Learning Objectives

- Describe what is meant by the “US-Mexico Border Region” and its history.
- Define key terms related to health in the border region.
- Name three population characteristics of the region.
- Interpret basic population data from a table or graph.
- Name two ways that the health of a population can be measured.
- Explain how to access health data about the border region.
- Describe one example each of how a health department can use data to
  - Identify health disparities in the region.
  - Evaluate impact of programs or policies on health.
Key Terms:

Here is a list of key terms to aid in understanding health in the Border Region:

- La Paz Agreement
- US- Mexico Border Health Commission
- US-Mexico Border Region
- Demographics
- Social Determinants of Health
- Health Disparity
What is the US-Mexico Border Region?

- The **US-Mexico Border Region** is defined in the La Paz Agreement as the area 100 km north and south of the US-Mexico Border.

- The 1983 **La Paz Agreement** is an agreement between the US and Mexico to jointly address the unique environmental and health issues in the US-Mexico border region.

(Image source: https://www.cdc.gov/usmexicohealth/about-border-region.html)
Redefining the US-Mexico Border Region

- The **U.S.-México Border Health Commission** was established in July 2000 through an agreement between the governments of the United States and México for the purpose of identifying and assessing public health and healthcare challenges and needs affecting the border population, thereby facilitating actions and viable, evidence-based solutions.

- Because most health, demographic, and economic information is available on a county basis, the **U.S. border region** is redefined by the Border Health Commission to include 44 counties that are entirely or partly within the 100 km zone in the four border states of California, Arizona, Texas, and New Mexico.

(Source: Healthy Border 2020)
US-Mexico Border Region, in practice

- 44 US Counties in 4 States
- 80 Mexican Municipalities in 6 States
- 15 pairs of sister cities

(Image source: http://www.borderhealth.org/border_region.php)
What does the US-Mexico Border Region look like?

- Spans almost 2000 miles east to west
- Mostly rural and desert landscape; border along Texas is defined by the Rio Grande
- Busiest international land border in the world with 48 land border crossing points
- Hundreds of thousands of people legally cross the border daily for work, school, shopping, etc.

“Due to climate, terrain, the availability of water, and other issues, the border population is overwhelmingly urban and largely located close to the border with Mexico.” (Border Lives, 2010)
Who makes up the US Border Population?

To begin to understand the health issues facing the region’s population, we must first get a picture of the population demographics. That is, the count and characteristics of people who live in the region.

- Size of the border population: 7,596,032
- 92.4% are concentrated in urban areas.
- 11.9% are unemployed
- 32.2% are uninsured
- 21.03% are living below the poverty level
- 73.8% of those aged 25 years and older have completed high school
- 37.3% under 25 years old

(Calculated from 2010 US Census)
Exercise 1:

a) How does the racial/ethnic composition of the border population compare with the US population?

<table>
<thead>
<tr>
<th>Population by race and Hispanic or Latino Origin: 2010</th>
<th>United States</th>
<th>Border Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>72.4%</td>
<td>73.8%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>12.6%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Asian</td>
<td>4.8%</td>
<td>5.2%</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>0.9%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Some other race</td>
<td>6.4%</td>
<td>12.9%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>16.3%</td>
<td>54.5%</td>
</tr>
</tbody>
</table>

(Calculated from 2010 US Census)
b) What does this map tell you about health insurance coverage in border counties?
c) How do the age and sex distributions of the US and US border county populations differ?

(Calculated from 2010 US Census)
How do we begin to explore the health of a population?

**Social determinants of health (SDOH)** are the conditions in which people are born, grow, work, live, and age which affect health risks and outcomes.

(Image source: https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health)
What determines the health of a population?

**Neighborhood and Built Environment**
- Access to healthy foods
- Crime and violence
- Environmental Conditions
- Housing Quality

**Economic Stability**
- Employment
- Food and Housing
- Poverty

**Individual factors**
- Lifestyle/behavior
- Genes

**Health and Health Care**
- Access
- Health Literacy

**Education**
- Early Childhood Education
- Higher education
- High School Grad
- Language and Literacy

**Social and Community**
- Civic participation
- Discrimination
- Incarceration
- Social Cohesion

(Source: healthypeople.gov)
What is ‘Health’?

"Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity."  
(Source: World Health Organization)
How is the health of a population measured?

Some statistics that are routinely used to measure population health include:

- The average number of years that members of the population are expected to live before dying
- The average number of healthy years of life that are expected
- The average number of years of life lost due to death from specific causes
- Rates of maternal and infant death
- Proportion of the population that perceives their own health as good
- Proportions of the population living with specific diseases and disabilities, such as cardiovascular disease, diabetes, and cancer
- Rates of occurrence of specific diseases and disabilities
What health challenges affect the border region?

