

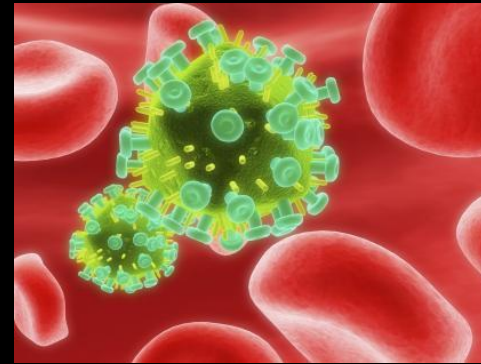
# HIV/AIDS MORBIDITY IN YOUTH AND TEENS AGES 13-24 IN ALL TEXAS COUNTIES

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Medical Geography 4120  
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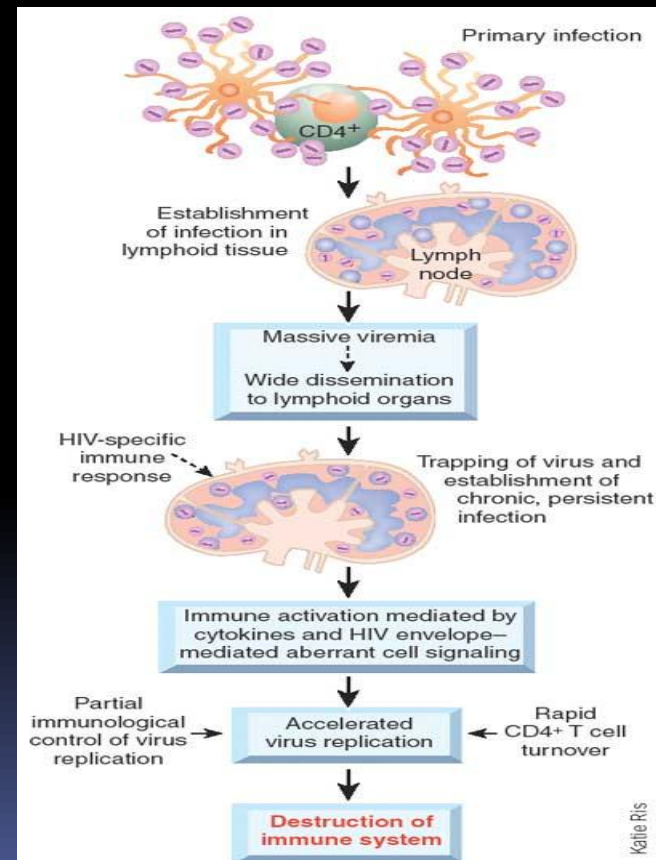
Image Source-<http://www.topnews.in/health/files/aids1.jpg>



# Introduction



- HIV is from the retrovirus family that causes acquired immunodeficiency syndrome, or AIDS, in which the immune system gradually fails and infections become life threatening
- The virus targets the T Cells of the Immune System, Reproduces (into “virus factory”), and explodes—**spreading the HIV through the entire body**
  - This cycle repeats, until are no T cells left and the infected person is highly susceptible to infections of all sorts
  - Since discovered, AIDS has killed more than 25 million people worldwide, and in Texas it kills roughly 1,300 every year



# The Research

- Why Should We Bother?
  - HIV/AIDS is a serious pandemic, and a huge threat in Texas for Black populations and urban areas
  - Much of the literature review stated that Youths and Teens were unaware of the serious threat of HIV/AIDS due to a lack of education as well as those living in low income households, which also reflect a lack of necessary finance to get tested and treated
- The Research was intended to understand the spatial distribution of HIV/AIDS in all (254) Texas counties Among Youths and Teens, Ages 13-24  
Human Ecology Disease Model Used:
  - Environment, Genetics, and Human Behavior
  - Variables include :
  - Urban Populations
  - Unsafe Sex
    - Chlamydia Rates
    - Teen Birth Rates
  - Level of Education
    - Percent With Less Than a High School Graduate Degree
    - Percent With a Bachelor's Degree or Higher
  - Race/Ethnicity
    - Black, White, and Hispanic
  - Socioeconomic Factors
    - Median Income
    - Percent of Single-Parent Households
    - Percent of Children Living in Poverty



Image Source-  
[http://www.gdmaf.org/GDMAF/MetroBall\\_files/309181\\_8194-1.jpg](http://www.gdmaf.org/GDMAF/MetroBall_files/309181_8194-1.jpg)

# Research Hypotheses

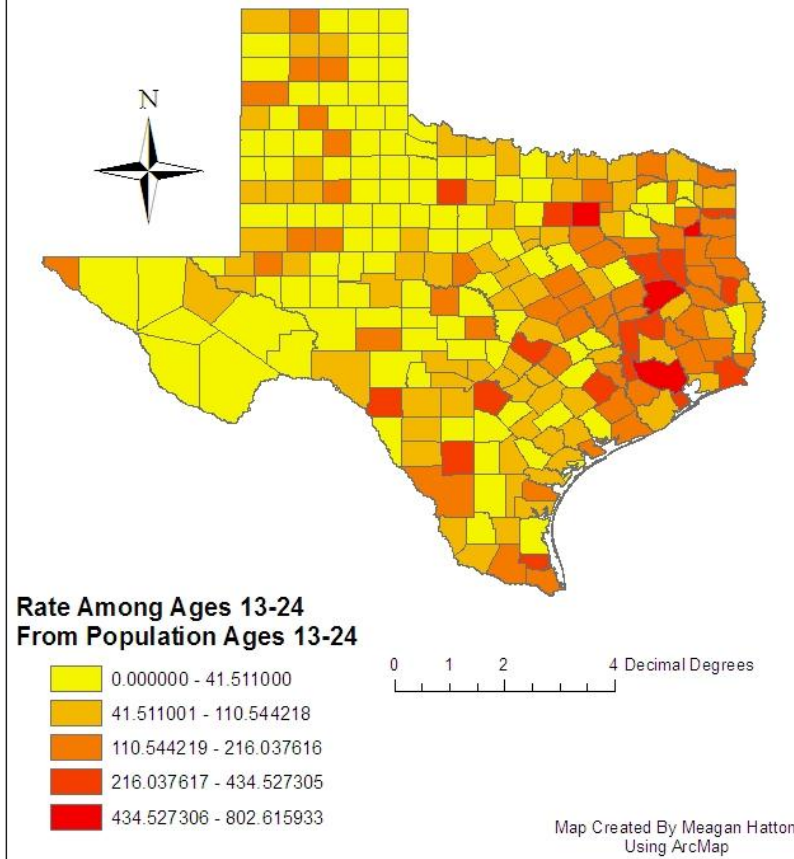
1. Race is a predictor of HIV/AIDS prevalence. The rate of HIV/AIDS is higher in counties with high populations of Black people rather than White or Hispanic people
2. The rate of HIV/AIDS is higher in counties with higher urban populations
3. Unsafe Sex is a predictor. Where there are high rates of Chlamydia and Teen Birth Rates, there will be high rates of HIV/AIDS
4. The rate of HIV/AIDS is higher where there is a higher population of people who received less than a high school graduate degree.
  1. And lower where there is a high percentage of those with a Bachelor's Degree or Higher for every county.
5. Socioeconomic Status is an indicator of HIV/AIDS rates. Where there are high rates, there will also be
  1. High Percentages of Children Living in Poverty
  2. Low Median Family Incomes
  3. High Percentages of Single-Parent Households



