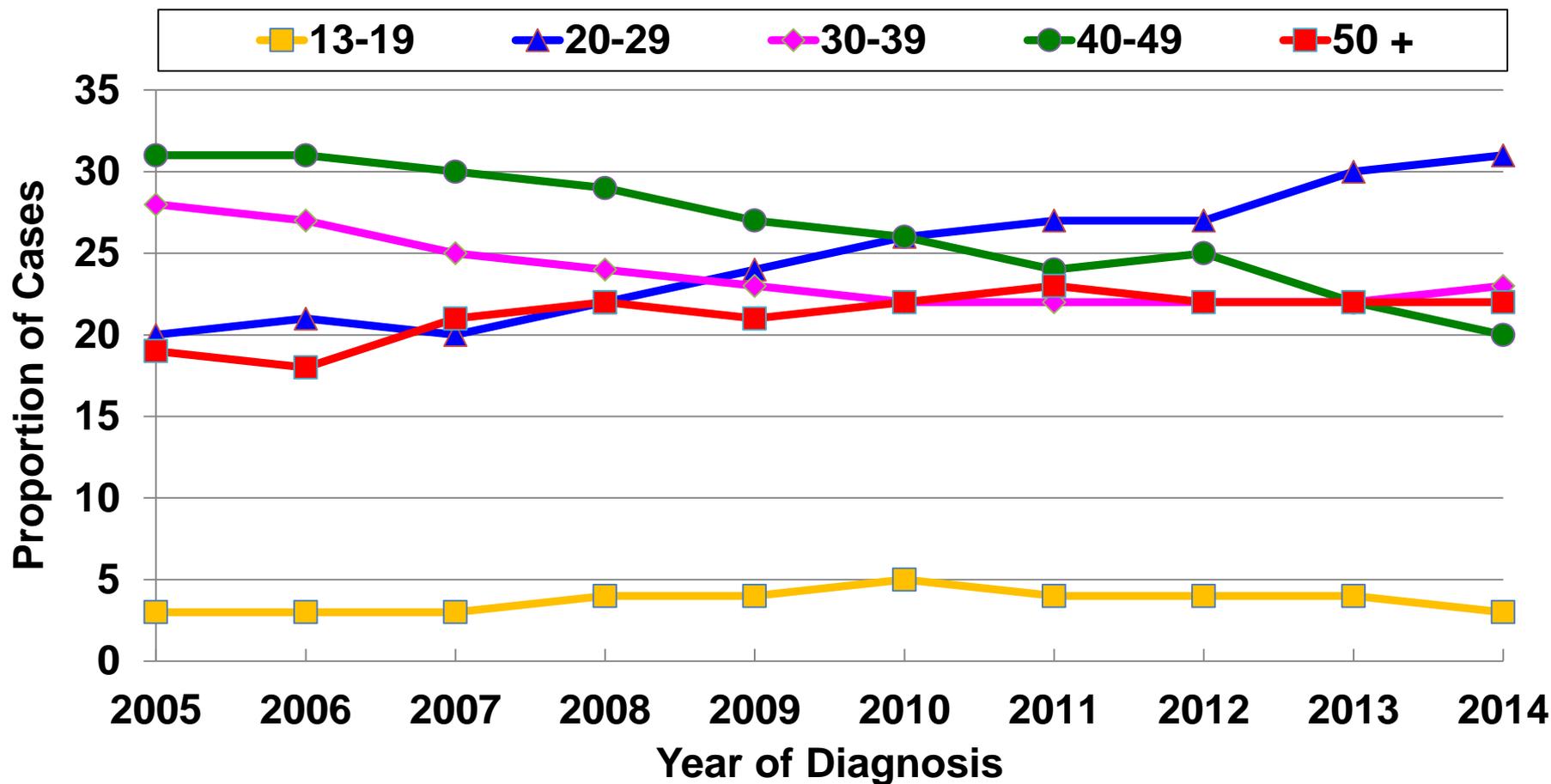
\*Source: Population estimates are provided by Florida CHARTS as of 7/9/2015.

# Age Distribution of Adult HIV Infection Cases Compared with the Age Distribution of Adult AIDS Cases, Diagnosed in 2014, Florida



Note: HIV cases tend to be younger than AIDS cases. The greatest proportion of HIV infection cases diagnosed in 2014 were among those aged 20-29 (31%), followed by those aged 30-39 (23%). Conversely, the largest proportion of AIDS cases diagnosed in 2014 was among persons aged 50 or older (34%), followed by those aged 40-49 (26%).

# Proportion of Adult HIV Infection Cases, by Age Group at Diagnosis, and Year of Diagnosis, 2005–2014, Florida



Over the past ten years, the proportion of newly diagnosed adult HIV cases has shown increases for both the 20-29 (11 percentage points) and 50+ (3 percentage points) age groups. In contrast, the proportion of newly diagnosed adult HIV cases among those in the 30-39 and 40-49 age groups decreased by 5 and 11 percentage points respectively, over the same time period.

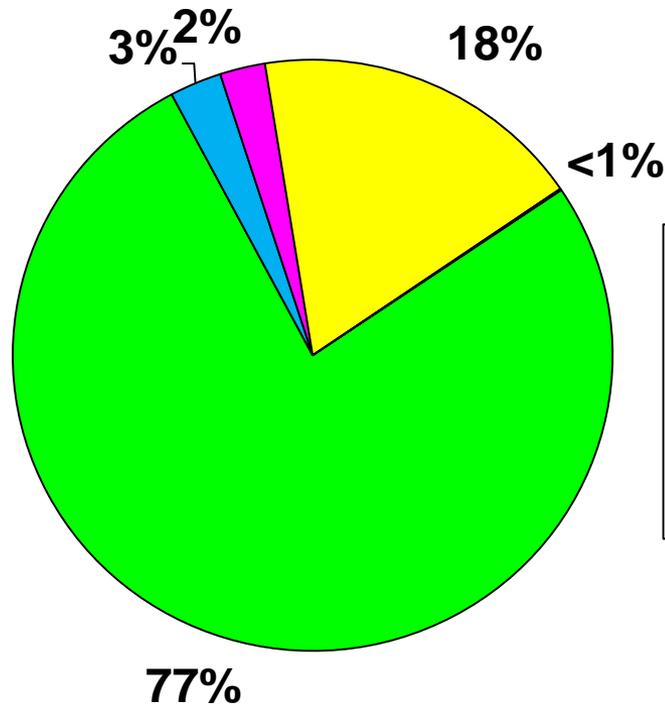
# Definitions of Mode of Exposure Categories

