INTRODUCTION TO US-MEXICO BORDER HEALTH

Arizona

New Mexico

Baja California

Texas

Sonora

Chihuahua

Coahuila

Nuevo Leon

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Salud Para Usted y Su Familia
Health for You and Your Family

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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

  o Identify health disparities in the region.

  o 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?

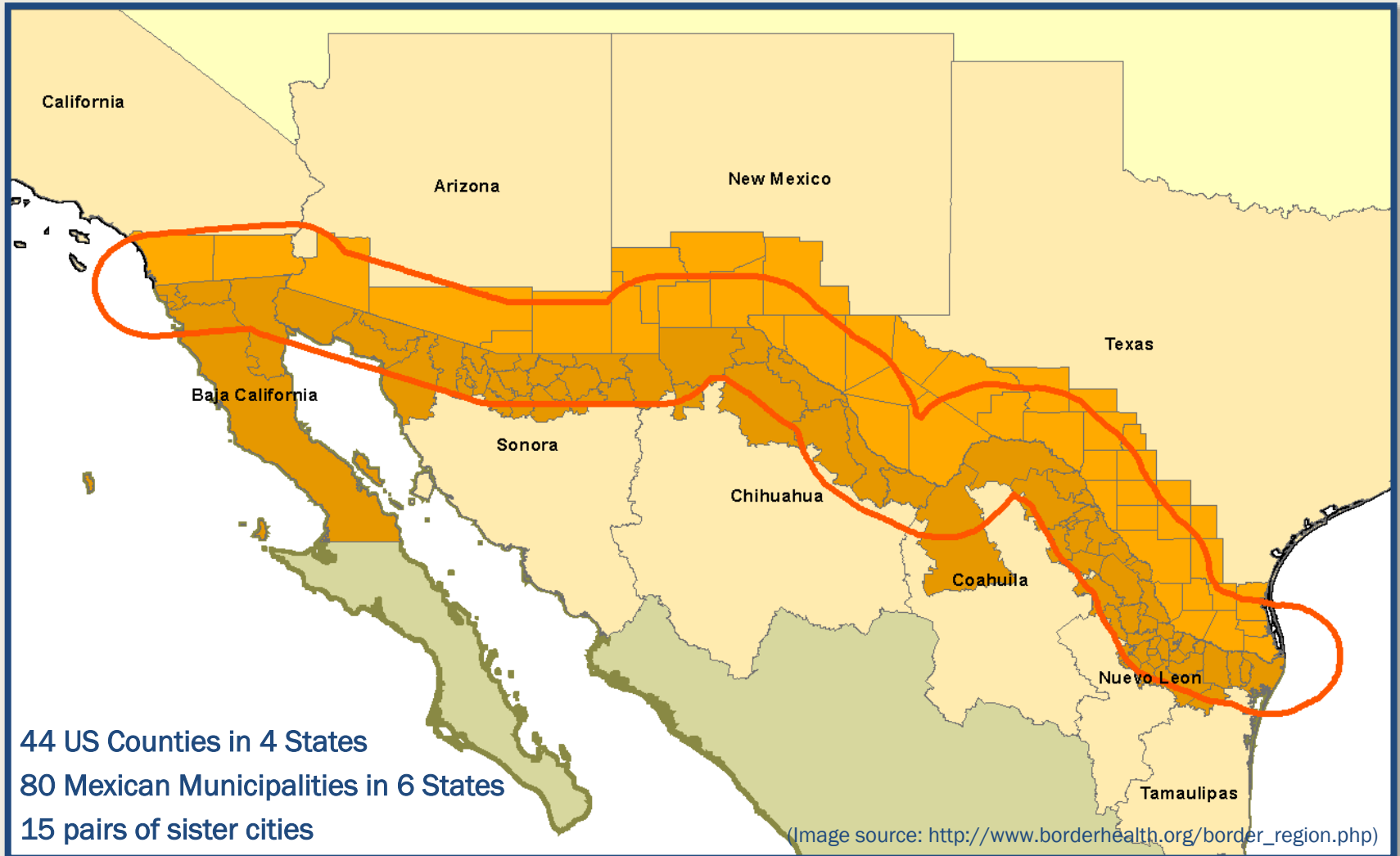(Image source: https://www.cdc.gov/usmexicohealth/about-border-region.html)
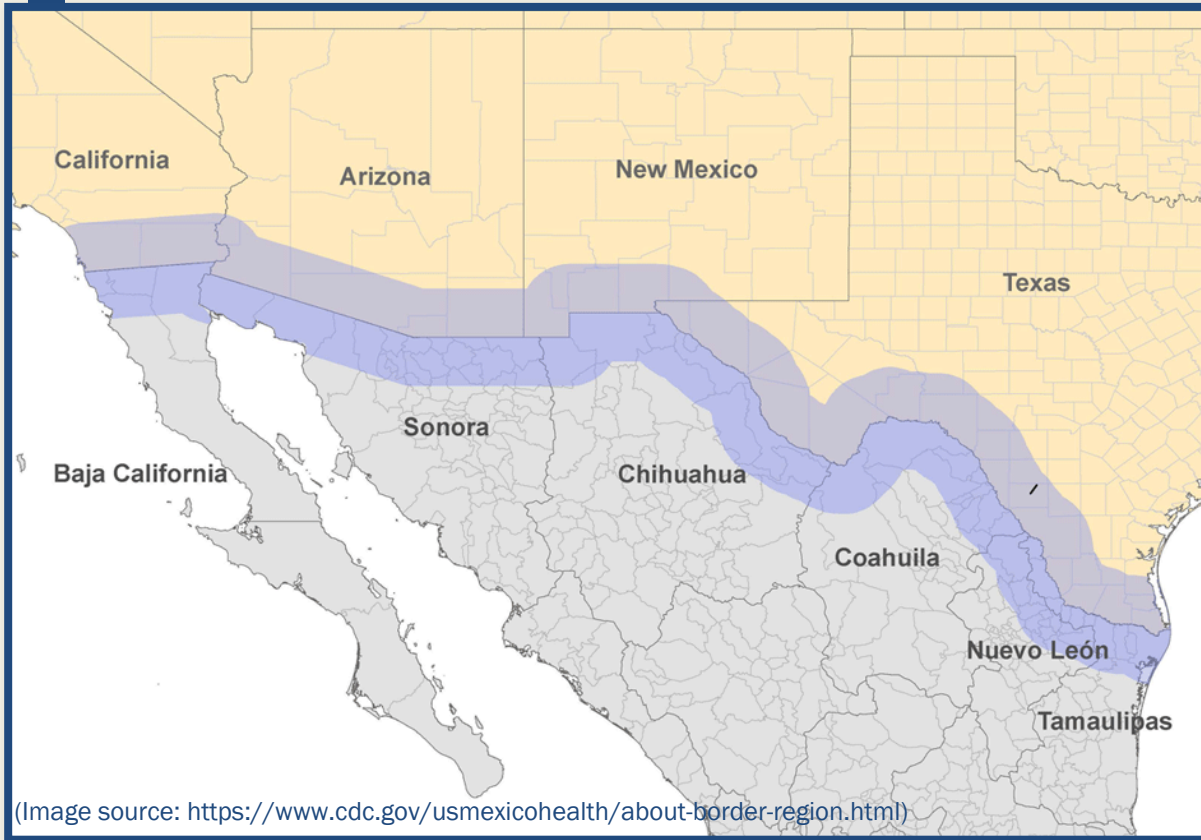
- The US- Mexico Border Region is defined in the La Paz Agreement as the area 100 km north and south of the US-Mexico Border.

