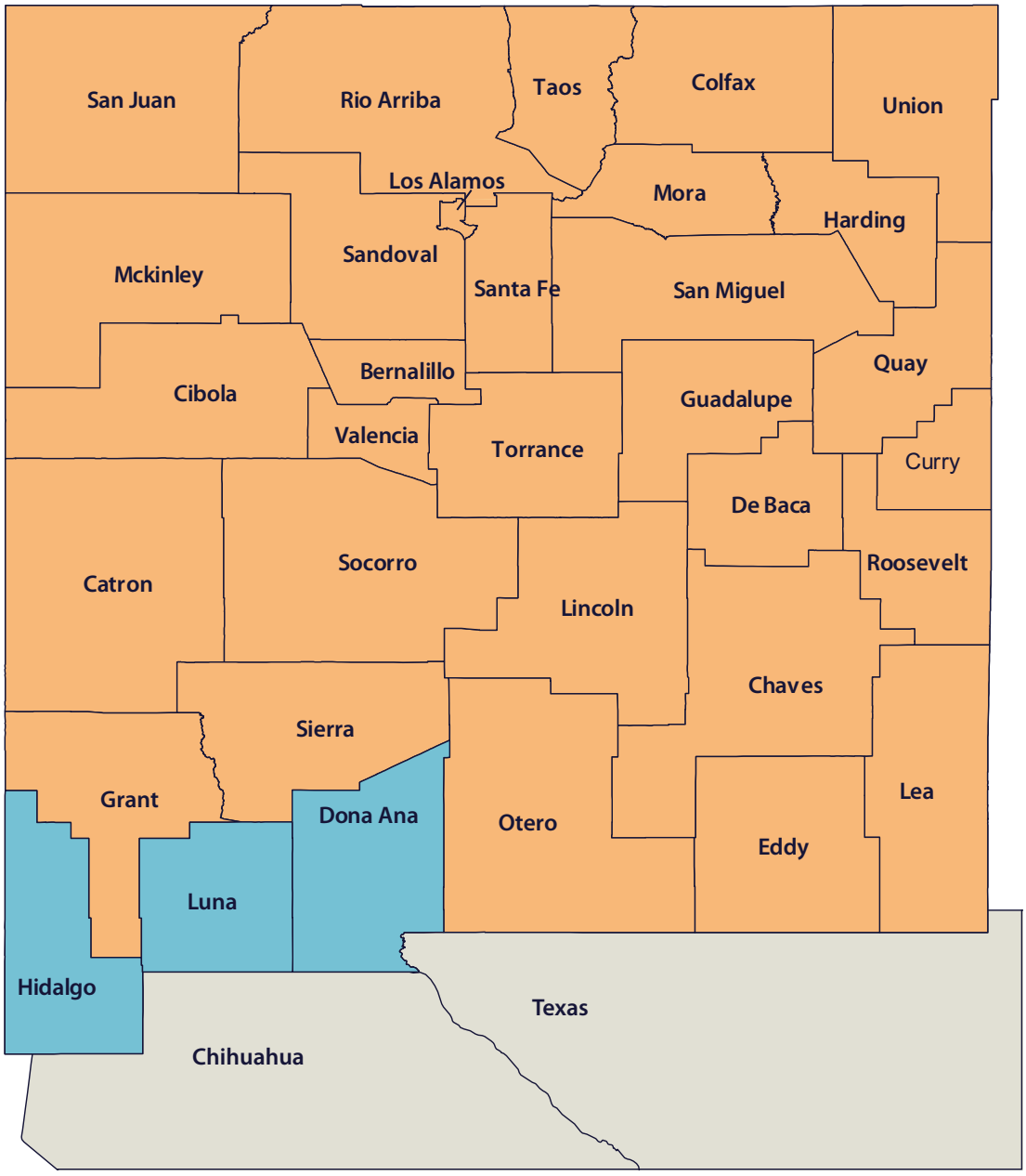
NEW MEXICO BORDER HEALTH REPORT



A COMPARATIVE REPORT OF DISEASE INDICATORS, BEHAVIORAL FACTORS, AND HEALTH OUTCOMES IN THE BORDER AND NON-BORDER REGIONS OF NEW MEXICO, 2013

NEW MEXICO DEPARTMENT OF HEALTH

Border Office of Border Health HEALTH

PREFACE AND ACKNOWLEDGEMENTS

The U.S.-Mexico Border region, demarcated under the La Paz Agreement of 1983 as 100 kilometers north and south of the international border, is considered a unique epidemiological unit. The percent of Hispanic populations, rates of poverty and those lacking health insurance coverage, are higher in border counties of New Mexico, Texas, Arizona and California than other counties in these respective states, as well as the Nation as a whole.

The objective of this New Mexico Border Health Report is to document the differences in demographics, risk behaviors and health outcomes in New Mexico's three counties (Doña Ana, Luna and Hidalgo) that are contiguous with the U.S.-Mexico border compared to those of the other 30 non-border counties in the State. As can be observed in the data presented in this report, there are important differences in the health of residents of this border region versus those residing in the rest of the State, with border residents having better outcomes across a broad range of indicators. Notwithstanding, there are specific infectious disease, chronic disease and behavioral health indicators for which border residents fare worse.

This report is intended to improve our understanding of the unique aspects of health and disease in border communities so that the New Mexico Department of Health, healthcare services providers, and universities better focus their programming and research efforts on the most significant health issues. The Office of Border Health will use this report as a basis for fine-tuning its public health priorities and outreach, and to place greater emphasis on those health indicators that particularly affect residents of border counties.

The Office of Border Health (OBH) recognizes the diligent work of the author of the report, Ashley Graboski-Bauer, and to Katharine Perez-Lockett, OBH Border Infectious Disease Surveillance Officer, who worked with the author to conceptualize and produce this report.

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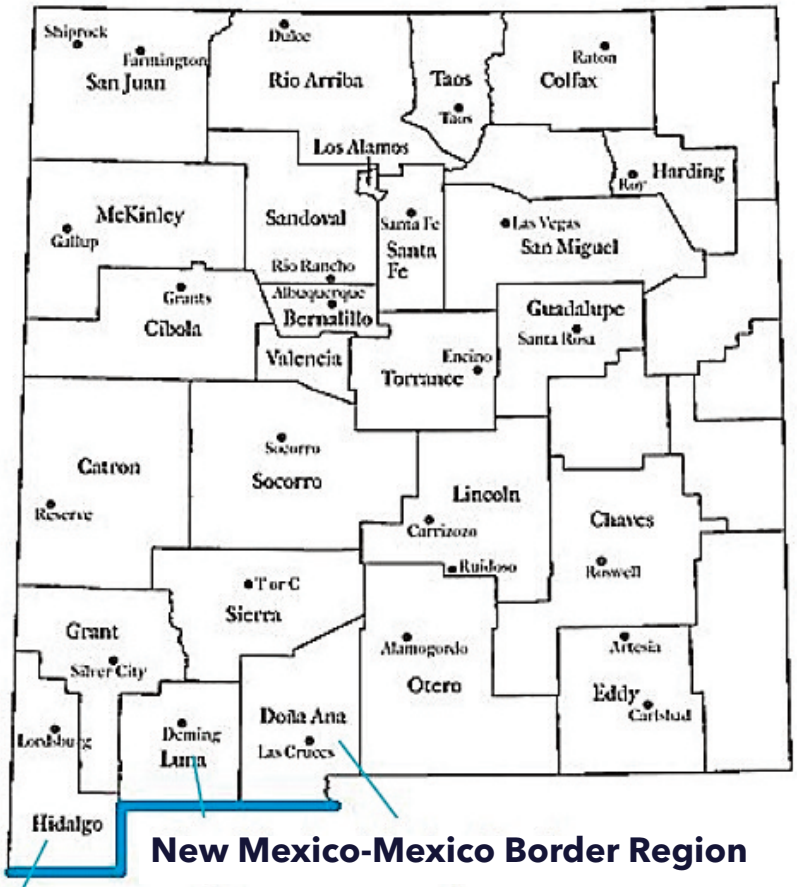
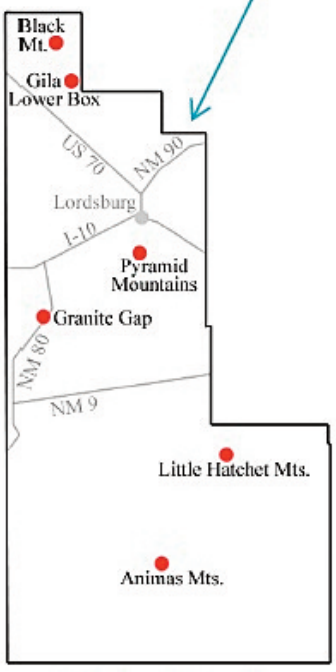
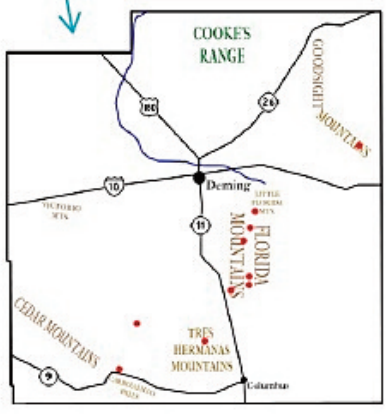
THE NEW MEXICO BORDER REGION



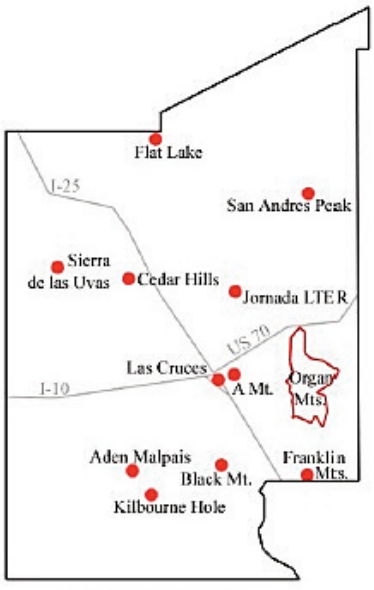
New Mexico-Mexico Border Region



Hidalgo County



Luna County



Doña Ana County

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EXECUTIVE SUMMARY

The New Mexico Border region is more disadvantaged than the Non-Border region for all nationally-documented socio-demographic measures (educational attainment, poverty, Non-English spoken at home, and lack of health insurance). Nonetheless, in many respects, people living in the Border region, and particularly Border Hispanics, fared better than their counterparts who resided in the rest of the State. From a mortality perspective, the Border region was generally healthier than the Non-Border region of New Mexico during 2008-2010. The Border region experienced lower age-adjusted all-cause mortality, lower mortality rates, and lower suicide and homicide rates compared to the Non-Border region.

The Border region also fared better with regard to several non-fatal indicators, including lower rates of vaccine-preventable diseases, asthma, overweight, and binge drinking, compared to the Non-Border region. Infant mortality and teen pregnancy rates were lower for Non-Hispanics in the Border region, compared to Hispanics in the Border and Non-Border regions.

With many health indicators, Border Hispanics fare better with regard to several indicators than compared to Hispanics in the Non-Border region and in some cases, Non-Hispanics in both regions. Non-Hispanics in the Non-Border region often fare better compared to those in the Border region.

Despite lower mortality rates and many other positive indicators and outcomes in the Border region, Border Hispanics in particular, experienced higher rates of certain infectious diseases, certain chronic health conditions, inadequate prenatal care, teen pregnancy and obesity. Border Non-Hispanics were at higher risk of having low birth weight babies compared to Hispanics in the Border region.

Finally, age distribution by region and ethnicity, as well as ethnicity distribution by region, are factors that impact health status in New Mexico. These may interact with each other to impact outcomes related to birth and death by ethnicity and region. Such factors may significantly affect regional socio-economics in the future, and are thus worth noting and considering in policy-making, and program planning.

METHODS

This report contains a breadth of public health data. Data analysis has been as consistent and standardized as possible. This section explains the basis and general approach used for data collection and analysis, as well as methods for specific formulas and topics. Limitations are also discussed.

SOURCES AND PROCEDURES

Time Period. As often as was possible, based on the availability and accessibility of data, comparisons were made for the years 2008-2010. The reason for this is twofold: first, it was necessary to pool at least three years of data in order to obtain the most reliable statistics for the Border region of New Mexico. Second, during the time period over which most data was obtained for this report, more recent data was not consistently available for the health indicators presented in this report. In sum, using the years 2008-2010 as the main focus for this report allows for the most consistency.

State Data. The majority of numerical data and statistical measures included in this report were obtained directly from the New Mexico Indicator-Based Information System (IBIS). This includes mortality, birth, infant mortality, infectious disease, and most risk behavior and chronic disease data. Numerical IBIS data were used to manually calculate and/or verify statistical measures using standard epidemiological formulas. In certain cases, data not available in IBIS were obtained directly from the pertinent New Mexico Department of Health (NMDOH) data managers, in the form of raw data or published reports. In such cases, data is as aligned as possible with the rest of the report in terms of race/ethnicity, 2008-2010 timeframe, and Border/Non-Border comparisons.

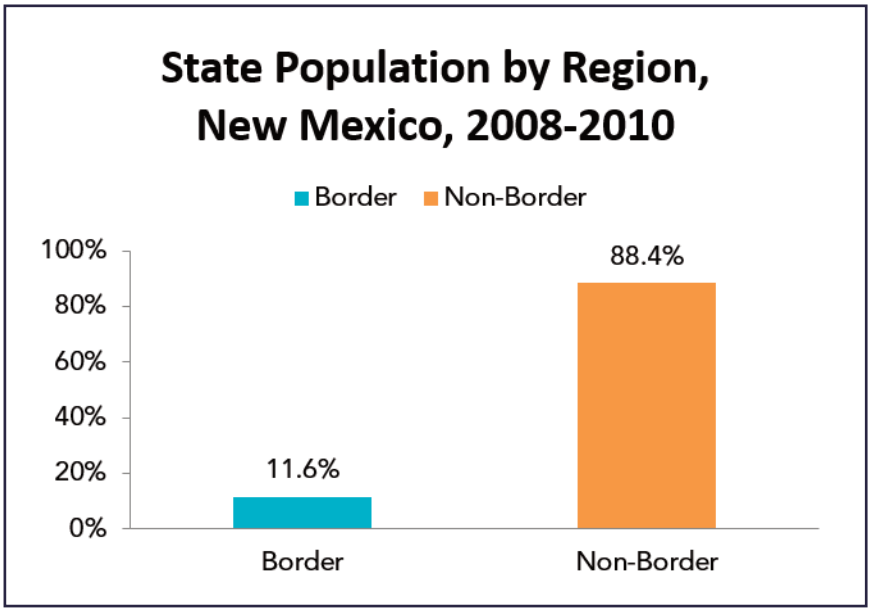
National Data. Some socio-demographic measures and references in the text of the report use national data. In these cases, information was primarily collected from and calculated based on the following sources: the Guttmacher Institute, the March of Dimes, the Center for Disease Control and Prevention (CDC) and related reports, and data sets from U.S. Census Bureau reports. All sources are cited where appropriate within the text and in conjunction with graphs and charts.

Comparative formulas, infant and maternal data, and ethnicity. Wherever comparisons are made by ethnicity, age, region, and/or sex, the appropriate population data have been used for calculation of rates. Except where indicated, for the purposes of this report, Non-Hispanics include all individuals not identified as Hispanic, per IBIS use of Hispanic as a discreet race/ethnicity variable. In the IBIS system, persons designated as Hispanic ethnicity, regardless of race, are categorized as "Hispanic." Persons not designated as Hispanic are categorized by their single race, or for this report, Non-Hispanic race/ethnicity. Infant ethnicity is based on the ethnicity of the mother.

Limitations. Throughout the report, data is aligned as closely as possible with the above-described criteria, i.e. Border/Non-Border regions, Hispanic/Non-Hispanic ethnicity, and years 2008-2010. In a few instances, however, data could not be obtained in exact conformity with these variables. For such indicators, data are presented in as similar a fashion as possible to the rest of the report: sometimes the years are slightly different, the race/ethnicity comparisons vary, or the regional comparisons are limited. As with all other comparisons presented in the report, the exact details of the variables being compared are indicated in the charts, graphs, and/or text.

POPULATION DISTRIBUTIONS AND CHARACTERISTICS

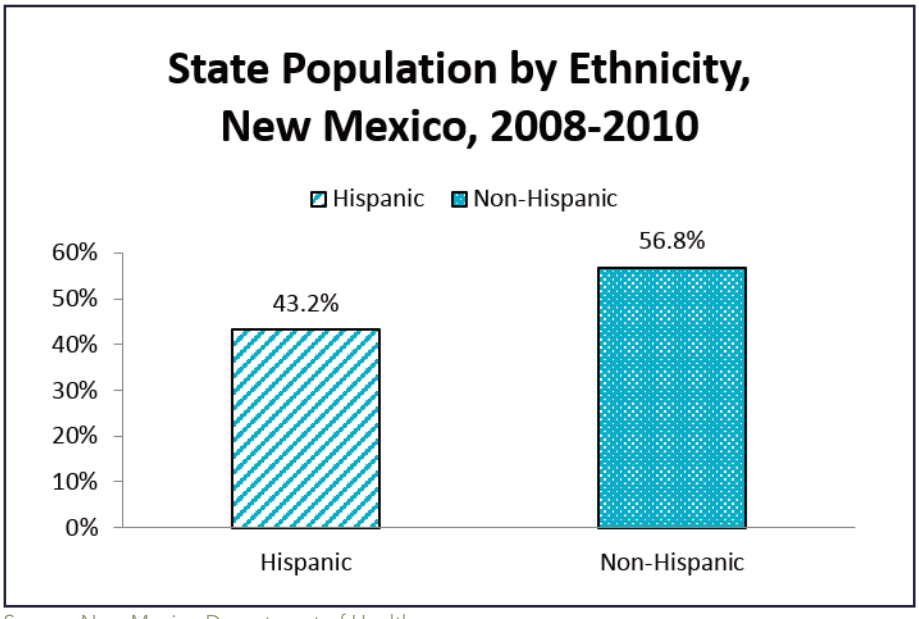
The Border region of New Mexico is comprised of three counties that have physical borders with Mexico: Doña Ana, Hidalgo, and Luna counties. These three counties, and thus the Border region, account for 11.6% of the total state population; the remaining 88.4% of New Mexico's population is spread out across 30 counties that do not share a physical border with Mexico, thus comprising the Non-Border region.



Source: New Mexico Department of Health

ETHNICITY

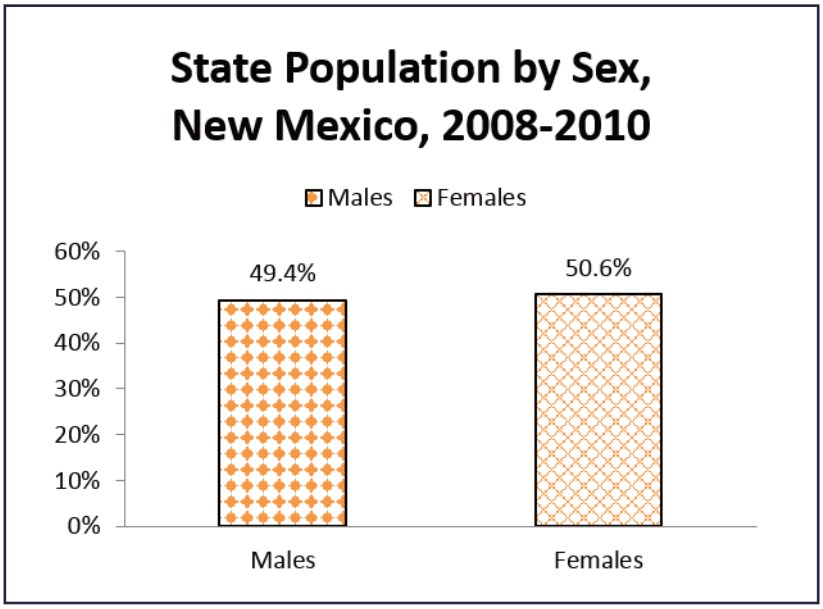
In New Mexico, during the 2008-2010 time period, 43.2% of the state population was of Hispanic ethnicity. Within the Border region, a majority of the population is Hispanic, while within the Non-Border region, a majority of the population is Non-Hispanic.



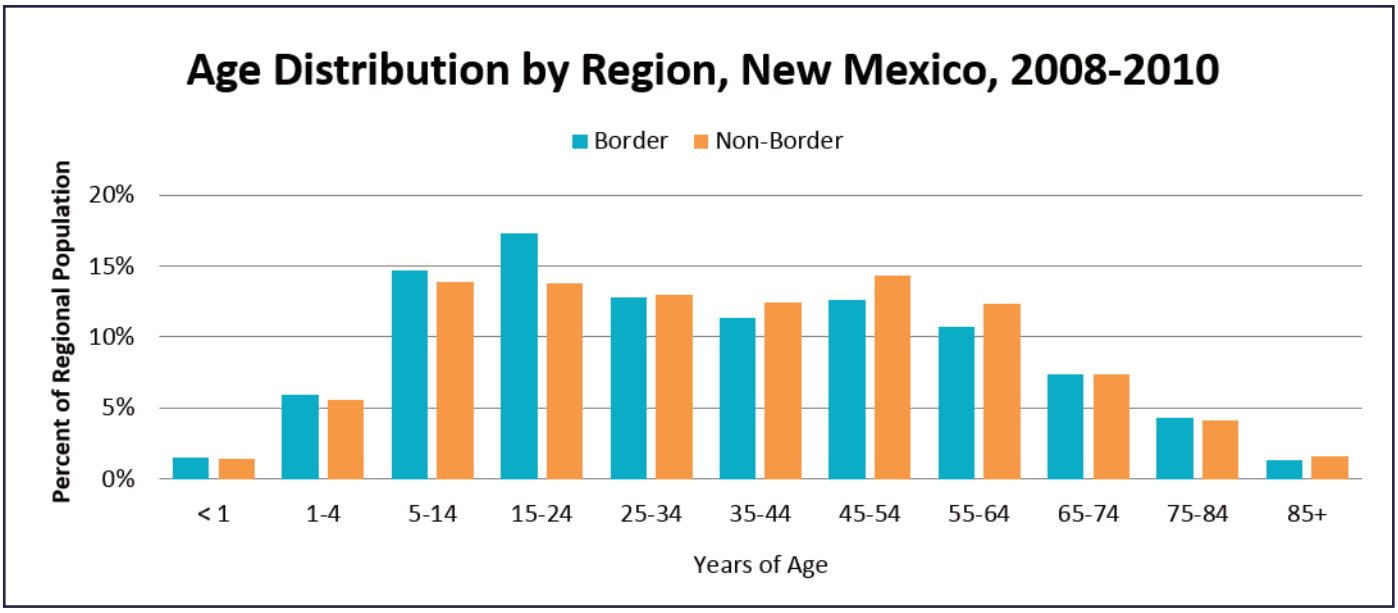
Source: New Mexico Department of Health

SEX

In terms of sex, the population of New Mexico is very evenly comprised of males and females. This is also true of the male to female ratios by ethnicity, by region, and by ethnicity as stratified by region



Source: New Mexico Department of Health



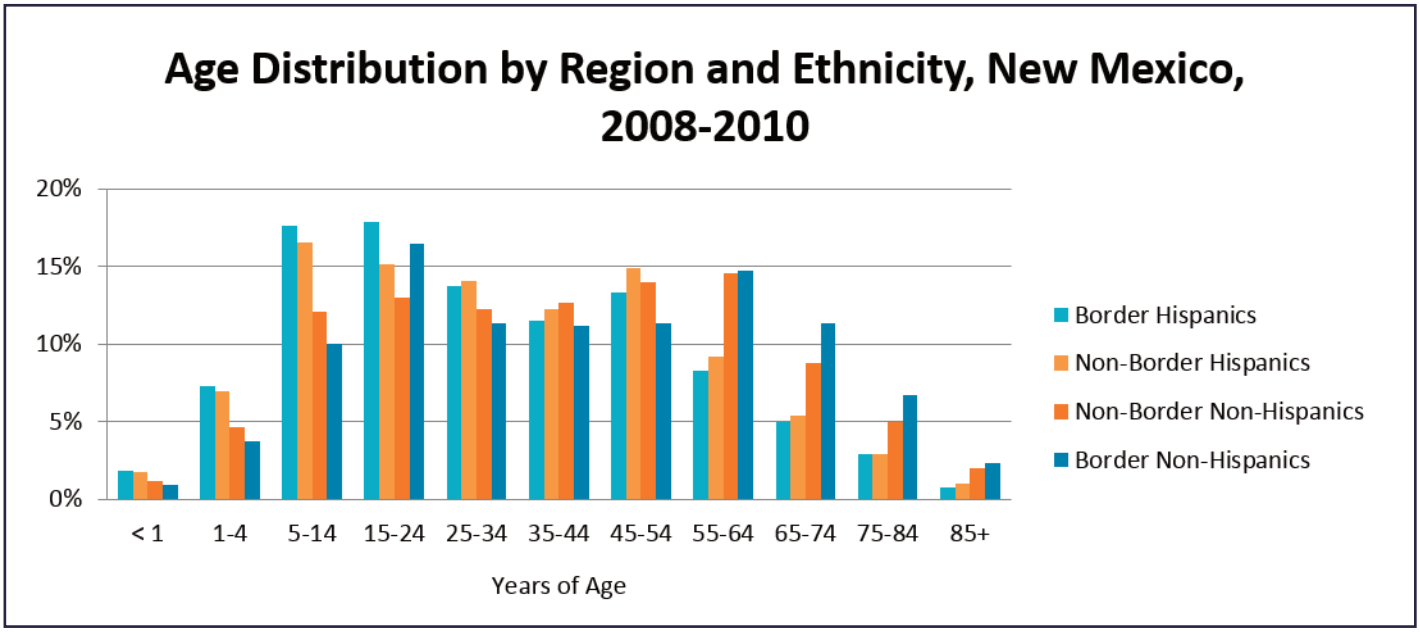
Source: New Mexico Department of Health

AGE

Some minor differences in age distribution are visible by Border region versus Non-Border region. As can be seen above, a higher percentage of the Border region population falls within the 15-24 year old age group (17.3%) than does the Non-Border population (13.8%). In the Non-Border region, a

higher percentage of the population is within the 45-54 year old group (14.3%) and 55-64 year old group (12.4%) compared to the Border region population for the same age groups (12.6% and 10.7%, respectively).

When the age distribution data is disaggregated by both region and ethnicity, marked differences become apparent, as shown below.