Image Source- <http://www.topnews.in/files/aids12.gif>

**Rate of HIV/AIDS  
Among Youths and Teens  
Ages 13-24  
1999-2008**

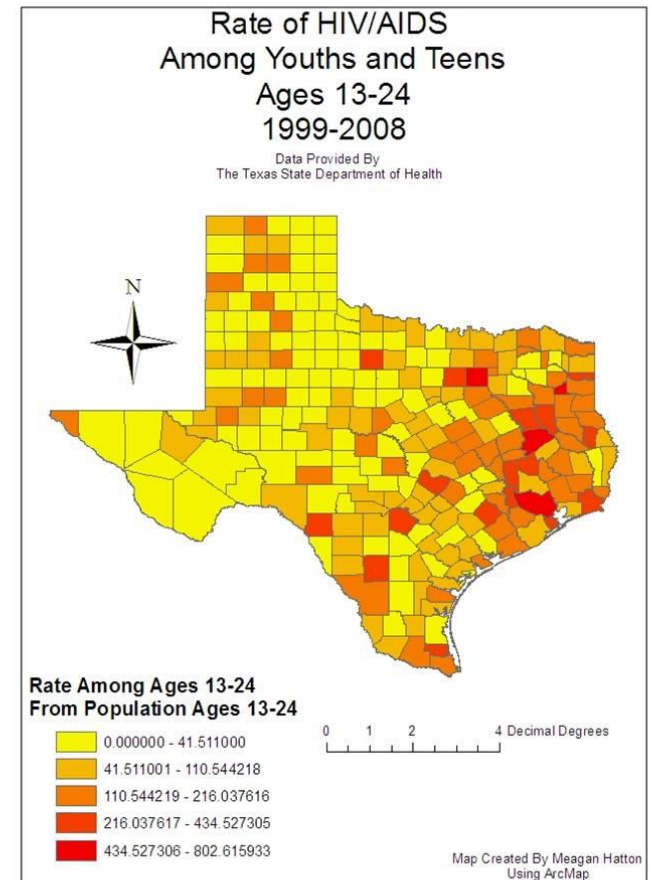
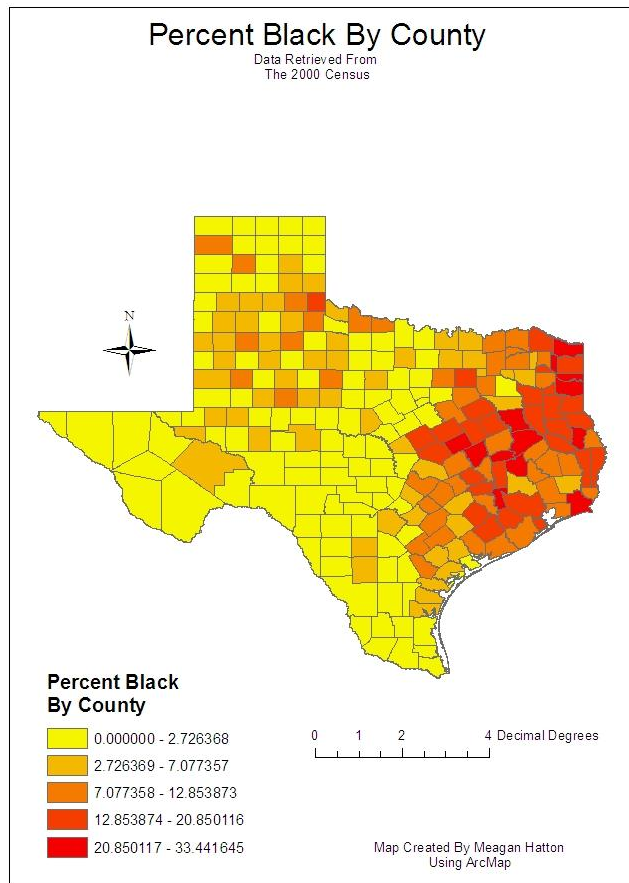
Data Provided By  
The Texas State Department of Health



- HIV cases occurred predominantly in metropolitan areas.
- The highest rate of HIV cases occupied the Harris, Dallas, Bexar, Travis and Tarrant Counties

