DISPARITIES IN THE HIV EPIDEMIC: AN OVERVIEW

Ellen Funkhouser, DrPH
Nashville, TN
November 18, 2004
Overview

- National data
- By geographic region of U.S.
- Alabama – Department of Public Health
- Studies in south among persons with HIV/AIDS
Estimated Incidence of AIDS and Deaths among Adults and Adolescents with AIDS, 1985–2002—United States

Year of diagnosis or death

No. of cases and deaths (in thousands)


AIDS

Deaths

1993 Case definition

Note. Adjusted for reporting delays.
Trends in Age-Adjusted Annual Rates of Death due to HIV Infection, by Sex and Race, USA, 1987-1999

Deaths per 100,000 Population (Log Scale)

Year

Note: For comparison with data for 1999, data for 1987-1998 were modified to account for ICD-10 rules instead of ICD-9 rules.

*Using the year 2000 US standard population.
Trends in Age-Adjusted* Rates of Death due to the 7 Leading Causes of Death and HIV Infection, USA, 1987-2000

Deaths per 100,000 Population (Log Scale)

Year


- Heart disease
- Cancer
- Stroke
- Chronic lung disease
- Unintentional injury
- Diabetes
- Pneumonia
- HIV infection

*Using the year 2000 US standard population.
†Preliminary mortality data for 2000

Note: For comparison with data for 1999-2000, data for 1987-1998 were modified to account for ICD-10 rules instead of ICD-9 rules.

- Unintentional injury
- Cancer
- Heart disease
- Suicide
- HIV infection
- Homicide
- Chronic liver disease
- Stroke
- Diabetes

Note: For comparison with data for 1999-2000, data for 1987-1998 were modified to account for ICD-10 rules instead of ICD-9 rules.

†Preliminary mortality data for 2000.
## Rank and Rate* of HIV as Cause of Death for selected age groups, by Sex and Race, USA, 2001

<table>
<thead>
<tr>
<th></th>
<th>25-34 Rank</th>
<th>25-34 Rate</th>
<th>35-44 Rank</th>
<th>35-44 Rate</th>
<th>45-54 Rank</th>
<th>45-54 Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Black</td>
<td>3\textsuperscript{rd}</td>
<td>3.5</td>
<td>3\textsuperscript{rd}</td>
<td>75.9</td>
<td>3\textsuperscript{rd}</td>
<td>80.7</td>
</tr>
<tr>
<td>White</td>
<td>6\textsuperscript{th}</td>
<td>3.9</td>
<td>5\textsuperscript{th}</td>
<td>12.1</td>
<td>8\textsuperscript{th}</td>
<td>9.5</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>1\textsuperscript{st}</td>
<td>17.3</td>
<td>3\textsuperscript{rd}</td>
<td>34.1</td>
<td>4\textsuperscript{th}</td>
<td>25.9</td>
</tr>
<tr>
<td>White</td>
<td>7\textsuperscript{th}</td>
<td>1.2</td>
<td>9\textsuperscript{th}</td>
<td>2.4</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

*per 100,000
Estimated Number of Persons Living with AIDS by Race/Ethnicity, 1993–2002—United States

- **White, not Hispanic**
- **Black, not Hispanic**
- **Hispanic**
- **Asian/Pacific Islander**
- **American Indian/Alaska Native**

Note. Adjusted for reporting delays.
Proportion of AIDS Cases, by Race/Ethnicity and Year of Diagnosis, 1985–2002—United States

Note. Adjusted for reporting delays.
Proportion of AIDS Cases and Population, by Race/Ethnicity 2002—United States

AIDS cases
N* = 42,651

- White, not Hispanic: 31%
- Black, not Hispanic: 51%
- Hispanic: 17%
- Other: <1%

US Population
N = 288,368,706

- White, not Hispanic: 69%
- Black, not Hispanic: 13%
- Hispanic: 13%
- Asian/Pacific Islander: 4%
- American Indian/Alaska Native: <1%

Note. Excludes persons from US dependencies, possessions, and associated nations.
* Includes 44 persons of unknown race or multiple races.
# AIDS Cases and Rates* by Race and Sex, Reported in 2002, USA

