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Background

- Texas is in the top four states of the United States with the highest number of people living with HIV/AIDS.
- Texas ranks 14th in terms of rate
- African Americans tend to have higher infection rates when compared to other race/ethnic groups (Brincks, 2010)
- Poverty plays a crucial factor in access to medical services (Gallegos, 2004)
- Typically, those living with HIV/AIDS are young adults that were infected during adolescence and childhood.
Population and HIV infection in the United States

- White: U.S. Population 65.1, U.S. HIV infected 34
- Black: U.S. Population 12.9, U.S. HIV infected 42.8
- Hispanic: U.S. Population 15.8, U.S. HIV infected 21
Research Problem

• Relationship between race, poverty, has not been examined for the **25-49 year age group**

• Specific Hypothesis
  – Black populations have the **highest rates** of HIV/AIDS
  – Areas with high unemployment have **higher rates** of HIV/AIDS
  – Areas with less than 9\(^{th}\) grade education will contain **higher rates** of HIV/AIDS
  – Areas with lower income will have **higher rates** of HIV/AIDS
# Data

<table>
<thead>
<tr>
<th>Variables Examined</th>
<th>Data obtained from:</th>
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</thead>
<tbody>
<tr>
<td>HIV/AIDS rates</td>
<td>Texas Department of State Health Services</td>
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<tr>
<td>Race/ethnicity</td>
<td>Texas Workforce Commission</td>
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<tr>
<td>Unemployment</td>
<td>2000 U.S. Census</td>
</tr>
<tr>
<td>Education (&lt;9th Grade)</td>
<td>Health and Human Services Commission</td>
</tr>
<tr>
<td>Average Income</td>
<td>U.S. Census Bureau</td>
</tr>
<tr>
<td></td>
<td>Centers for Disease Control &amp; Prevention</td>
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</tbody>
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Methodology

• Rates calculated with the following formula:

\[ R_i = \frac{Cases_i}{(Population_i \times 12)} \times 100,000 \]

• Two-tailed Spearman’s rho tests of correlations were run through SPSS

• Chloropleth maps created through the use of ArcMap

• Quantile method of classification was used to classify the maps for comparing similarities/differences between examined variables
Results
Population and HIV infection in the United States

Population and HIV infection in Texas in Ages 25-49
Unemployment

\[ \rho = 0.362; \ p < 0.001 \]
Average Income

\[ \rho = 0.060; \ p < 0.338 \]
Texas Counties < 9th Grade Education
rho = 0.148; p < 0.018
Discussion

• East Texas and its higher rates of HIV infection
  – Greater populated
  – Black population concentrations

• Income and Unemployment similarities

• Low income, low education, high unemployment, and the Hispanic Paradox
Conclusion

• Significant correlation between HIV infection rates in Ages 25-49 and:
  – Unemployment
  – Education (<9th Grade)
• Vulnerability in Ages 25-49 is highest amongst the Black Population
• Low income and high rate of HIV infection is not supported by the data.

• Future Research
  – Exploration of Hispanic Paradox
  – Completed 2010 Health Data
  – 2010 Census
  – Analyze research questions at finer geographic scales