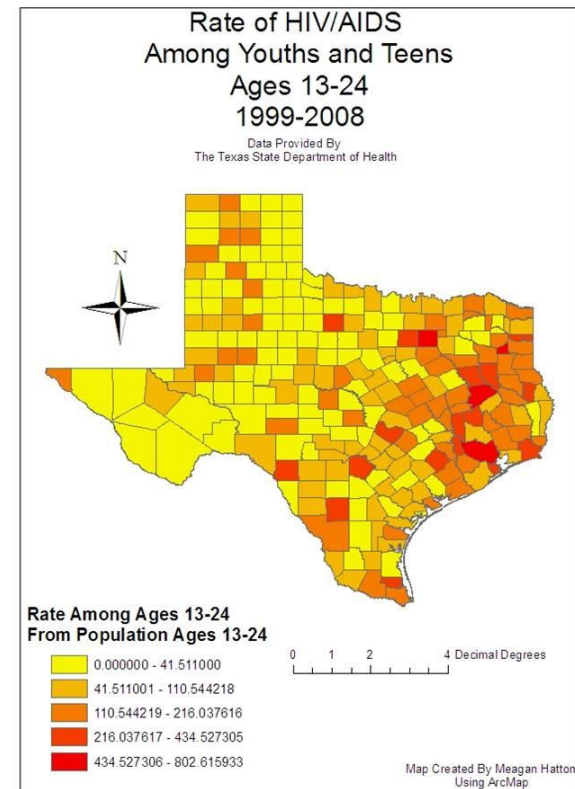
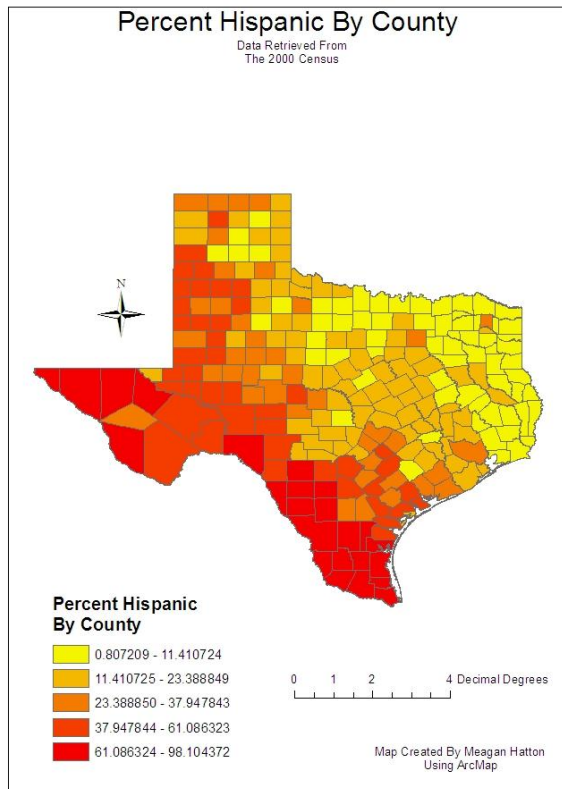
- Higher rates of HIV/AIDS exist in East Texas where there is a high population of Blacks

- Higher rates are occurring also in the Northeast, where there are higher urban populations



Blacks comprise 11% of the total population  
 Yet, account for **47.3%** of the cases among ages 13-24  
 There was a positive correlation between the rate of HIV/AIDS and Blacks  
**R Value: .458**  
 Significant at less than 1%  
 Null was rejected  
**As the Black population increases, so does the rate of HIV/AIDS**





-Hispanics comprise 32% of the total population in Texas

-Account for **24.4%** of the HIV/AIDS cases among ages 13-24

-There was a negative correlation

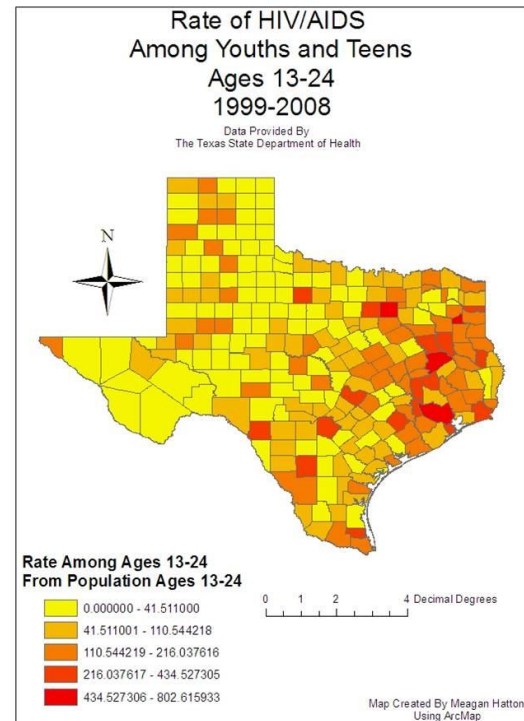
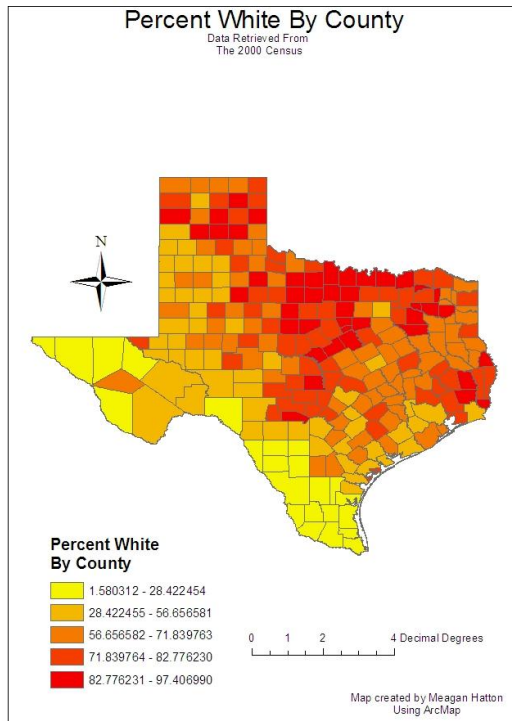
-**R Value: -.136**

