Epidemiology of HIV in Florida
An Overview of Recent Trends

Kate Goodin, MPH
Senior Epidemiologist
HIV/AIDS and Hepatitis Prevention Section
Bureau of Communicable Diseases
Florida Department of Health
Background

- Case reports are received by FDOH on two conditions
  - Acquired Immune Deficiency Syndrome (AIDS), 1981
  - Human Immunodeficiency Virus (HIV) infection, 1997
- These two categories are no longer mutually exclusive
- Staging system for infected individuals based on CD4 cell count (with other criteria in absence of CD4 count)
  - Stage 0, acute infection
  - Stage 1, CD4 count $\geq$500, $>26\%$
  - Stage 2, CD4 count 200-499, 14-26%
  - Stage 3, CD4 count $<200$, $<14\%$, opportunistic illness (OI)
Data is routinely summarized based on:
- Incidence
- Reported diagnoses (closest to incidence)
- Prevalence
  - People living with HIV/AIDS
  - Estimated prevalence

Data is typically stratified based on age:
- >13 years is considered adult
- <13 years is considered pediatric (regardless of transmission)
- Different immunologic responses and different case confirmation criteria
- Reporting requirements changed at the end of 2006 requiring all HIV viral loads to be reported
- Integration of electronic laboratory results increased the number of cases reported 2007-2008
- Data are reconciled with all other states and territories to identify duplicates, ongoing process
  - Ex. In the first six months of 2012 we deleted 29 cases reported in 2010 and 542 reported in 2011
How are people being infected?

- Information on mode of exposure is collected from medical record review as well as from interview by DIS

- Modes include
  - Blood product receipt (transfusion, clotting factor, transplant)
  - Heterosexual contact
  - Injection drug use (IDU)
  - Men who have sex with men (MSM)
  - Perinatal transmission
  - Sexual contact with someone with a known risk
HIV Infection Cases in Women by Mode of Exposure and Year of Report, Florida, 2002-2011

Year of Report
Number of Cases
IDU Heterosexual
Peak for perinatal HIV infections in Florida was 1993

As of 2010 there has been a 97% decline in perinatal infections
Who is getting infected?

- Demographic data notes
  - Black, white, and Hispanic race are considered mutually exclusive
  - “Other” race indicates American Indian/Alaskan Native, Asian/Pacific Islander, and those with multiple races reported
  - Age at diagnosis vs. current age
There has been a 40% decline in the number of newly reported cases in blacks since 2002.

However, blacks still account for ~40% of cases in men and ~65% of cases in women reported in 2011.
As of 2011, newly reported cases occur evenly across all age groups >19
Where are people getting infected?

HIV cases and rates by year of report 1998-2010
Newly Reported HIV Infections by County of Residence, Florida 2010
Progression to AIDS

• Why do we track AIDS diagnosis?
  – Identify late testers
  – Access or adherence to care
  – Quality of care
  – Can identify disparities

• Shift in focus to laboratory measures for disease
  – OIs are not consistently diagnosed
  – Not consistently documented
  – Some debate about their clinical relevance
AIDS-Defining Conditions* Most Commonly Reported among Adult AIDS Cases 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 <200 ul or CD4 percent <14%.
Median Survival Time from AIDS Diagnosis to Death by Race/Ethnicity and Gender, for Deaths 2001-2010

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>67 mo.</td>
<td>47 mo.</td>
<td>63 mo.</td>
</tr>
<tr>
<td>Black</td>
<td>45 mo.</td>
<td>42 mo.</td>
<td>44 mo.</td>
</tr>
<tr>
<td>Hispanic</td>
<td>48 mo.</td>
<td>43 mo.</td>
<td>47 mo.</td>
</tr>
<tr>
<td>Amer. Ind.</td>
<td>40 mo.</td>
<td>17 mo.</td>
<td>35 mo.</td>
</tr>
<tr>
<td>Asian</td>
<td>33 mo.</td>
<td>26 mo.</td>
<td>32 mo.</td>
</tr>
<tr>
<td>Total</td>
<td>54 mo.</td>
<td>44 mo.</td>
<td>49 mo.</td>
</tr>
</tbody>
</table>

- Survival times have increased over time
  - Advent of HAART
  - Earlier case identification (HIV detection)
  - Better supportive medical care
Resident Deaths due to HIV Disease, by Year of Death, 1994-2010, Florida

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>2010 No.</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Male</td>
<td>225</td>
<td>4.1</td>
</tr>
<tr>
<td>White Female</td>
<td>61</td>
<td>1.1</td>
</tr>
<tr>
<td>Black Male</td>
<td>388</td>
<td>27.5</td>
</tr>
<tr>
<td>Black Female</td>
<td>246</td>
<td>16.2</td>
</tr>
<tr>
<td>Hispanic Male</td>
<td>96</td>
<td>4.6</td>
</tr>
<tr>
<td>Hispanic Female</td>
<td>26</td>
<td>1.3</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
<td>4.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,066</td>
<td>5.7</td>
</tr>
</tbody>
</table>

- Deaths due to HIV (cause) does not include deaths with HIV
- Number of deaths annually was over 4,000 in mid-90’s
- Down to 1,066 in 2010
- Death rates vary by race/ethnicity and gender
  - 4th leading cause among blacks 25-44
  - 2nd leading cause among black women 25-44
What is all of this data good for?

- National HIV/AIDS Strategy goals:
  - Reduce new HIV infections
  - Increase access to care and improve health outcomes for people living with HIV
  - Reduce HIV-related health disparities
  - Achieve a more coordinated national response to the HIV epidemic in the US

- Use epidemiologic data to inform
  - Allocation of resources
  - Tailor interventions to populations at risk
  - Estimate future needs
  - Track program progress
  - Unmet need
HIV Cascade

Number and percentage of HIV-infected persons engaged in selected stages of the continuum of HIV care — Florida

- HIV Infected*: 130,666
- HIV Diagnosed*: 104,402
- Linked to HIV Care†: 80,390
- Retained in HIV Care§: 53,245
- On ART¶: 47,282
- Suppressed Viral Load (≤200 copies/mL)**: 36,407

Resources

HIV/AIDS Section

Slide sets and fact sheets for HIV surveillance, testing, prevention, and patient care resources

http://www.doh.state.fl.us/Disease_ctrl/aids/index.html

Florida Annual Morbidity Statistics Report

Summary of HIV Trends

http://www.doh.state.fl.us/Disease_ctrl/epi/Morbidity_Report/amr.html

Florida CHARTS

Data for selected infectious diseases as well as mortality info

http://www.floridacharts.com/charts/chart.aspx
Questions?

Contact info:
Kate Goodin
Kate_Goodin@doh.state.fl.us
850-245-4448