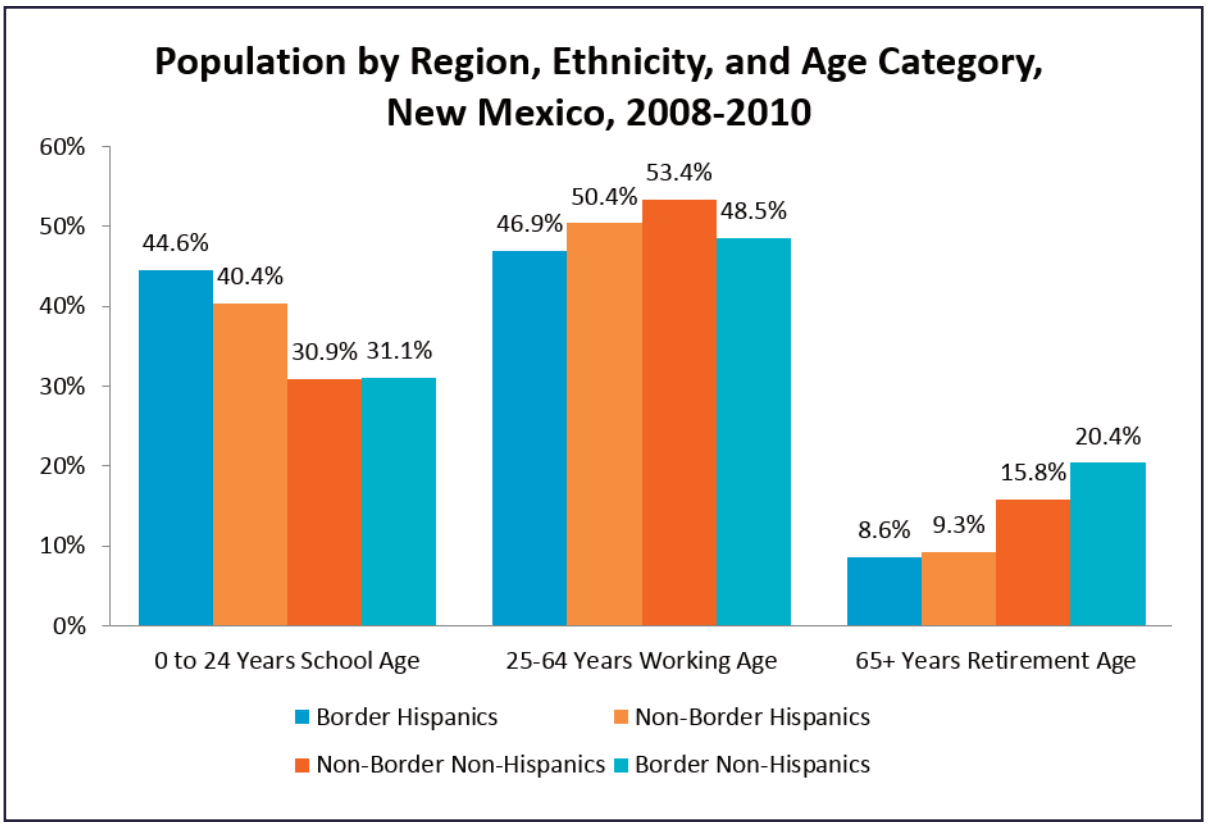


Source: New Mexico Department of Health

The percentage of the population within each of the first five age groups (spanning ages less than one year to 34 years), is higher for Hispanics of both regions than for Non-Hispanics. This trend reverses itself for the latter four age groups (spanning ages 55 years to 85+ years). Among Hispanics, greater proportions of the population are younger (between ages less than one year to 24 years) within the Border region compared to the Non-Border region; among Non-Hispanics, greater proportions of the population are older (among 55 years and older) in the Border region compared to the Non-Border region. Differences in the proportion of persons between the ages of 25 and 54 years are less pronounced by region and ethnicity, but the proportion of Border Non-Hispanics is the smallest of each respective group in this range.

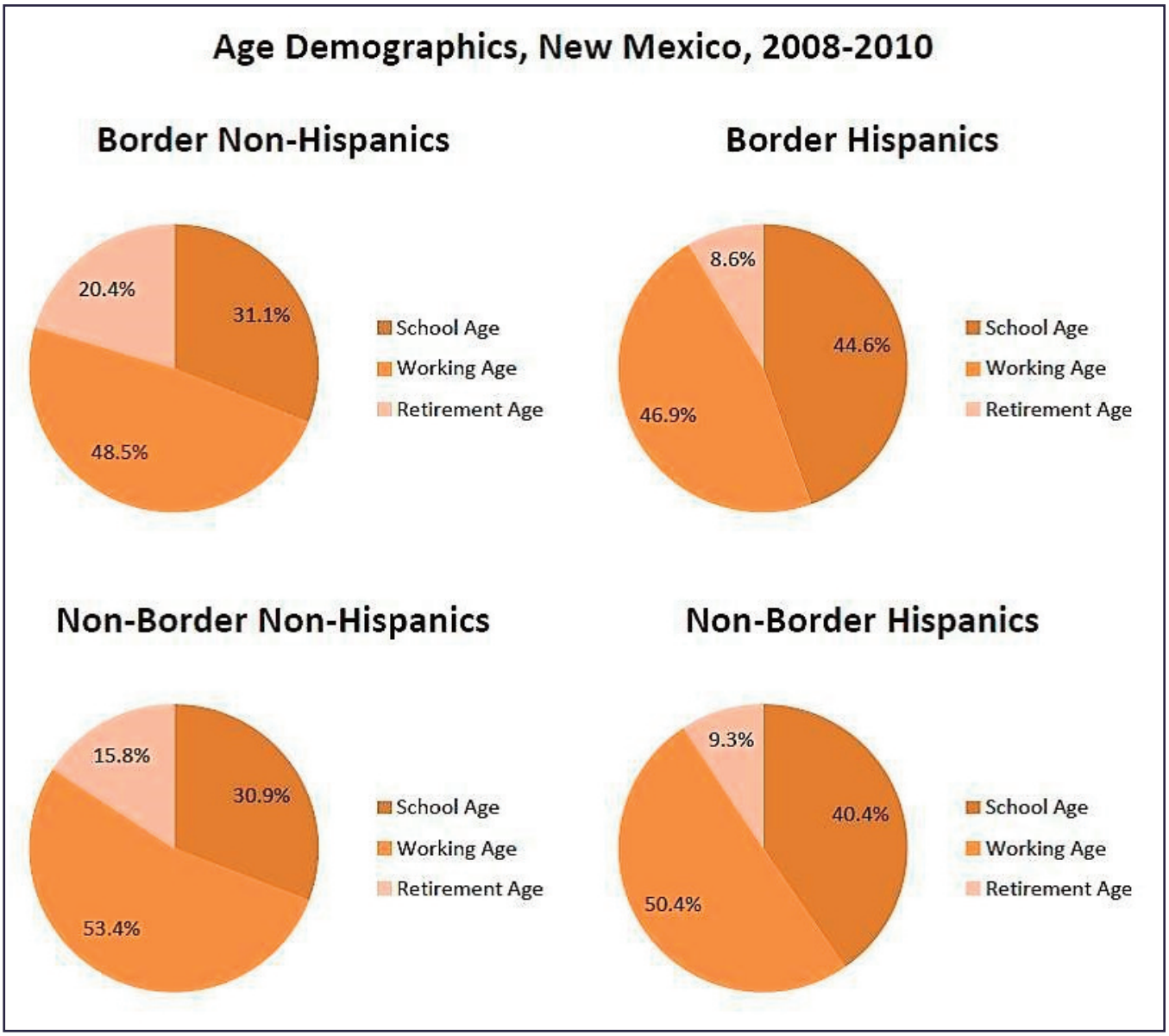
U.S. Census data considers age 25 years as the starting-point by which to calculate education completion rates for high school, bachelor, and advanced post-secondary degrees and age 64 years as the end point at which to calculate insurance rates due to Medicare eligibility criteria (U.S. Census QuickFacts: USA, 2013; USCB SAHIE, 2013). This statistical data is displayed in a later section of this report. However, it is also relevant to the age distribution. If age 24 years and younger is conceived of as "school age," while age 65 years and older is conceived as "retirement age," age 25 years to age 64 years might be considered "working age."

When New Mexico age distribution data is divided in this way—by school-age, working-age, and retirement-age—regional and ethnic differences are still clear and pronounced.



Source: New Mexico Department of Health

Shown a different way, it is clear that age distribution, as it relates to education and economics, differs by ethnicity in both regions of New Mexico. The following series of charts uses "School Age" for ages 0-24 years; "Working Age" for ages 25-64 years; and "Retirement Age" for ages 65 years and older.



Source: New Mexico Department of Health

In the Border region, approximately 2.5 times as many Non-Hispanics fall into the 65 years and older group than do Hispanics; about 1.8 times as many Non-Border Non-Hispanics fall into the 65 years and older group as do Non-Border Hispanics. School-age population differences vary from retirement age differences. While differences are small when comparing Hispanics by region or Non-Hispanics by region, comparing groups by both region and ethnicity indicate large differences in population proportions. To some extent, these data may reflect differences in fertility rates by region and ethnicity, as presented in a later section of this report. Compared to retirement- and school-age populations, differences in the proportion of working-age (25-64 years) populations by ethnicity differ very little within regions (approximately 2-3%) and only slightly more between regions (approximately 5%).

Summary Regarding Population

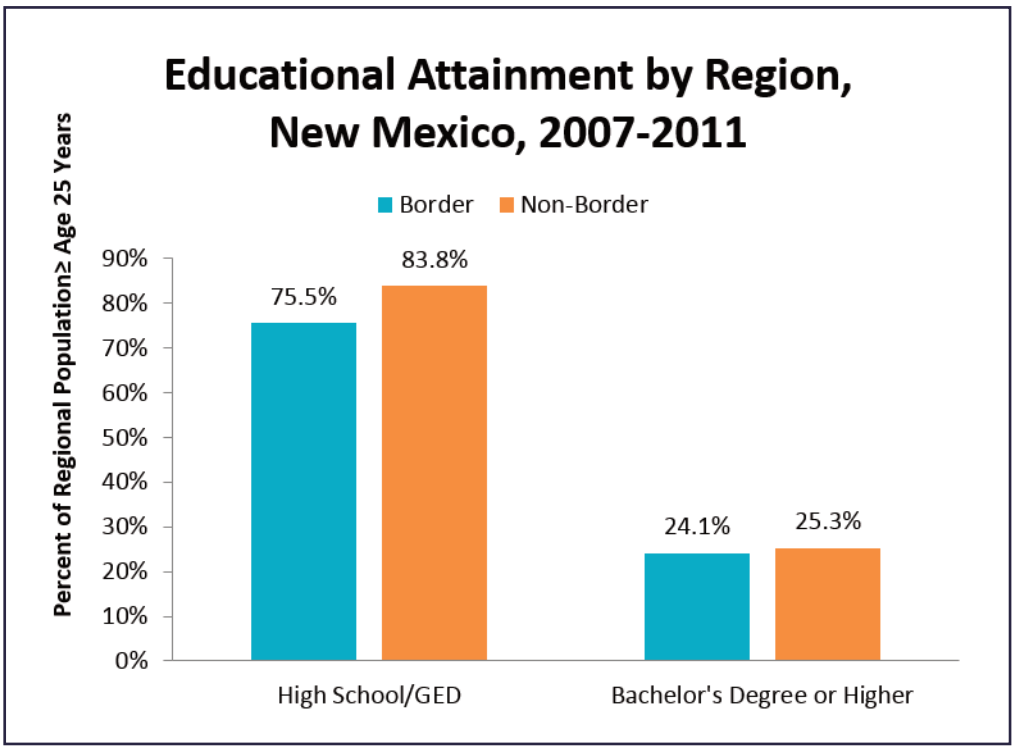
Population distributions data highlight important socio-economic factors by region and ethnicity. These data are related to fertility and mortality data, which is presented in later sections. However, interactions between age distribution and other public health indicators are still likely to be multifaceted and multidirectional.

SOCIO-DEMOGRAPHIC CHARACTERISTICS

Certain socio-demographic variables are documented via the U.S. Census Bureau (U.S. Census QuickFacts: New Mexico, 2013) in order to provide general information about certain social and living condition indicators. Four such examples are "household income and the federal poverty level;" "educational attainment by age 25 years or older;" and "language spoken at home;" and "lack of health insurance among persons below age 65" (U.S. Census QuickFacts: New Mexico, 2013; USCB SAHIE, 2013). This section presents charts comparing the New Mexico Border and Non-Border regions using national data pertaining to each of these indicators (U.S. Census QuickFacts: New Mexico, 2013).

ADULT EDUCATIONAL ATTAINMENT

Educational attainment is often correlated with other social, economic, and health factors and outcomes (Murphy, Xu, Kochanek, 2013). The following charts use the U.S. Census (2012) data and criterion of "age 25 years and older" to highlight current levels of educational attainment. Completion of high school or an equivalent certification (GED) and completion of a bachelor's or higher degree serve as the points of measurement (U.S. Census, 2012).

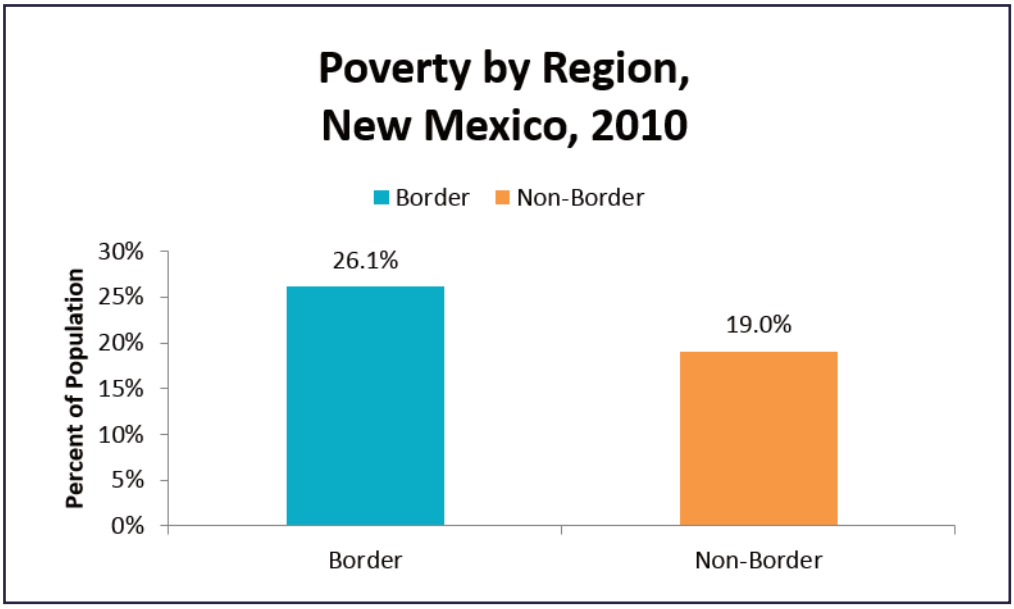


Source: New Mexico Department of Health

As shown, educational attainment is lower for New Mexicans in the Border region compared to the Non-Border region of the State. The completion rate for high school or of an equivalent credential by age 25 years or older is notably lower in the Border region compared to the Non-Border region, while the Border region completion rate for a bachelor's degree or higher is only slightly lower than in the Non-Border region.

POVERTY

Poverty is associated with a variety of health risks and barriers (Murphy, Xu, & Kochanek, 2013). It is also associated with potential access to certain public assistance programs and interventions, therefore making poverty rate an important demographic statistic. Poverty rates are determined by household size and income, as compared to a national standard (USCB SEHSD, 2012). According the U.S. Census (QuickFacts: New Mexico, 2013; Bishaw, 2012), the percent of people in New Mexico living below the poverty level for 2010 are shown below:

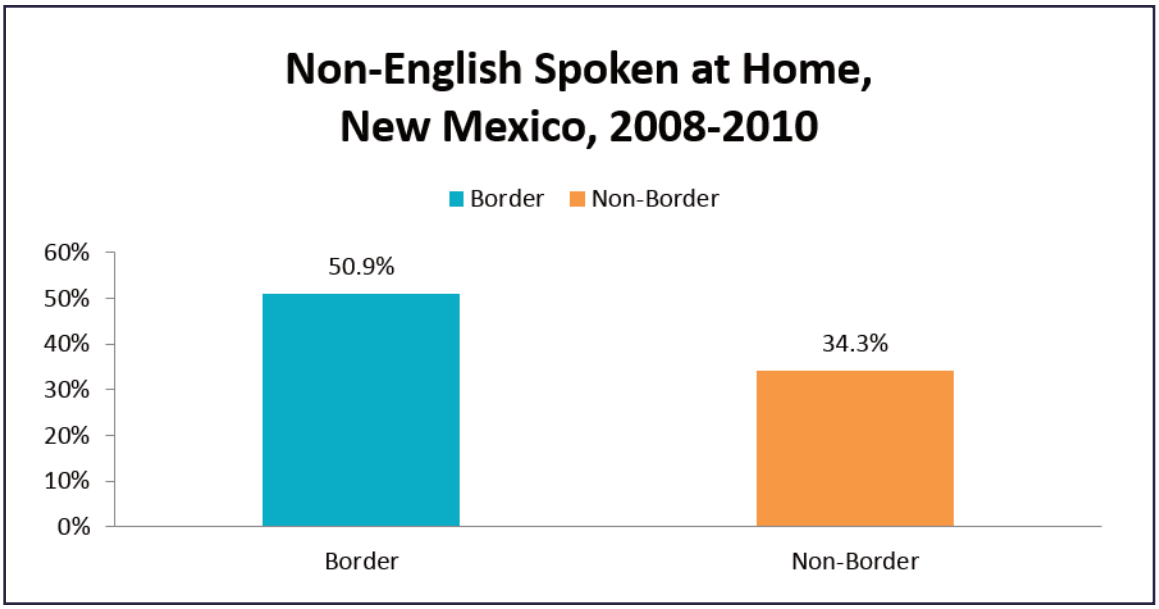


Source: New Mexico Department of Health

As can be seen, the percent of New Mexicans living below the poverty line is higher in the Border region compared to the Non-Border region.

LANGUAGE

The language spoken at home can be indicative of language preference for receiving and learning information and therefore may have public outreach and policy implications. Language spoken at home may indicate informational needs or potential barriers to accessing care in English-dominant areas of practice or service. The U.S. census calculates the percent of people who "speak a language other than English at home" (U.S. Census QuickFacts: New Mexico, 2013). As indicated below, the at-home language preferences of New Mexicans indicate great linguistic diversity.

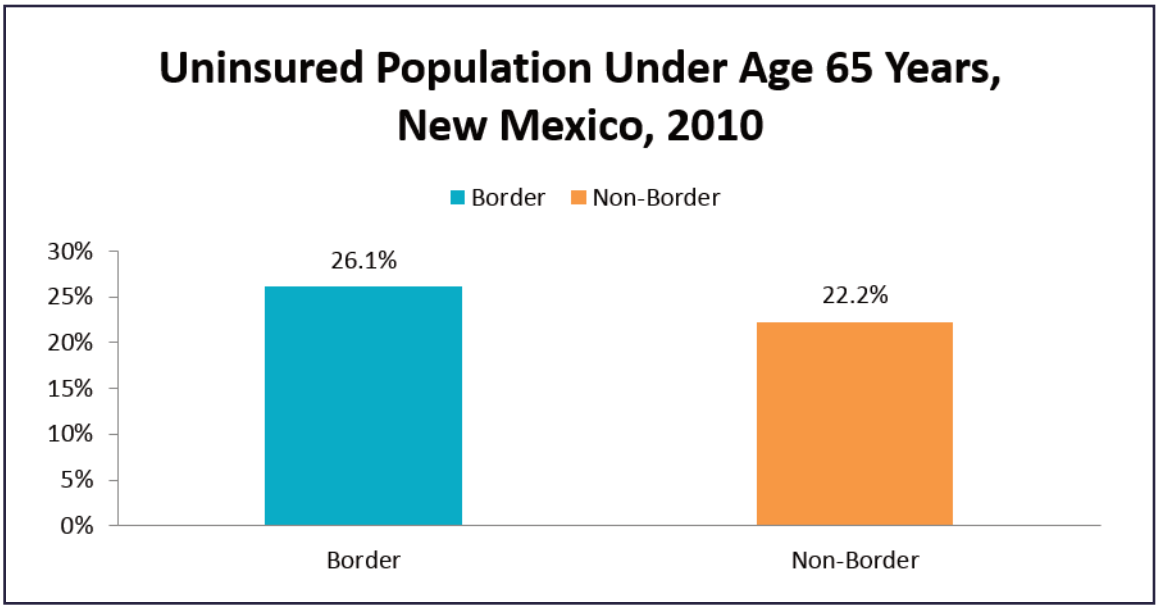


Source: New Mexico Department of Health

In both the Border and Non-Border regions, the percentage of people speaking a language other than English at home is substantial; however, it is higher in the Border region.

LACK OF INSURANCE COVERAGE

Lack of health insurance can pose significant barriers to accessing timely and adequate health care services. Medical health insurance coverage is closely linked to employment, poverty, and interactions between these and other socio-demographic variables. While some government programs exist to provide coverage to certain populations, for myriad reasons, they do not reach everyone lacking health insurance. The following chart compares the uninsured populations in the New Mexico Border and Non-Border regions.



Source: USCB SAHIE (2013)

The proportion of individuals who are uninsured by any source is higher in the Border region compared to the Non-Border region (USCB SAHIE, 2013). In both regions, however, the percentage of uninsured persons is notable in that it is equivalent to more than one-fifth of the regional population.

Summary Regarding Socio-Demographic Characteristics

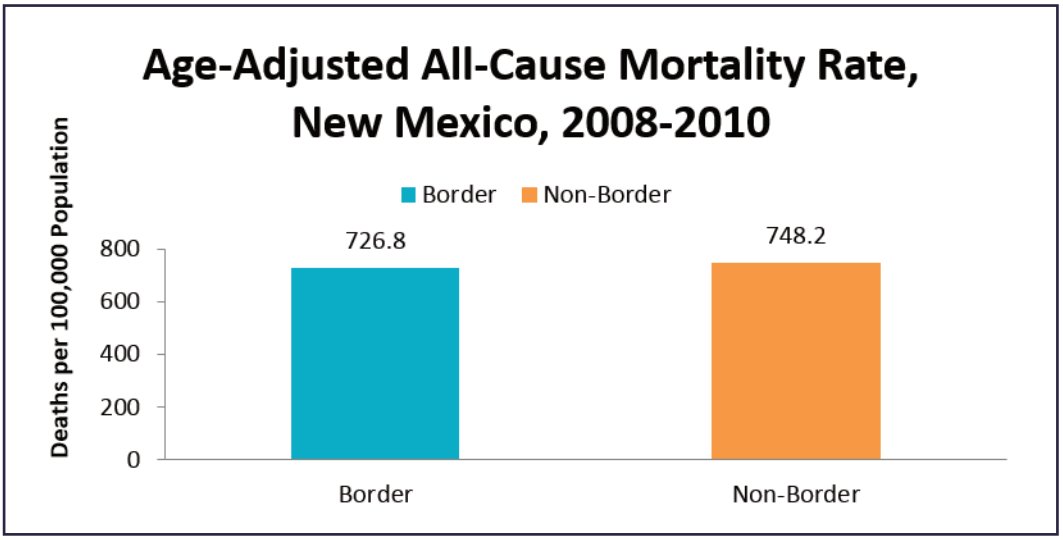
The population of the New Mexico Border region is more financially impoverished, less likely to be insured, and less formally educated than the population of the Non-Border region (U.S. Census QuickFacts: New Mexico, 2013; USCB SAHIE, 2013). Albeit by a very slim margin, English is not the majority language spoken at home in the Border region (U.S. Census QuickFacts: New Mexico, 2013). Within the Non- Border region, the percent of people who speak a language other than English at home is also high, representing more than one-third of the population of that area.

MORTALITY

Mortality can be measured in several different ways, accounting for different factors and producing statistics that illustrate different information. Leading causes of death vary by region, sex, and ethnicity and are shown in the following sections.

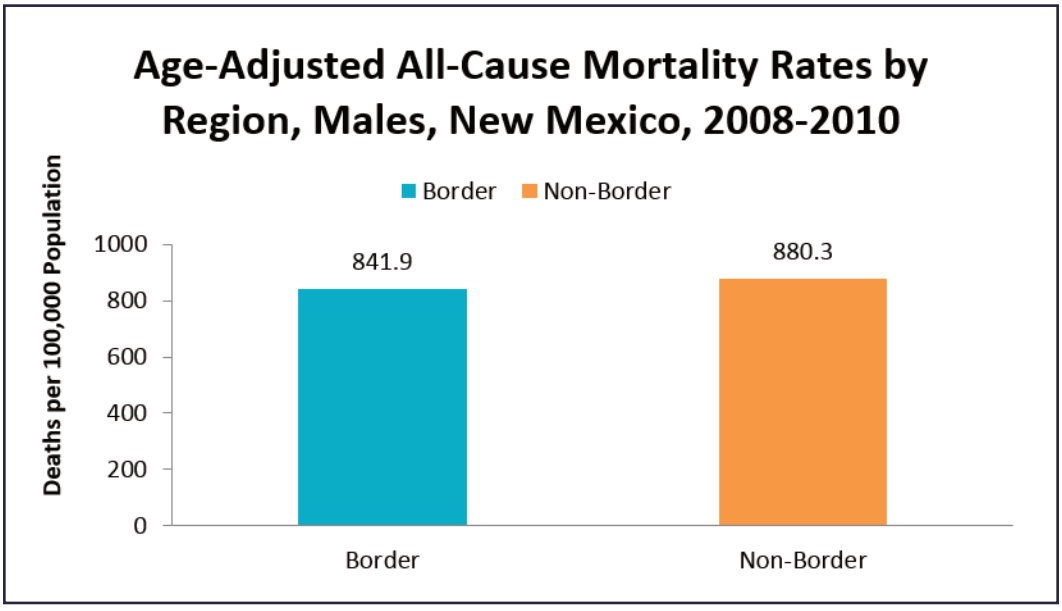
AGE-ADJUSTED ALL-CAUSE MORTALITY RATES, 2008-2010

By controlling for age effects, age-adjusted all-cause mortality rates allow for better comparisons between populations across time and geography. As shown below, in New Mexico, the all-cause age-adjusted mortality rate is lower in the Border region compared to the Non-Border region. Age adjustment is based on the categories used by the National Center for Health Statistics.