-Significant at 3%

-Null was rejected

-Weak correlation

-As the Hispanic population increases, the rate of HIV/AIDS decreases



-Whites comprise 52.4% of the total population

-Account for **27.3%** of the HIV/AIDS cases among ages 13-24

-There was a negative correlation

-Null was rejected

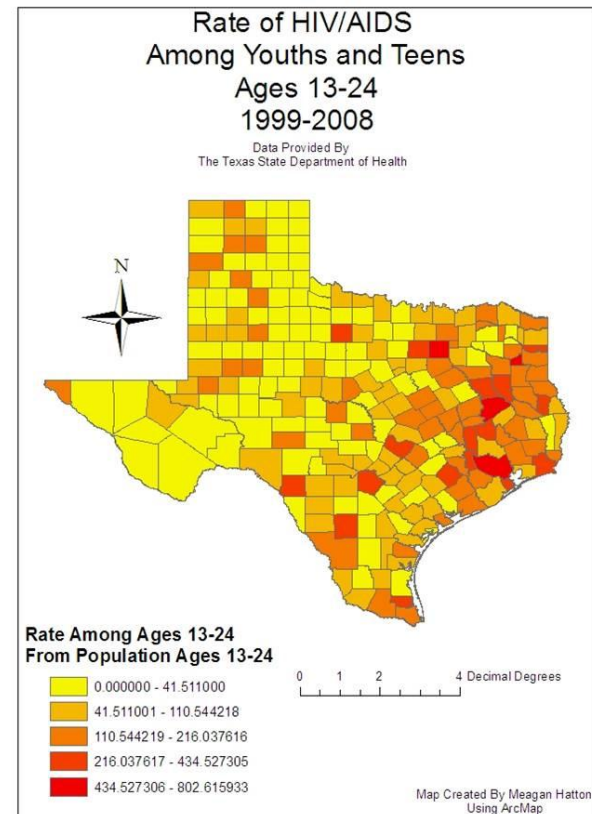
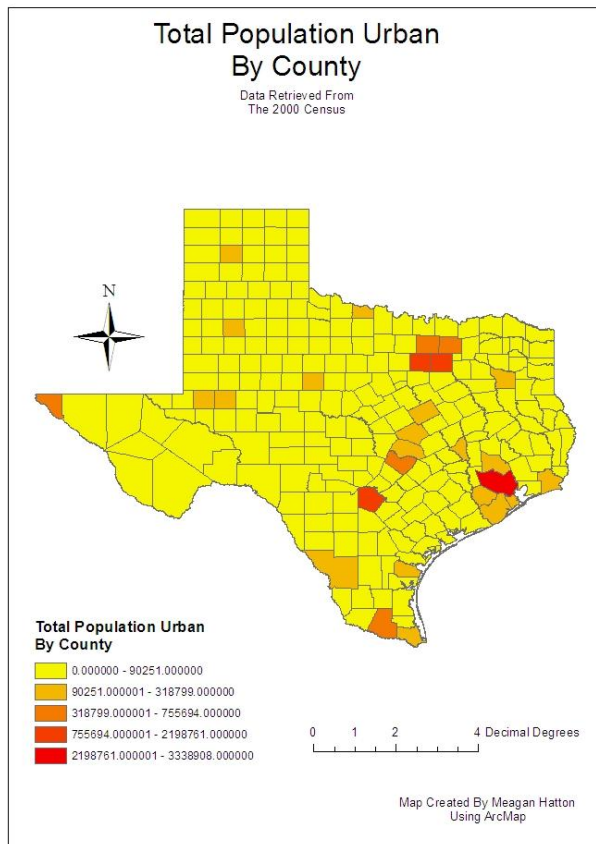
-Weak correlation

-**R Value: -.135**

-Significant at 3%

-As the White population increases, the rate of HIV/AIDS decreases



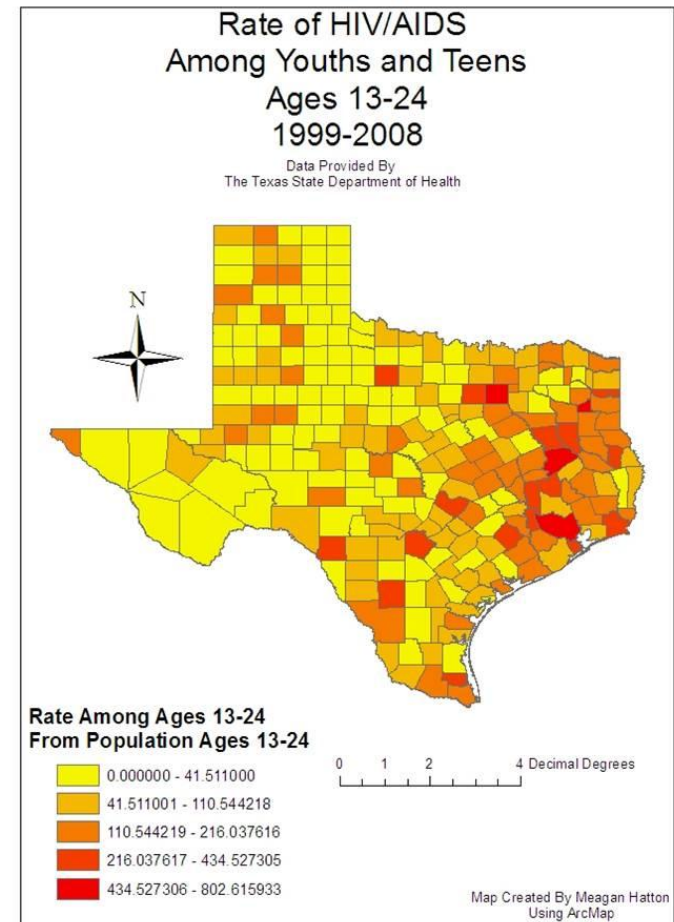
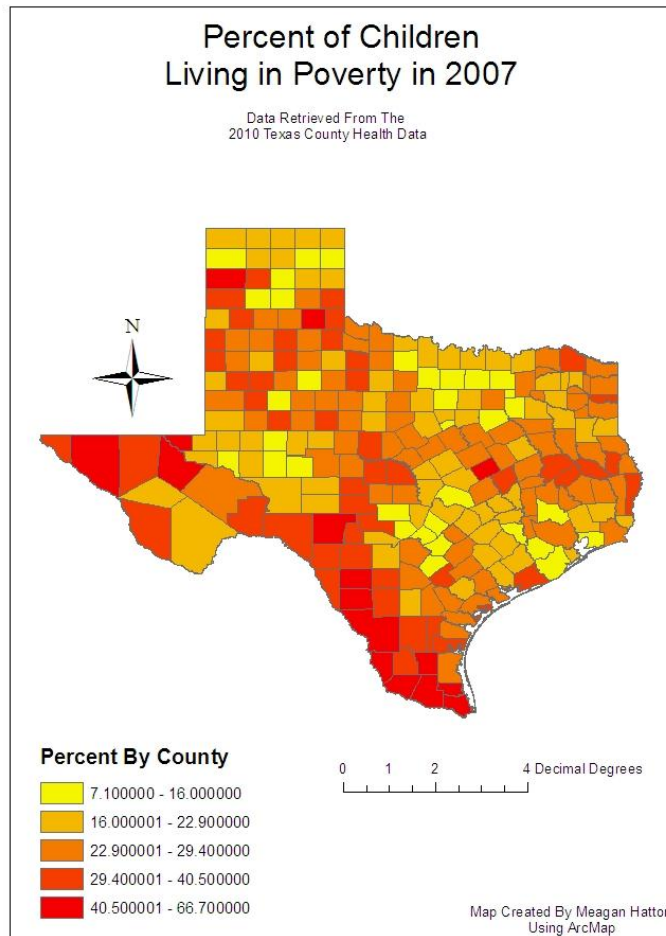


- There was a positive correlation
- Moderately Correlated
- The null was rejected