- **MSM** = Men who have sex with men or Male-to-male sexual contact with person with HIV/AIDS or known HIV risk
- **IDU** = Injection Drug User
- **MSM/IDU** = Men who have sex with men or Male-to-male sexual contact & Injection Drug User
- **Heterosexual** = Heterosexual contact with person with HIV/AIDS or known HIV risk
- **OTHER** = includes hemophilia, transfusion, perinatal, other pediatric risks and other confirmed risks.
- **NIR** = Cases Diagnosed with No Identified Risk
- **Redistribution of NIRs** = This illustrates the effect of statistically assigning (redistributing) the NIRs to recognized exposure (risk) categories by applying the proportions of historically reclassified NIRs to the unresolved NIRs.

# Adult Male HIV Infection and AIDS Cases, by Mode of Exposure, Diagnosed in 2014, Florida

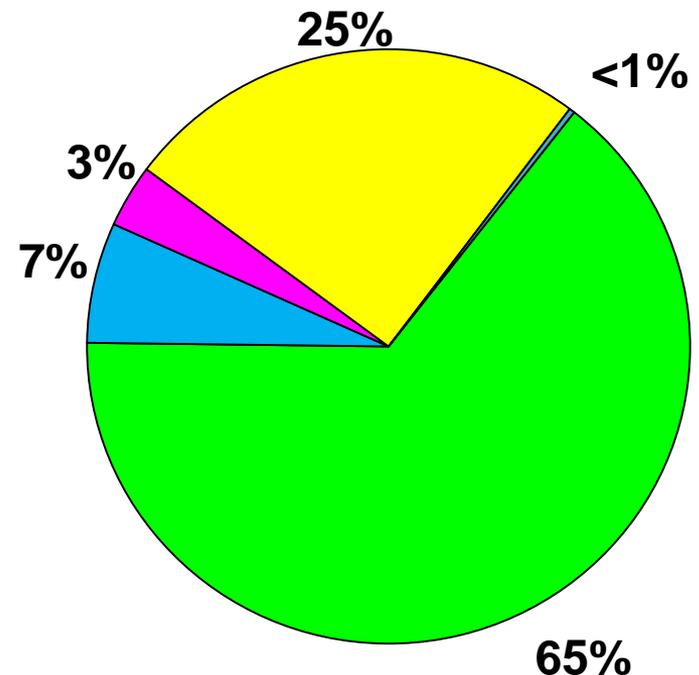
## HIV Infection

N=3,602



## AIDS

N=1,694

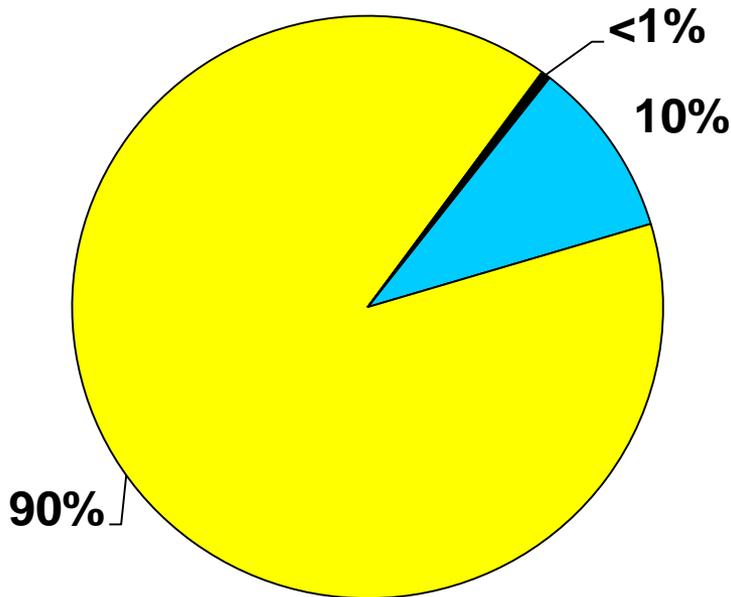


- MSM
- IDU
- MSM/IDU
- Heterosexual
- Other

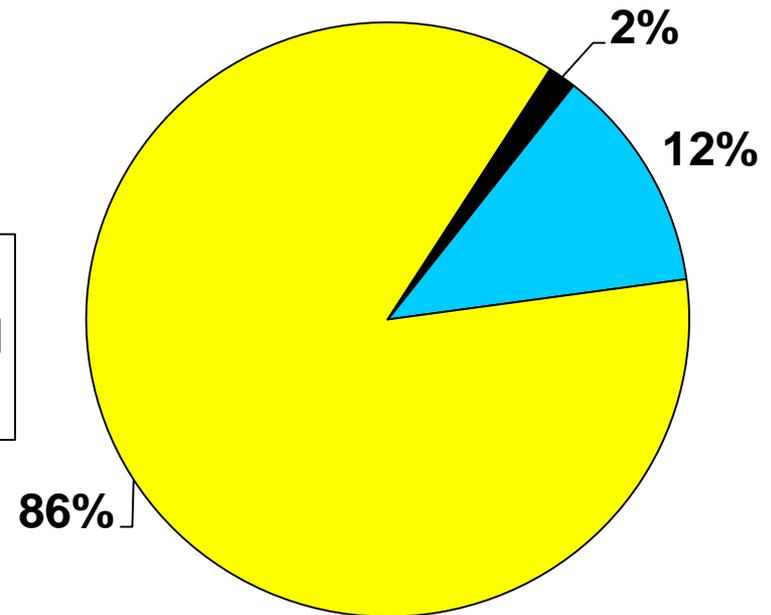
Note: For HIV infection and AIDS cases in men diagnosed in 2014, male-to-male sexual contact (MSM) was the most common risk factor (77% and 65% respectively) followed by cases with a heterosexual risk (18% for HIV and 25% for AIDS). HIV cases tend to represent a more recent picture of the epidemic.