- 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.

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

California
Arizona
New Mexico
Texas
Baja California
Sonora
Chihuahua
Coahuila
Nuevo Leon
Tamaulipas

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
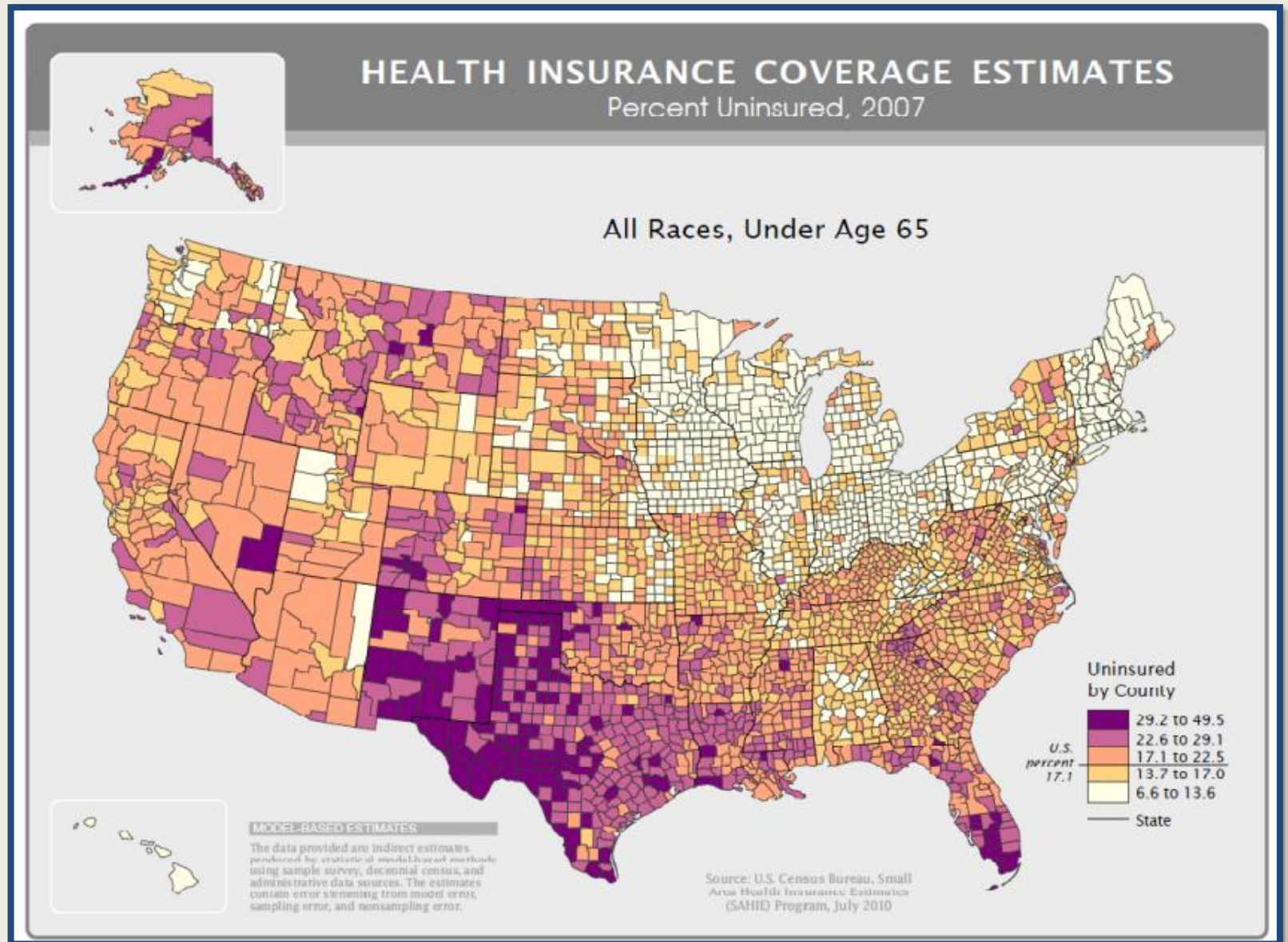
- 37.3% under 25 years old

(Calculated from 2010 US Census)

Exercise 1:

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

| Population by race and Hispanic or Latino Origin: 2010		
	United States	Border Counties
White	72.4%	73.8%
Black or African American	12.6%	3.3%
Asian	4.8%	5.2%
American Indian and Alaska Native	0.9%	1.2%
Some other race	6.4%	12.9%
Hispanic or Latino	16.3%	54.5%

(Calculated from 2010 US Census)

b) What does this map tell you about health insurance coverage in border counties?

HEALTH INSURANCE COVERAGE ESTIMATES
Percent Uninsured, 2007

All Races, Under Age 65

Uninsured by County

	29.2 to 49.5
	22.6 to 29.1
	17.1 to 22.5
	13.7 to 17.0
	6.6 to 13.6

U.S. percent 17.1

—— State

MODEL-BASED ESTIMATES

The data provided are indirect estimates produced by statistical model-based methods using sample survey, decennial census, and administrative data sources. The estimates contain error stemming from model error, sampling error, and nonsampling error.

Source: U.S. Census Bureau, Small Area Health Insurance Estimates (SAHIE) Program, July 2010

c) How do the age and sex distributions of the US and US border county populations differ?