**-R Value: .535**

- Significant at Less than 1%
- Statistically Significant

**-Where there are high rates of urban populations, there are high rates of HIV/AIDS**



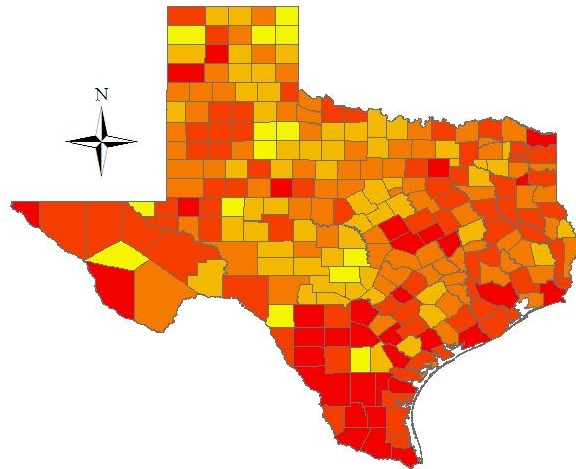
-There was a negative correlation  
-No significance

-*R Value*: -.027  
-Null accepted

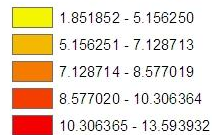
-As the percentage of children living in poverty increases, the rate of HIV/AIDS decreases

## Percent of Single-Parent Households

Data Retrieved From The  
2010 Texas County Health Data  
Years 2000, 2005-2007



### Percent By County

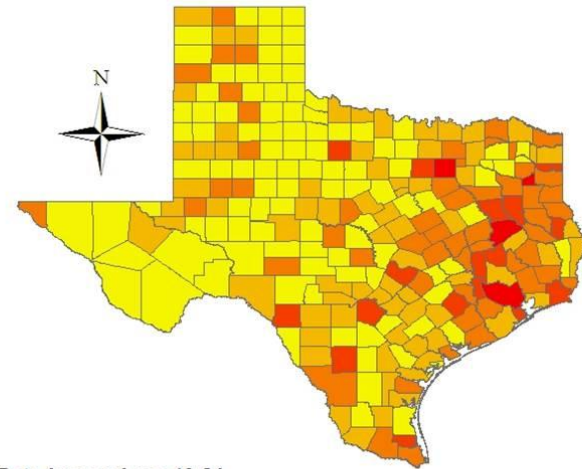


0 1 2 4 Decimal Degrees

Map Created By Meagan Halton  
Using ArcMap

## Rate of HIV/AIDS Among Youths and Teens Ages 13-24 1999-2008

Data Provided By  
The Texas State Department of Health



### Rate Among Ages 13-24 From Population Ages 13-24



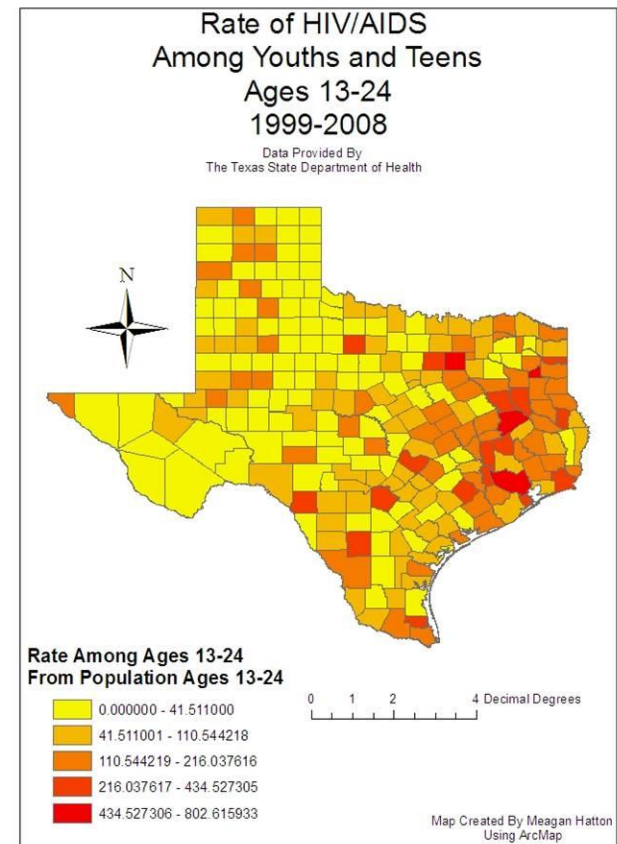
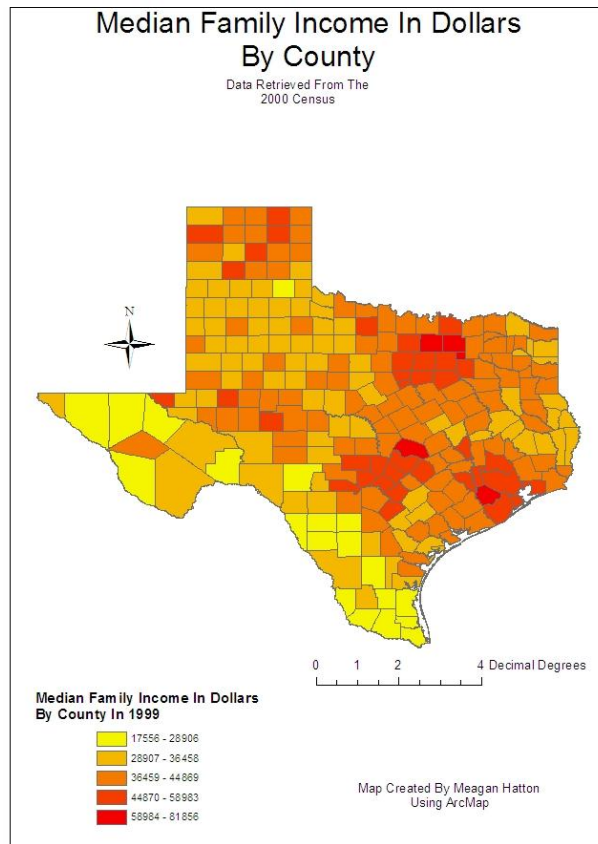
0 1 2 4 Decimal Degrees

Map Created By Meagan Halton  
Using ArcMap

- Positive Correlation
- Moderate Correlation
- Null Rejected

-**R Value: .442**  
-Significant at Less than 1%

-As the percentage of Single-Parent Households increases, so does the rate of HIV/AIDS