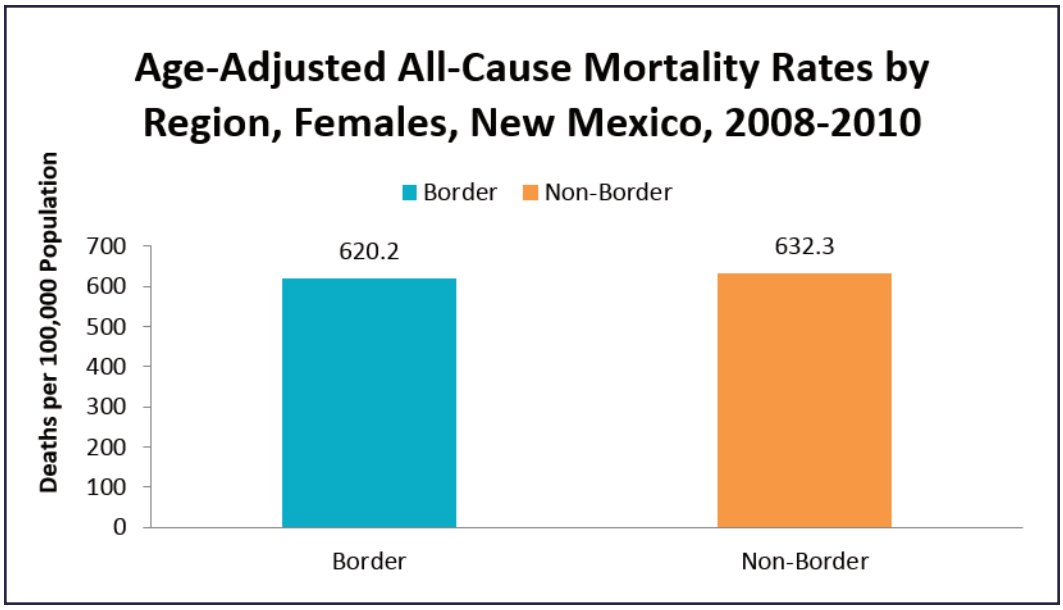


Source: New Mexico Department of Health

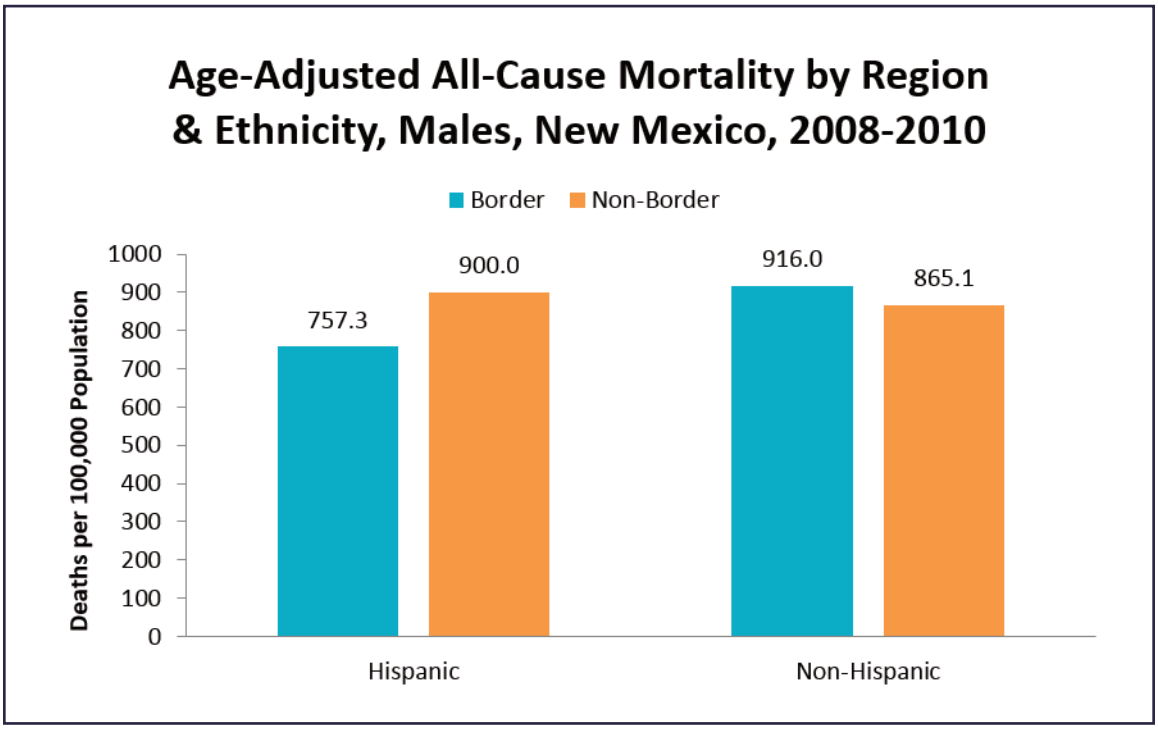
Although the proportion of males and females in both regions and by ethnicity is similar, there are some differences in age-adjusted all-cause mortality rates in terms of sex and region as well as by sex, region, and ethnicity. The following charts show the age-adjusted all-cause mortality as disaggregated by combinations of these variables.



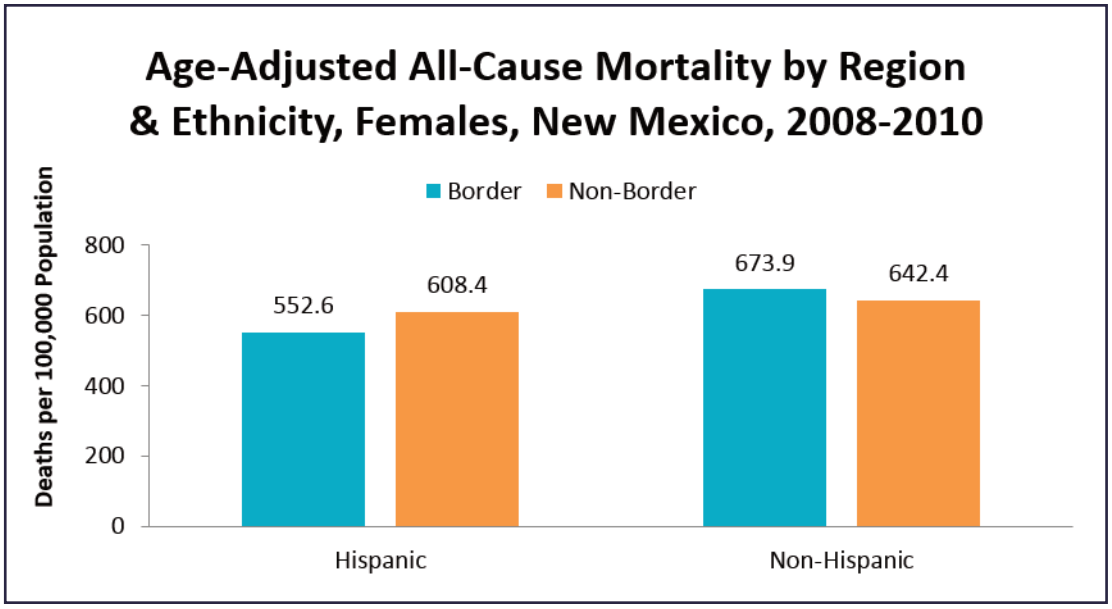
Source: New Mexico Department of Health



Source: New Mexico Department of Health



Source: New Mexico Department of Health



Source: New Mexico Department of Health

When disaggregated by all three variables (sex, region, and ethnicity) differences in age-adjusted, all-cause mortality rates between sexes are evident, particularly for males. As illustrated above, the mortality rate among males is lowest among Hispanic males living in the Border region, although the rate among Hispanic males living in the Non-Border region is higher than that of Non-Hispanic males in the Non-Border region. Alternately, the mortality rate among Non-Hispanic males is much higher than Hispanic males in the Border region, and only slightly higher than Non-Hispanic males in the Non-Border area. The age-adjusted all-cause mortality rates for males are extremely similar but inverted by ethnicity and region. Hispanics in the Non-Border region face a similar all-cause age-adjusted mortality rate as do Non-Hispanics in the Border region.

Some similar but less pronounced patterns can be seen among females: there is some difference between the age-adjusted, all-cause mortality rates among Hispanic and Non-Hispanic females living in the Border region. As with males, there is a higher mortality rate among Non-Hispanic females living in the Border region compared to Hispanic females living there. However, unlike among males, in the Non-Border region the mortality rate is slightly higher among Non-Hispanic females compared to their regional Hispanic counterparts.

Summary Regarding Age-Adjusted All-Cause Mortality Rates

The data suggests that Hispanics of either sex experience lower age-adjusted, all-cause mortality rates when living in the Border region compared to the Non-Border region. This is especially so for Hispanic males. Hispanic males living in the Non-Border region not only experience a higher age-adjusted, all-cause mortality rate than Border region Hispanic males, but experience a higher rate than Non-Border region Non-Hispanic males.

When comparing mortality by ethnicity statewide, the all-cause, age-adjusted mortality rates for Hispanics is 707.2 per 100,000 population and for Non-Hispanics it is 763.4; for the entire state of New Mexico, the age-adjusted, all-cause mortality rate is 745.5 (New Mexico Department of Health, 2013). Hispanic females have a lower mortality rate in both regions of the state and in comparison to males. Hispanic males in the Border region, where Hispanics make up the majority of the population, have a

much lower mortality rate compared to Non-Hispanic males in the Border region. Meanwhile, although the mortality rate of Hispanic males is higher in the Non-Border region compared to Non-Hispanic males there, it is only slightly higher and at the same time, Hispanics account for a smaller proportion of that region's population.

LEADING CAUSES OF DEATH

The following charts rank and compare the leading causes of death for different groups in New Mexico. The leading causes of death presented below are ranked by counts of death by region.

LEADING CAUSES OF DEATH BY REGION, NEW MEXICO, 2008-2010

RANK	BORDER	NON-BORDER
1	Cancer	Cancer
2	Heart Disease	Heart Disease
3	Accidents	Accidents
4	Chronic Lower Respiratory Diseases	Chronic Lower Respiratory Diseases
5	Stroke	Stroke
6	Diabetes Mellitus	Diabetes Mellitus
7	Suicide	Suicide
8	Influenza and Pneumonia	Chronic Liver Disease and Cirrhosis
9	Alzheimer's Disease	Alzheimer's Disease
10	Chronic Liver Disease and Cirrhosis	Influenza and Pneumonia
11	Nephritis, Nephrotic Syndrome, Nephrosis	Nephritis, Nephrotic Syndrome, Nephrosis
12	Parkinson's Disease	Septicemia
13	Hypertension	Homicide
14	Septicemia	Parkinson's Disease
15	Neoplasm, In situ, benign and of uncertain or unknown behavior	Hypertension

Source: New Mexico Department of Health

The next series of charts compare leading causes of mortality in New Mexico on the basis of disaggregation by multiple variables. In order to accommodate disaggregation by different combinations of regional, ethnicity, and/or sex variables into individual charts, the use of acronyms and abbreviations is necessary. These acronyms and abbreviations are defined as follows:

- CLRD: Chronic Lower Respiratory Diseases
- CLD & Cirrhosis: Chronic Liver Disease and Cirrhosis
- N/NS/N: Nephritis, Nephrotic Syndrome, Nephrosis
- Diabetes: Diabetes Mellitus
- Flu & Pneumonia: Influenza and Pneumonia

LEADING CAUSES OF DEATH BY SEX AND REGION, NEW MEXICO, 2008-2010

RANK	BORDER		NON-BORDER	
	Males	**Females**	**Males**	**Females**
1	Heart Disease	Cancer	Cancer	Heart Disease
2	Cancer	Heart Disease	Heart Disease	Cancer
3	Accidents	CLRD	Accidents	CLRD
4	CLRD	Stroke	CLRD	Accidents
5	Stroke	Accidents	Diabetes	Stroke
6	Diabetes	Diabetes	Suicide	Diabetes
7	Suicide	Alzheimer's Disease	Stroke	Alzheimer's Disease
8	CLD & Cirrhosis	Influenza	CLD & Cirrhosis	Flu & Pneumonia
9	Flu & Pneumonia	N/NS/N	Flu & Pneumonia	N/NS/N
10	N/NS/N	CLD & Cirrhosis	N/NS/N	CLD & Cirrhosis

Source: New Mexico Department of Health

LEADING CAUSES OF DEATH AMONG FEMALES BY REGION AND ETHNICITY, NEW MEXICO, 2008-2010

RANK	BORDER		NON-BORDER	
	Hispanic	**Non-Hispanic**	**Hispanic**	**Non-Hispanic**
1	Cancer	Cancer	Cancer	Heart Disease
2	Heart Disease	Heart Disease	Heart Disease	Cancer
3	Diabetes	CLRD	Accidents	CLRD
4	Stroke	Stroke	Stroke	Stroke
5	Accidents	Accidents	Diabetes	Accidents
6	CLRD	Alzheimer's Disease	CLRD	Alzheimer's Disease
7	Alzheimer's Disease	Flu & Pneumonia	Alzheimer's Disease	Diabetes
8	N/NS/N	Diabetes	N/NS/N	Flu & Pneumonia
9	Flu & Pneumonia	N/NS/N	CLD & Cirrhosis	N/NS/N
10	CLD & Cirrhosis	Hypertension	Flu & Pneumonia	CLD & Cirrhosis

Source: New Mexico Department of Health

LEADING CAUSES OF DEATH AMONG MALES BY REGION AND ETHNICITY, NEW MEXICO, 2008-2010

RANK	BORDER		NON-BORDER	
	Hispanic	**Non-Hispanic**	**Hispanic**	**Non-Hispanic**
1	Heart Disease	Heart Disease	Cancer	Cancer
2	Cancer	Cancer	Heart Disease	Heart Disease
3	Accidents	CLRD	Accidents	Accidents
4	Diabetes	Accidents	Diabetes	CLRD
5	Stroke	Stroke	CLD & Cirrhosis	Suicide
6	CLD & Cirrhosis	Suicide	CLRD	Stroke
7	Suicide	Diabetes	Suicide	Diabetes
8	CLRD	Flu & Pneumonia	Stroke	CLD & Cirrhosis
9	N/NS/N	CLD & Cirrhosis	Homicide	Flu & Pneumonia
10	Flu & Pneumonia	N/NS/N	N/NS/N	Alzheimer's Disease

Source: New Mexico Department of Health

CAUSE-SPECIFIC AGE-ADJUSTED MORTALITY RATES

This section quantifies cause-specific, age-adjusted mortality rates for each of the leading 15 causes of death previously listed categorically for the Border and Non-Border regions. When ranked by age-adjusted mortality rates, the leading causes of death in New Mexico remain the same but vary slightly in order, due to age-adjustment.

LEADING CAUSES OF DEATH BY AGE-ADJUSTED MORTALITY RATE AND REGION, NEW MEXICO, 2008-2010

RANK	BORDER		NON-BORDER	
	Cause	**Rate per 100,000 Population**	**Cause**	**Rate per 100,000 Population**
1	Heart Disease	150.9	Heart Disease	151.5
2	Cancer	150.2	Cancer	150.5
3	Accidents	45.5	Accidents	64.0
4	Chronic Lower Respiratory Diseases	40.2	Chronic Lower Respiratory Diseases	47.9
5	Stroke	34.6	Stroke	36.3
6	Diabetes Mellitus	29.0	Diabetes Mellitus	28.1
7	Suicide	17.6	Suicide	19.7
8	Influenza and Pneumonia	17.4	Alzheimer's Disease	17.9
9	Alzheimer's Disease	17.0	Chronic Liver Disease and Cirrhosis	17.3
10	Chronic Liver Disease and Cirrhosis	15.1	Influenza and Pneumonia	15.4
11	Nephritis, Nephrotic Syndrome, Nephrosis	13.9	Nephritis, Nephrotic Syndrome, Nephrosis	13.1
12	Parkinson's Disease	8.8	Septicemia	8.8
13	Hypertension	7.2	Homicide	8.4
14	Septicemia	5.8	Parkinson's Disease	8.1
15	Neoplasm, In situ, benign and of uncertain or unknown behavior	5.6	Hypertension	5.7

Source: New Mexico Department of Health

Summary Regarding Leading Causes of Death

The Border and Non-Border regions of New Mexico exhibit many similarities in terms of leading causes of death. Both regions share the same top seven causes of death: heart disease, cancer, chronic lower respiratory diseases, stoke, diabetes mellitus, and suicide. Following these causes, both the Border and Non-Border regions share many of the same next leading causes of death, albeit in different rankings. These causes include influenza and pneumonia, Alzheimer's Disease, chronic liver disease and cirrhosis, nephritis/nephrotic syndrome/nephrosis, septicemia, hypertension, and Parkinson's Disease. An exception to the homogeneity in leading causes of death is that of "neoplasm, in situ, benign and of uncertain or unknown behavior" as the fifteenth leading cause of death in the Border region and homicide as the thirteenth leading cause of death in the Non-Border region. Among leading causes of death shared by both the Border and Non-Border regions, the greatest differences between respective cause-specific age-adjusted mortality rates occur between rates of accidents, chronic lower respiratory diseases, and hypertension.

Most of the top 10 leading causes of death in the New Mexico Border and Non-Border regions during 2008-2010 are the same as the national top 10 leading causes of death for the same years (Heron, 2012a; Heron, 2012b; Kochanek, Xu, Murphy, Miniño, & Kung, 2011); the exception is chronic liver disease and cirrhosis. Nationally, nephritis/nephrotic syndrome/nephrosis is among the top 10 leading causes of death for 2008-2010 (Heron, 2012a; Heron, 2012b; Kochanek, Xu, Murphy, Miniño, & Kung, 2011); in the New Border and Non-Border regions of New Mexico, this cause is displaced by chronic liver disease and cirrhosis (which ranks tenth in the Border region and eighth in the Non-Border region). Another difference between national leading causes of death and those in New Mexico is suicide: during 2008-2010, suicide ranked nationally as the tenth leading cause of death (Heron, 2012a; Heron, 2012b; Kochanek, Xu, Murphy, Miniño, & Kung, 2011), while in New Mexico it ranked seventh in both the Border and Non-Border regions. Suicide in New Mexico is examined in another section of this report.

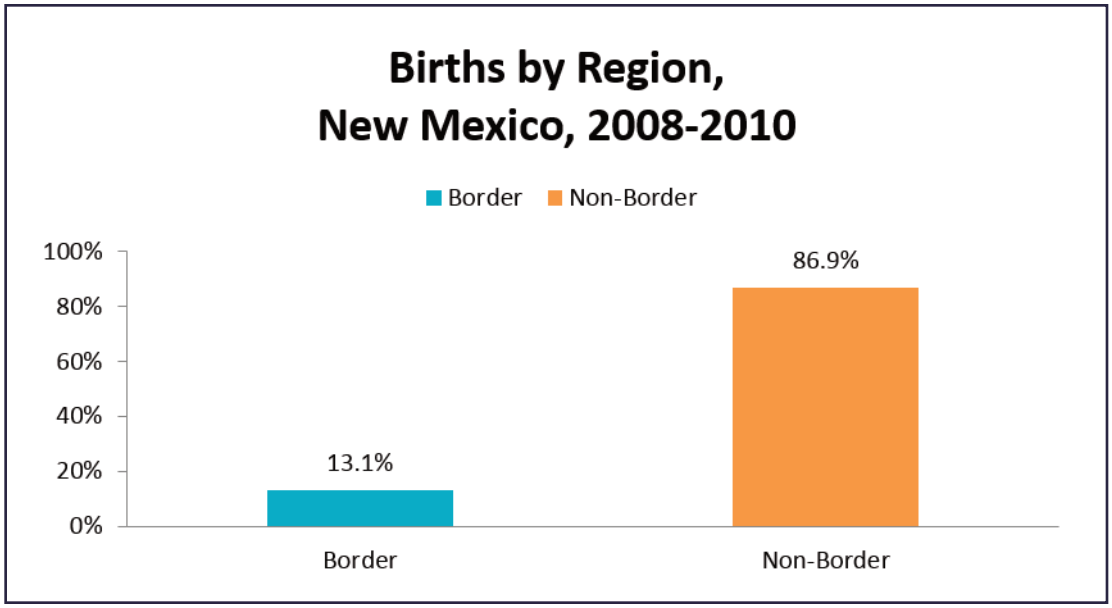
FERTILITY, INFANT, AND MATERNAL HEALTH

As indicated earlier, the distribution of males to females is roughly equal within the Border and Non-Border regions of New Mexico; the age distribution is similar between these two regions as well. The Border region accounts for 12% of the total state population, while the Non-Border region accounts for the remaining 88%. While a higher proportion of individuals residing in the Border region identify themselves as Hispanic (62%) compared to the Non-Border region (41%), the overall statewide distribution is 43% Hispanic and 57% Non-Hispanic.

BIRTHS

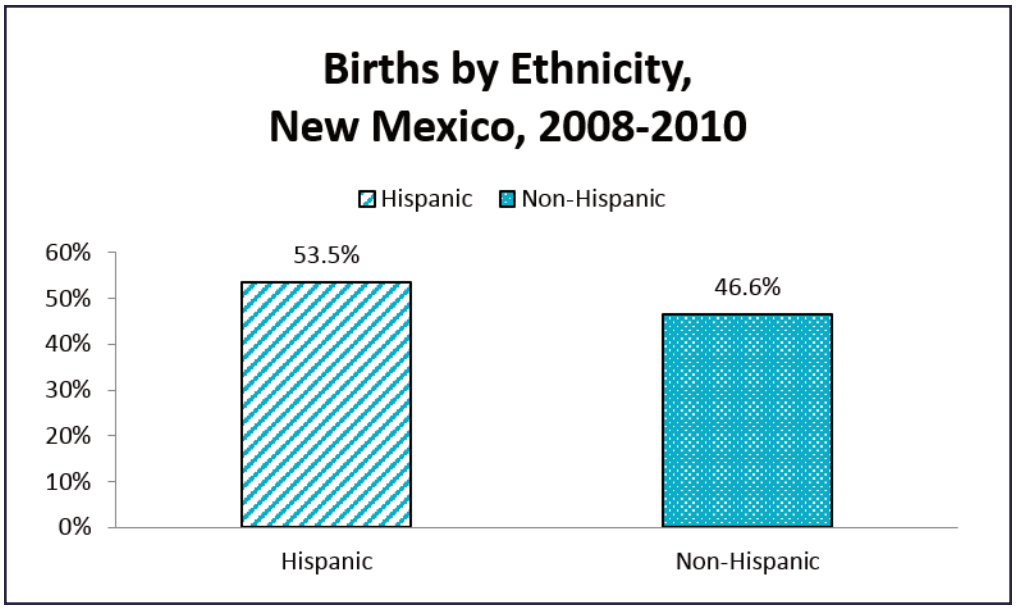
Birth related statistics were calculated using gross birth numbers obtained from birth certificate data. Therefore, birth data includes all births to New Mexico mothers regardless of maternal age. Thus, the basis for birth related calculations may vary slightly from that used to calculate fertility rates, as fertility rate data were delimited as explained henceforth. For birth data, region was determined on the basis of the mother's county of residence; ethnicity was determined on the basis of the mother.

The distribution of births in New Mexico is roughly equivalent to the distribution of the state population, with 13% of births occurring in the Border region, compared to 87% in the Non-Border region.

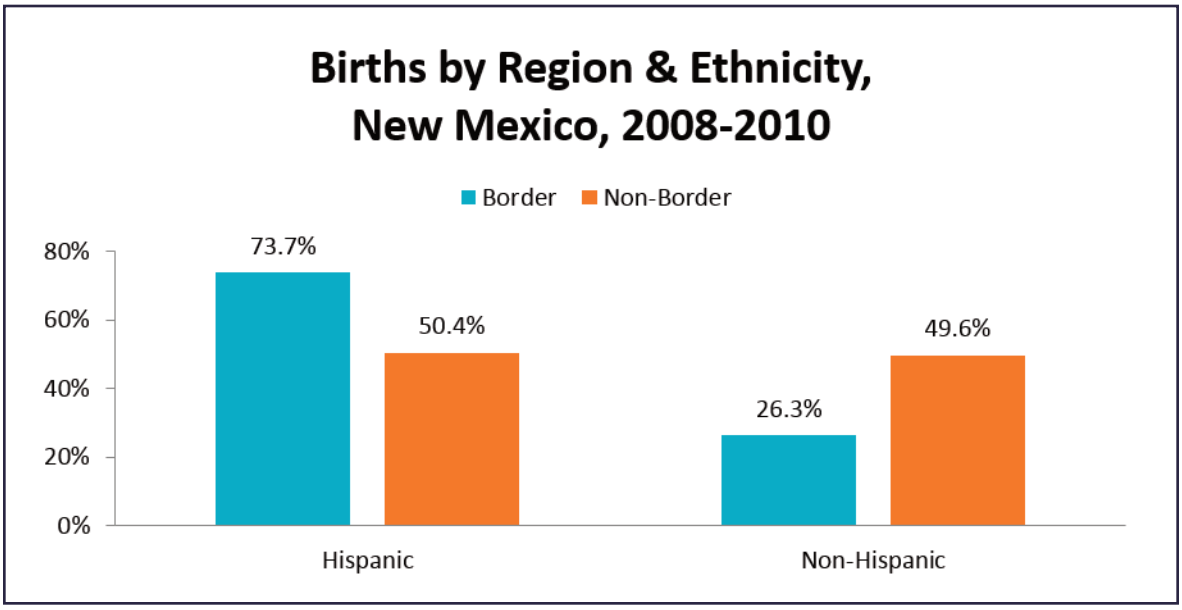


Source: New Mexico Department of Health

Births to Hispanic mothers represent a greater proportion of New Mexico births than does the Hispanic proportion of the overall population. More Hispanic women give birth in both the Border and non-Border regions.



Source: New Mexico Department of Health



Source: New Mexico Department of Health

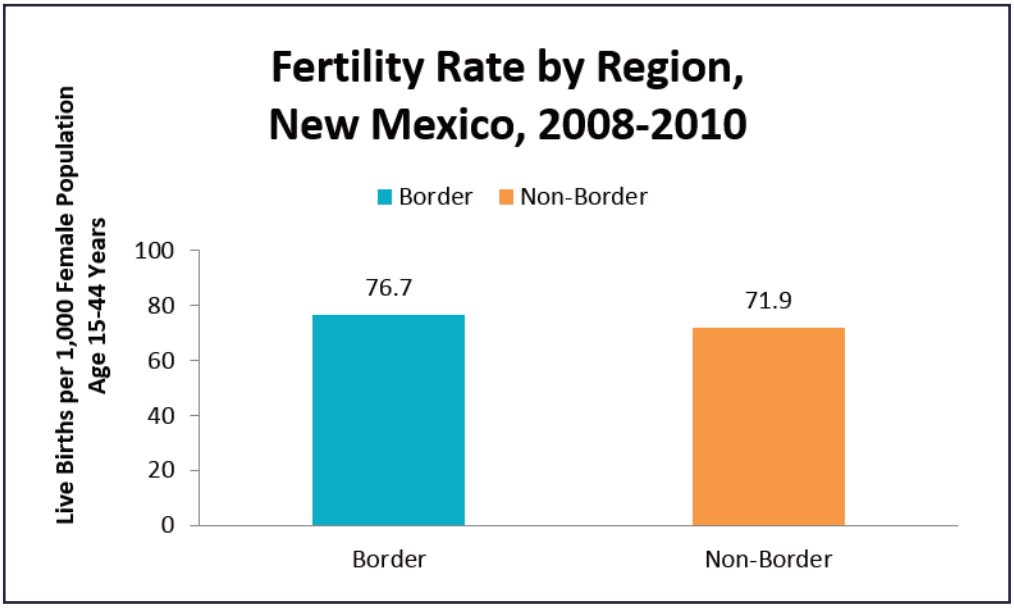
Summary Regarding Birth Data

The above charts represent comparative distributions of births to mothers of all ages in New Mexico during 2008-2010. These charts indicate that births by ethnicity are disproportionate to regional population distributions by ethnicity. Therefore, percentages of births by ethnicity indicate a higher fertility rate among Hispanics compared to Non-Hispanics. Fertility rates are further explored in the following section.