United States Age Distribution of Population by Sex (2010)

US Border County Age Distribution of Population by Sex (2010)
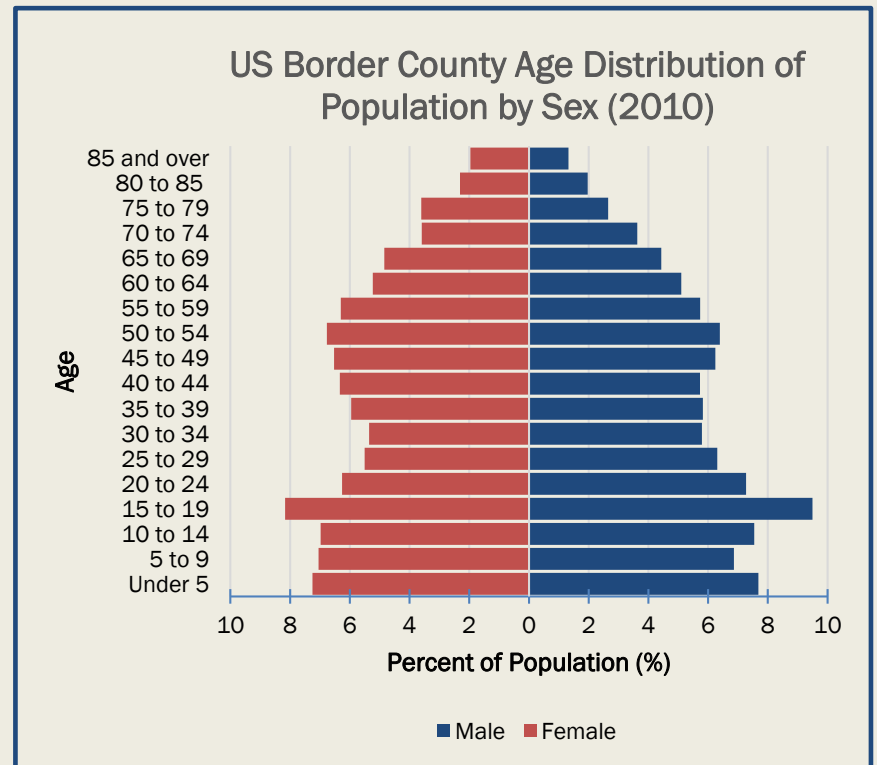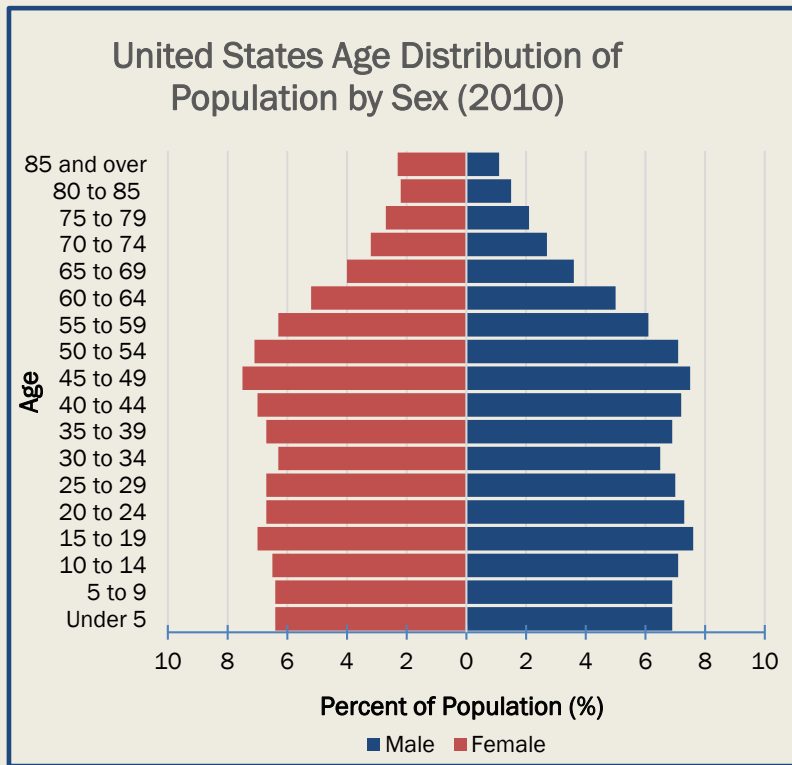
How do we begin to explore the health of a population?