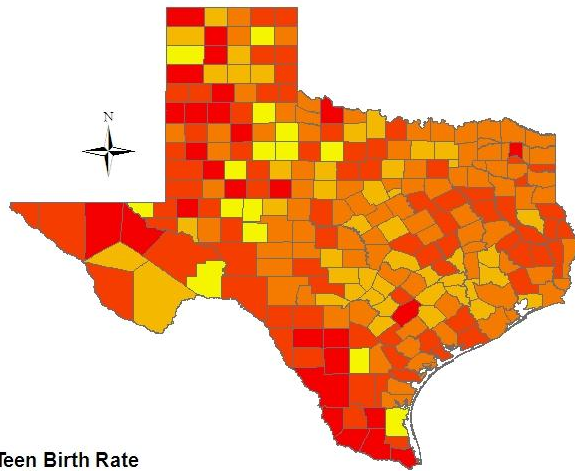
-Positive Correlation  
-Significant

-*R Value: .233*  
-Significant at Less than 1%

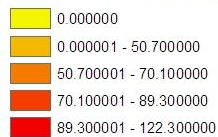
-As the Median Family Income increases, the rate of HIV/AIDS **increases**

## Teen Birth Rate Ages 15-19 By County

Data Retrieved From The  
2010 County Health Ranking  
Years 2000-2006



**Teen Birth Rate  
By County  
Per 1,000 Female Population**

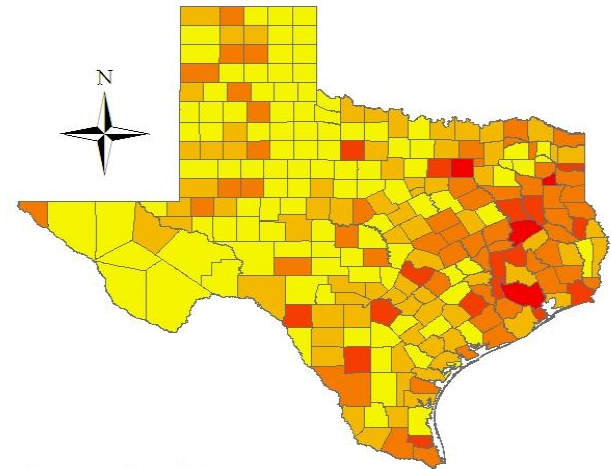


0 1 2 4 Decimal Degrees

Map Created By Meagan Hatton  
Using ArcMap

## Rate of HIV/AIDS Among Youths and Teens Ages 13-24 1999-2008

Data Provided By  
The Texas State Department of Health



**Rate Among Ages 13-24  
From Population Ages 13-24**



0 1 2 4 Decimal Degrees

Map Created By Meagan Hatton  
Using ArcMap

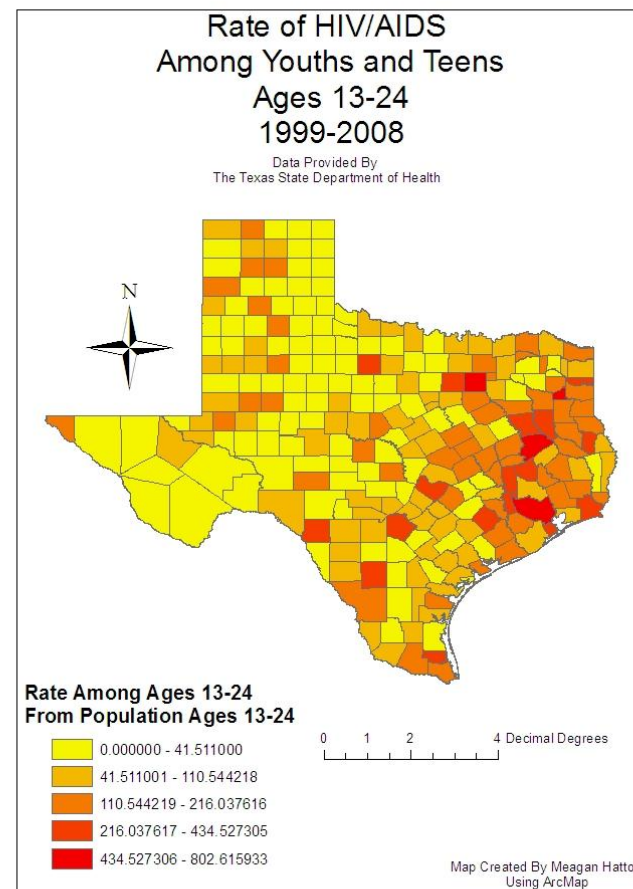
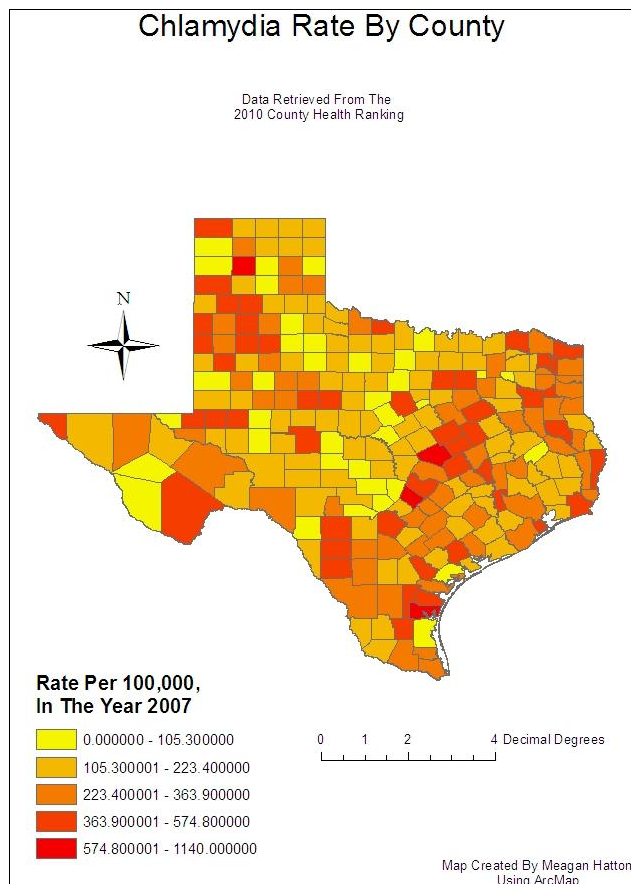
-Positive Correlation

