Epidemiology of HIV Infection Trends in Florida Reported through 2011

Florida Department of Health
Bureau of HIV/AIDS
Annual data as of 12/31/2011
HIV and AIDS Case Data

- AIDS Cases became reportable in Florida in 1981.
- HIV (not AIDS) became reportable in Florida on July 1, 1997.
- HIV Infection reporting represents newly reported HIV cases, regardless of AIDS status at time of report.
- AIDS cases and HIV infection cases by year of report 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 generated later in the year, usually in May, when most of the “expected” death data are complete.
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 prevalence data are generated later in the year, usually in May, when most of the “expected” death data are complete.
- 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 reported.
Surveillance Case Definition for AIDS in Florida

A person with a positive confirmatory HIV antibody test or positive virologic test (qualitative or quantitative) and

- In Adult/Adolescent Case Only (13 years of age or older):
  - Has a CD4 absolute count below 200, or
  - Has a CD4 of less than 14 percent total lymphocytes

- In Adult/Adolescent and Pediatric Cases:
  - Has been diagnosed with one or more AIDS-defining illness (Opportunistic Infection)
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, multisport, 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.
### Cumulative HIV (not AIDS) and AIDS Cases, Reported through 2011, Florida

#### Persons Living with HIV/AIDS through 2010 as of 5/26/2011
- **Total**: 95,335

#### Cumulative AIDS Cases (1981-2011)

<table>
<thead>
<tr>
<th></th>
<th>Adults (Age 13+)</th>
<th>Pediatrics (Age &lt;13)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults (Age 13+)</td>
<td>122,526</td>
<td>1,863</td>
<td>124,389</td>
</tr>
<tr>
<td>Pediatrics (Age &lt;13)</td>
<td>1,863</td>
<td>95,335</td>
<td>95,335</td>
</tr>
</tbody>
</table>

#### Cumulative HIV Cases (not AIDS) 07/1997-12/2010

<table>
<thead>
<tr>
<th></th>
<th>Adults (Age 13+)</th>
<th>Pediatrics (Age &lt;13)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults (Age 13+)</td>
<td>47,091</td>
<td>657</td>
<td>47,748</td>
</tr>
<tr>
<td>Pediatrics (Age &lt;13)</td>
<td>657</td>
<td>95,335</td>
<td>95,335</td>
</tr>
</tbody>
</table>

#### Total HIV/AIDS Cases
- **Adults (Age 13+)**: 169,617
- **Pediatrics (Age <13)**: 2,520
- **Total**: 172,137

#### ADULTS

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
<th>M:F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative AIDS Cases</td>
<td>90,863</td>
<td>31,663</td>
<td>122,526</td>
<td>2.9 : 1</td>
</tr>
<tr>
<td>Cumulative HIV Cases</td>
<td>32,840</td>
<td>14,251</td>
<td>47,091</td>
<td>2.3 : 1</td>
</tr>
</tbody>
</table>
The Epidemic in Florida 2011

Population: 18.8 million →
(4th in nation)
Cumulative AIDS cases: 124,069
(3rd in nation)
Cumulative pediatric AIDS cases: 1,543
(2nd in nation)
Cumulative HIV (not AIDS) cases: 47,695
(2nd in nation of 46 states with HIV name reporting)

Persons living with HIV/AIDS: 95,335 →
HIV prevalence estimate: 135,000

HIV Incidence Estimates are approximately 5,000 per year, 2006-2009

*Other = Asian/Pacific Islanders; American Indians/Alaskan Natives; multi-racial.
Trend data as of 12/31/2011, Living data as of 05/26/2011
These data represent an 90% decline in pediatric AIDS cases by year of diagnosis from 1992 (N=178) to 2011 (N=17). Due to reporting lags, 2011 data by year of diagnosis are provisional.

Data as of  12/31/2011
Perinatally Acquired HIV Infected Cases, Born in Florida, by Year of Birth, 1979-2011

Note: These data represent a 97% decline in HIV-perinatally infected births from 1993 (N=110) to 2010 (N=3)
Includes ALL perinatally acquired HIV Infection cases BORN in Florida.
2011 data are provisional. Data as of 03/31/2012
AIDS Case Rates* by County of Residence,**
Reported in 2011, Florida

Statewide Data:
N=3,441
State Rate = 36.7
Rate per 100,000 Population

*Population data are from FloridaCHARTS
**County totals exclude Department of Corrections cases (N=70).
Numbers on counties are cases reported.
HIV Infection Case Rates* by County of Residence,** Reported in 2011, Florida

Statewide Data:
N=5,904
State Rate = 36.7
Rate per 100,000 population

*Population data are from FloridaCHARTS
**County totals exclude Department of Corrections cases (N=169). Numbers on counties are cases reported.
Note: AIDS cases increased in 2004 due to increased CD4 testing statewide. Electronic laboratory reporting delays in late 2007 decreased cases in that year, while contributing to a spike in 2008. The expansion of electronic lab reporting increased the timeliness of reporting, which further contributed to the artificial spike in 2008 followed by the artificial dip in 2009 & 2010 followed by an approach to leveling in 2011.