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

Childhood experiences   Housing   Education   Social support

Family income   Employment   Our communities   Access to health services

Source: NHS Health Scotland

(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)

(Image source: activehealthywell.com, 2015)

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
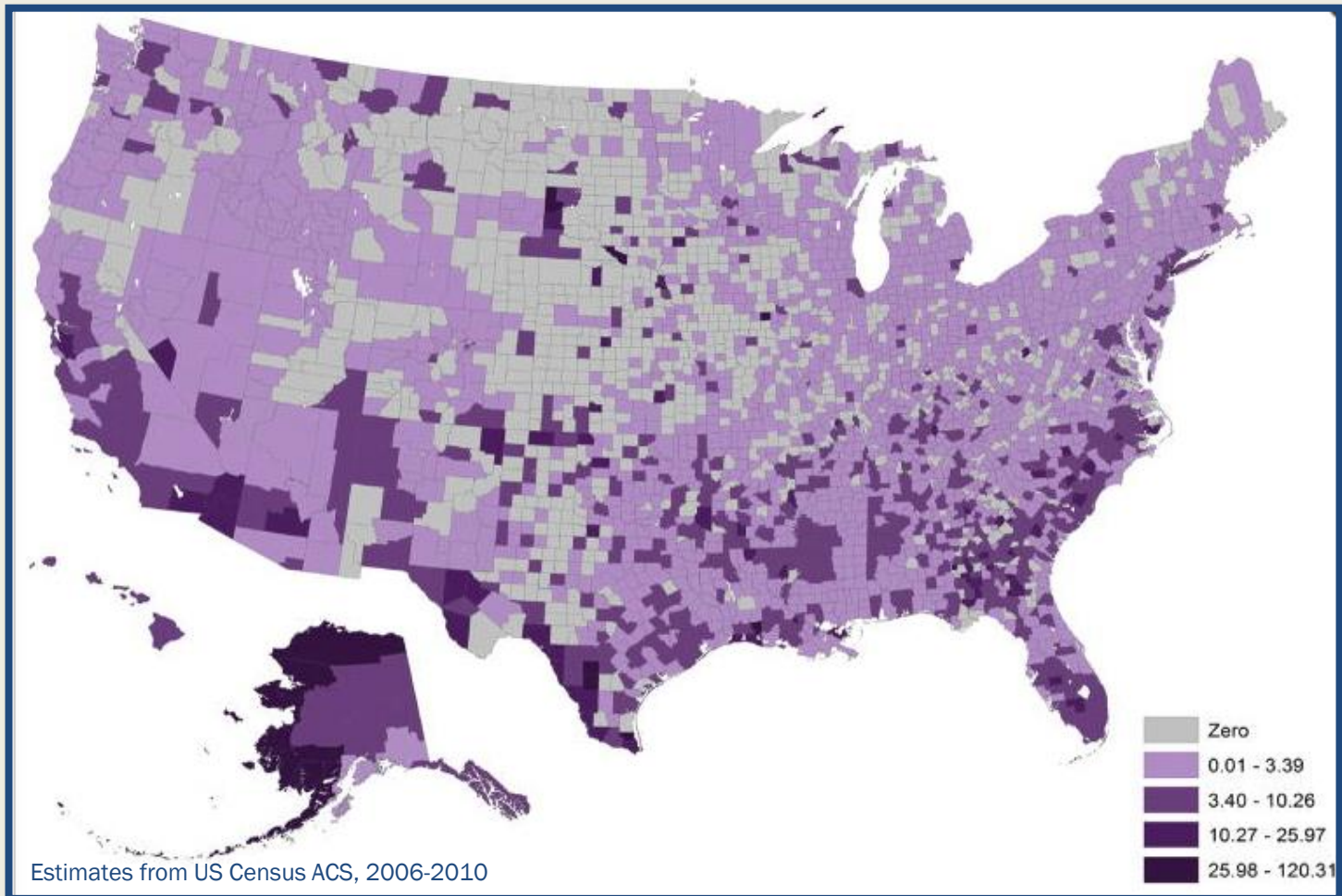- Infectious Diseases
  - HIV, TB, Influenza