Fertility rates are useful for identifying population trends as well as potential public health concerns related to teen fertility rates, prenatal data, infant mortality data, and so forth. The fertility rates below reference live births during 2008-2010 to females of child-bearing age, which is defined as females between the ages of 15 and 44 years. Fertility rates are also disaggregated by age groups 15-19 years and 20-44 years, representing teen and adult fertility rates, respectively. Thus, unlike the birth data above, fertility rates take maternal age into account and produce a different relative numerical basis for comparing fertility across time and geography.

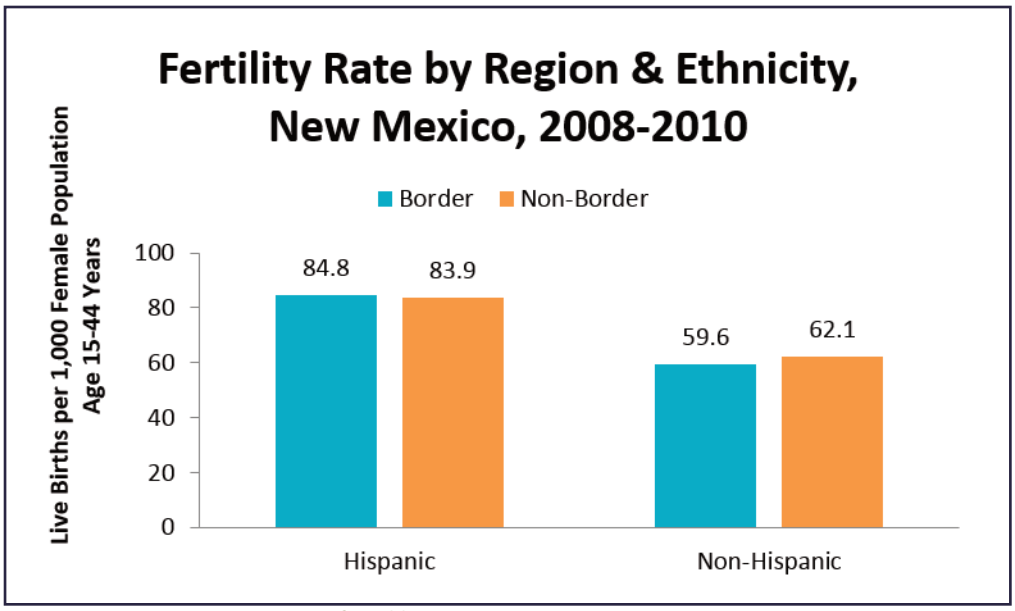
FERTILITY RATES

In 2010, the previous-year national fertility rate was 60.0 (USCB F, 2013). As shown below, the fertility rate in both the Border and Non-Border regions of New Mexico is high compared to the national rate.



Source: New Mexico Department of Health

As shown below, when fertility rates are disaggregated by ethnicity as well as region, Hispanics have a higher fertility rate than Non-Hispanics.

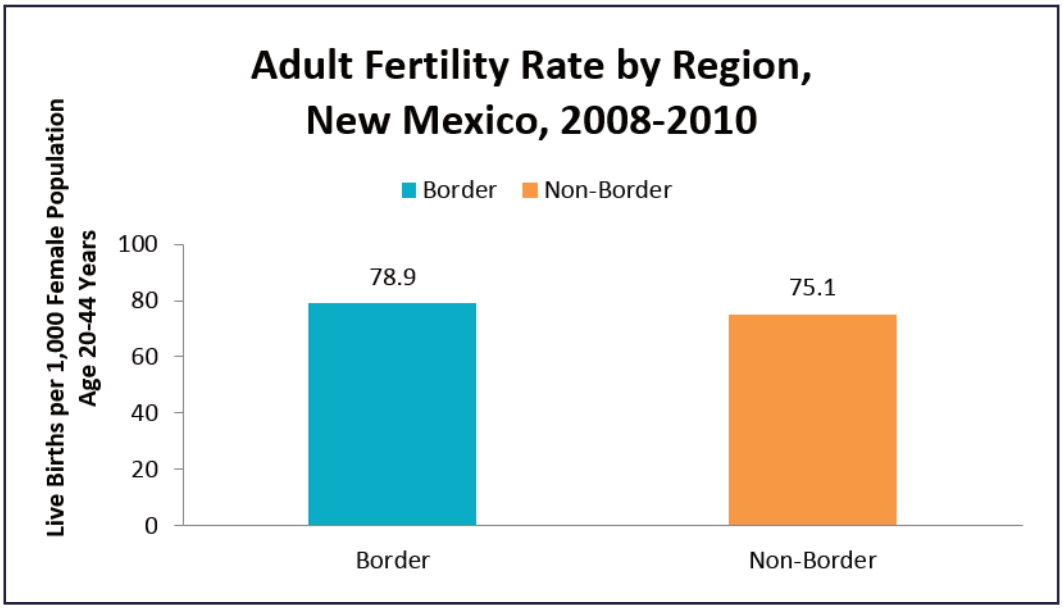


Source: New Mexico Department of Health

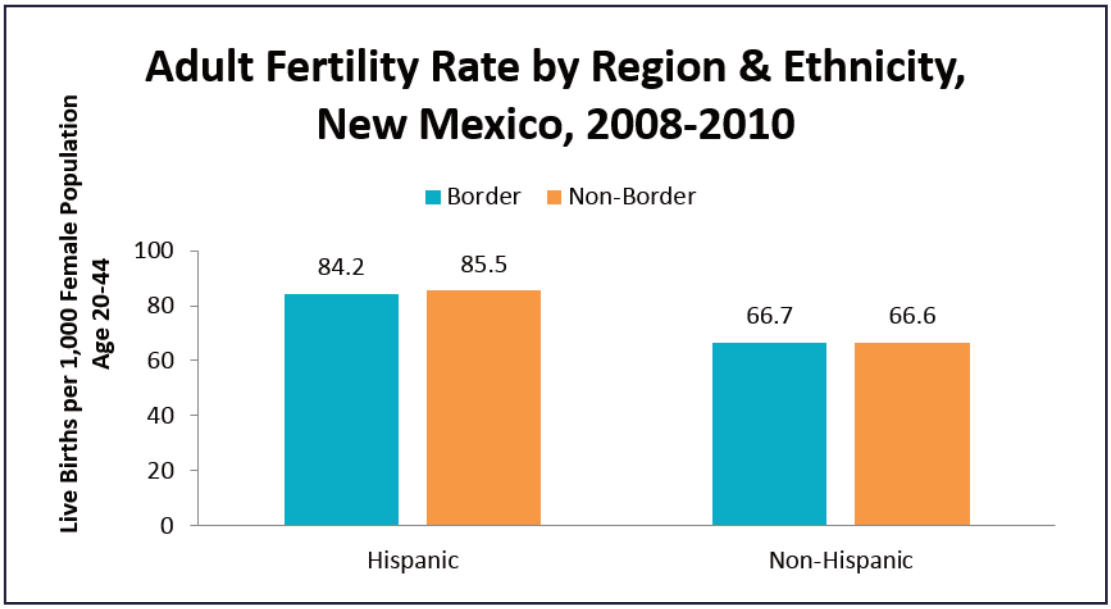
The chart above indicates that when fertility rates are disaggregated by both region and ethnicity, rates are nearly identical by region but not by ethnicity.

Adult Fertility Rates

The following charts present the 2008-2010 fertility rates for adult females in New Mexico aged 20-44 years.



Source: New Mexico Department of Health



Source: New Mexico Department of Health

Summary Regarding Fertility Rates

The above charts show that in New Mexico, 2008-2010 adult fertility rates by region and by ethnicity are very similar to overall fertility rates that include both adults and teens. In summary, 2008-2010 fertility rates for New Mexico females age 15-44 years vary primarily by ethnicity, rather than by region. Hispanic females in New Mexico have a much higher fertility rate than Non-Hispanics in the state. The 2008-2010 fertility rate for Hispanic females in New Mexico is much higher than the national fertility rate for 2010 (USCB F, 2013). These patterns are especially pronounced when fertility rates are disaggregated by both region and ethnicity.

TEENS AND FERTILITY

The above charts show that in New Mexico, 2008-2010 adult fertility rates by region and by ethnicity are very similar to overall fertility rates that include both adults and teens. In summary, 2008-2010 fertility rates for New Mexico females age 15-44 years vary primarily by ethnicity, rather than by region. Hispanic females in New Mexico have a much higher fertility rate than Non-Hispanics in the state. The 2008-2010 fertility rate for Hispanic females in New Mexico is much higher than the national fertility rate for 2010 (USCB F, 2013). These patterns are especially pronounced when fertility rates are disaggregated by both region and ethnicity.

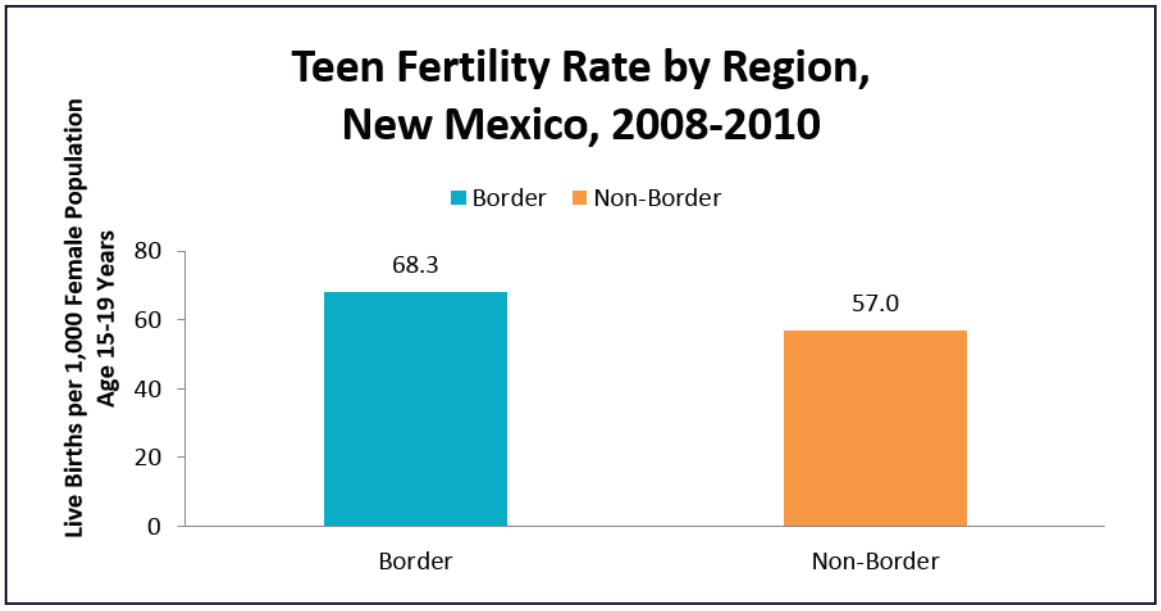
Teen Pregnancy Rate

The most recent data available for national and New Mexico teen pregnancy trends comes from a March 2013 publication by the Guttmacher Institute. This report presents 2008 data about female 15-19 years of age. According to the Guttmacher Institute (2013), the national teen pregnancy rate was 68 per 1,000 teen females. Among U.S. states, New Mexico's teen pregnancy rate was the highest, at 93.

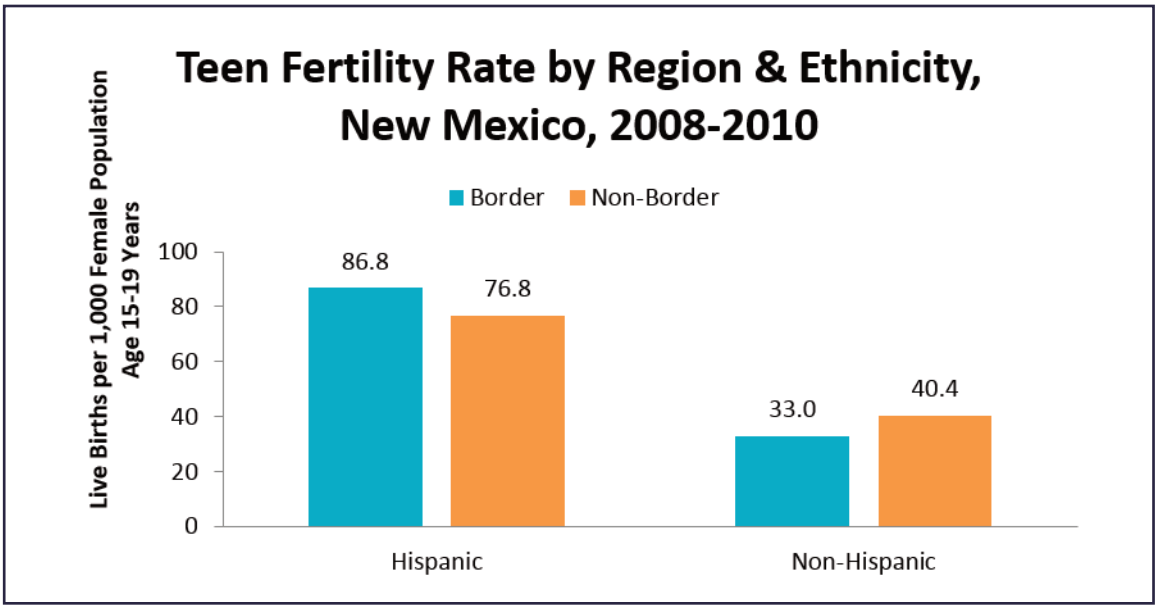
Teen Fertility Rate

The Guttmacher institute (2013) reports that New Mexico teen fertility rate ranks 2nd among states at 61 births per 1,000 teen females. According to the U.S. Census Bureau, the national teen fertility rate is 29.3 (USCB F, 2013).

New Mexico state data indicates similar fertility rates for New Mexico females aged 15-19 years. According to New Mexico Department of Health (2013), the statewide 2008-2010 fertility rate for New Mexico females ages 15-19 years old is 58.6 births per 1,000 females in that population. The following charts show differences in teen fertility rates by region and
by ethnicity.



Source: New Mexico Department of Health



Source: New Mexico Department of Health

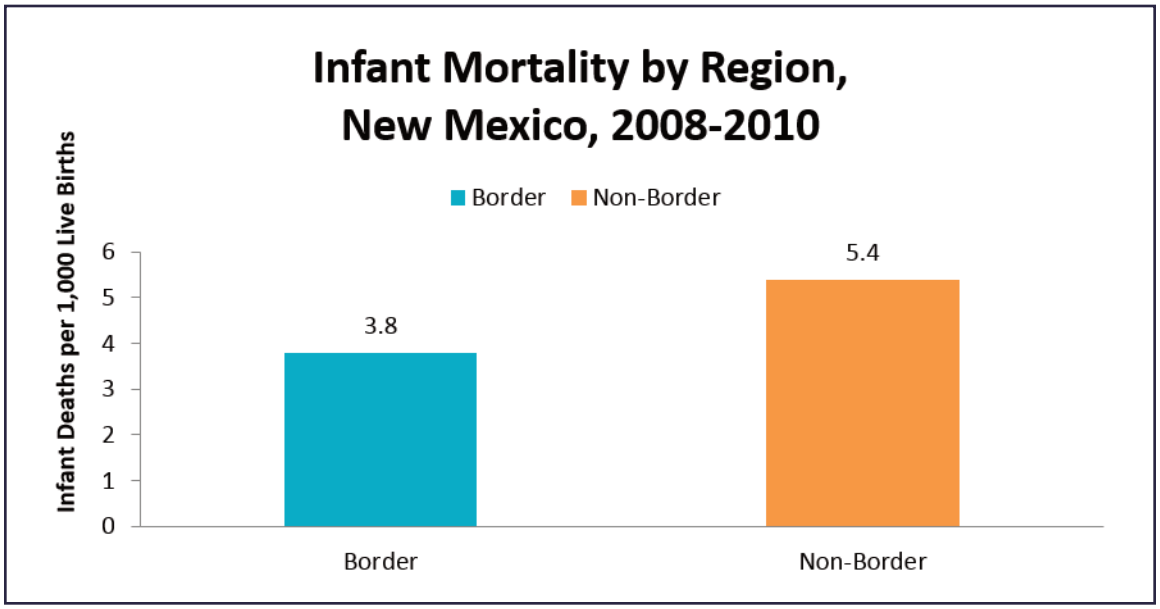
The teen fertility rate is much higher for the Border region than for the Non-Border region. When disaggregated by both region and ethnicity, teen fertility rates in New Mexico contrast starkly. The teen fertility rate for Hispanics in the Border region exceeds adult, other teen, and overall fertility rates for New Mexico (New Mexico Department of Health, 2013). The teen fertility rate among Border Non-Hispanics is also close to the overall fertility rate for that region (New Mexico Department of Health, 2013).

Summary Regarding Teen Fertility Rates

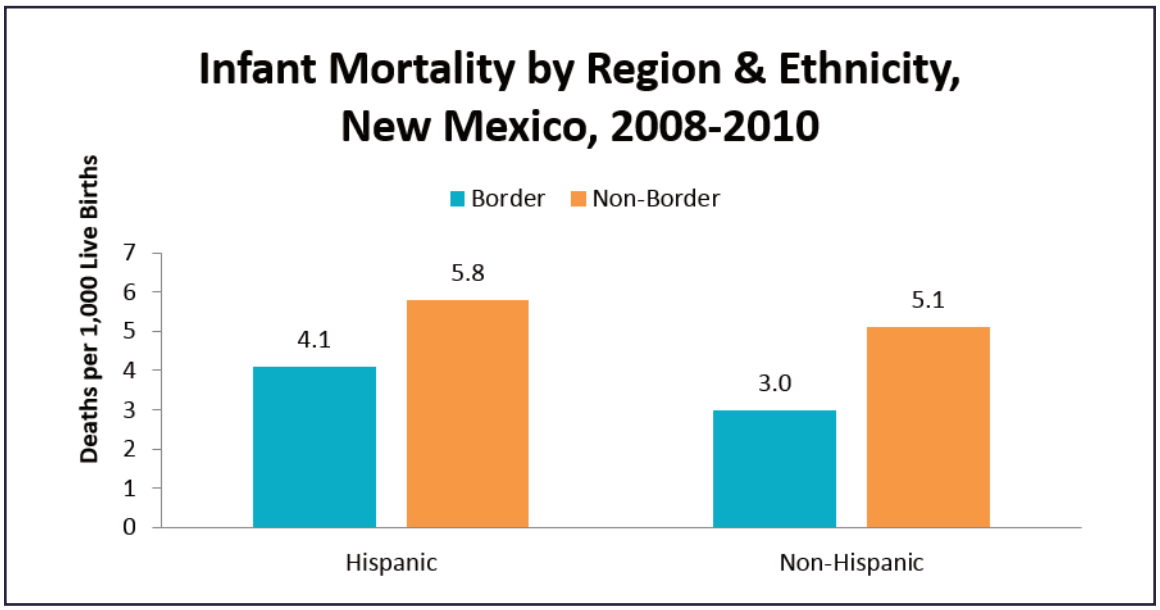
Teen fertility rates among Hispanics are high within both the Border and Non-Border regions of New Mexico. Teen fertility rates among Hispanics in New Mexico are high compared to other state and national fertility rates (USCB F, 2013; Guttmacher, 2013). Fertility rates for Non-Hispanic teens are markedly lower than other New Mexico fertility rates. The Non-Hispanic teen fertility rate within the Border region is the lowest of all fertility rates within the state; it is approximately one-third that of the Hispanic teen fertility rate for the same region. The Non-Hispanic teen fertility rate in the Non-Border region is approximately one-half that of the Hispanic teen fertility rate for the Non-Border region.

INFANT MORTALITY

Infant mortality, the death of children less than one year of age, is an important health indicator that can serve to highlight differences in newborn health, post-natal care, and caretaker risk factors. The statistics in the following charts reflect the death period method of calculating infant mortality.



Source: New Mexico Department of Health



Source: New Mexico Department of Health

Summary Regarding Infant Mortality

As shown, the infant mortality rate for 2008-2010 is lower in the Border region of New Mexico compared to the Non-Border region. This is due to lower infant mortality rates among both Hispanics and Non-Hispanics in the Border region, compared to higher infant mortality rates among both Hispanics and Non-Hispanics in the Non-Border region. Infant mortality rates are lower among Non-Hispanics of both regions, compared to their regional Hispanic counterparts.

Recent national data indicate the national infant mortality rate was 6.14 in 2010 (Mathews & MacDorman, 2014). Thus, despite some variation, the 2008-2010 infant mortality rates within the New Mexico Border and Non-Border regions are lower than the national rate and remain so when disaggregated by ethnicity (MMWR, 2014).

BIRTH WEIGHT

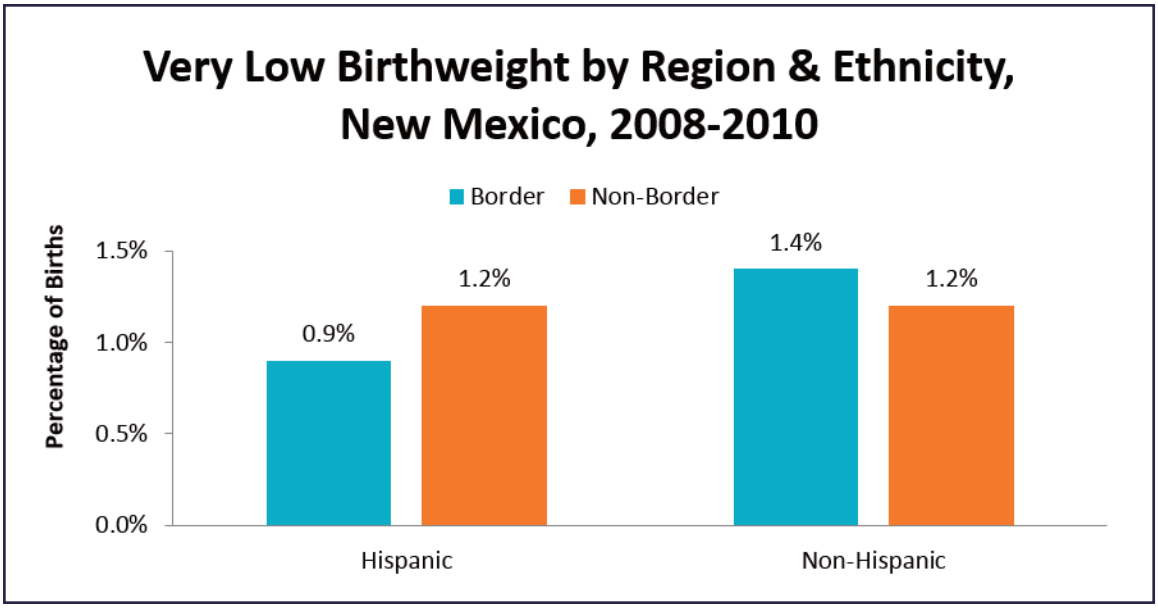
Newborn weight (birthweight) is important because it can indicate risk for complications at birth or later in life. Birthweight may also be correlated with certain maternal risk factors and behaviors. The New Mexico Department of Health categorizes and defines birthweight as follows:

- Very low: < 1500 grams
- Low: 1500-2499 grams
- Normal: 2500-3999 grams
- High: ≥4000 grams

Data for 2008-2010 indicate that 86.5% of infants in both the Border and Non-Border regions of New Mexico had a normal birthweight. Similarly, by ethnicity, 86.7% of Hispanic infants and 85.5% of Non-Hispanic infants born in New Mexico had a normal birthweight. The following charts provide more detailed information about very low, low, and high birthweight infants born in New Mexico.

Very Low Birthweight

As indicated below, only a very small percentage of infants born in New Mexico from 2008-2010 were of very low birthweight.

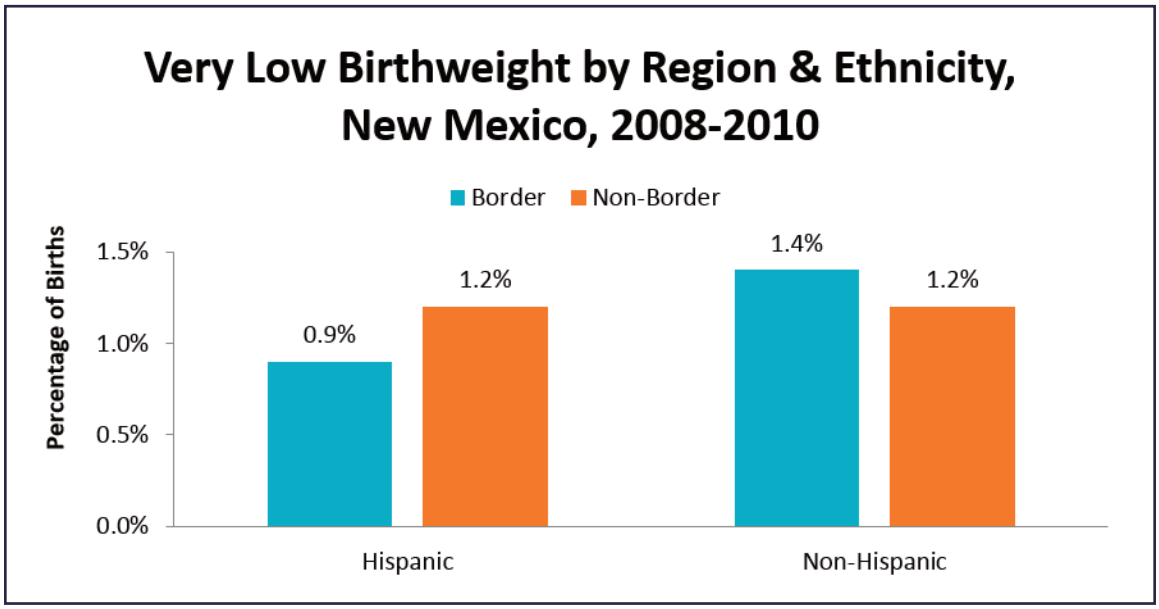


Source: New Mexico Department of Health

As indicated, during 2008-2010 the percentage of very low birthweight infants born in the Non-Border region is identical (1.2%) for Hispanic and Non-Hispanic mothers (1.2%), while the percentage of very low birthweight infants born to Hispanic mothers in the Non-Border region is 0.5 percentage points higher compared to the percentage of very low birthweight infants born to Hispanic mothers in the Border region.