*Source: Population estimates are provided by FloridaCHARTS
HIV Infection Cases and Rates*, by Year of Report, 2002-2011, Florida

Note: Since 2002 newly reported HIV infection cases have decreased each year until 2007. Since then, changes in the reporting laws caused fluctuations in the reporting of new HIV infection cases. Enhanced reporting laws were implemented in November 2006, and the expansion of electronic lab reporting in 2007 led to an artificial peak in HIV cases in 2007 and 2008 followed by an artificial decrease in 2009 and 2010. New HIV infection cases increased in 2011.

*Source: Population estimates are provided by FloridaCHARTS
Note: In 2011 a total of 2,336 adult males and 1,105 adult females were reported with AIDS, representing 68% and 32% of cases, respectively. Also in 2011, a total of 4,608 adult males and 1,409 adult females were reported with HIV infection, representing 75% and 24% of cases, respectively. Florida’s adult population is 49% male and 51% female.
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.
Note: This 22 year trend shows the change in the epidemic over time. The peak in AIDS cases in 1993 can be associated with the expansion of the AIDS surveillance case definition. The overall declines in new AIDS cases among all race/ethnic groups are due in part to the success of highly active antiretroviral therapies, introduced in 1996.

*Other includes American Indian/Alaska Native, Asian/Pacific Islander, and multi-racial.
Adult AIDS Cases, by Race/Ethnicity, and Year of Report, 2002–2011, Florida

Note: The overall declines in new AIDS cases among all race/ethnic groups are due in part to the success of highly active antiretroviral therapies, introduced in 1996.

*Other includes American Indian/Alaska Native, Asian/Pacific Islander, and multi-racial.
Adult AIDS Cases, by Race/Ethnicity, and Year of Report, 2002–2011, Florida

Note: Historically, blacks account for over 50% of the reported AIDS cases; however, they represent only 15% of the adult population. Of the adult AIDS cases reported in 2011, 24% were white, compared to 55% black and 19% Hispanic. Over the past 10 years, the proportion of AIDS cases has remained fairly level among all race/ethnic groups.

*Other includes American Indian/Alaska Native, Asian/Pacific Islander, and multi-racial.
Note: Over the past 10 years, new HIV infection cases among blacks decreased by 40%. New cases among whites decreased by 18% and among Hispanics by 17%.

*Other includes American Indian/Alaska Native, Asian/Pacific Islander, and multi-racial.
Note: Of the adult HIV infection cases reported in 2002, 26% were white, while 52% were black and 19% were Hispanic. The percent of black HIV cases has decreased by 40% from 2002 to 2011. In contrast, increases were observed among both white (15%) and Hispanic (21%) HIV infection cases over this same time period.
Note: Over the past ten years, the percentage of black male HIV cases has decreased by 11%. In contrast, the percentage of white and Hispanic male HIV cases increased by 7% & 13% respectively over this same time period. These increases correlate with recent increases observed among MSM.

*Other includes American Indian/Alaska Native, Asian/Pacific Islander, and multi-racial.
Note: As with AIDS cases, HIV case disparities are more evident among women than men. For the past ten years, black women represented over 64% of the cases each year. Over the past ten years, the proportion of black female HIV cases has decreased by 7%. In contrast, increases were seen in the proportion of white female HIV cases (37%) and Hispanic female HIV cases (17%) over this same time period.

*Other includes American Indian/Alaska Native, Asian/Pacific Islander, and multi-racial.
Adult AIDS and HIV Infection Cases Reported in 2011 and Population Data, by Race/Ethnicity, Florida

AIDS
N=3,441

- 55% White
- 24% Black
- 19% Hispanic
- 2% Other**

2011 Florida*
Population Estimates
N=16,092,456

- 58% White
- 48% Black
- 23% Hispanic
- 4% Other**

HIV
N=6,027

- 29% White
- 22% Black
- 1% Hispanic
- 48% Other**

Note: Blacks comprise only 15% of the adult population in Florida, but represent 55% of adult AIDS cases and 48% of adult HIV infection cases reported in 2011. Hispanics comprise 23% of Florida’s adult population, and account for 19% of the AIDS cases and 22% of the HIV infection cases.