- Chronic Diseases
  - Obesity, breast cancer, diabetes mellitus, cervical cancer, heart disease, asthma
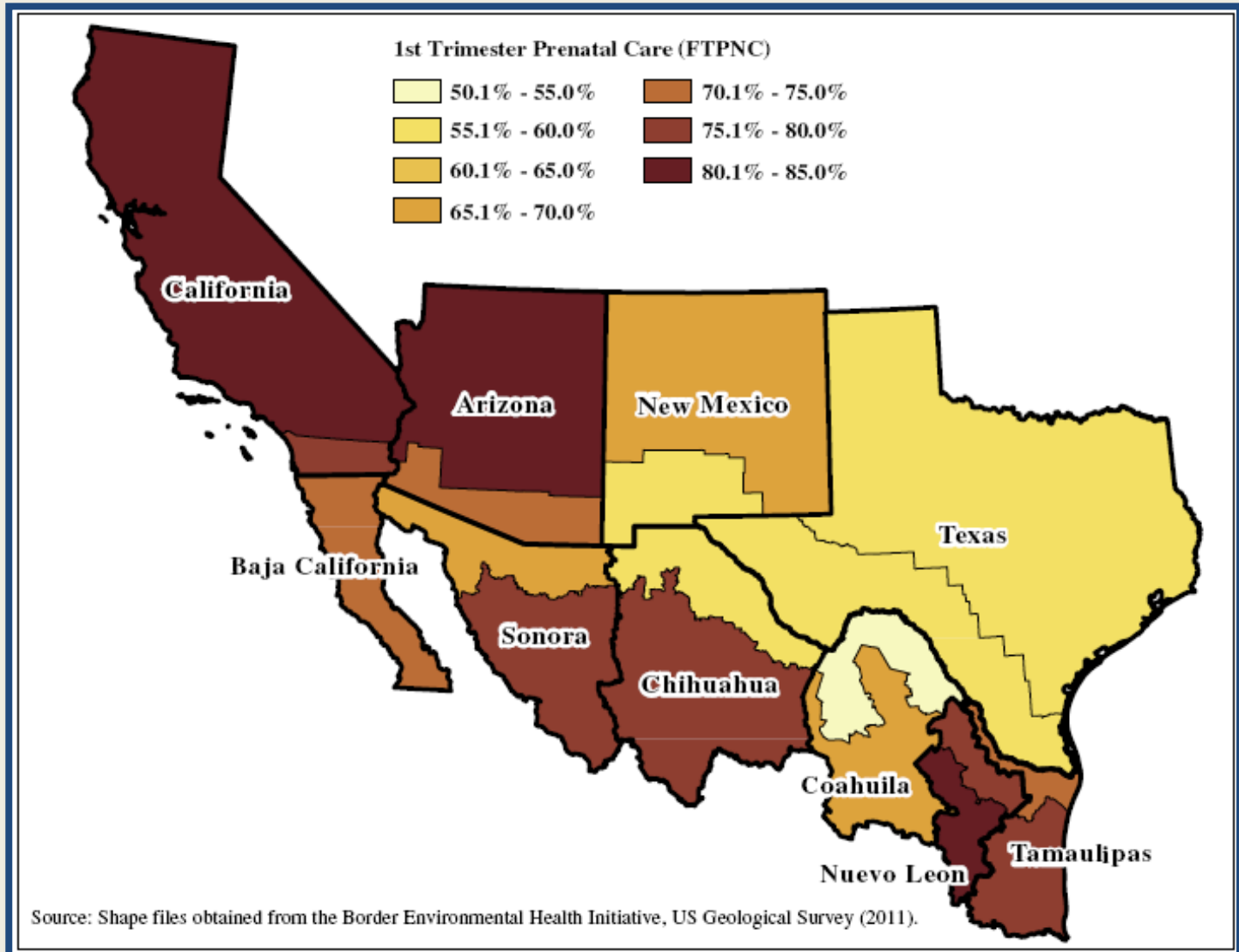- Maternal and Child Health
  - High teen pregnancy rates relative to US or Mexico
  - High preterm birth and low birth weight
  - Excess early childhood mortality

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

Legend:
- Zero
- 0.01 - 3.39
- 3.40 - 10.26
- 10.27 - 25.97
- 25.98 - 120.31

Health in US vs. Health in US Border Counties

1st Trimester Prenatal Care (FTPNC)

- 50.1% - 55.0%
- 55.1% - 60.0%
- 60.1% - 65.0%
- 65.1% - 70.0%
- 70.1% - 75.0%
- 75.1% - 80.0%
- 80.1% - 85.0%

California

Arizona

New Mexico

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Tamaulipas

Source: Shape files obtained from the Border Environmental Health Initiative, US Geological Survey (2011).