# Adult Female HIV Infection and AIDS Cases, by Mode of Exposure, Diagnosed in 2014, Florida

**HIV Infection**  
N=997

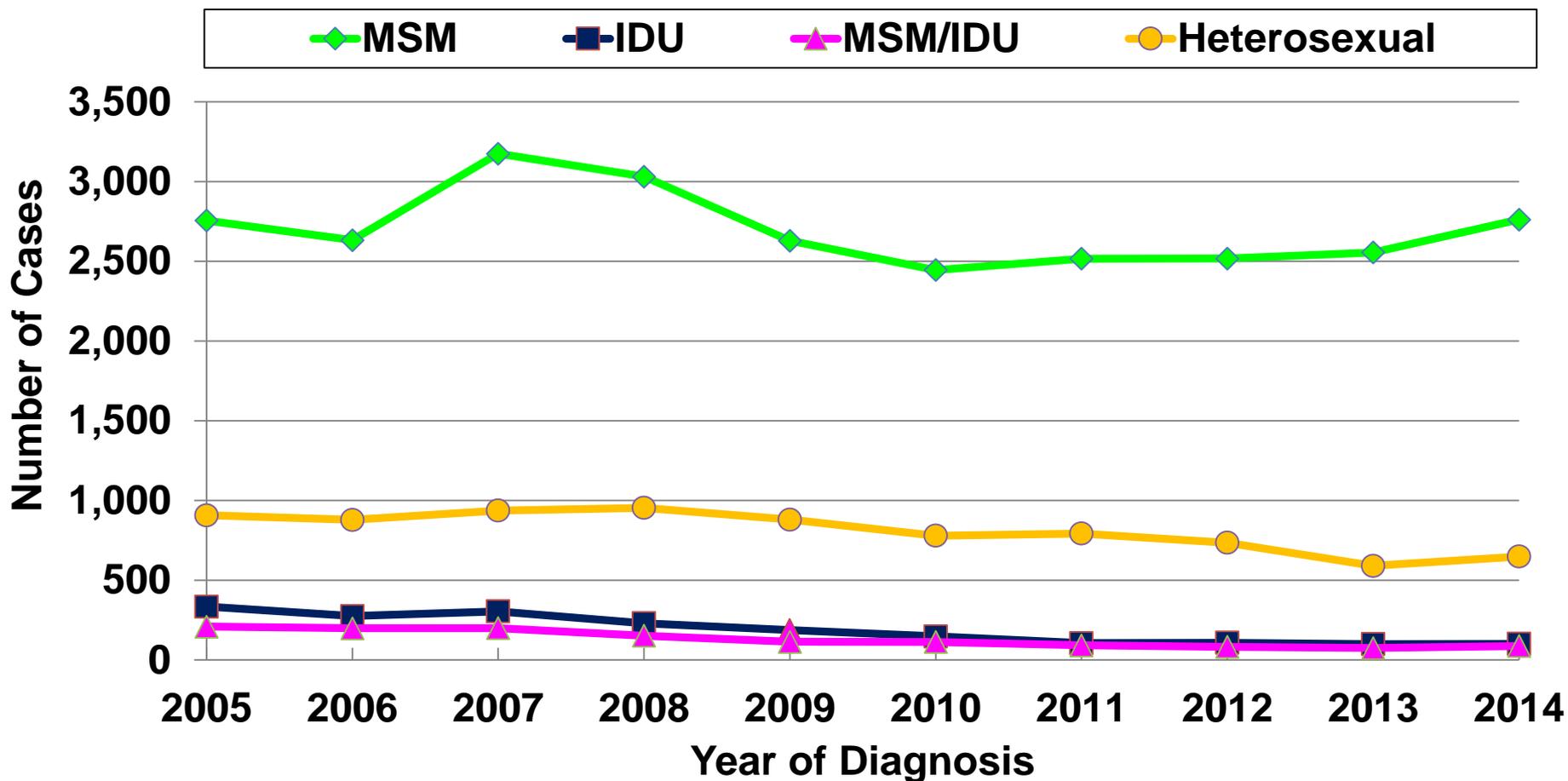


**AIDS**  
N=668



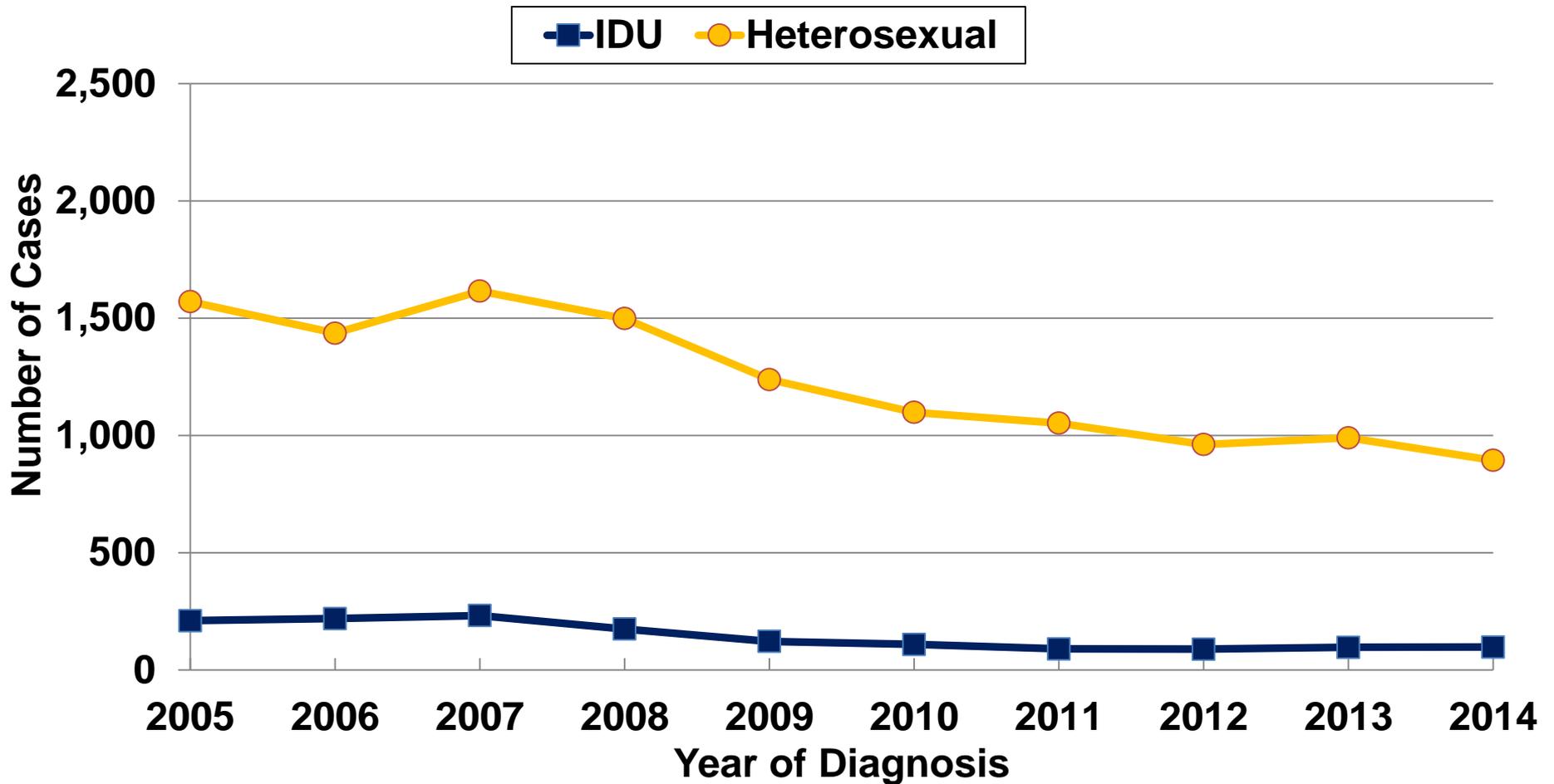
Note: Among the female HIV and AIDS cases diagnosed for 2014, heterosexual contact was the highest risk (90% and 86% respectively).

