Geographic Distribution of HIV/AIDS in Texas

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Adults and children estimated to be living with HIV | 2009

Total: 33.3 million [31.4 million – 35.3 million]
Distribution of HIV/AIDS in the U.S.

Fig. Rates of adults and adolescents living with HIV (CDC, 2011)
HIV Epidemiology in Texas 2010
Newly diagnosed HIV infection includes all new HIV cases regardless of disease status (HIV only or AIDS).

2009-2010 death data are provisional.
People Living with HIV Rates by Sex: Texas, 2001-2010
People Living with HIV Rates by Race/Ethnicity: Texas, 2001-2010

Cases per 100,000

Year

- Black
- White
- Hispanic
- Other
People Living with HIV by Sex and Transmission Category: Texas, 2010

**Males**
- MSM: 71%
- IDU: 11%
- MSM/IDU: 8%
- Hetero: 10%
- Other: 0%

**Females**
- IDU: 24%
- Hetero: 76%
- Other: 0%

MSM: Men who have sex with men
IDU: Injection drug users
Hetero: Heterosexual contact
GIS and Health Research Group
HIV/AIDS Research @UNT
The overwhelming weight of evidence indicates that physical, social and service characteristics of neighborhoods influence health in important ways, including by shaping choices and behaviors.

We need more research, conducted rigorously and on a large enough scale to yield results that can guide public and private-sector policies.
CDC Report 2010

• “… poverty is the single most important demographic factor associated with HIV infection among inner-city heterosexuals.
• … contrary to severe racial disparities that characterize the overall U.S. epidemic, researchers found no differences in HIV prevalence by race/ethnicity in this population.
• ….prevalence was especially high in those with the lowest socioeconomic status….”
Research Questions

• How do characteristics of neighborhood (place of residence) impact risk of HIV infection?

• Does the HIV epidemic in impoverished urban areas of Texas differ from the rest of the state?

• How does HIV/AIDS survival vary with place of residence?
Distribution of HIV/AIDS in Texas

Fig. Cumulative Incidence of HIV/AIDS in Texas Zip codes 1999-2007

Fig. Proportions of total population and HIV/AIDS by race/ethnic groups

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Tuesday, December 06, 2011
HIV/AIDS in Texas Selected Age Groups

HIV/AIDS in Texans (aged 13 to 24)

HIV/AIDS in Texans (aged 50 and over)

Prevalence of HIV/AIDS distribution in Texans (aged 13 to 24) and (50 and over) 1999-2007
Proportion of Newly Diagnosed HIV/AIDS by Race/Ethnicity and Age Groups in Texas, 1999-2007

- **Total Population**: 62.4%
  - Others: 20.1%
  - Asian: 11.9%
  - White: 11.9%
  - Hispanic: 20.1%
  - Black: 20.1%

- **HIV/AIDS**: 25.8%
  - Others: 31.8%
  - Asian: 24.1%
  - White: 24.1%
  - Hispanic: 24.1%
  - Black: 24.1%

- **HIV/AIDS in Teenagers**: 19.2%
  - Others: 52.3%
  - Asian: 27.3%
  - White: 27.3%
  - Hispanic: 27.3%
  - Black: 27.3%

- **HIV/AIDS in Elderly**: 36.6%
  - Others: 40.2%
  - Asian: 22.3%
  - White: 22.3%
  - Hispanic: 22.3%
  - Black: 22.3%
Late Testers for HIV/AIDS in Texas

Prevalence of late testers from 1999-2008

Ratio of late testers to all cases from 1999-2008
Extremely Poor Areas (17.9% of TX area)

- 291 ZCTAs from 1936 ZCTAs in total
- Colonias counties such as El Paso, McAllen, etc.
- West Texas such as Lubbock
- Urban impoverished areas such as Dallas, Fort Worth, Houston, San Antonio, Austin, etc.
- East Texas with high % Black
HIV/AIDS in Urban Extreme Poverty (Dallas)

UEP - Avg. prevalence rate 913.24 per 100,000
Surrounding – Avg. Prevalence rate 605.27 per 100,000

HIV/AIDS prevalence rate (per 100,000)

<table>
<thead>
<tr>
<th>Race</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>944.42</td>
</tr>
<tr>
<td>Black</td>
<td>1687.79</td>
</tr>
<tr>
<td>Asian</td>
<td>374.69</td>
</tr>
<tr>
<td>Hispanic</td>
<td>336.25</td>
</tr>
<tr>
<td>Other Race</td>
<td>486.06</td>
</tr>
<tr>
<td><strong>Avg.</strong></td>
<td>826.84</td>
</tr>
</tbody>
</table>

Dallas

- **General Population**
  - Hispanic: 52%
  - Black: 28%
  - White: 18%

- **HIV/AIDS Population**
  - Hispanic: 51%
  - Black: 24%
  - White: 23%
Spatial Analysis of HIV/AIDS Survival in Dallas, Texas

**Fig.** Income group of Dallas County by Zip codes

**Table** Median survival months

<table>
<thead>
<tr>
<th>Group Number</th>
<th>Group Name</th>
<th>Median HIV Survival</th>
<th>Median AIDS Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extreme Poverty</td>
<td>17 Months</td>
<td>23 Months</td>
</tr>
<tr>
<td>2</td>
<td>Moderate Income</td>
<td>11 Months</td>
<td>19 Months</td>
</tr>
<tr>
<td>3</td>
<td>High Income</td>
<td>14 Months</td>
<td>28 Months</td>
</tr>
</tbody>
</table>

**Fig.** HIV to AIDS Survival by Income

**Fig.** AIDS to Death Survival by Income
Conclusion

• Extreme urban poverty areas of Texas have much higher rates of HIV infection.

• However, median HIV survival is lowest in urban middle income areas – falling between the cracks.

• Vulnerability to HIV infection and HIV survival varies with place of residence.
Thank You!

Questions?
Health & Medical Geography Research

- Emmanuel Aggrey-Korsah
- Jane Ebinero
- David Ferring
- Adam Harold
- Stephanie Heald
- Mara Hedrich
- Jody Huddleston
- Libbey Kutch
- Susie Mikler
- Tom Miles
- Haruna Miyakado
- Joseph Oppong
- Susan Rice
- Jonathan Rodriguez
- Warangkana Ruckthongsook (Bink)
- Janthima Srisombat
- Chetan Tiwari

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Tuesday, December 06, 2011