*Source: Population estimates are provided by FloridaCHARTS
**Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and mixed races.
Adult HIV Infection Cases, by Sex and Race/Ethnicity, Reported in 2011, Florida

Males
N=4,608

- White: 34%
- Black: 25%
- Hispanic: 2%
- Other*: 39%

Females
N=1,419

- White: 19%
- Black: 65%
- Hispanic: 15%
- Other*: 1%

Note: In this snapshot of 2011, HIV cases by race/ethnicity among males is more evenly split compared to HIV cases among females where blacks are over-represented, accounting for 65% of adult cases among women.
*Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and mixed races.
THE FORMULA USED FOR CALCULATING THE 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:

Number of AIDS Cases Reported in 1996 \( \times 100,000 \) = 7,300 \( \times \) 100,000

Estimated Population of Florida in 1996 = 14,000,000

= 52.1 per 100,000 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.
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 2011 is nearly 5 times higher among black men than among white men. Among black women, the HIV case rate is 14 times higher than among white women. Hispanic male case rates are 2 times and Hispanic female rates are 2 times higher than the rates among their white counterparts.

*Source: Population estimates are provided by FloridaCHARTS
Adult Cases, by Age Group at Diagnosis, Reported in 2011, Florida

AIDS
N=3,441

HIV Infection
N=6,027

Note: HIV cases tend to be younger than AIDS cases. HIV cases tend to reflect more recent transmission than AIDS cases, and thus present a more current picture of the epidemic.
Adult HIV Infection Cases, by Sex and Age Group at Diagnosis, Reported in 2011, Florida

Males
N=4,608

Females
N=1,419

Note: HIV cases tend to be younger than AIDS cases: 30% of adult male HIV cases and 26% of adult female HIV cases occur among those aged 13-29, compared with only 17% of male AIDS cases and 14% of female AIDS cases in this age group. HIV cases tend to reflect more recent transmission than AIDS cases, and thus present a more current picture of the epidemic. This suggests that youth should be targeted for prevention efforts.
As with AIDS cases, over the past ten years, the proportion of newly reported HIV cases has shown increases for both the 20-29 and 50+ age groups. The 20-29 age group increased by 39% and the 50+ age group has increased by 53% over the past ten years. The age group 13-19 increased slightly and remained level. In contrast, the 30-39 age group decreased 41% over the past ten years.
Definitions of Mode of Exposure Categories

- **MSM** = Men who have sex with men
- **IDU** = Injection Drug Use
- **MSM/IDU** = Men who have sex with men & Injection Drug Use
- **Heterosexual** = Heterosexual contact with person with HIV/AIDS or known HIV risk
- **OTHER** = includes hemophilia, transfusion, perinatal and other pediatric risks and other confirmed risks.
- **NIR** = Cases reported 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 AIDS and HIV Infection Cases, by Mode of Exposure, Reported in 2011, Florida

Note: NIRs redistributed. Among adult AIDS and HIV cases reported for 2011, heterosexual sex (49%) was the highest risk for newly reported AIDS cases followed by men who have sex with men (MSM) (40%). Conversely, MSM (54%) was the highest risk for newly reported HIV cases, followed by heterosexual risk (39%). The higher proportion of MSM among HIV cases compared to AIDS cases, is indicative of a possible resurgence of HIV among MSM, as HIV cases represent a more recent picture of the epidemic.
Note: NIRs redistributed. Men who have sex with men (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 Report, 2002–2011, Florida

Note: NIRS redistributed. The heterosexual risk continues to be the dominant mode of exposure among females.
# AIDS-Defining Conditions*
Most Commonly Reported among Adults
Reported in 2011, Florida

<table>
<thead>
<tr>
<th>AIDS Defining Condition</th>
<th># Cases</th>
<th>% Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Disease (Immune suppressed only)**</td>
<td>2,676</td>
<td>79%</td>
</tr>
<tr>
<td><em>Pneumocystis carinii</em> pneumonia</td>
<td>228</td>
<td>7%</td>
</tr>
<tr>
<td>Wasting Syndrome</td>
<td>162</td>
<td>5%</td>
</tr>
<tr>
<td>Candidiasis, esophageal</td>
<td>143</td>
<td>4%</td>
</tr>
<tr>
<td>Toxoplasmosis of brain</td>
<td>45</td>
<td>1%</td>
</tr>
<tr>
<td>Pneumonia, recurrent</td>
<td>44</td>
<td>1%</td>
</tr>
<tr>
<td>Pulmonary Tuberculosis</td>
<td>39</td>
<td>1%</td>
</tr>
<tr>
<td>Herpes simplex virus</td>
<td>36</td>
<td>1%</td>
</tr>
<tr>
<td>HIV encephalopathy</td>
<td>25</td>
<td>1%</td>
</tr>
<tr>
<td>Kaposi's sarcoma</td>
<td>25</td>
<td>1%</td>
</tr>
<tr>
<td>Lymphomas (brain, Burkitt's or immunoblastic)</td>
<td>25</td>
<td>1%</td>
</tr>
<tr>
<td>Cytomegalovirus disease</td>
<td>22</td>
<td>1%</td>
</tr>
<tr>
<td>Candidiasis, lung</td>
<td>11</td>
<td>0%</td>
</tr>
<tr>
<td>Cryptococcosis, extrapulmonary</td>
<td>11</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total Cases</strong></td>
<td>3,383</td>
<td></td>
</tr>
</tbody>
</table>