-No Correlation

-R Value: .039

-Not Statistically Significant





- Positive Correlation
- Null Rejected
- Significant

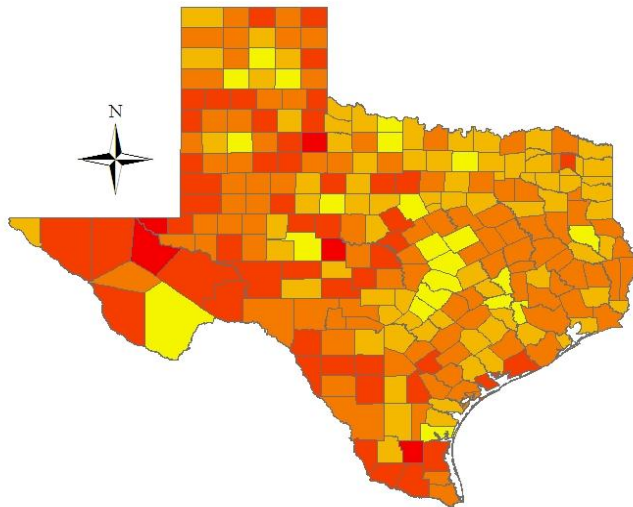
-R Value: .378  
-Significant at Less than 1%

-As the Chlamydia rate increases, the HIV/AIDS rate increases



# Percent of Population By County With Less Than A High School Graduate Degree Among Ages 18-24

Data Retrieved From  
The 2000 Census



## Percent By County

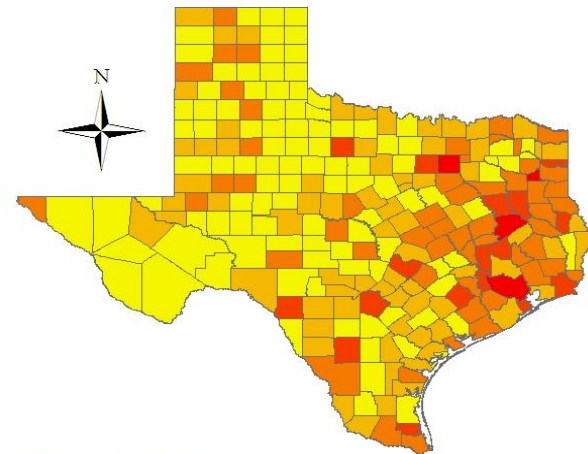


0 0.5 1 2 Decimal Degrees

Map Created By Meagan Hatton  
Using ArcMap

# Rate of HIV/AIDS Among Youths and Teens Ages 13-24 1999-2008

Data Provided By  
The Texas State Department of Health



## Rate Among Ages 13-24 From Population Ages 13-24



0 1 2 4 Decimal Degrees

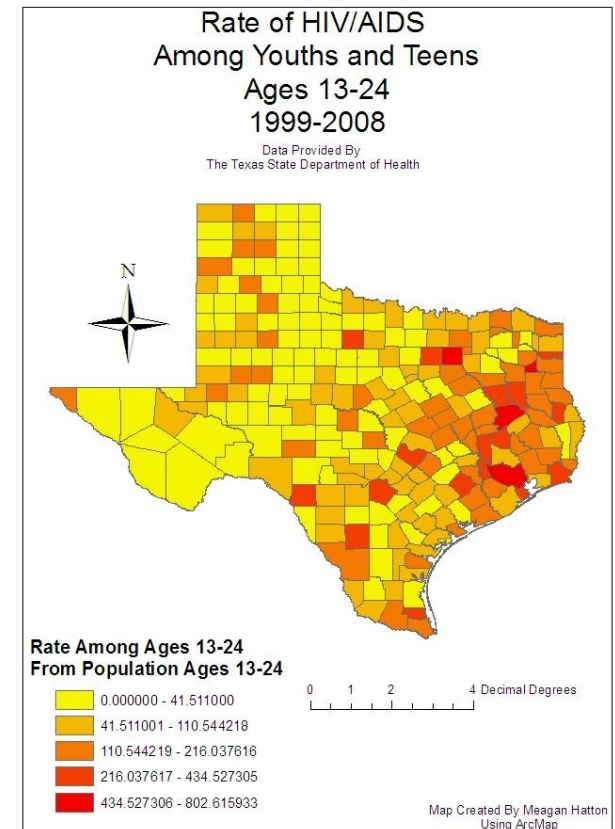
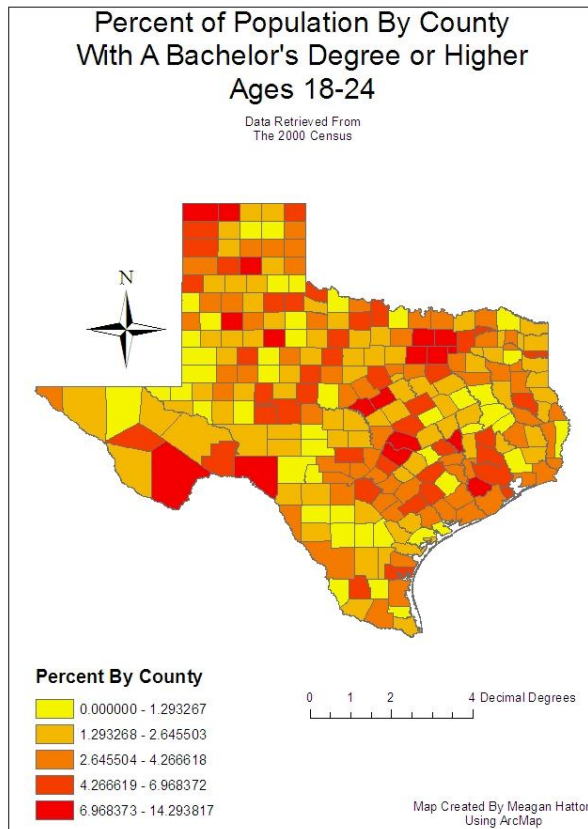
Map Created By Meagan Hatton  
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- Negative Correlation
- Weak Correlation
- Null Rejected