- **Social Determinants**
  - High poverty rates
  - Low language proficiency
  - Limited access to healthcare
  - Lack of health insurance
  - High rates of occupational injuries

- **Chronic Diseases**
  - Obesity, breast cancer, diabetes mellitus, cervical cancer, heart disease, asthma

- **Maternal and Child Health**
  - High teen pregnancy rates relative to US or Mexico
  - High preterm birth and low birth weight
  - Excess early childhood mortality

- **Infectious Diseases**
  - HIV, TB, Influenza
How does health in border counties compare to the US?

Average annual tuberculosis rate per 100,000 population, 2006-2010, by county.

Estimates from US Census ACS, 2006-2010
Health in US vs. Health in US Border Counties

What is a health disparity?

“A particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage”

(Source: Healthy People 2020)
To start to understand health disparities in the region:

- We can examine available data sources to answer questions like these:
  - Are higher poverty levels on border associated with higher mortality rates for border Hispanics than US Hispanics?
  - Do border Hispanics have higher rates than border Non-Hispanic Whites (NHWs) for some causes of death?
  - Are mortality rates in border counties higher than rates in non-border counties of border states?
  - Are mortality differences changing over time?
Where can we find data on health in the Border Region?

Local/County level data

State Data

- New Mexico: https://ibis.health.state.nm.us/


- Texas: http://www.dshs.texas.gov/chs/

- California: https://chhs.data.ca.gov

Other Resources

- Birth & death certificates
- Hospital records
- Surveys from clinics
- University communities

State Data

https://www.cdc.gov/datastatistics/index.html
https://www.healthdata.gov/
https://www.census.gov/data.html

While we are focusing on data from the US side of the border, similar datasets can be found for Mexico.
Exercise 2. Find data on specific county

Grant County, New Mexico

<table>
<thead>
<tr>
<th>Quick Facts</th>
<th>Grant County</th>
<th>New Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Seat</td>
<td>Silver City</td>
<td></td>
</tr>
<tr>
<td>Population (July 1, 2015)</td>
<td>29,288</td>
<td>2,099,856</td>
</tr>
<tr>
<td>% New Mexico Population</td>
<td>1.39%</td>
<td>100%</td>
</tr>
<tr>
<td>Land Area (Square miles)</td>
<td>3961.6</td>
<td>121,298</td>
</tr>
<tr>
<td>Persons per Sq. Mile (2015)</td>
<td>7.4</td>
<td>17.3</td>
</tr>
<tr>
<td>Resident Live Births (2015)</td>
<td>319</td>
<td>25,730</td>
</tr>
<tr>
<td>Deaths of NM Residents (2015)</td>
<td>342</td>
<td>17,687</td>
</tr>
<tr>
<td>Households (2011-2015)</td>
<td>14,644</td>
<td>909,565</td>
</tr>
</tbody>
</table>

(Source: https://ibis.health.state.nm.us/community/highlight/index/GeoCnty/17.html)
Exercise 2.
Grant County, New Mexico

**Life Expectancy From Birth: (Number of Years), 2014-2016**

<table>
<thead>
<tr>
<th></th>
<th>Grant County</th>
<th>New Mexico</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>95% CI</td>
<td>(78.2 - 78.6)</td>
<td>(77.8)</td>
<td>(78.8)</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable</td>
<td>Stable</td>
<td></td>
</tr>
</tbody>
</table>

**Heart Disease Deaths per 100,000 population, 2014-2016**

<table>
<thead>
<tr>
<th></th>
<th>Grant County</th>
<th>New Mexico</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>95% CI</td>
<td>(139.2 - 181.0)</td>
<td>(143.8)</td>
<td>(168.5)</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable</td>
<td>Stable</td>
<td></td>
</tr>
</tbody>
</table>

**Teen Birth Rate: Births per 1,000 girls 13-19, 2014 - 2016**

<table>
<thead>
<tr>
<th></th>
<th>Grant County</th>
<th>New Mexico</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>95% CI</td>
<td>(28.7 - 43.1)</td>
<td>(33.6)</td>
<td>(20.3)</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable</td>
<td>Stable</td>
<td></td>
</tr>
</tbody>
</table>

(Source: https://ibis.health.state.nm.us/community/highlight/index/GeoCnty/17.html)
How can these health concerns be addressed?

What interventions can be made at each level for the concerns we identified in Grant County?
Ways you can become involved in border health:

- Familiarize yourself with available health data resources in your community
- Learn how to interpret data in graphs and tables
- Become engaged in your own community (internship, and other volunteer opportunities)
- Seek out ongoing research on campus
- Engage in faculty-mentored student research
Review Key Terms

- La Paz Agreement
- US-Mexico Border Health Commission
- US-Mexico Border Region
- Demographics
- Social Determinants
- Health Disparity
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References