*Note: data are NOT mutually exclusive, many cases have more than one disease.**

**Immune suppressed: CD4 count <200ul or CD4 percent <14%.
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, Reported in 2011, Florida

Females
N=53,702

- White: 44%
- Black: 17%
- Hispanic: 13%
- Other*: 26%

Males
N=21,638

- White: 50%
- Black: 16%
- Hispanic: 13%
- Other*: 21%

Note: 31% of these cases are among adolescents, ages 15-19.
*Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and mixed races.
Gonorrhea Cases, by Sex and Race/Ethnicity, Reported in 2011, Florida

**Females**
N=9,878

- White: 61%
- Black: 11%
- Hispanic: 7%
- Other*: 9%
- Unknown: 21%

**Males**
N=9,657

- White: 60%
- Black: 14%
- Hispanic: 9%
- Other*: 17%
- Unknown: 6%

Note: 26% of these cases are among adolescents, ages 15-19.
*Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and mixed races.
Primary and Secondary Syphilis Cases, by Sex and Race/Ethnicity, Reported in 2011, Florida

**Females**
- N=133
- 61% White
- 26% Black
- 8% Hispanic
- 5% Other*

**Males**
- N=1,120
- 33% White
- 23% Black
- 39% Hispanic
- 5% Other*

Note: 5% of these cases are among adolescents, ages 15-19.
*Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and mixed races.
Florida’s Top-9 Priority Populations in 2011 for Primary & Secondary HIV Prevention Based on HIV Infection Cases Reported 2009-2011

1. Black Heterosexual men and women
2. White Men who have sex with Men
3. Black Men who have sex with Men
4. Hispanic Men who have sex with Men
5. Hispanic Heterosexual men and women
6. White Heterosexual men and women
7. Black Injection Drug User
8. White Injection Drug User
9. Hispanic Injection Drug User
DESCRIPTION OF FLORIDA’S UNMET NEED METHODOLOGY

For Calendar year: 2011

Lorene Maddox, MPH
Surveillance Data Analysis Manager
DEPARTMENT OF HEALTH
BUREAU OF HIV/AIDS
2011 Unmet Need Estimates

- ALL 2011 CD4 and/or VL labs (paper and ELR) will be included if received at the state level.
- In-care matches of living HIV/AIDS cases through 2011 for HIV-related care in 2011 with ADAP, Medicaid, HMS and Careware to capture any cases in care where lab was not received.
- Persons whose current address is NOT FL and were NOT in care in 2011 will be excluded so as to NOT be counted as NOT in CARE.
- OOS cases in care now living in FL that have been entered into eHARS will be counted.
  - A backlog of 200-300 may not get entered in time to count for 2011.
2011 Unmet Need Timeline

• Update any Vital Status deaths through 2011
  – Status: complete
• Update any SSDMF deaths through 2011
  – Status: waiting on SSDMF file from CDC
• Complete importing of 2011 labs through mid-June 2012
• Obtain ADAP, Medicaid, HMS and Careware data by the end of May
  – Status: pending
• Begin unmet need analysis by the end of June
• Disseminate unmet need analysis by beginning of August
Unmet Need Estimates
2011 may be new baseline year

• 1\textsuperscript{st} year of complete 2011 paper AND ELR labs imported into eHARS.
• 1\textsuperscript{st} year nearly complete entry of OOS cases currently in care in FL.
• Validation checks on matched cases with other databases will be performed to see if lab was already in eHARS.
• Findings of these analyses will be included in the 2011 methodology.
“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.”

For Florida HIV/AIDS Surveillance Data
Contact: (850) 245-4444

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Visit Florida’s internet site for:
• Monthly Surveillance Reports
• Slide Sets and Fact Sheets
• Annual Reports and Epi Profiles

http://www.doh.state.fl.us/disease_ctrl/aids/trends/trends.html

Visit CDC’s HIV/AIDS Internet site for:
Surveillance Reports, fact sheets and slide sets
http://www.cdc.gov/hiv/topics/surveillance/resources/reports/index.htm