Low Birthweight

Low birthweight babies comprise the largest percent of abnormal weight newborns in New Mexico among both Hispanics and Non-Hispanics (New Mexico Department of Health, 2013). The following chart disaggregates low birthweight infants by region and maternal ethnicity.

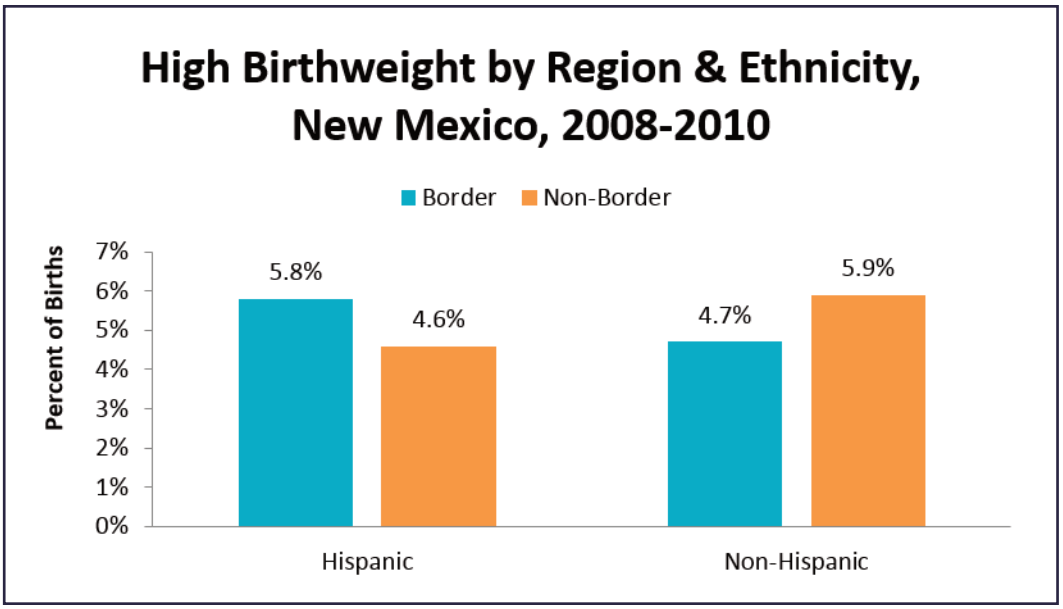


Source: New Mexico Department of Health

As shown, the percentages of birthweight infants born to mothers in the Non-Border region are very similar for Hispanic and Non-Hispanic mothers. However, in the Border region, a higher percentage of infants born to Non-Hispanic mothers were low birthweight, compared to infants born to Hispanic mothers in the same region.

High Birthweight

High birthweight infants comprise the second largest group of abnormal birthweight infants born in New Mexico. Variations in percentages of high birthweight infants as disaggregated by region and maternal ethnicity are shown below.



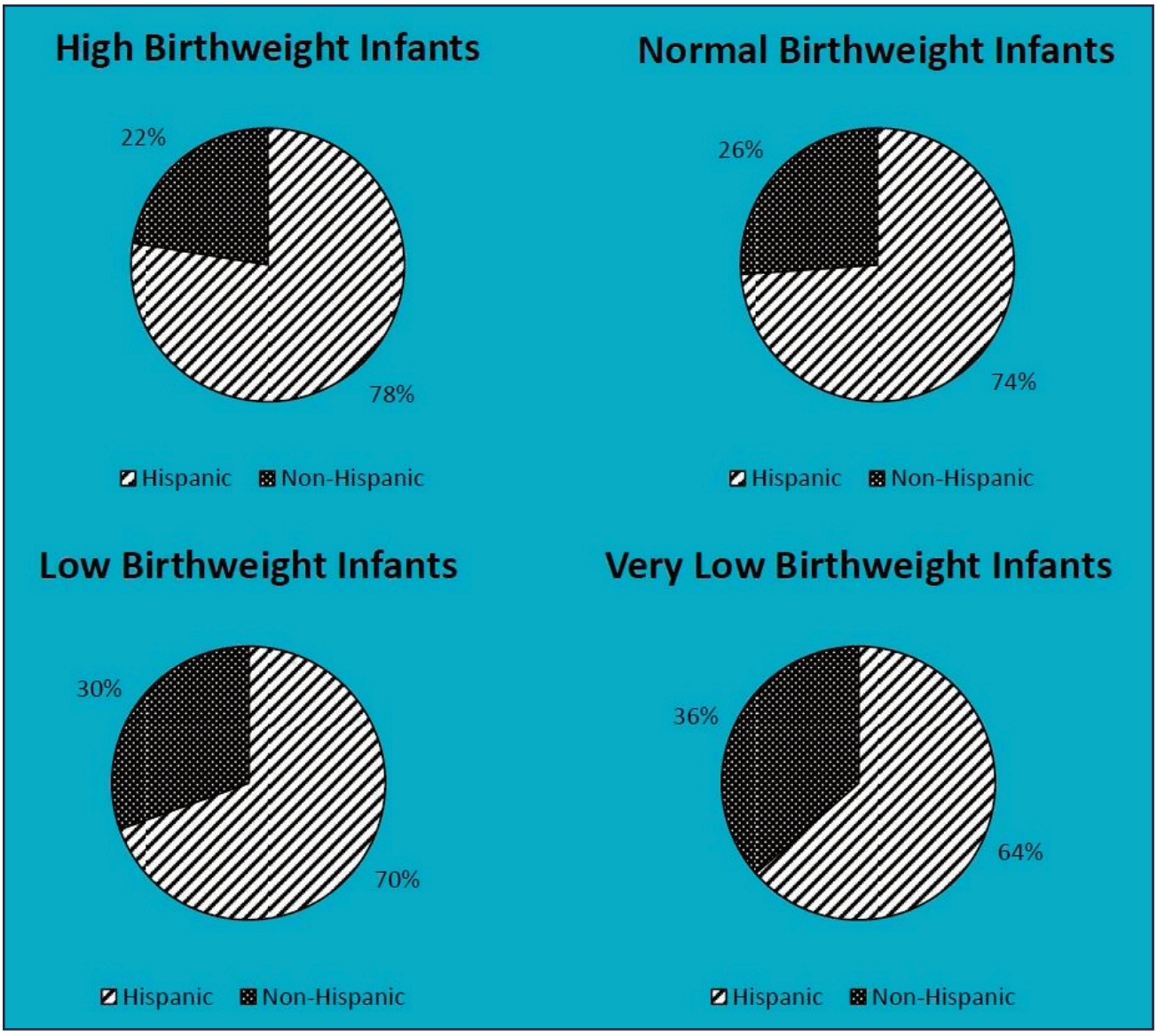
Source: New Mexico Department of Health

A greater percentage of babies born to Hispanic mothers in the Border region are of high birthweight, compared to babies born to Non-Hispanic mothers in the same region. Conversely, a greater percentage of babies born to Non-Hispanic mothers in the Non-Border region are of high birthweight compared to their Hispanic counterparts in the region.

Birthweight by Regional Population

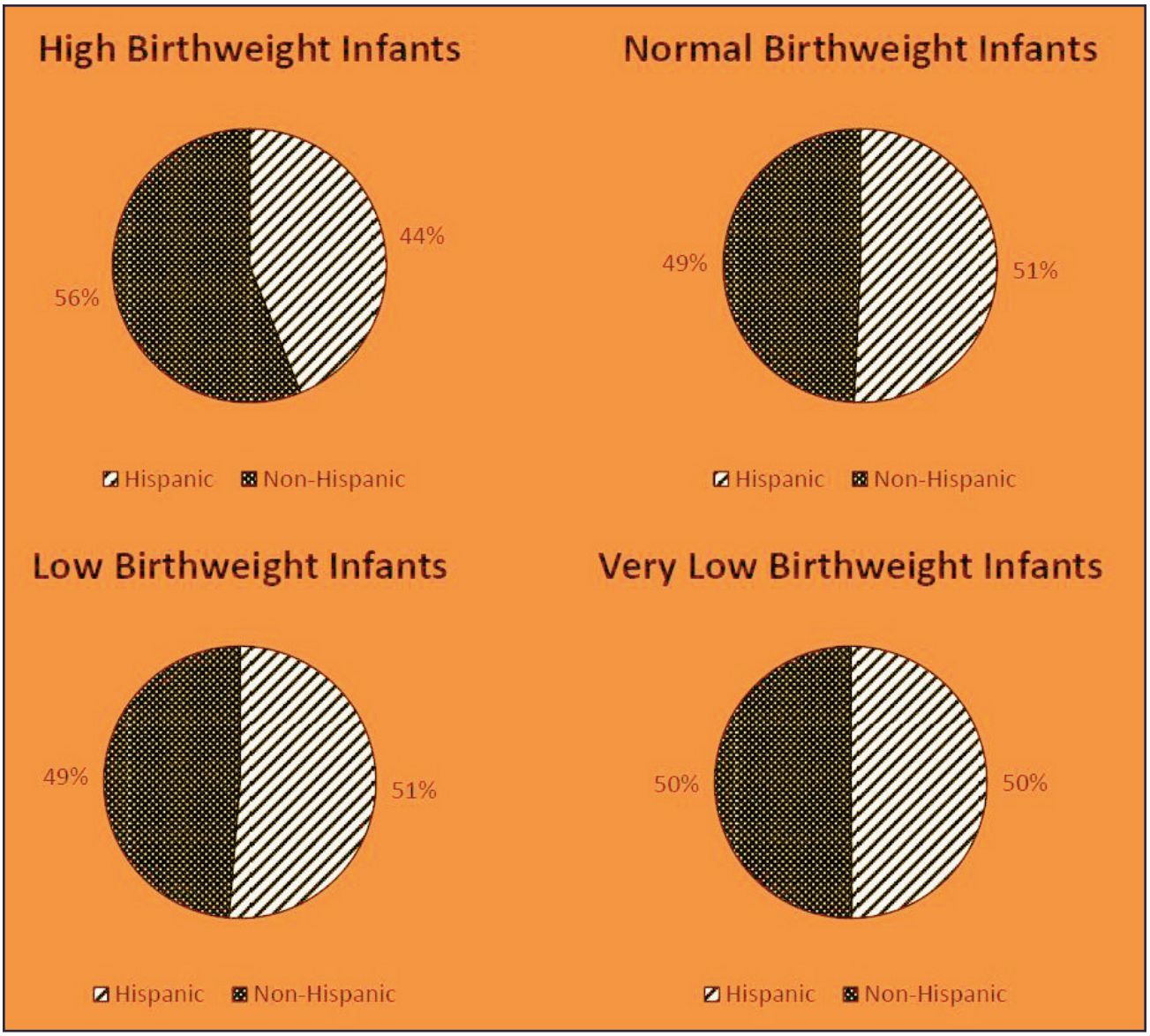
In addition to considering percentages of birthweight by ethnicity, it is also worthwhile to consider birthweight categorically by region and ethnicity. The following pie charts indicate the categorical percentages of births by weight and ethnicity, divided into regional comparisons. See Appendix A for separate individual versions of the following pie charts.

BIRTHWEIGHT BY ETHNICITY, BORDER REGION, NEW MEXICO, 2008-2010



Source: New Mexico Department of Health

BIRTHWEIGHT BY ETHNICITY, NON-BORDER REGION, NEW MEXICO, 2008-2010



Source: New Mexico Department of Health

Summary Regarding Birthweight Data

Interactions between ethnicity, region, and birthweight outcomes within the Border compared to the Non-Border region of New Mexico are complex. Based on the regional percentages of births by ethnicity (73.7% Hispanic and 26.3% Non-Hispanic in the Border region; 50.4% Hispanic and 49.6% Non-Hispanic in the Non-Border region), one would expect to see the same within-birthweight category percentages by ethnicity.

However, in the Border region, Hispanic infants are over-represented in the high birthweight category (78%), and under-represented in the low (70%) and very low (64%) birthweight categories. Border Non-Hispanics are over-represented in the low (30%) and very low birthweight (36%) categories, and under-represented in the high birthweight category (22%).

In the Non-Border region, most birthweight categories are close to what would be expected based on regional percentages of births by ethnicity, with the exception of high birthweight infants. Non-Hispanic infants are over-represented in this category (56%), while Hispanics are under-represented (44%).

Hispanic infants account for a disproportionately high percentage of high birthweight infants in the Border region, while Non-Hispanic infants account for a disproportionately high percentage of high birthweight infants in the Non-Border region. Furthermore, in the Border region, Non-Hispanics account for disproportionately high percentages of low and very low birthweight infants.

MATERNAL HEALTH AND BEHAVIORAL FACTORS

Preconception and pregnancy factors can influence maternal and infant health. Examples of such factors include pregnancy intention, timing, and planning, preconception weight issues, weight gain during pregnancy, and prenatal care. The New Mexico Pregnancy Risk Assessment and Monitoring System (PRAMS), as conducted by the New Mexico Department of Health, collects and reports data regarding these factors. In terms of ethnicity and birth years pooled, PRAMS data from the 2012 report does not align directly with other New Mexico Department of Health data used throughout this section and overall report; PRAMS data is reported for birth years 2009-2010 and only allows for comparisons between Hispanics and Non-Hispanic Whites. This and other data is derived from comparisons of mothers who delivered live infants for the years indicated by primary vertical axes termed "mothers" (New Mexico Department of Health, 2013).

Maternal Pre-Pregnancy Weight and Pregnancy Weight Gain

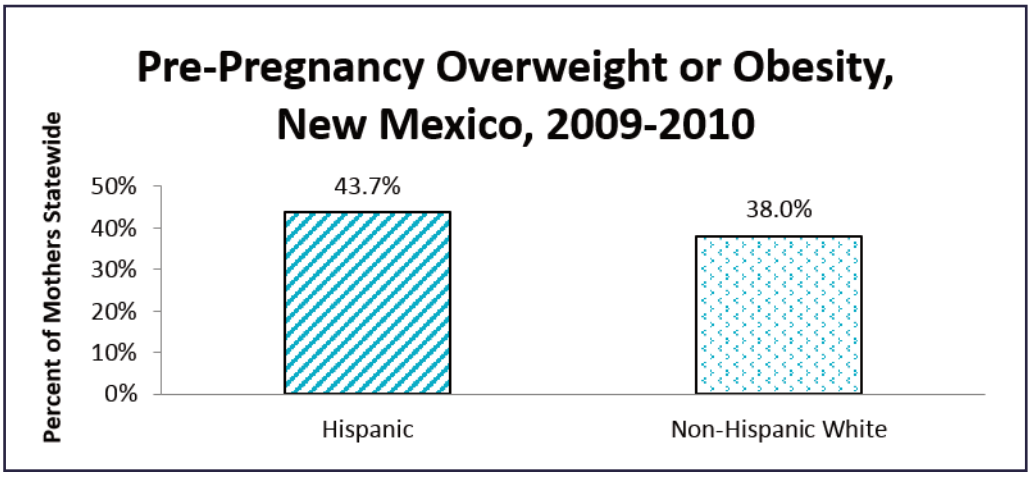
The CDC (2012d) and the infant health organization, March of Dimes (2013), state that overweight or obesity before and/or during pregnancy is a risk factor for complications for both mothers and infants. The March of Dimes (2013) asserts that risk of pregnancy and delivery complications increases with Body Mass Index (BMI). According to the March of Dimes (2013), the increased health risks associated with maternal overweight and obesity are extensive, potentially long-term, and can affect either or both mother and infant. Examples include miscarriage, stillbirth, preeclampsia, gestational diabetes, large infant size for gestational age, medically necessary cesarean section, preterm birth, neural tube defects, infant injury during delivery, infant risk for childhood obesity, and infant mortality (March of Dimes, 2013).

Although weight gain during pregnancy is normal, there are limits as to how much is healthy. According to the Mayo Clinic (2012), such limits depend upon pre-pregnancy BMI and concordant classification as underweight, normal weight, overweight, or obese. The Mayo Clinic (2012) provides these guidelines for weight gain during pregnancy:

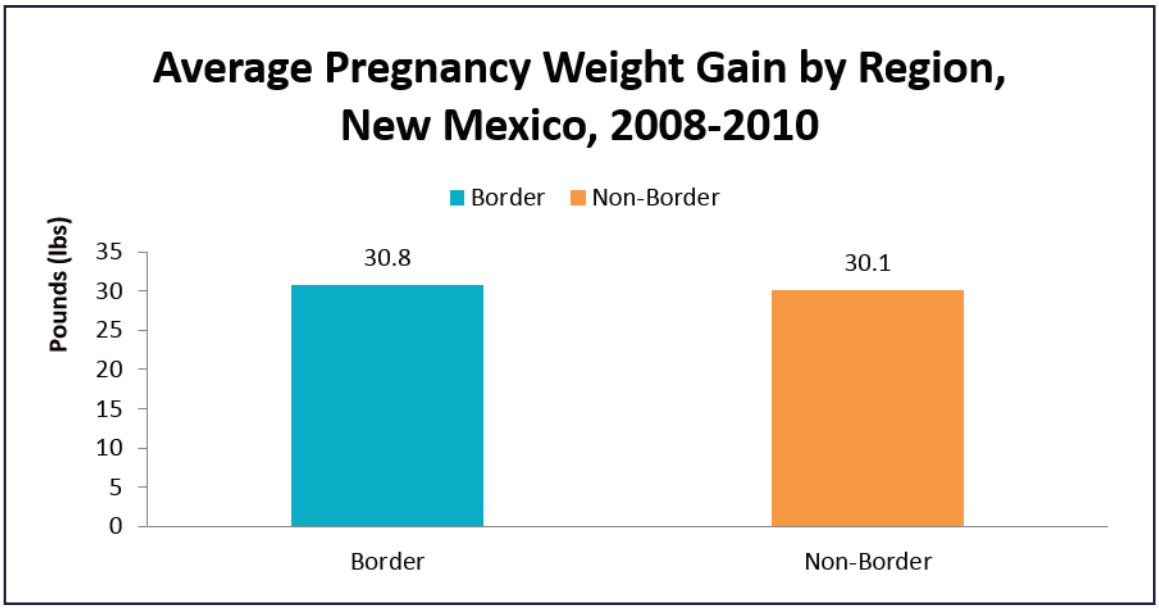
MAYO CLINIC (2012) PREGNANCY WEIGHT GAIN GUIDELINES

PRE-PREGNANCY WEIGHT	RECOMMENDED WEIGHT GAIN
Underweight (BMI less than 18.5)	28 to 40 pounds (about 13 to 18 kilograms)
Normal weight (BMI 18.5 to 24.9)	25 to 35 pounds (about 11 to 16 kilograms)
Overweight (BMI 25 to 29.9)	15 to 25 pounds (about 7 to 11 kilograms)
Obese (BMI 30 or more)	11 to 20 pounds (about 5 to 9 kilograms)

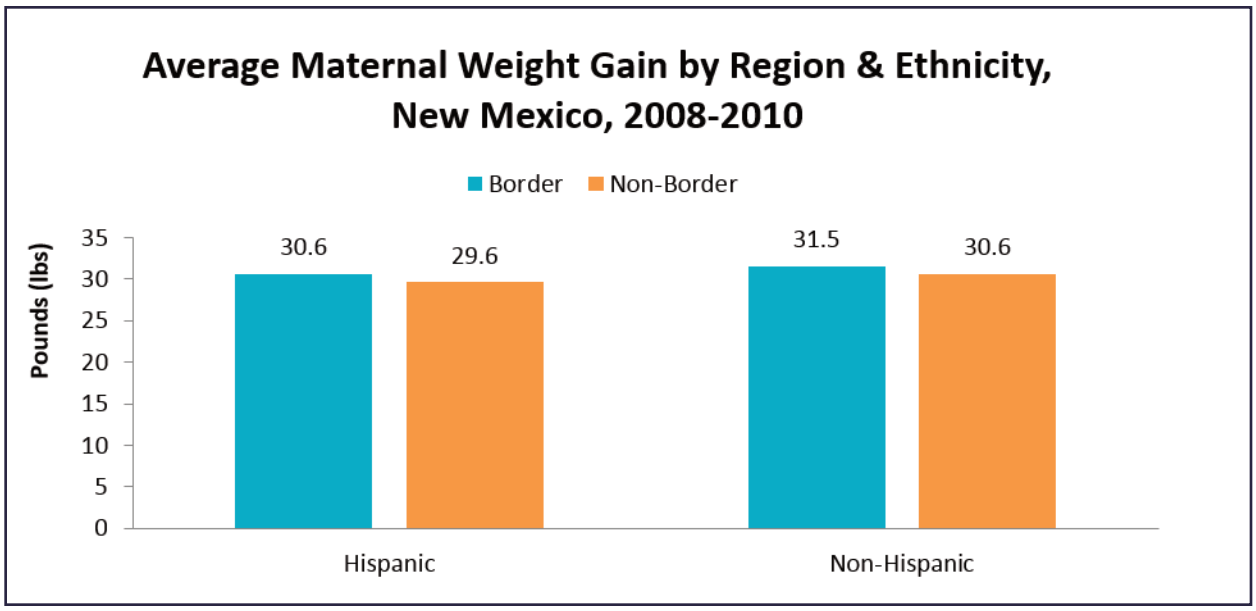
New Mexico Department of Health provides data on maternal pre-pregnancy or obesity among females who delivered live infants in New Mexico during 2009-2010 as well as about average weight gain during pregnancy among females who delivered live, singleton infants in New Mexico during 2008-2010. These statistics are presented in the following charts.



Source: New Mexico Department of Health



Source: New Mexico Department of Health



Source: New Mexico Department of Health

The charts show that compared to Non-Hispanic Whites, a higher percentage of Hispanic mothers are overweight or obese prior to becoming pregnant; however, average maternal weight gain by region and ethnicity varies by less than one pound. On average Hispanic and Non-Hispanic females in the Border and Non-Border regions gain approximately 30 pounds during their pregnancies (New Mexico Department of Health, 2013).

Summary Regarding Pregnancy and Weight

If, as the Mayo Clinic (2013) suggests, females who are obese or overweight prior to pregnancy should only gain a maximum of 20 or 25 pounds, respectively, there may be some reason for concern in New Mexico. The data indicate that over 43% of Hispanic females statewide are overweight or obese prior to pregnancy, meaning that the average weight gain of 30 pounds regardless or region or ethnicity may be in excess of medical recommendations for a notable proportion of Hispanic mothers (New Mexico Department of Health, 2013).

Pregnancy Planning and Preparation

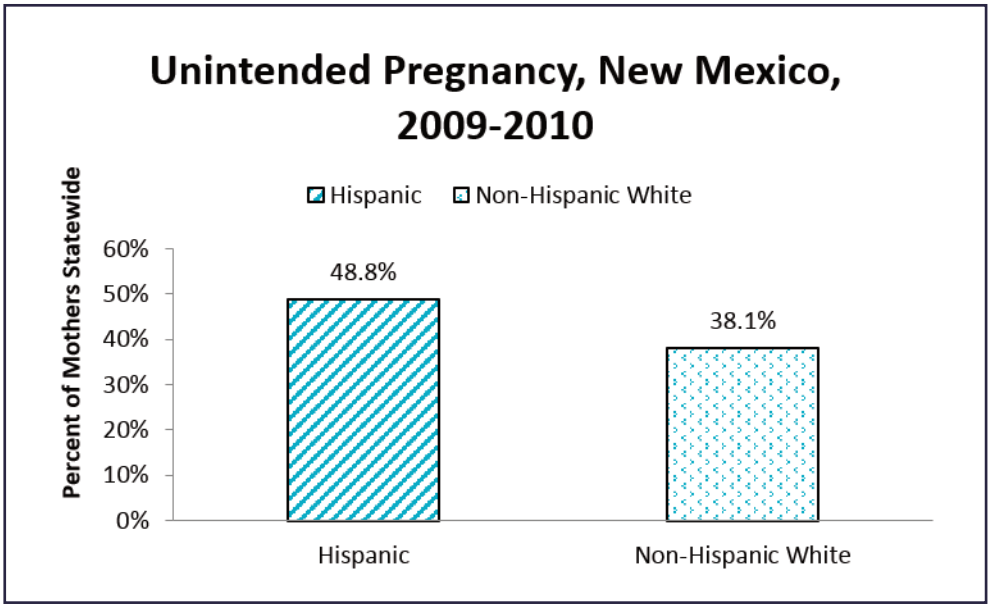
Both the CDC (2012d) and March of Dimes (2013) strongly emphasize the importance of consciously planning and preparing for pregnancy, including prompt, consistent, and comprehensive prenatal care. This makes it possible to avoid or mitigate the consequences of certain behavioral and health risk factors, for example, maternal medications, overweight/obesity, smoking, alcohol use, nutrition, and pregnancy and delivery complications for mothers and infants (CDC, 2012d; March of Dimes, 2013).

Women who do not intend to become pregnant may engage in risk factors before they know they are pregnant, ranging from alcohol use to poor nutrition to delayed prenatal care. Unintended pregnancies disrupt family planning efforts, such as desired intervals between births. Short, disrupted, undesired, or otherwise inopportune intervals between births can negatively impact maternal and infant health; unintended pregnancies may result in birth intervals that compound social and economic problems and barriers.