-*R Value: -.265*

-Significant at Less than 1%

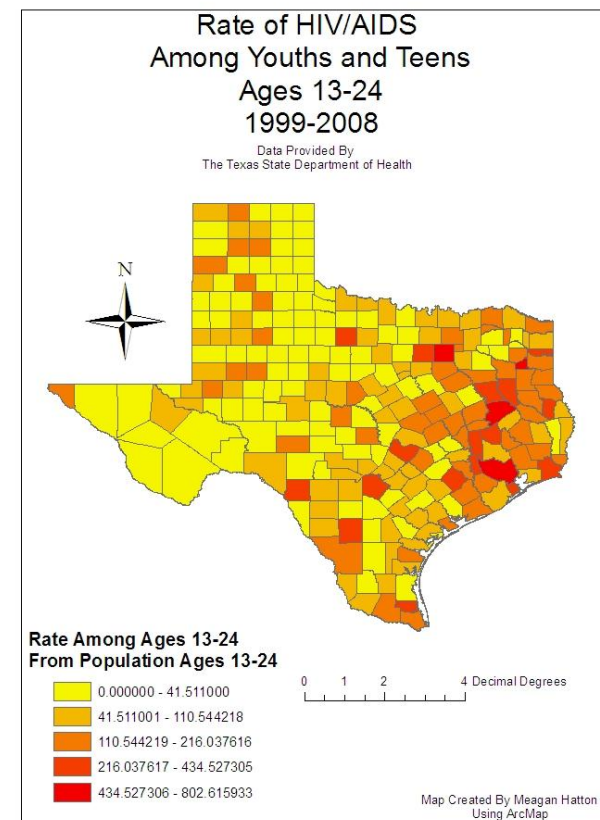
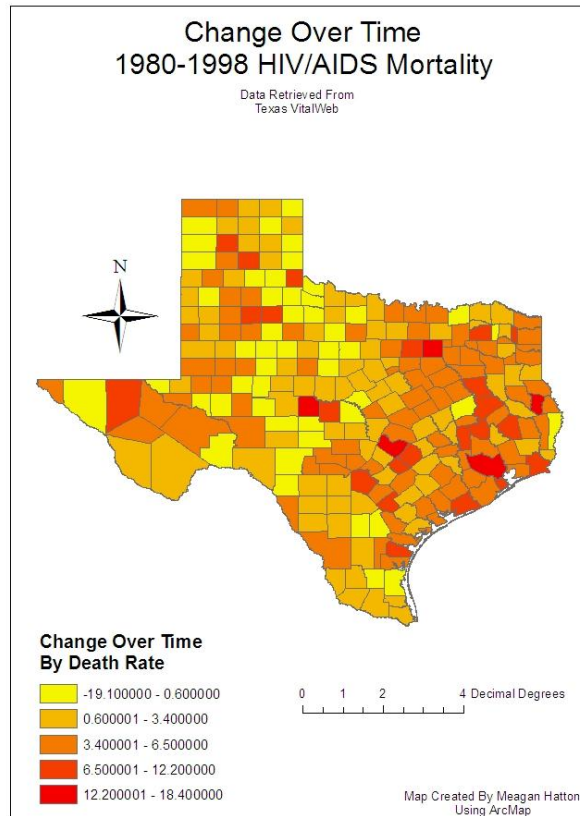
-As the percentage of those with less than a High School graduate degree increases, the HIV/AIDS rate decreases



- Positive Correlation
- Highly Correlated
- Significant
- Null Rejected

**-R Value: .987**  
-Significant at Less than 1%

-As the percentage of those with a Bachelor's Degree or higher increases, the rate of HIV/AIDS increases



- State Rate as of 2006- 313 per 100,000
- Whites: 227, Blacks: 1,047, Hispanics: 228
- Areas in Yellow- decreased
- Areas in Red-Orange- increased significantly
- Over time, the rate of HIV/AIDS has increased the most in the Eastern portion of Texas
- This is where there is a high population
- Also increases in the Urban and Metropolitan areas

# Conclusions:

Higher rates where there are higher rates of Chlamydia

- Urban populations tend to have higher STD rates
- Both Chlamydia and HIV are indicators of unsafe sex

The higher the Median Income, the higher the rate

- Urbanization is a factor
- Also, lower Median Incomes are found in the Hispanic populations, where there is a low rate of HIV/AIDS

The higher the percentage of those with a Bachelor's Degree or higher, the higher the rate

- Urbanization
- Colleges

The higher the percentage of those with Less than a High School Graduate Degree, the lower the rate

- The Hispanic population

The higher the percent of Children Living in Poverty, the lower the rate

- Not significant
- Hispanic population is a confounding variable- affects outcome

The higher the percentage of Single-Parent Households, the higher the rate

Teens home alone, no supervision, etc.

The higher the percent of Blacks, the higher the rate

Blacks make up 47.3% of cases

Teen Births not significant

# Further Research

- Looking at the access to healthcare facilities in East Texas
- Education in urban areas and at Universities
- Disregard the Hispanic population?
- STD Awareness Programs
- Mode of Transmission



# Reduce Your Risks!

- Abstinence is the only sure way to not contract HIV in terms of sex
- If engaging in sexual activities, always use protection
- Know your partner's HIV/AIDS status
- Get tested (Even if you aren't pregnant)
- Talk to your doctor if you feel you are having any symptoms
- Don't share any needles, ever, for any reason
- Treat all blood and bodily fluids as if they are infected***



Image Source - [http://aidemocracy.files.wordpress.com/2009/11/aids\\_fight4.jpg](http://aidemocracy.files.wordpress.com/2009/11/aids_fight4.jpg)

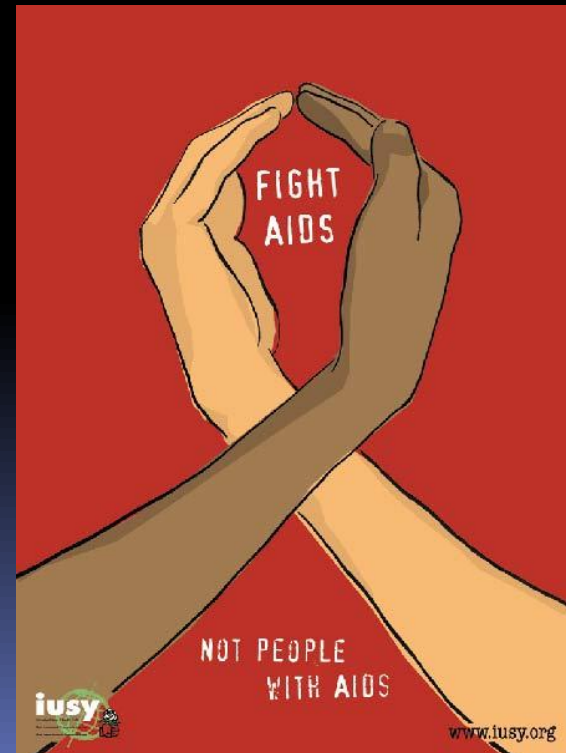


Image Source - [http://republicofaustin.com/wp-content/uploads/2009/12/aids\\_front\\_big.jpg](http://republicofaustin.com/wp-content/uploads/2009/12/aids_front_big.jpg)