What is a health disparity?

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

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/

- Arizona:
  http://healthdata.az.gov/query/introduction.html
  http://www.azdhs.gov/director/border-health/#border-health-studies-home

- 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
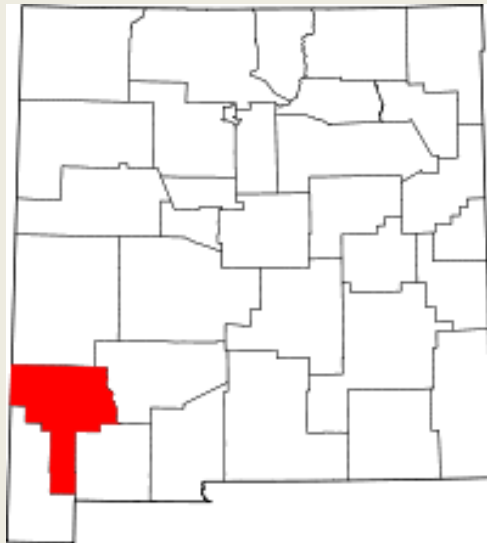
While we are focusing on data from the US side of the border, similar datasets can be found for Mexico.

Exercise 2. Find data on specific county
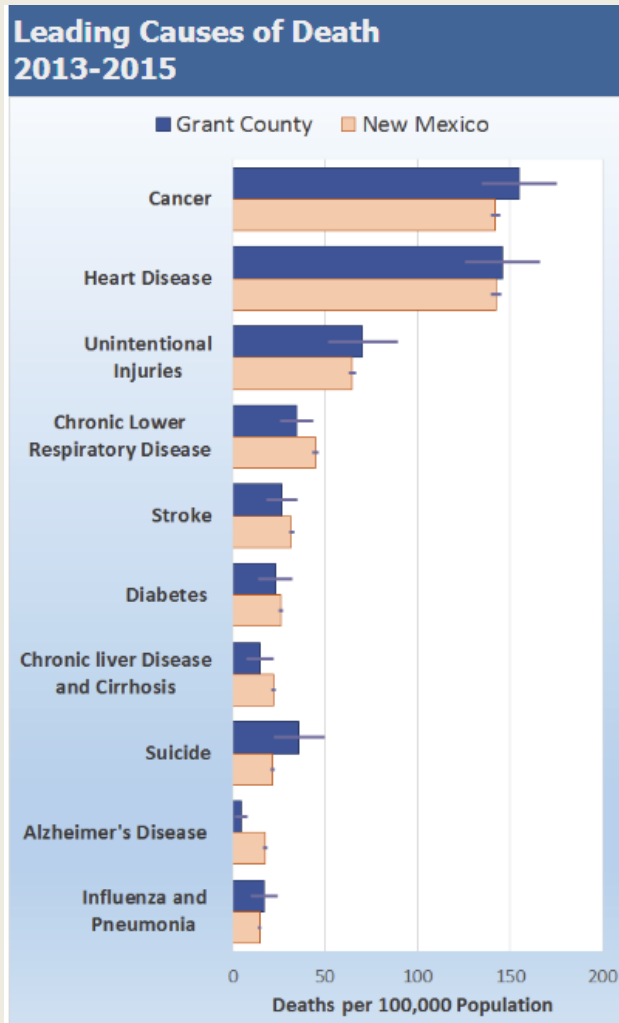
Grant County, New Mexico

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

Exercise 2.

Grant County, New Mexico

Leading Causes of Death 2013-2015

- Grant County
- New Mexico

Cancer, Heart Disease, Unintentional Injuries, Chronic Lower Respiratory Disease, Stroke, Diabetes, Chronic liver Disease and Cirrhosis, Suicide, Alzheimer's Disease, Influenza and Pneumonia

Deaths per 100,000 Population

Age-adjusted to the U.S. 2000 population.
Source: New Mexico Death Certificate Database, Office of Vital

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

Grant County	78.4
95% Confidence Interval	(78.2 - 78.6)
Statistical Stability	Stable
New Mexico	77.8
U.S.	78.8