# Adult Male HIV Infection Cases, by Mode of Exposure and Year of Diagnosis, 2005–2014, Florida



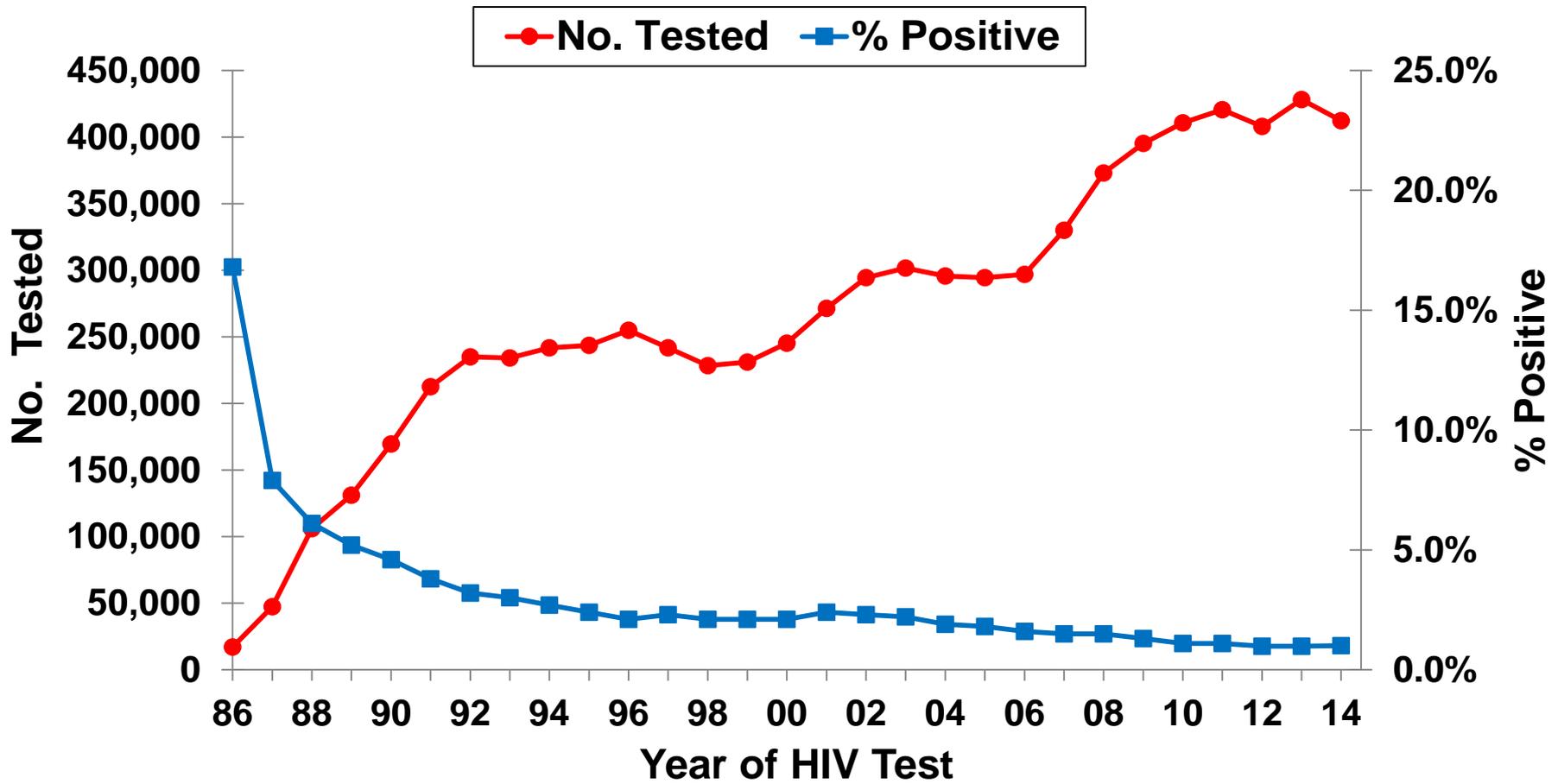
Note: Male-to-male sexual contact (MSM) remains as the primary mode of exposure among male HIV cases in Florida, followed by heterosexual contact.