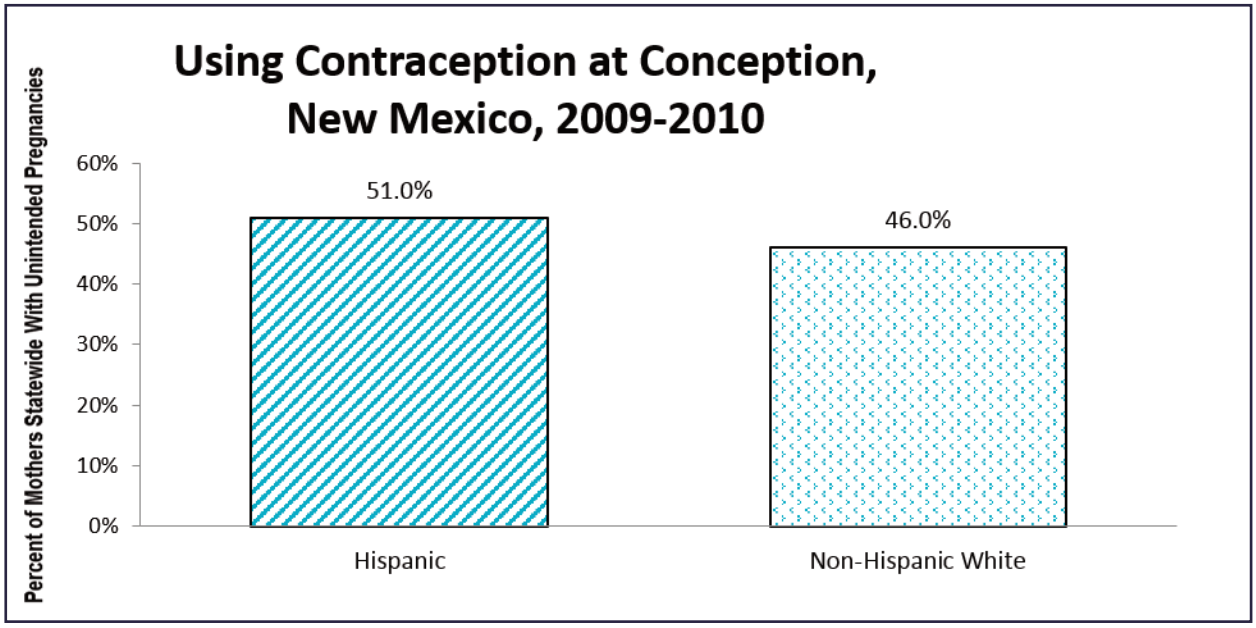
Contraception provides many reliable options for facilitating pregnancy planning (CDC, 2012d); therefore, data regarding contraception use at time of conception among females who did not intend to become pregnant is an important indicator for several reasons. Women who conceive unintended pregnancies while using contraception may suggest poor compliance with the contraceptive method or possibly method failure. Non-use of contraception at the time of unintended conception may indicate social, economic, geographic, or other barriers to accessing reliable methods of birth control and/or the need for health education about contraception, family planning and unintended pregnancy.

Regardless of whether a pregnancy is intended or unintended, it is vital that females who intend to continue their pregnancies receive quality prenatal care as soon as possible and throughout the rest of their pregnancies. However, low socioeconomic status, under education about health services and systems, and other factors may unduly present barriers to females seeking prenatal care, especially if a pregnancy is unintended. For the New Mexico Department of Health, the adequacy of prenatal care is gauged based on the Kotelchuck Care criteria. Per this system, the desired categorization of a mother's prenatal care is "Adequate or Adequate-Plus," thus, indicating that prenatal care that is excluded from this characterization is less than adequate. Less than adequate prenatal care is defined as such in this section.

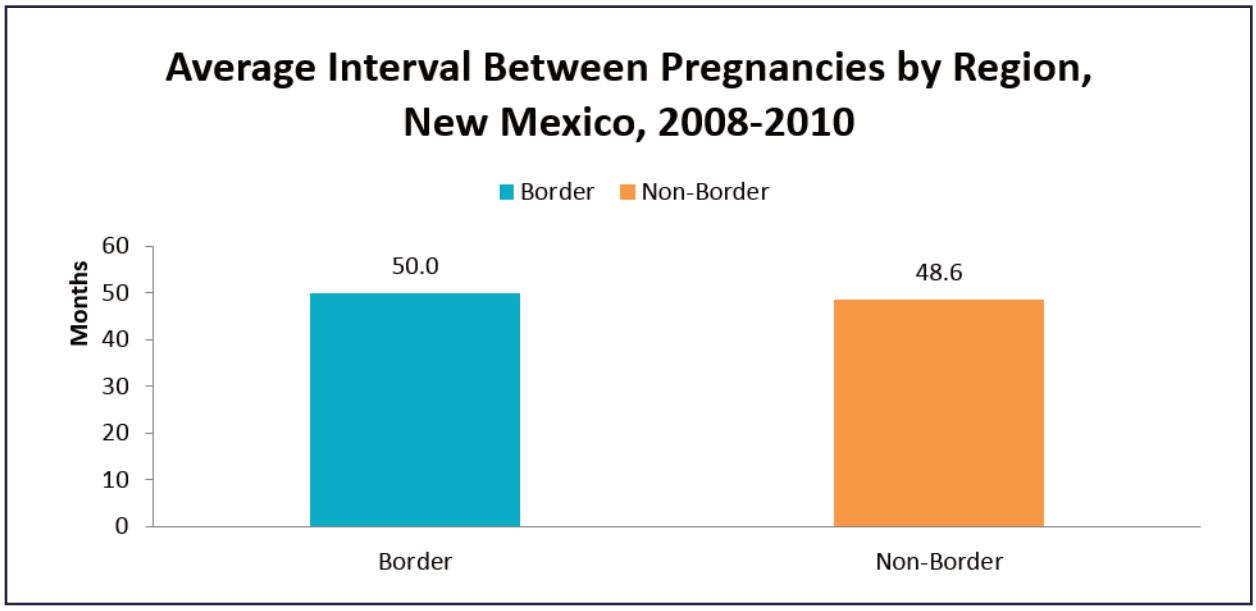
Therefore, looking at unintended pregnancy rates among females who carry to term, rates of contraception use among females who unintentionally conceived, rates of less than adequate prenatal care, and average intervals between pregnancies go in tandem with one another to help elucidate certain aspects of maternal and infant health risks. The following charts include data that was available, data comparing Hispanics and Non-Hispanic Whites statewide, as well as data comparing the Border and Non-Border regions as well as Hispanic and Non-Hispanic mothers for 2008-2010.



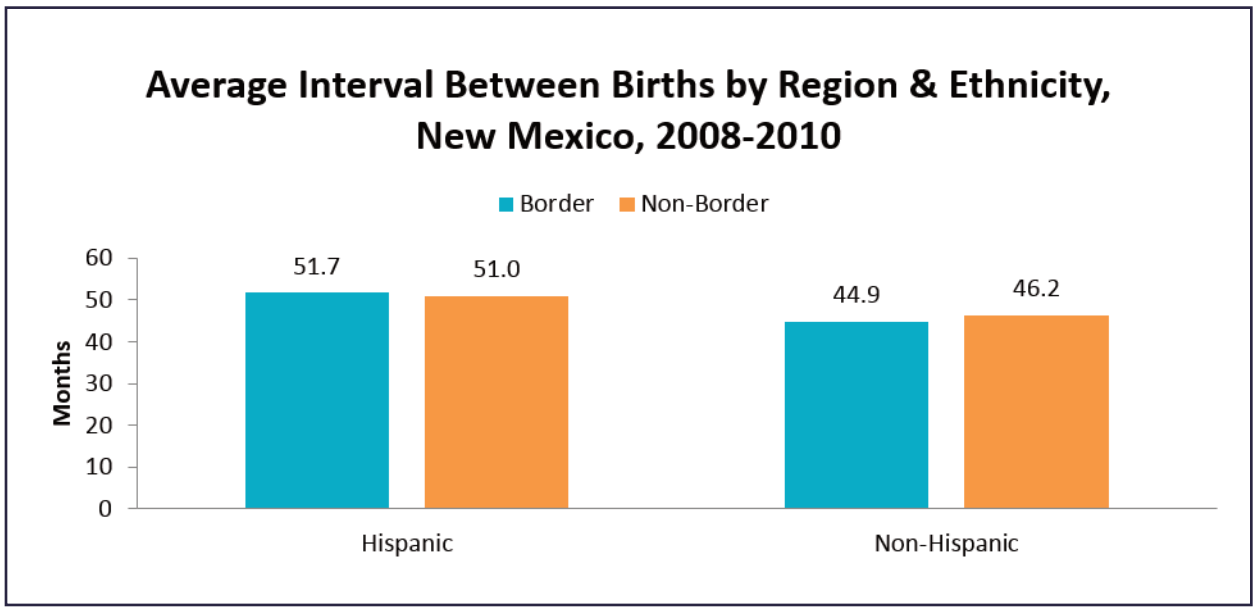
Source: New Mexico Department of Health



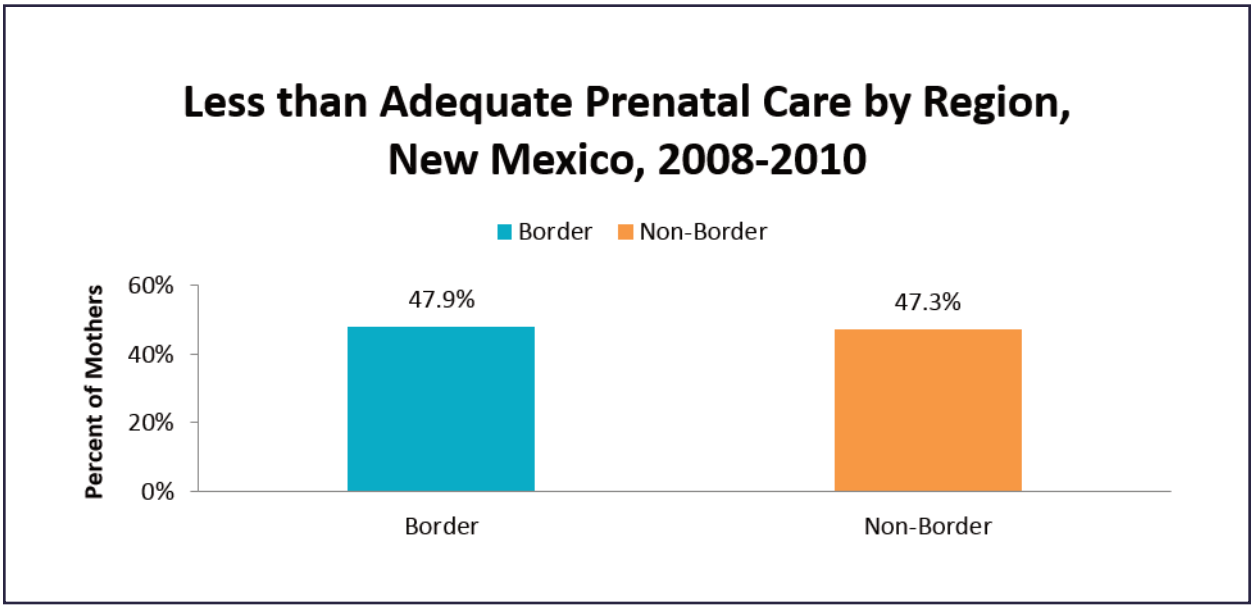
Source: New Mexico Department of Health



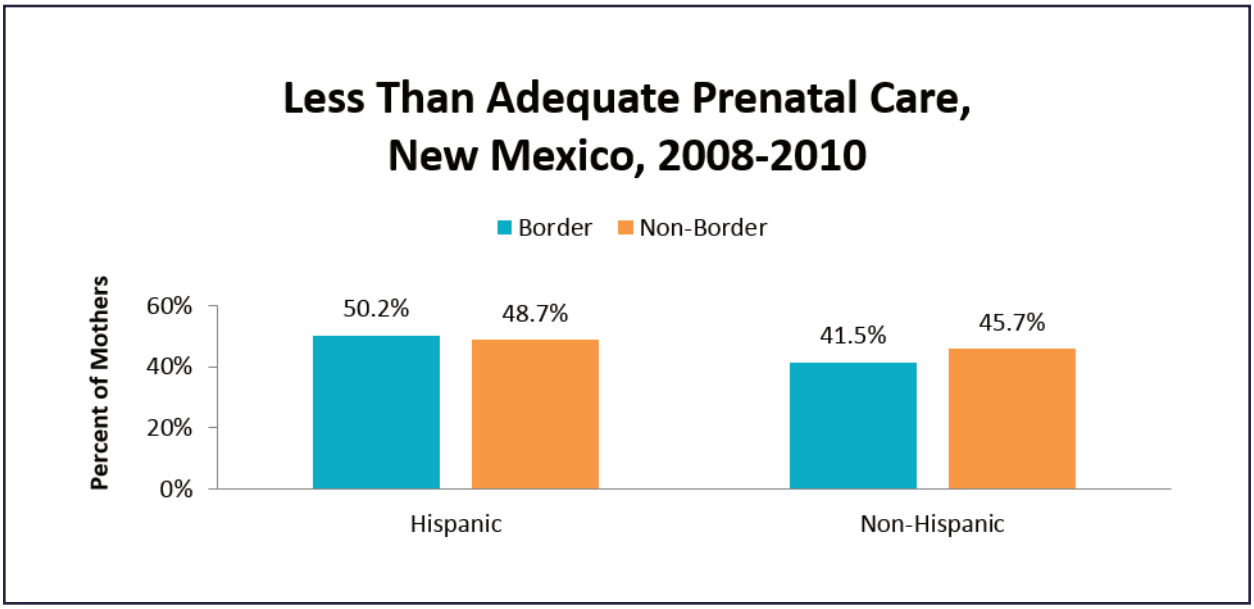
Source: New Mexico Department of Health



Source: New Mexico Department of Health



Source: New Mexico Department of Health



Source: New Mexico Department of Health

Summary Regarding Pregnancy Planning and Preparation

Nearly half of 2009-2010 births among Hispanic New Mexico mothers resulted from unintended pregnancies. The percentage of such births among Non-Hispanic White mothers is noticeably lower. Approximately half of Hispanic mothers reporting unintended pregnancies also reported using contraception at the time they conceived. Non-Hispanic White mothers with unintended pregnancies reported an even lower rate of contraception use (New Mexico Department of Health, 2013). This suggests a high need for increased promotion of, education about, and access to contraception throughout New Mexico.

Despite the high fertility rates among Hispanic females in New Mexico and the frequency of unintended pregnancies, the interval between births among Hispanic mothers is higher for both regions of the state, compared to Non-Hispanic mothers. Among Hispanic mothers, the interval between births is more than four years for both the Border and Non-Border regions. Among Non-Hispanic mothers, the interval is more than three years but less than four years for both regions. These positive health indicators show that pregnancies among females with parity of two or more do not occur in close succession, regardless of maternal region or ethnicity (New Mexico Department of Health, 2013).

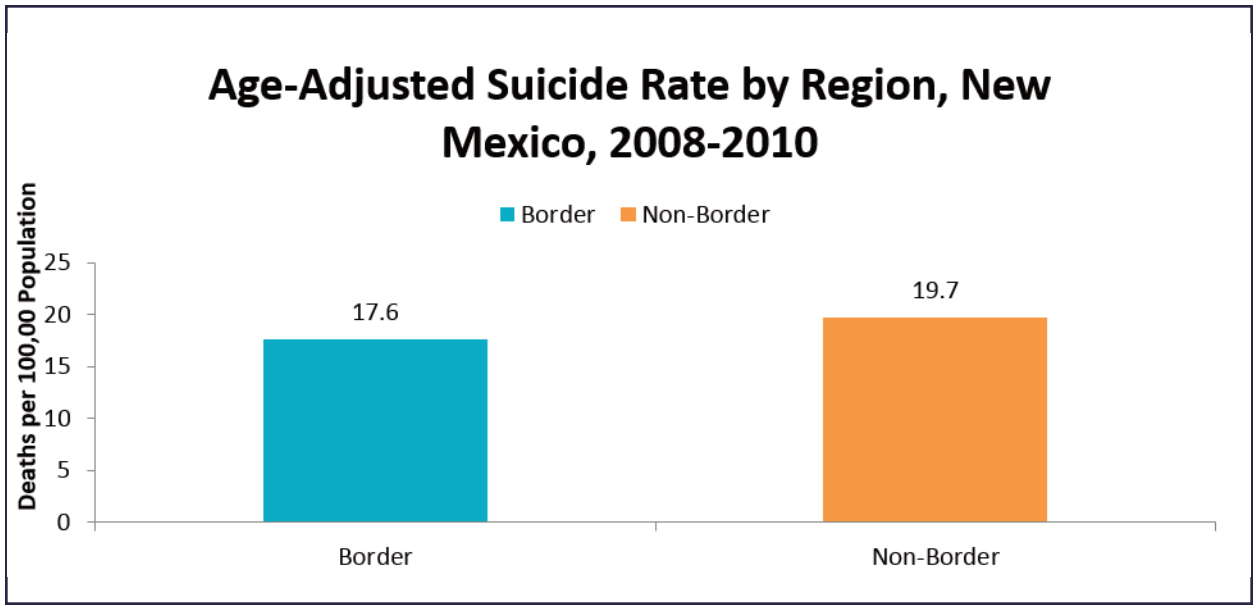
To the contrary, regardless of pregnancy intent, spacing, or precaution, over 40% of all New Mexico mothers receive neither "adequate" nor "adequate-plus" prenatal care, per the Kotelchuck Care Criteria. This would indicate that a number of mothers who deliver babies in New Mexico received subpar prenatal care, putting the mothers and babies at risk of complications or health issues. Receipt of inadequate prenatal care is higher among Hispanic mothers in both the Border and Non-Border regions, though it is highest of all among Hispanic mothers in the Border region (New Mexico Department of Health, 2013). These statistics leave definite room for promotion of, education about, access to, and overall improvement of prenatal care statewide, targeting all New Mexico mothers.

BEHAVIORAL HEALTH

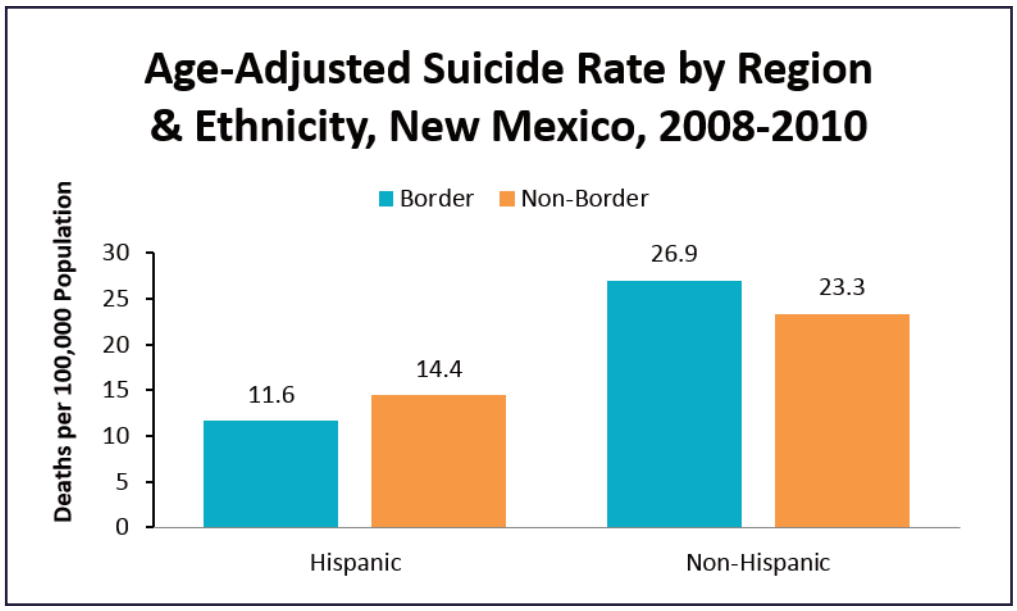
There is a lack of dedicated measures pertinent to evaluating the mental health of the New Mexico population. Most conditions for which statewide prevalence data is collected are related to cause of death. Data from the national Behavioral Risk Factor Surveillance System (BRFSS) related to "feeling good in the last 30 days" is available (New Mexico Department of Health, 2013). This section will include the BRFSS data, drug- and alcohol-related death data, suicide, and homicide data for New Mexico.

SUICIDE

In New Mexico, there are clear and dramatic differences evident in age-adjusted suicide rates by region, sex, and ethnicity.

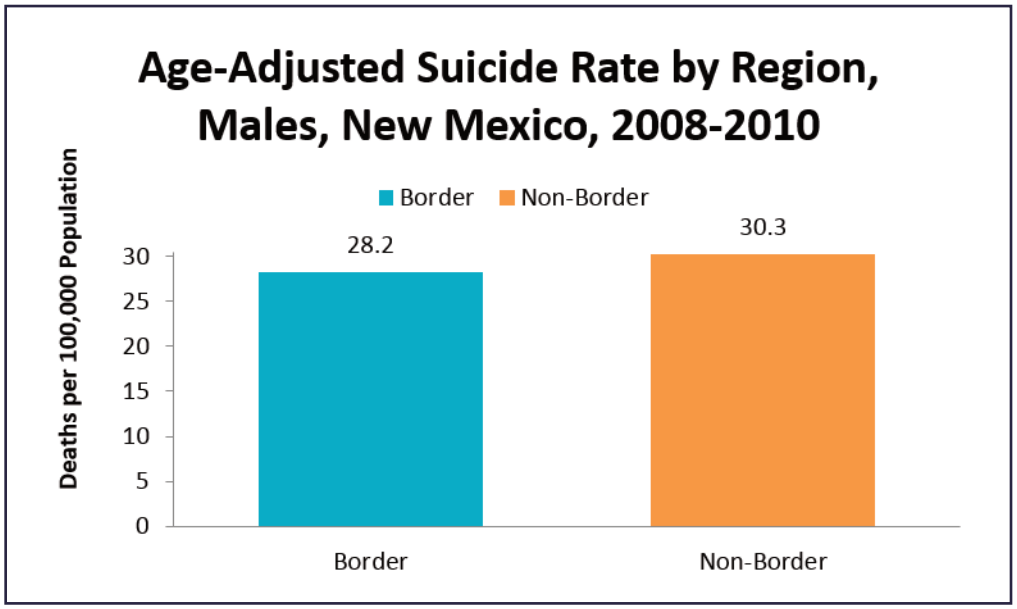


Source: New Mexico Department of Health

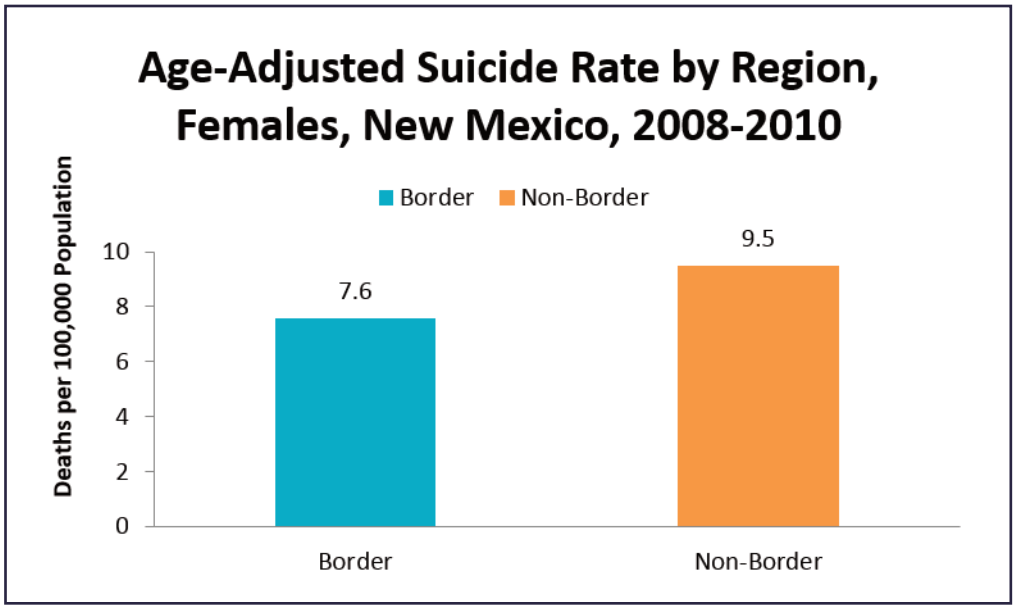


Source: New Mexico Department of Health

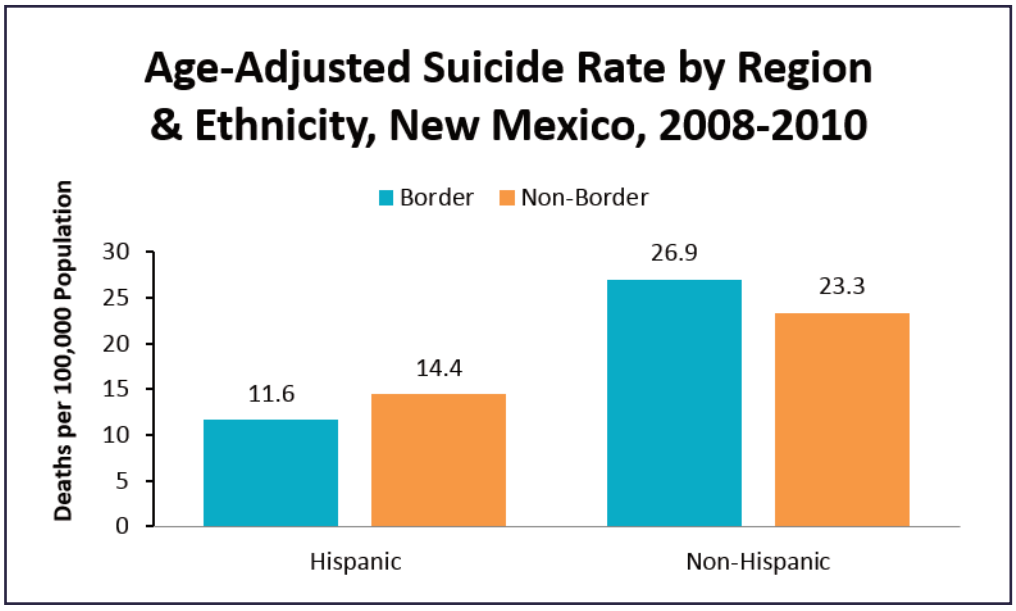
The substantial difference in suicide rates between Hispanics and Non-Hispanics remains when data is disaggregated by region and sex, as well as by region, sex, and ethnicity.