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

Grant County	160.1
95% Confidence Interval	(139.2 - 181.0)
Statistical Stability	Stable
New Mexico	143.8
U.S.	168.5

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

Grant County	35.9
95% Confidence Interval	(28.7 - 43.1)
Statistical Stability	Stable
New Mexico	33.6
U.S.	20.3

(Source: https://ibis.health.state.nm.us/community/highlight/index/GeoCnty/17.html)

How can these health concerns be addressed?
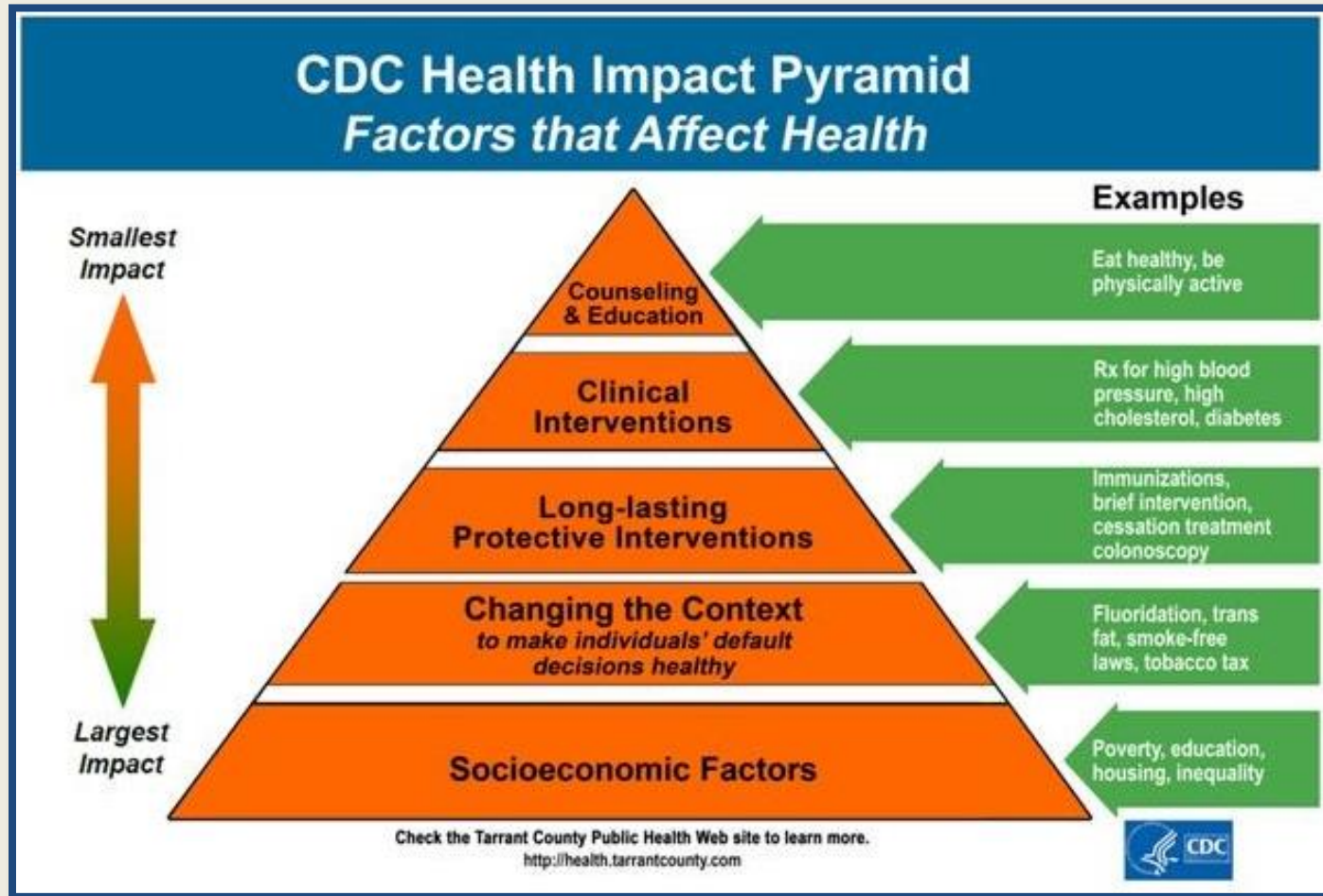
■ What interventions can be made at each level for the concerns we identified in Grant County?

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

Acknowledgment

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