# Adult Female HIV Infection Cases, by Mode of Exposure and Year of Diagnosis, 2005–2014, Florida



Note: The heterosexual risk continues to be the dominant mode of exposure among females.

# HIV Tests Conducted in Florida and Seropositivity Rates\*, 1985-2014



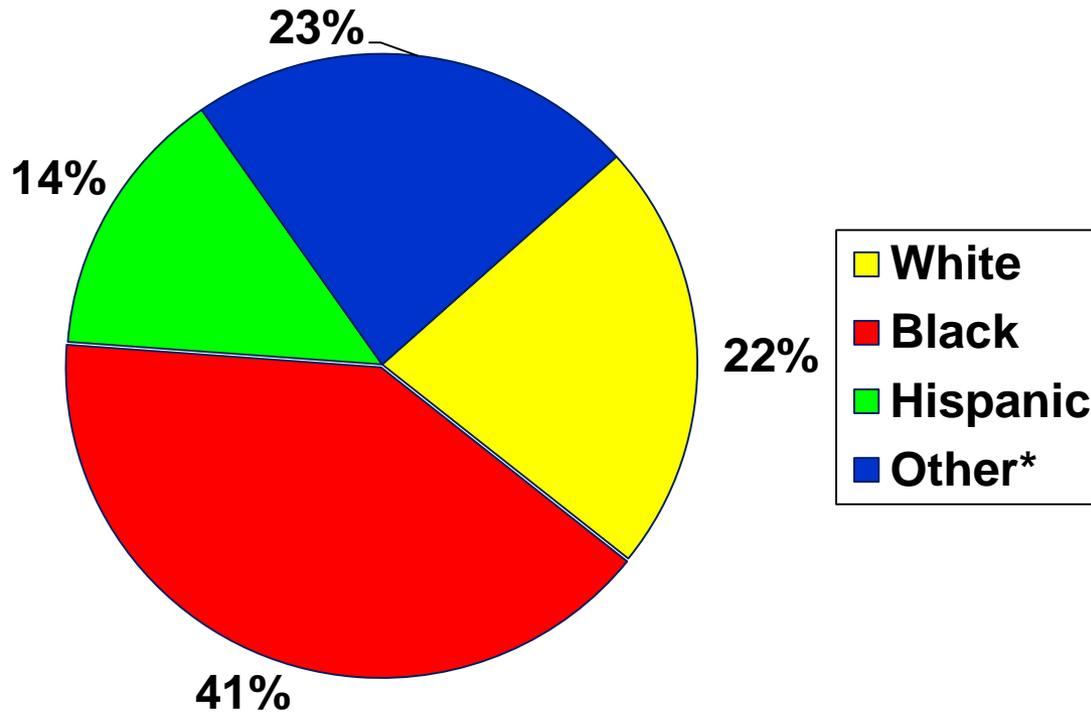
\*Seropositivity rates are defined as the percent of positive over the number of tests conducted each year. Data validated from HIV CT as of 3/9/2015.

# Impact of STDs on HIV Infection

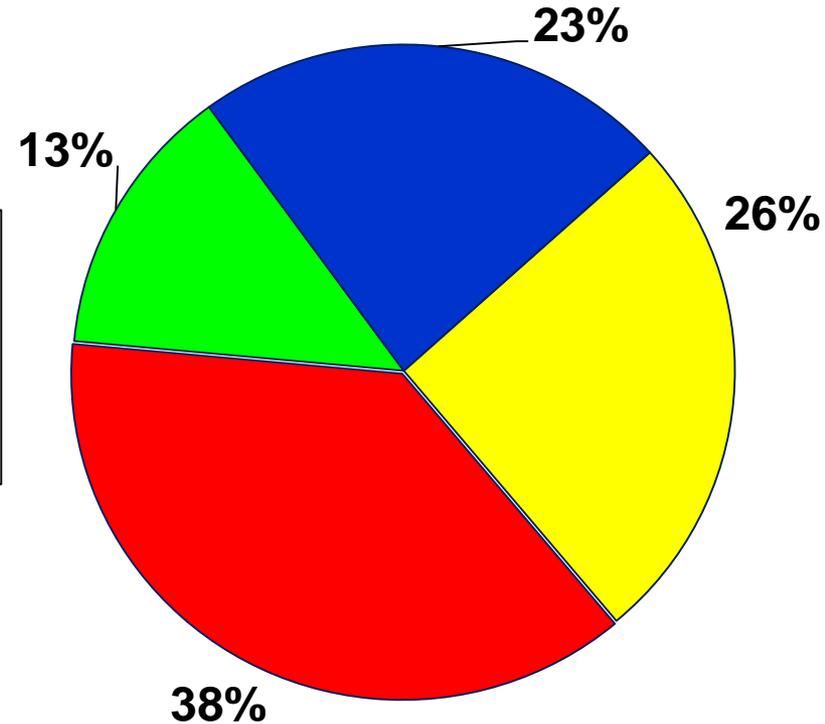
- **Early detection and treatment of Sexually Transmitted Diseases (STDs) has a major impact on sexual transmission of HIV.**
- **Much of heterosexually transmitted HIV infections can be prevented by reducing other underlying STDs.**
- **STDs increase HIV infectivity and susceptibility.**