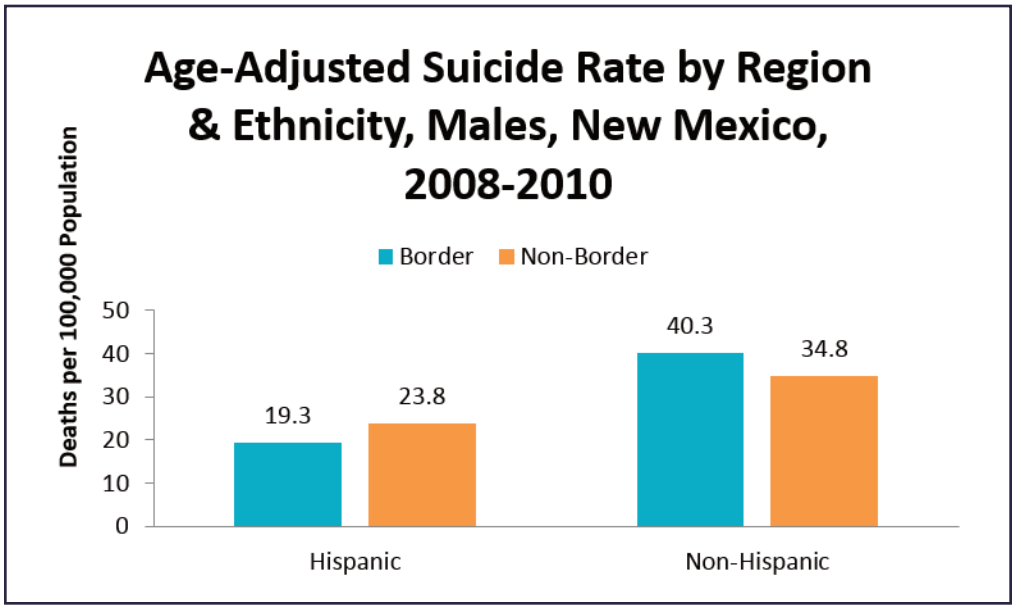
Source: New Mexico Department of Health



Source: New Mexico Department of Health



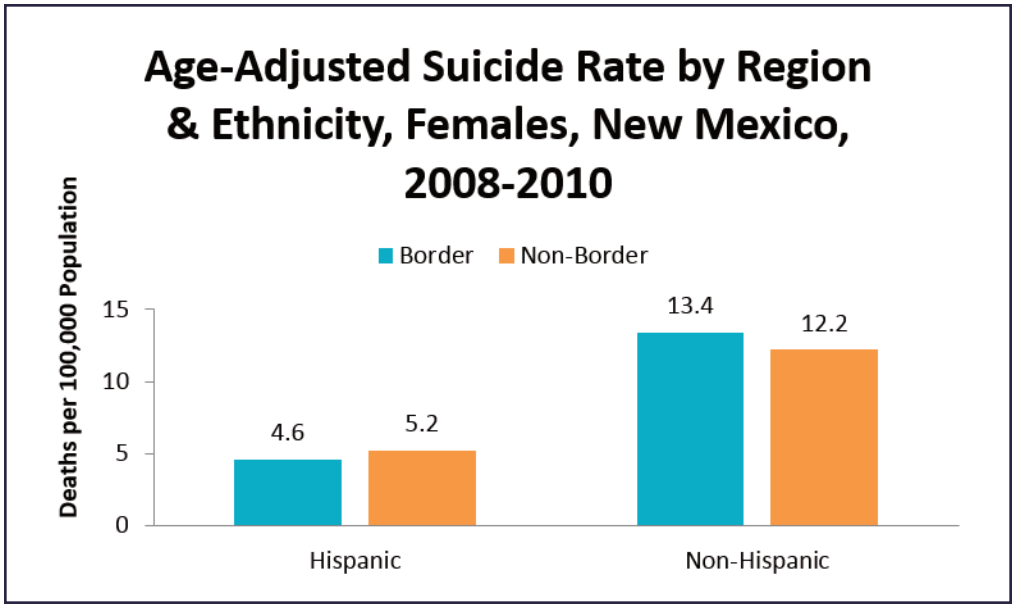
Source: New Mexico Department of Health



Source: New Mexico Department of Health

Among males living in the Border region, the suicide rate for Non-Hispanics is more than twice that of Hispanics; in the Non-Border region, the suicide rate for Non-Hispanic males is 1.5 times that of Hispanic males.

For females, the suicide rates are similar for Non-Hispanic in both the Border and Non-Border regions and are similar for Hispanics in the Border and Non-Border regions.



Source: New Mexico Department of Health

However, it can also be seen that the suicide rate among Non-Hispanic females is much higher than among Hispanic females in both regions of New Mexico.

Summary Regarding Suicide

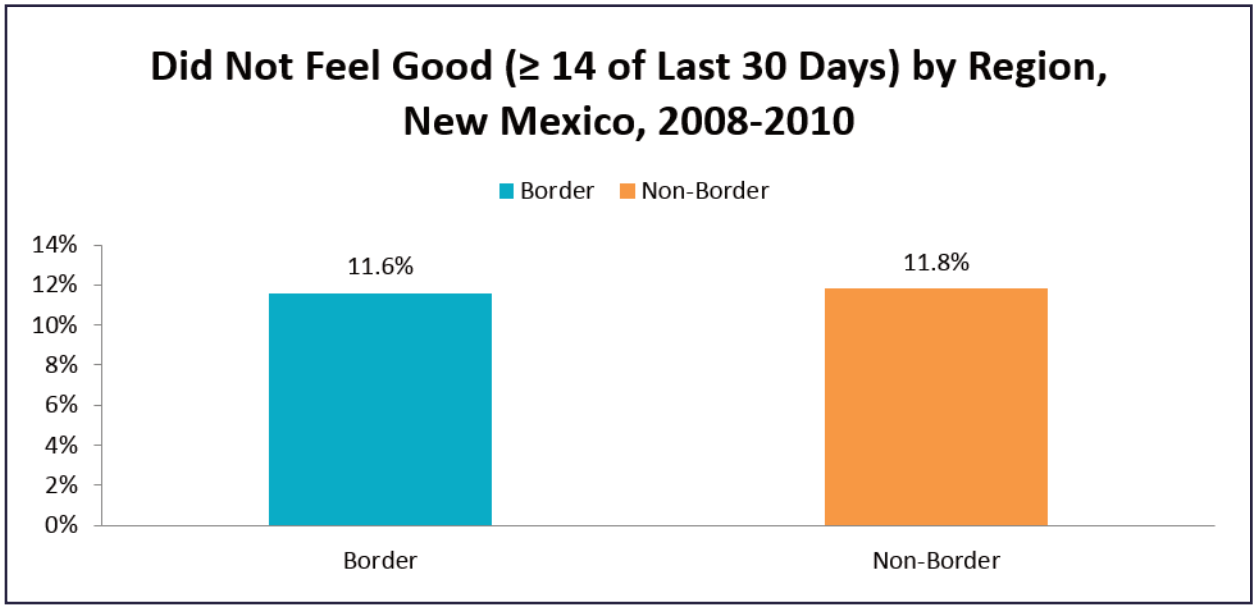
In summary, suicide occurs more frequently in New Mexico than in the United States (Heron, 2012a; Heron, 2012b; Kochanek, Xu, Murphy, Miniño, & Kung, 2011). This is true whether the decedent is male or female, Hispanic or Non-Hispanic, a resident of the Border or Non-Border region. Non-Hispanics of both sexes in New Mexico exhibit significantly higher suicide rates than do Hispanics in New Mexico, regardless of region of residence. Suicide rates among Non-Hispanic males are slightly lower in the Border region than in the Non-Border region, but in all other cases suicide rates are higher in the Non-Border region than in the Border region.

SELF-REPORTED EMOTIONAL WELL-BEING

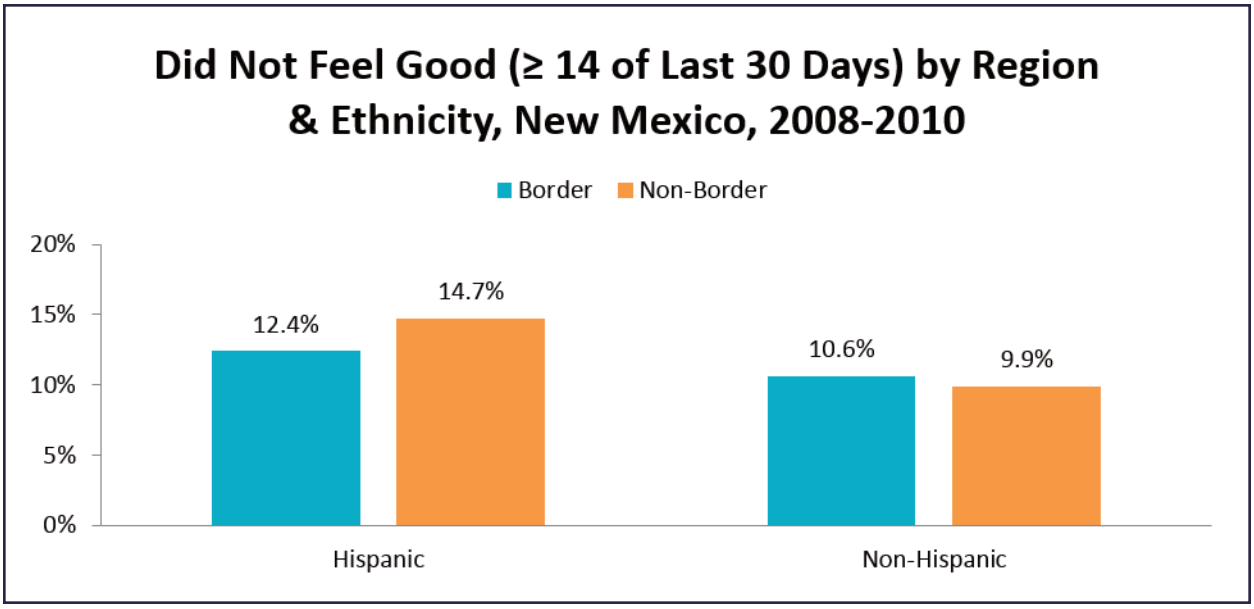
This section is included after the section on suicide, because the statistics derived from the Behavioral Risk Factor Self-Survey (BRFSS) differ from suicide data from the state of New Mexico mortality data. There is one mental health question in the NM BRFSS during 2008-10:

> Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good? (Per New Mexico Department of Health (2013): BRFSS, 2008, p. 6; 2009, p. 7; 2010, p. 7).

The following graphs depict the percentage of New Mexico respondents who indicated "14 or more days" in response to the above BRFSS question, suggesting persistent compromised mental or emotional well-being.



Source: New Mexico Department of Health

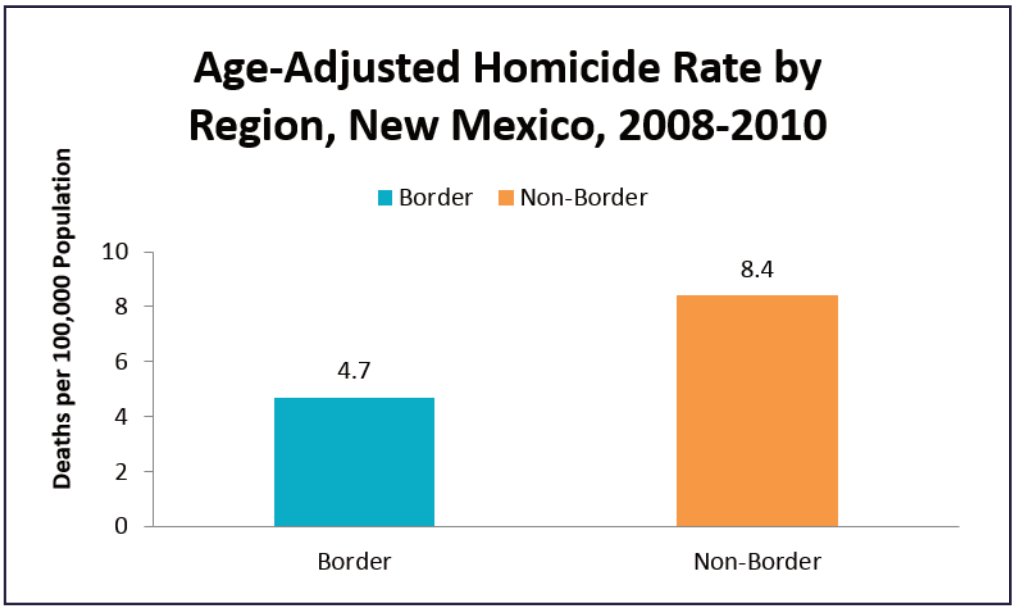


Source: New Mexico Department of Health

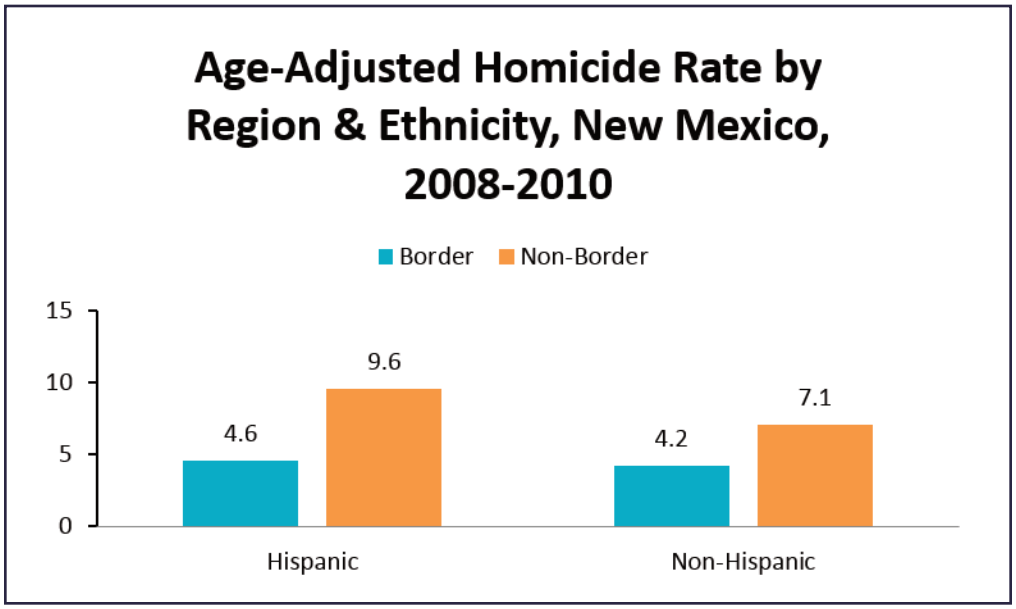
Homicide

The following section presents age-adjusted homicide rates, a measure of deaths by assault or homicide per 100,000 population.

As indicated below, homicide rates are higher for different groups and regions of New Mexico.

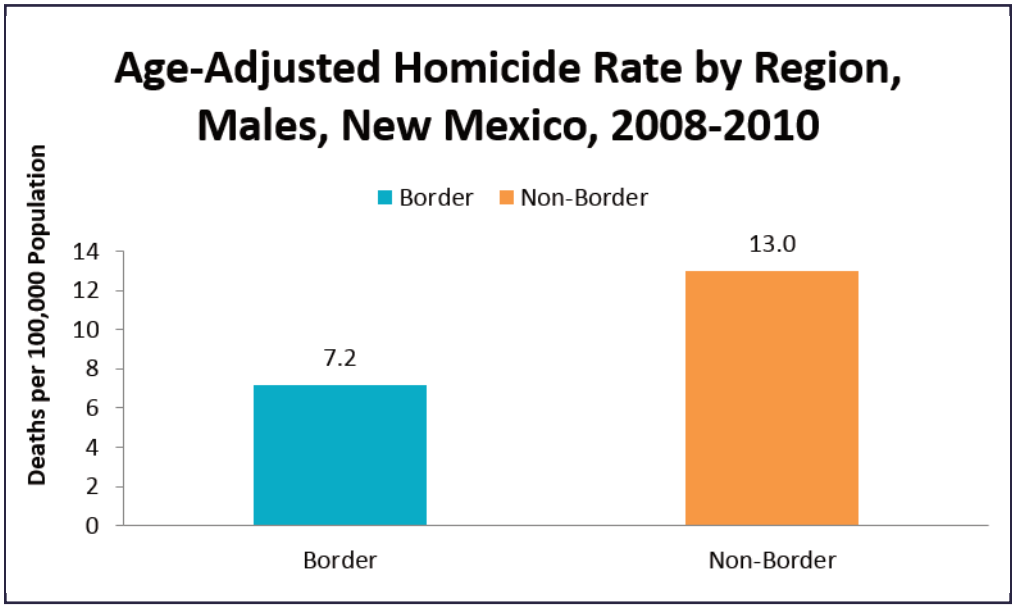


Source: New Mexico Department of Health

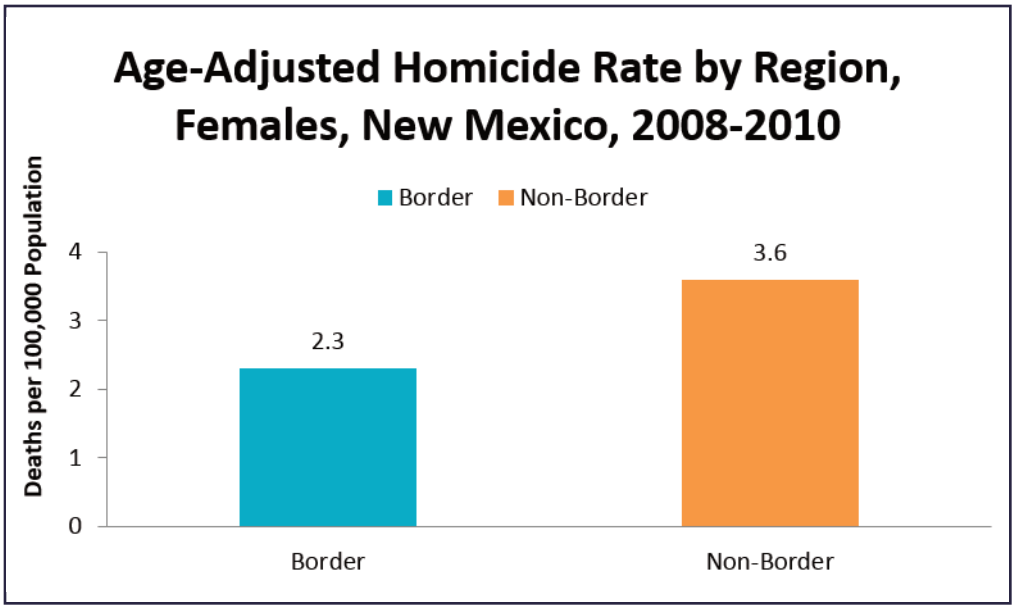


Source: New Mexico Department of Health

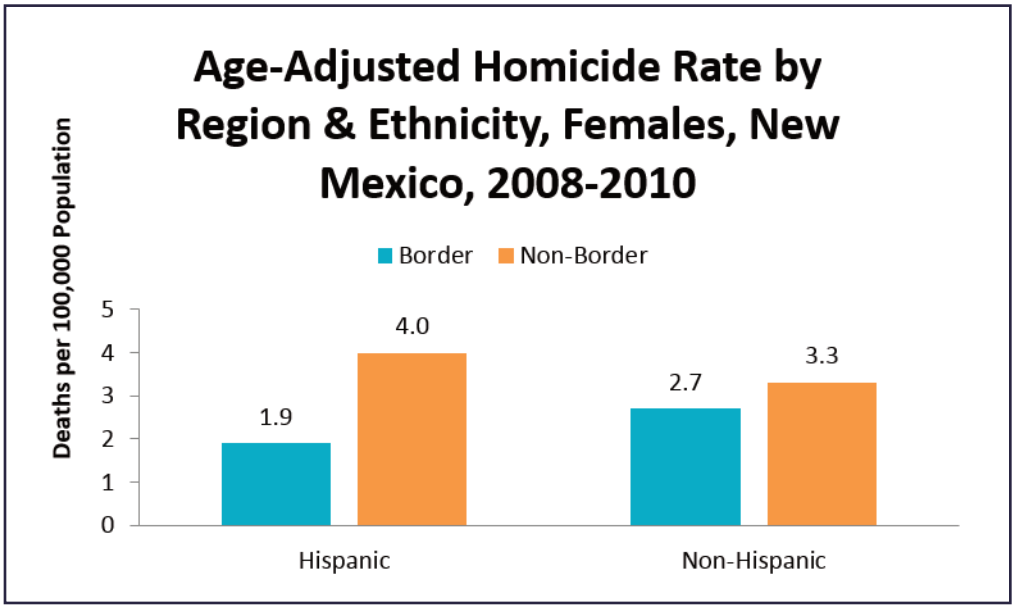
Regional data that is further disaggregated by ethnicity and sex show noticeable differences in homicide rates. Age-adjusted homicide rates are highest for both sexes and both ethnicities in the Non-Border region. In addition, the age-adjusted homicide rates for males, when disaggregated by ethnicity and by region and ethnicity, are consistently more than double the age-adjusted rates for females of all disaggregated groupings as well all females aggregated together.



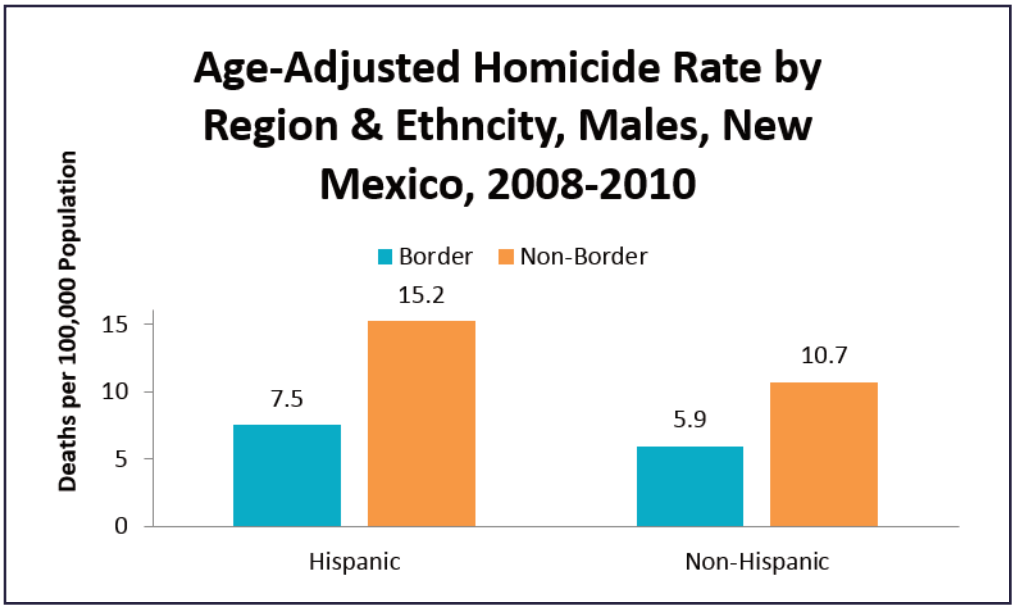
Source: New Mexico Department of Health



Source: New Mexico Department of Health



Source: New Mexico Department of Health



Source: New Mexico Department of Health

Within the New Mexico Border region, the homicide rate is lower for Hispanic males, Hispanic females, and Non-Hispanic males, compared to their counterparts living in the Non-Border region. Among Non-Hispanic females, the homicide rate is the same in both regions of New Mexico (3.0 per 100,000 population).

Summary Regarding Homicide

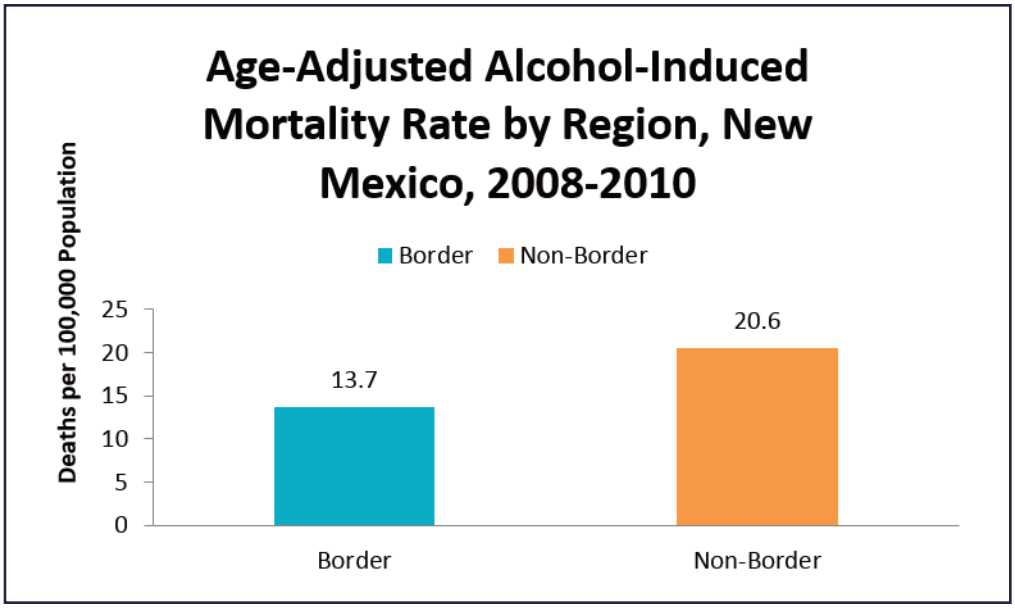
Homicide is a greater problem in the Non-Border region of New Mexico, compared to the Border region. Homicide rates are the same or higher among all populations in the Non-Border region compared to corresponding populations living in the Border region.

AGE-ADJUSTED DRUG- AND ALCOHOL-INDUCED MORTALITY RATES

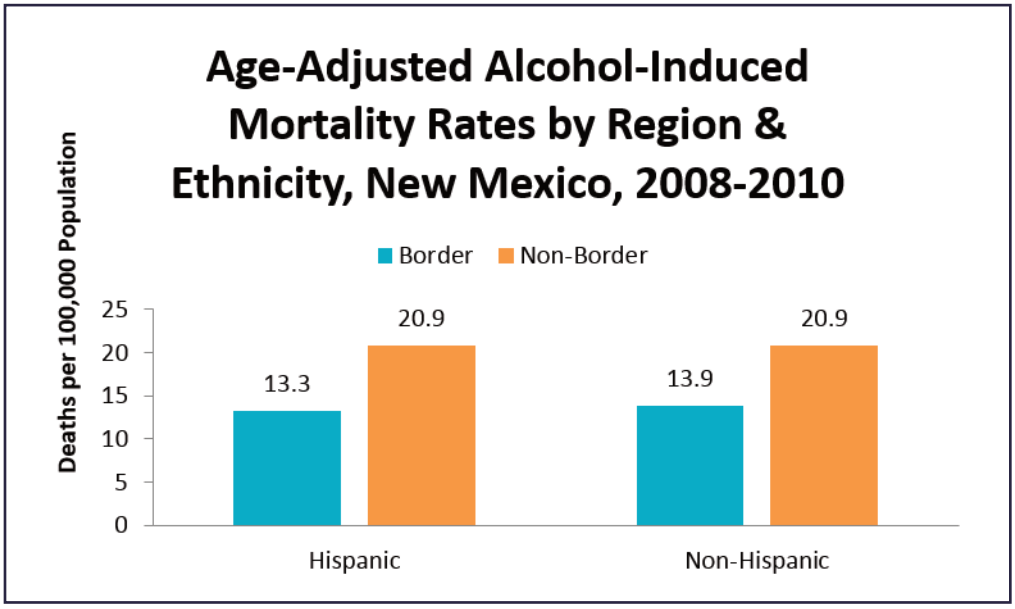
Drug- and alcohol-induced mortality rates can be viewed as behavioral health indicators. Drug-induced and alcohol-induced mortality rates for New Mexico were calculated using the same codes for each respective cause of death as were used by Hoyert and Xu (2012) in the National Vital Statistic Report.

Alcohol-Induced Deaths

Although the age-adjusted alcohol-induced mortality rate is higher in the Non-Border region for both Hispanics and Non-Hispanics, age-adjusted mortality rates disaggregated by region and ethnicity are respectively similar to each region overall.