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Rate</td>
</tr>
<tr>
<td>White</td>
<td>11,190</td>
<td>14</td>
</tr>
<tr>
<td>Black</td>
<td>14,283</td>
<td>110</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5,533</td>
<td>37</td>
</tr>
</tbody>
</table>

*per 100,000
Proportion of AIDS Cases among Adults and Adolescents, by Exposure Category and Year of Diagnosis
1985–2002—United States

- Male-to-male sexual contact
- Injection drug use (IDU)
- Heterosexual contact
- Male-to-male sexual contact and IDU

Year of diagnosis

Note. Adjusted for reporting delays.
Distribution (%) of Persons Living with AIDS by Race and Exposure Category, USA, 2002

Men

<table>
<thead>
<tr>
<th>Race</th>
<th>MSM</th>
<th>IDU</th>
<th>MSM &amp; IDU</th>
<th>Heterosexual</th>
<th>Other/unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>75</td>
<td>11</td>
<td>9</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Black</td>
<td>42</td>
<td>32</td>
<td>8</td>
<td>16</td>
<td>2</td>
</tr>
</tbody>
</table>

[White: n=123,486]  [Black: n=110,836]
Distribution (%) of Persons Living with AIDS by Race & Exposure Category, USA, 2002

Women

<table>
<thead>
<tr>
<th>Race</th>
<th>IDU</th>
<th>Heterosexual</th>
<th>Other/Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>41</td>
<td>55</td>
<td>3</td>
</tr>
<tr>
<td>Black</td>
<td>36</td>
<td>62</td>
<td>3</td>
</tr>
</tbody>
</table>

[White: n=16,783] [Black: n=49,133]
HIV/AIDS Epidemic in the U.S. is Changing

• Increasingly Black, Female, Heterosexual, Southern, Rural
  – Less MSM, Whites, IDU

• Reflects impact of prevention as well as the readiness of access to VCT and antiretroviral drugs
REGIONAL
The South is characterized by

- Large minority population
- Largely rural
- High rates of STDs
- High poverty rates
- Less access to medical care
Estimated Number of Persons Living with AIDS, by Region 1993–2002—United States

Note. Adjusted for reporting delays.
### AIDS Cases in Adults and Adolescents, by Region and Population Area of Residence,\(^1\) Reported in 2001 United States\(^2\)

<table>
<thead>
<tr>
<th>Region</th>
<th>MSA of &gt;500,000</th>
<th>MSA of 50,000 to 500,000</th>
<th>Nonmetropolitan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>11,444</td>
<td>680</td>
<td>298</td>
</tr>
<tr>
<td>Midwest</td>
<td>3,004</td>
<td>520</td>
<td>361</td>
</tr>
<tr>
<td>South</td>
<td>13,610</td>
<td>2,616</td>
<td>2,104</td>
</tr>
<tr>
<td>West</td>
<td>5,834</td>
<td>447</td>
<td>222</td>
</tr>
</tbody>
</table>

\(^1\)Based on reported residence at time of AIDS diagnosis

\(^2\)Excludes cases from Puerto Rico, US Virgin Islands, and territories
AIDS Cases by Year Diagnosed and Geographic Region of U.S., 1998-2002
Blacks
AIDS Cases in the South by Year Diagnosed, U.S., 1998-2002
Black – White Comparison
ALABAMA
HIV/AIDS *Diagnoses* by Race and Sex, Alabama, 2003

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th></th>
<th>Women</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Rate</td>
<td>Cases</td>
<td>Rate</td>
</tr>
<tr>
<td>White</td>
<td>186</td>
<td>11.9</td>
<td>45</td>
<td>2.8</td>
</tr>
<tr>
<td>Black</td>
<td>399</td>
<td>73.3</td>
<td>81</td>
<td>34.6</td>
</tr>
<tr>
<td>Other</td>
<td>28</td>
<td>-</td>
<td>5</td>
<td>-</td>
</tr>
</tbody>
</table>

Relatively stable over last 5 years

*per 100,000
Proportion of Persons Living with HIV/AIDS and Population by Race, Alabama, 2003

- **PLWA Population**
  - White: 34
  - Black: 63
  - Other: 3

- **Population**
  - White: 71
  - Black: 26
  - Other: 3
Distribution of HIV/AIDS Cases Diagnosed in 2003 by Race and Exposure Category, Alabama