# Chlamydia Cases, by Sex and Race/Ethnicity, Diagnosed in 2014, Florida

**Males**  
N=25,143



**Females**  
N=58,628



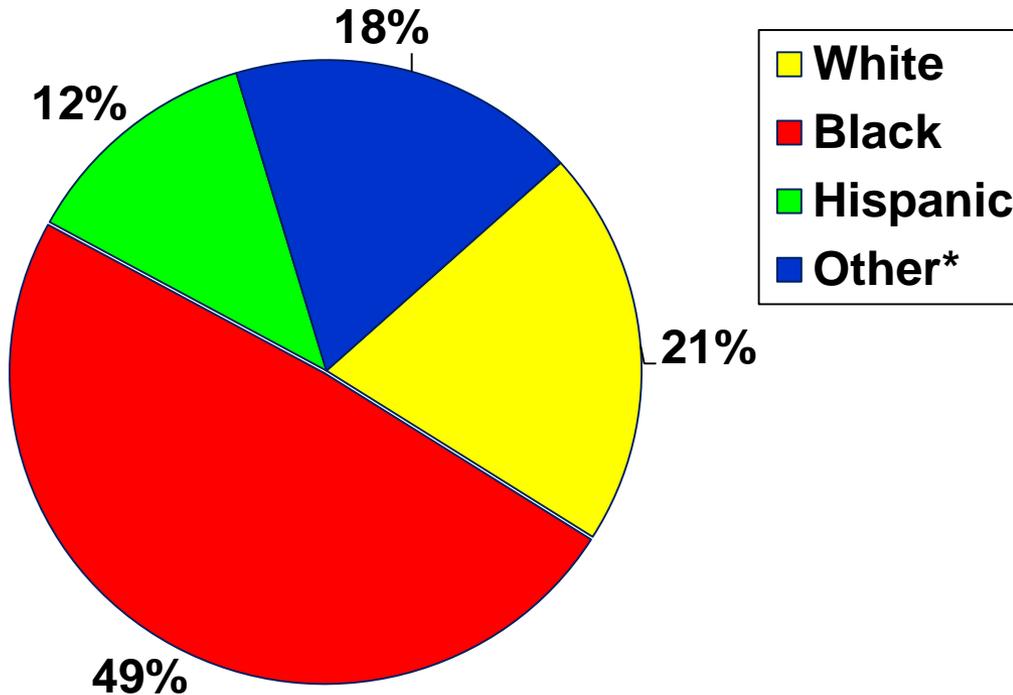
Note: 25% of these cases are among adolescents, ages 13-19.

40% of these cases are among young adults, ages 20-24.

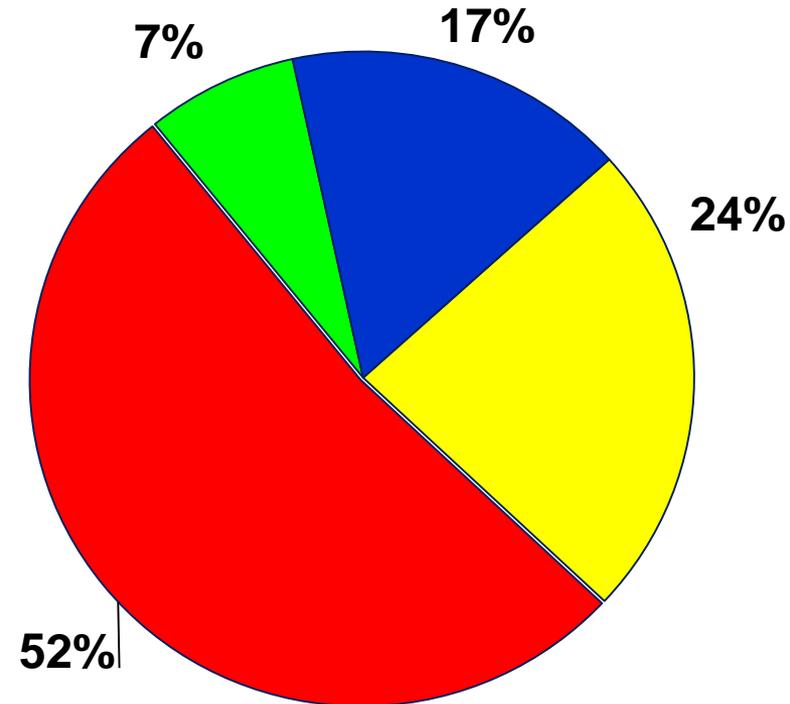
\*Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and Multi-racial individuals.

# Gonorrhea Cases, by Sex and Race/Ethnicity, Diagnosed in 2014, Florida

**Males**  
N=11,578



**Females**  
N=9,072

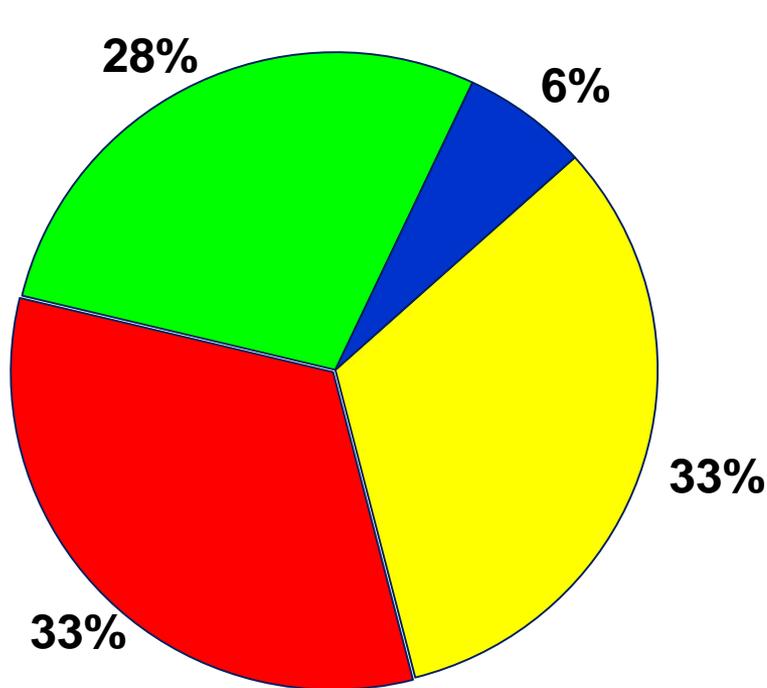


Note: 18% of these cases are among adolescents, ages 13-19.  
33% of these cases are among young adults, ages 20-24.

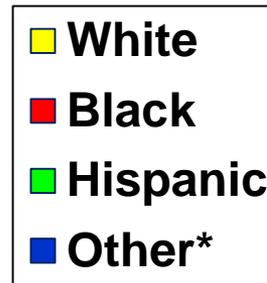
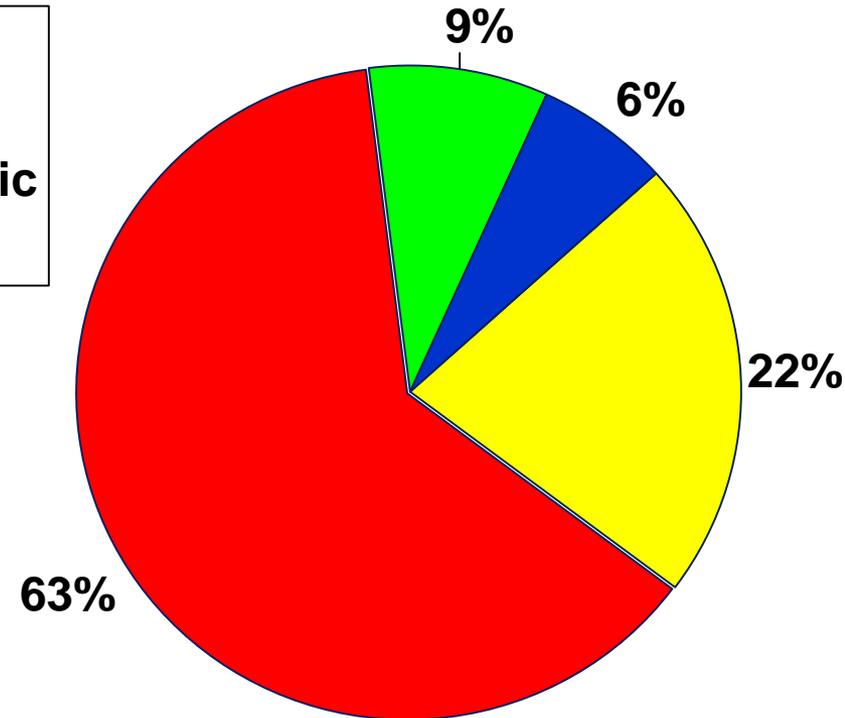
\*Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and Multi-racial individuals.

# Primary and Secondary Syphilis Cases, by Sex and Race/Ethnicity, Diagnosed in 2014, Florida

**Males**  
N=1,579



**Females**  
N=137

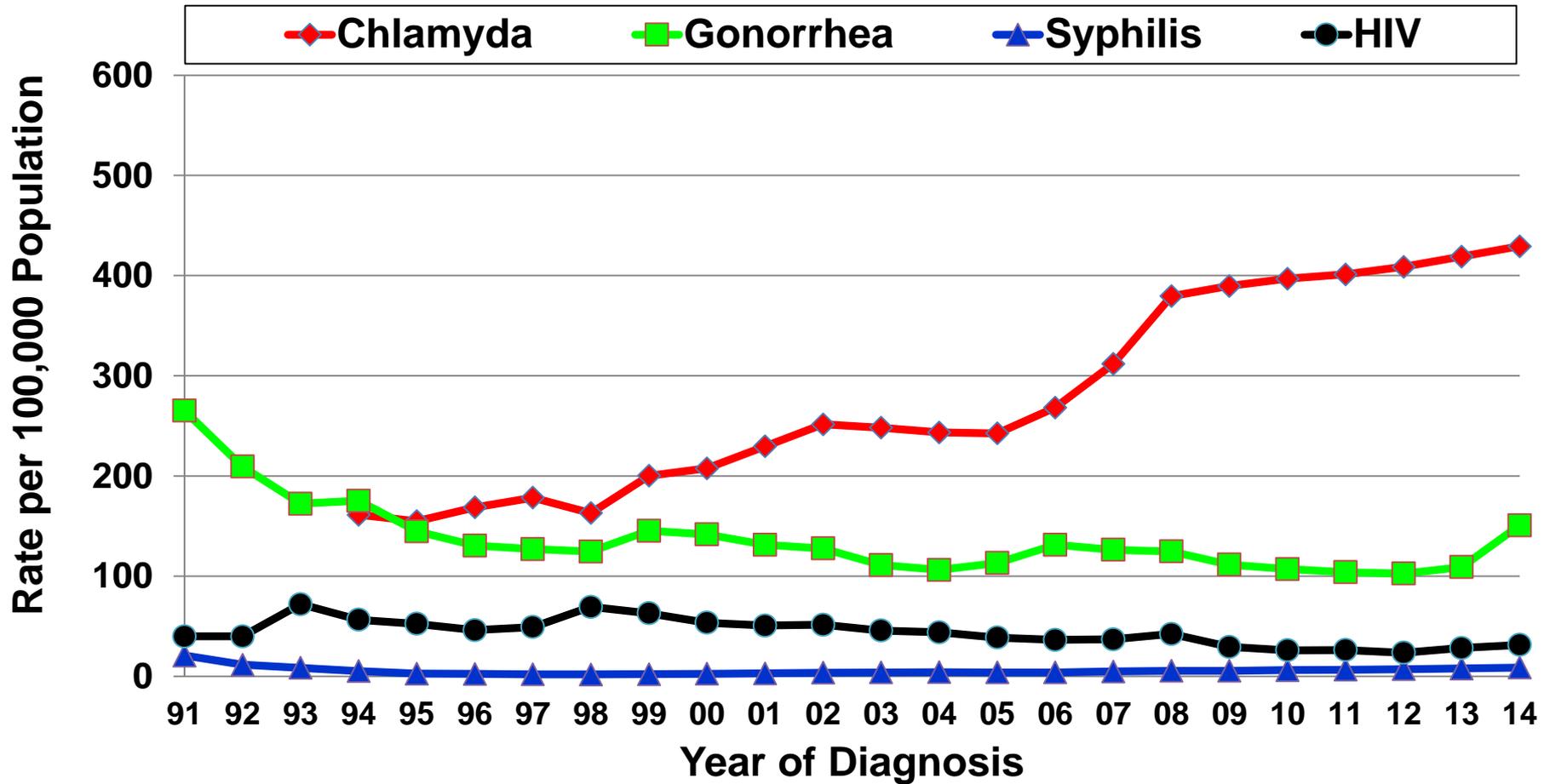


Note: 5% of these cases are among adolescents, ages 13-19.