- Whites [n=194]
  - MSM
  - IDU
  - MSM/IDU
  - Het Sex

- Blacks [n=366]
  - MSM
  - IDU
  - MSM/IDU
  - Het Sex
HIV/AIDS in Nonurban Alabama, Mississippi, and Louisiana
METHODOLOGY

Interviews with HIV+ men and women living in nonurban

- Alabama, 1995-1997
  - 595 interviews
- Mississippi, 1998
  - 181 interviews
- Louisiana, 1999-2001
  - 282 interviews
Methods

Assessed

• Sociodemographics
• Sexual history, drug history
• Current (past 30 days) sexual behavior and drug use
• HIV/AIDS treatment including antiretroviral medications
• Use of social services
# Study Population Characteristics

## Sexual Behavior Group

<table>
<thead>
<tr>
<th></th>
<th>MSM</th>
<th>Het Men</th>
<th>Women</th>
<th>ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>N=491</td>
<td>N=207</td>
<td>N=282</td>
<td>N=980</td>
</tr>
<tr>
<td>% White</td>
<td>(50.1%)</td>
<td>(21.2%)</td>
<td>(28.8%)</td>
<td></td>
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</tbody>
</table>

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</tr>
</thead>
<tbody>
<tr>
<td>% White</td>
<td>59.7</td>
<td>28.5</td>
<td>30.8</td>
<td>44.8</td>
</tr>
</tbody>
</table>
Prevalence of Selected High-Risk Behaviors During Putative Period of Infection

- Never used condoms – 45.6%
- Alcohol abuse (CAGE) - 51.1%
- Any IDU – 13.0%
- Crack (weekly) - 16.1%
Never Used Condoms by Race within Sexual Behavior Group

<table>
<thead>
<tr>
<th>Race</th>
<th>MSM</th>
<th>Het Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Alcohol Abuse (Positive CAGE) by Race within Sexual Behavior Group

Percent

MSM
Het Men
Women

White
Black

Red
Green
Injection Drug Use by Race within Sexual Behavior Group

- MSM
- Het Men
- Women

Percent

- White
- Black
Crack Use by Race within Sexual Behavior Group

Percent

- MSM
- Het Men
- Women

- White
- Black
Protease Inhibitor Combination Therapy and Decreased Condom Use Among Gay Men

Alabama only

DiClemente RJ, Funkhouser E, Wingood G, Fawal HJ, Holmberg SD, Vermund SH

Results

• 40% sexually active in past 30 days
• 21% currently on protease inhibitors (PIs) treatment
• Participants treated with PIs were:
  – more likely to report never (OR=2.0, 95% CI: 0.9, 4.4) or inconsistent condom use (OR=1.9, 95% CI: 0.8, 3.5)
• Stratification of by sexual preference:
  – MSM on PIs were significantly more likely to report never (OR=4.1, 95% CI: 1.4, 12.1) or inconsistent condoms (OR=3.4, 95% CI: 1.2, 9.8)
Opportunities to Improve Prevention and Services for HIV-Infected Women in Nonurban Alabama and Mississippi

Moon TD, Vermund SH, Tong TC, Holmberg SD

*J Acquir Immune Defic Syndr* 2001; 28 (3): 279-81
Results

• 21% not told where they could get HIV treatment after receiving first positive results

• After learning status:
  – 50% remained sexually active (active in previous month)
  – 13% reported in past 12 months having been to a doctor or clinic for treatment of STDs

• 76% reported having no insurance

• 11% reported having lost insurance in preceding 12 months:
  – 38% did not seek HIV treatment believing they could not pay for it
  – 4% denied treatment in prior 12 months because they could not pay for it
Conclusions

• Rural/town risk behavior contributes to the southern epidemic with autochthonous transmission

• Current ratios of black vs. white men and women are high and getting worse

• Alcohol abuse is a major concern

• Services are not always available in the south to HIV infected persons who need them

• Evidence of HAART-related disinhibition
Disparities in HIV Epidemiology/Prevention

Chairs:
Stephanie Bailey, MD and Ellen Funkhouser, DrPH

Presenters:
8:35-9:05 Ellen Funkhouser, DrPH
9:05-9:15 N. Pokuua Mensah
9:15-9:45 Maureen Miller, PhD
9:45-10:05 Adaora Adimora, MD, MPH