19% of these cases are among young adults, ages 20-24.

\*Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and Multi-racial individuals.

# Chlamydia\*, Gonorrhea, Syphilis\*\* and HIV Rates, Diagnosed 1990-2014, Florida



\* Note: Chlamydia data available starting 1994.

\*\* Note: Syphilis data include both Primary and Secondary Syphilis.

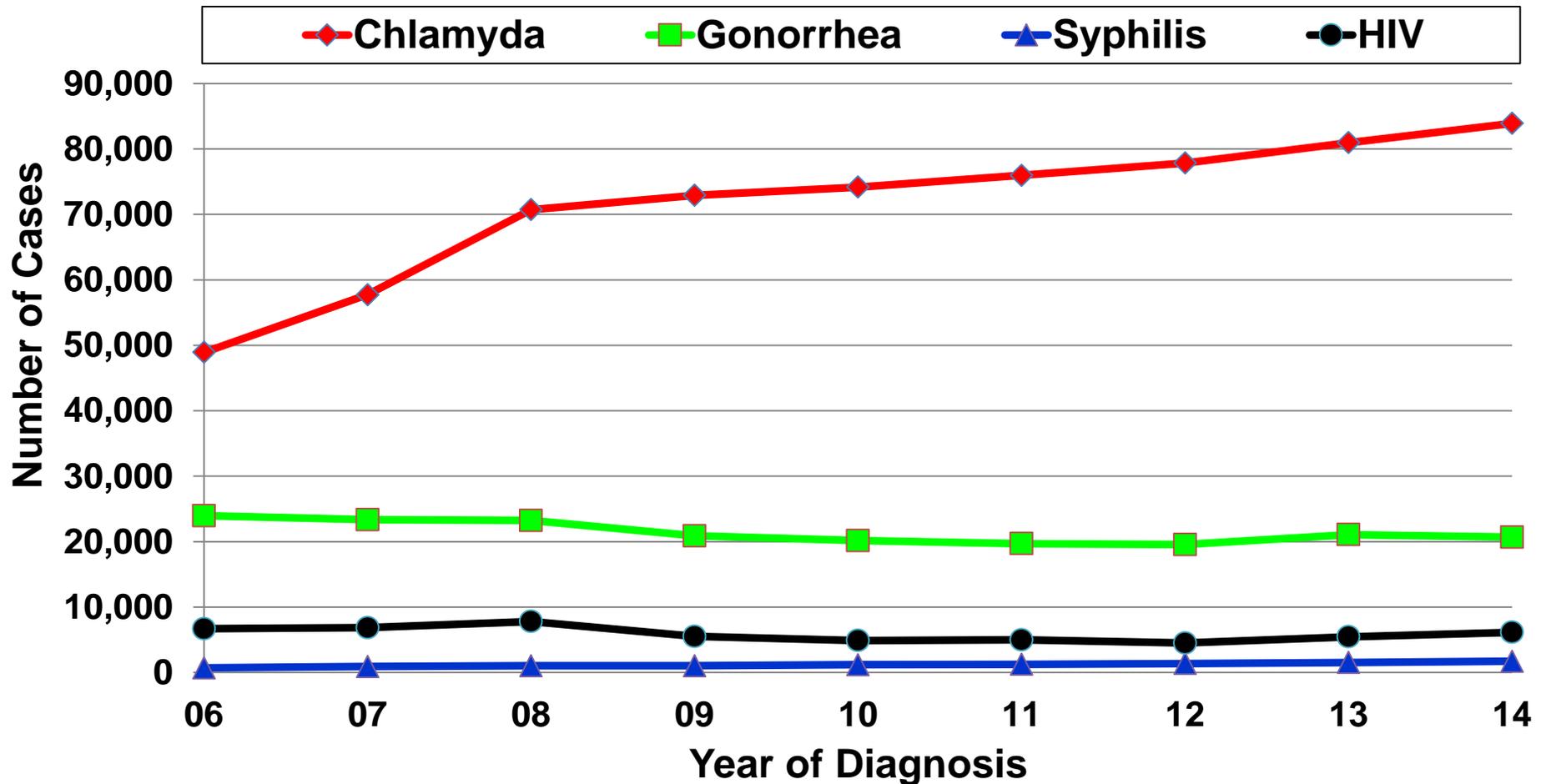
Source: Data from 1990 to 2013 have been validated using Florida CHARTS as of 04/03/2015.

FloridaCHARTS.com is provided by the Florida Department of Health, Division of Public Health Statistics and Performance Management.

2014 data is provisional as of 03/31/2015.



# Chlamydia, Gonorrhea, Syphilis\* and HIV Cases, Diagnosed 2005-2014, Florida



\* Note: Syphilis data include both Primary and Secondary Syphilis.

Source: STD data validated through Florida CHARTS as of 04/03/2015. FloridaCHARTS.com is provided by the Florida Department of Health, Division of Public Health Statistics and Performance Management.

2014 data is provisional as of 03/31/2015.



**“The reason for collecting, analyzing and disseminating information on a disease is to control that disease. Collection and analysis should not be allowed to consume resources if action does not follow.”**

--Foege WH et al. Int. J of Epidemiology 1976; 5:29-37



# For Florida HIV/AIDS Surveillance Data

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Slide Sets and Fact Sheets  
Annual Reports and Epi Profiles

<http://www.floridahealth.gov/diseases-and-conditions/aids/surveillance/index.html>

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Surveillance Reports, fact sheets and slide sets

<http://www.cdc.gov/hiv/topics/surveillance/resources/reports/index.htm>