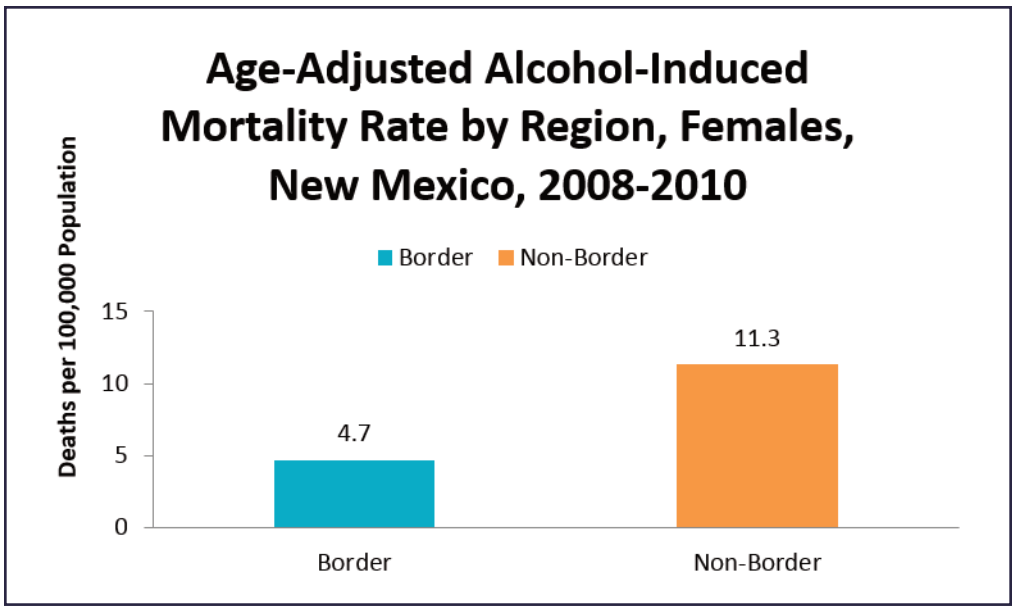
Source: New Mexico Department of Health



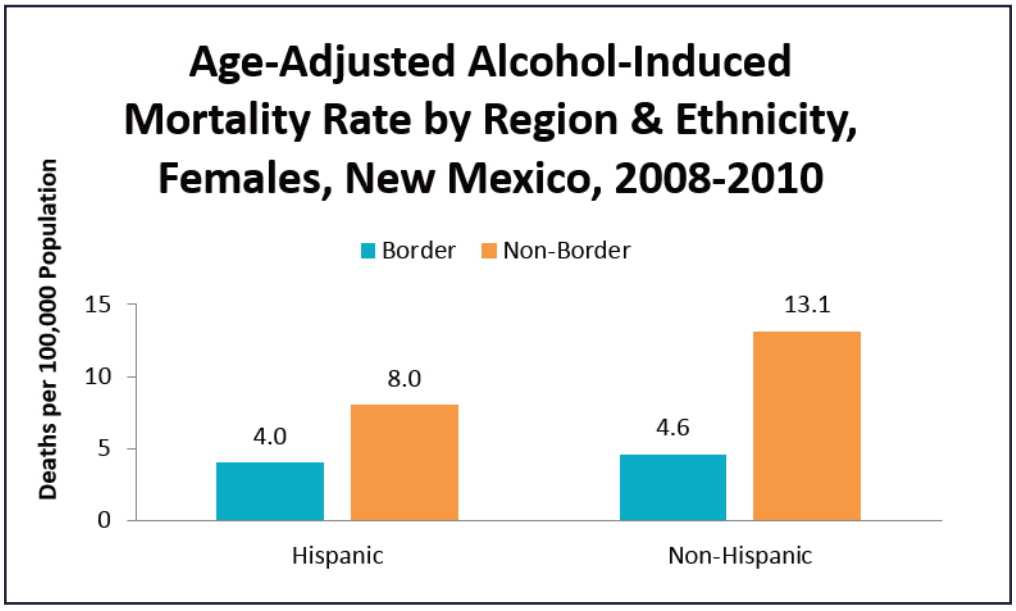
Source: New Mexico Department of Health

More variation in age-adjusted alcohol-induced mortality rates can be seen when data is disaggregated by sex, region, and ethnicity.

Compared to respective, aggregate regional rates, the age-adjusted alcohol-induced mortality rate for females in the Border region is 65.7% lower, while the rate for females in the Non-Border region is 45.1% lower. The age-adjusted alcohol-induced mortality rates for both Hispanic and Non-Hispanic females in the Border region are similar to one another and thus to the aggregate Border region mortality rate for females. For Non-Hispanic females, age-adjusted alcohol-induced mortality rates are higher in the Non-Border region than in Border region.

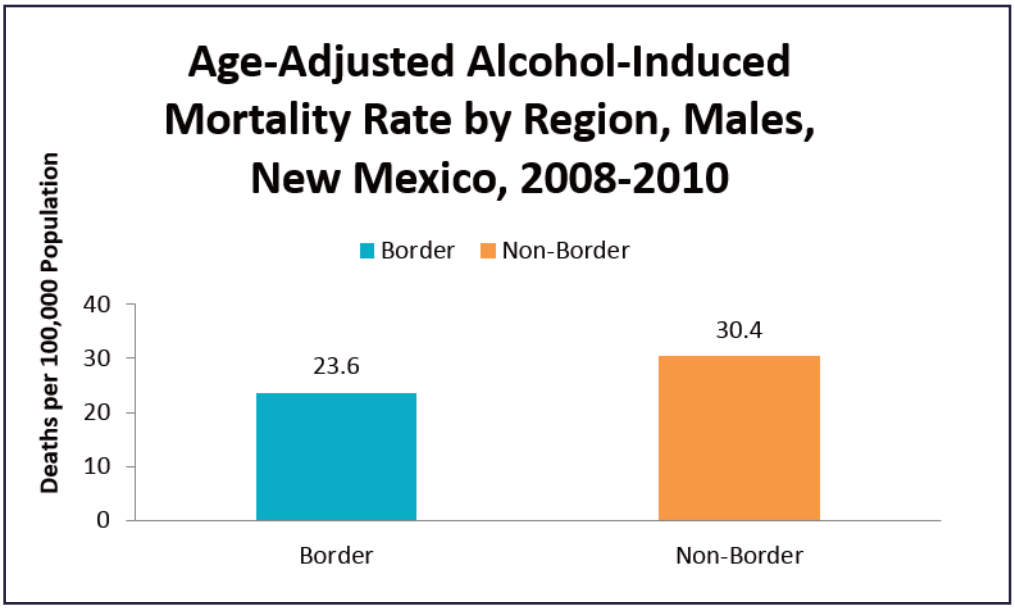


Source: New Mexico Department of Health

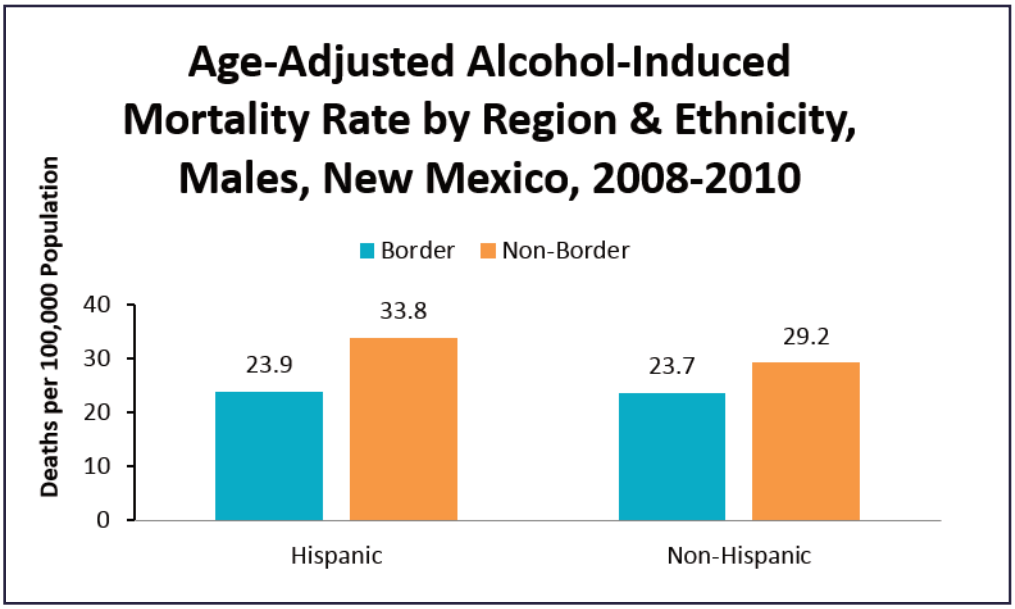


Source: New Mexico Department of Health

Contrary to rates among females, compared to respective, aggregate regional rates, males have much higher age-adjusted alcohol-induced mortality rates both the Border (72.3% higher) and Non-Border (47.6% higher) Regions. As with females, the age-adjusted alcohol-induced mortality rates for both Hispanic and Non-Hispanic males in the Border region are similar to the overall regional rate. Inverse to females, the rate for Hispanic males in the Non-Border region are higher and the rates for Non-Hispanic males in that region are lower than for the region overall.



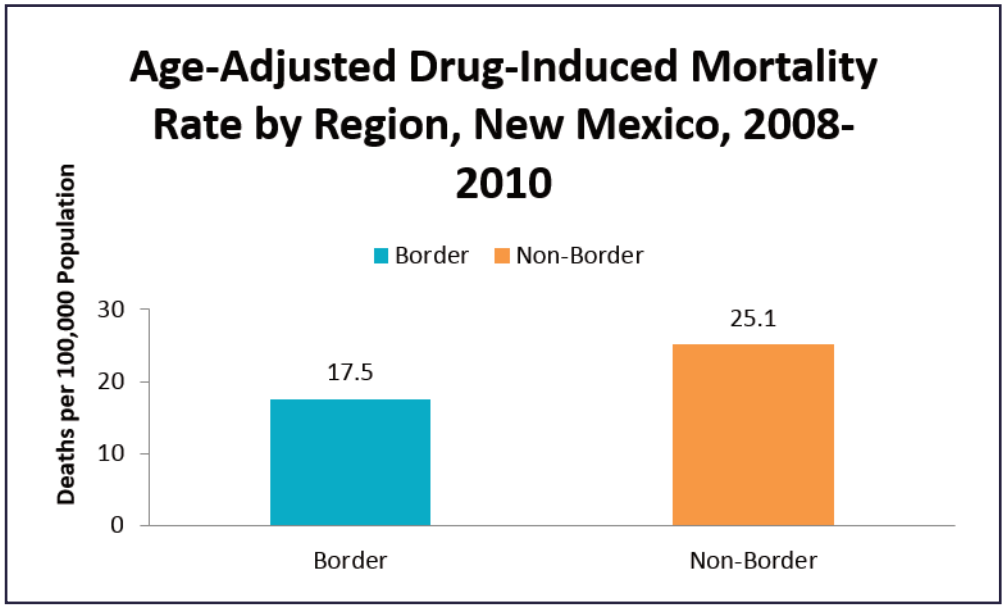
Source: New Mexico Department of Health



Source: New Mexico Department of Health

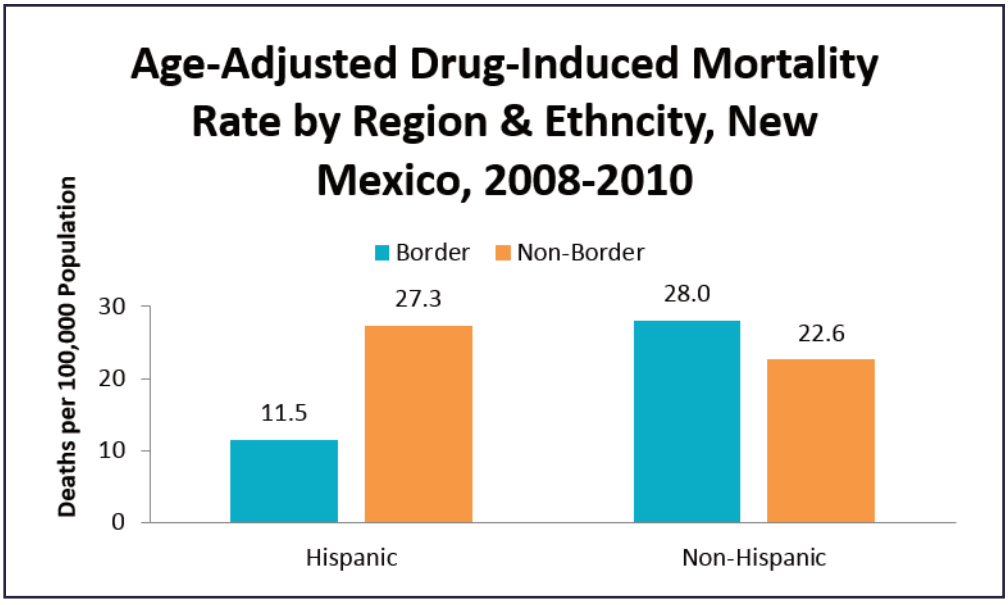
Drug-Induced Deaths

The age-adjusted drug-induced mortality rate is higher in the Non-Border region, compared to the Border region of New Mexico.



Source: New Mexico Department of Health

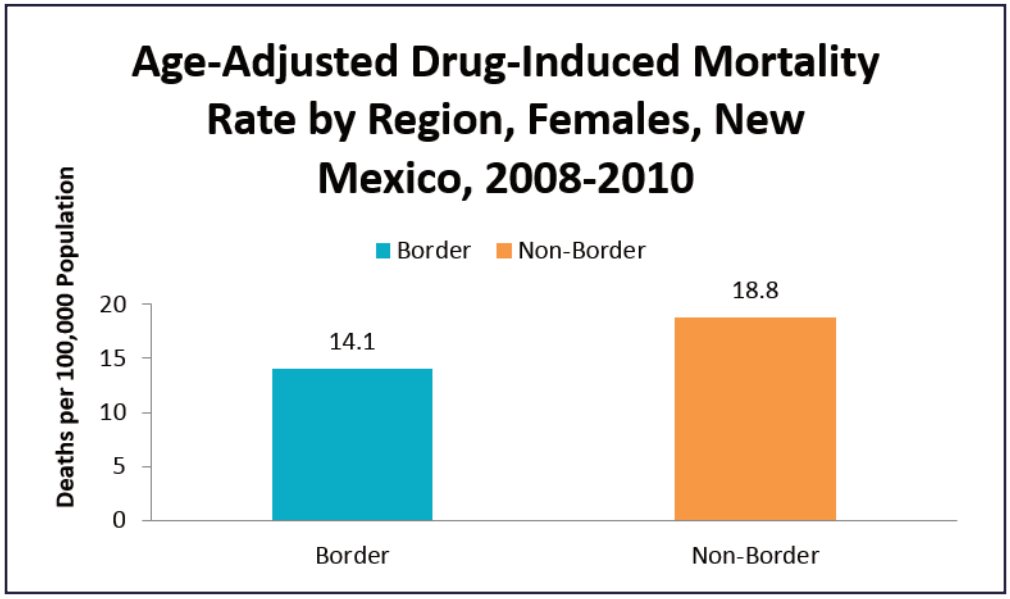
Regional differences by ethnicity become evident when data is disaggregated by ethnicity. Hispanics in the Border region have an age-adjusted drug-induced mortality rate that is much lower than the respective regional rate for Non-Hispanics and for both Hispanics and Non-Hispanics in the Non-Border region.



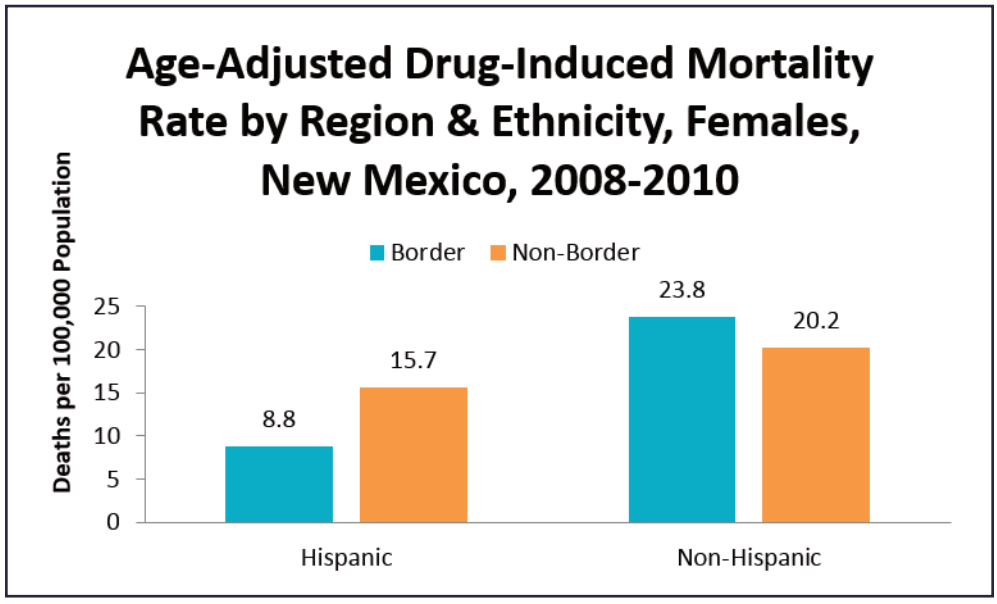
Source: New Mexico Department of Health

Age-adjusted drug-induced mortality rates for females in both the Border and Non-Border regions of New Mexico are lower than those of each respective region.

The age-adjusted drug-induced mortality rates for Non-Hispanic females are higher than the respective rates for Hispanic females in each region of New Mexico. However, compared to regional rates disaggregated only by ethnicity, all age-adjusted drug-induced mortality rates for females are lower. Age-adjusted drug-induced mortality rates for males are higher than respective aggregate regional rates for males in both the Border and Non-Border regions of New Mexico.



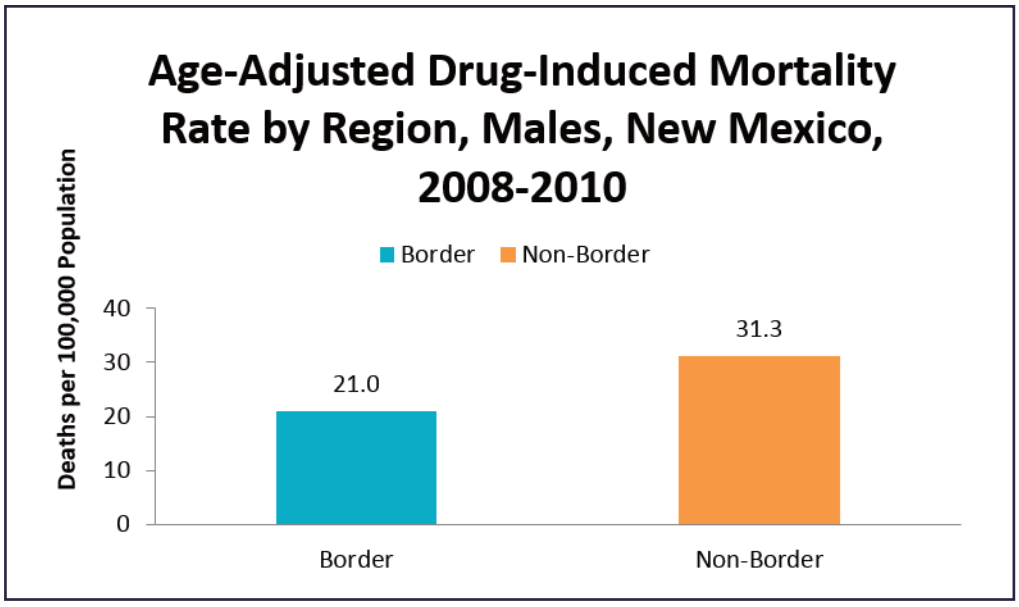
Source: New Mexico Department of Health



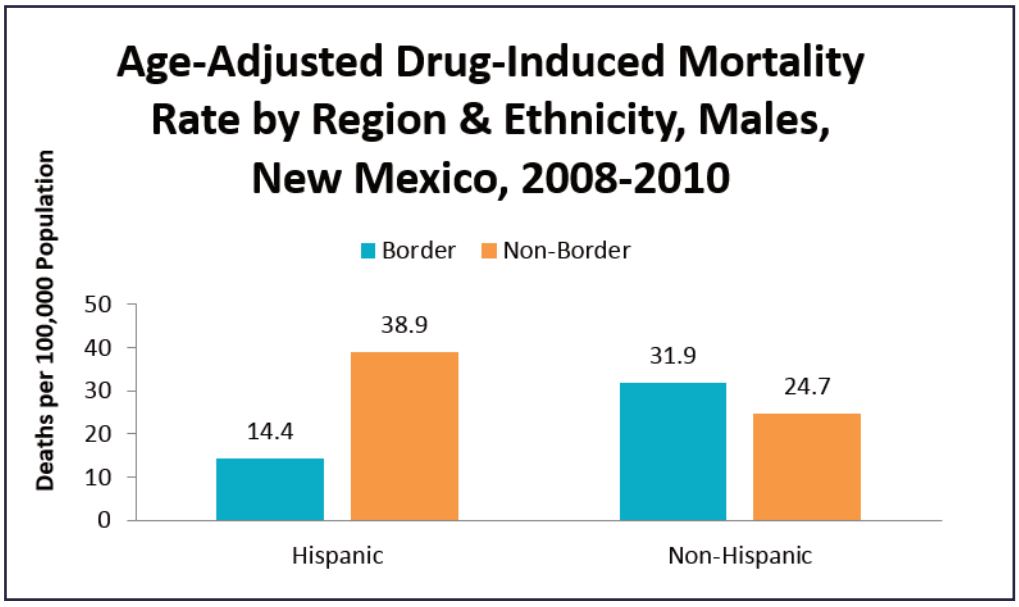
Source: New Mexico Department of Health

Pronounced differences are evident when age-adjusted, drug-induced mortality rates for males are disaggregated by both region and ethnicity. At 38.9 deaths per 100,000 population, the age-adjusted drug-induced mortality rate for Hispanic males in the Non-Border region is the highest of all rates as disaggregated by region; region and sex; and region, sex, and ethnicity.

Compared to rates disaggregated only by region, rates by region and ethnicity, and rates by region and sex, the age-adjusted drug-induced mortality rate for Non-Hispanic males in the Border region is also high, while the rate for Hispanic males in the same region is comparably low.



Source: New Mexico Department of Health



Source: New Mexico Department of Health

Summary Regarding Alcohol- and Drug-Related Mortality

The rates of age-adjusted alcohol-induced mortality are lowest for females in the Border region. Specifically, the rates of age-adjusted alcohol-induced mortality for Hispanic and Non-Hispanic females in the Border region are lower compared to Hispanic and Non-Hispanic females in the Non-Border region as well as compared to Hispanic and Non-Hispanic males in the Border and Non-Border regions.

Rates of age-adjusted drug-induced mortality are notably higher for Non-Hispanic males and females in the Border Region, compared, respectively, to Hispanic males and females living in the same region. Hispanic males in the Non-Border region exhibit the highest of all depicted age-adjusted rates of drug-induced mortality.

INFECTIOUS DISEASE MORBIDITY

All of the infectious diseases included in this section are subject to certain analytical limitations, compared to other sections of this report. Many infectious disease reports lack all of the demographic data used to disaggregate statistics for other illnesses and conditions.

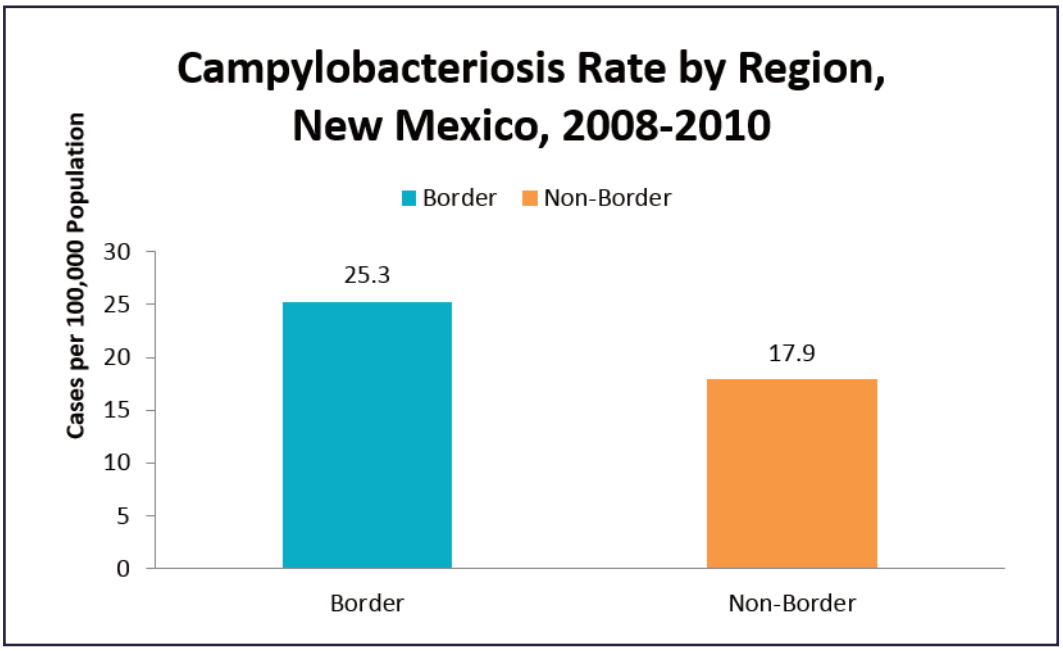
WATERBORNE AND FOODBORNE INFECTIOUS DISEASES

Included in this section are morbidity analyses of diseases commonly transmitted via water, food, fomites, or fecal/oral modes of infection. This section includes cryptosporidiosis, campylobacteriosis, coccidioidomycosis, salmonellosis, giardiasis, shigellosis, and shiga toxin-producing E. Coli (STEC).

Campylobacteriosis

Campylobacteriosis is caused by a group of bacteria called Campylobacter. Most people who become ill with campylobacteriosis experience diarrhea, cramping, abdominal pain, and fever 2 to 5 days after becoming infected with the bacteria. The diarrhea may be bloody and can be accompanied by nausea and vomiting. The illness typically lasts 1 week and most people recover without treatment. Campylobacteriosis usually occurs in single, sporadic cases, but it can also occur in outbreaks. Most sporadic cases are associated with handling or eating raw or undercooked poultry meat. Outbreaks have been linked to the consumption of unpasteurized milk or contaminated water. (New Mexico Department of Health, 2013)

Both confirmed and probable cases of campylobacteriosis are included in this section. From 2008-2010, a total of 179 reports of campylobacteriosis originated from the population of the Border region, while 969 reports originated within the Non-Border population.



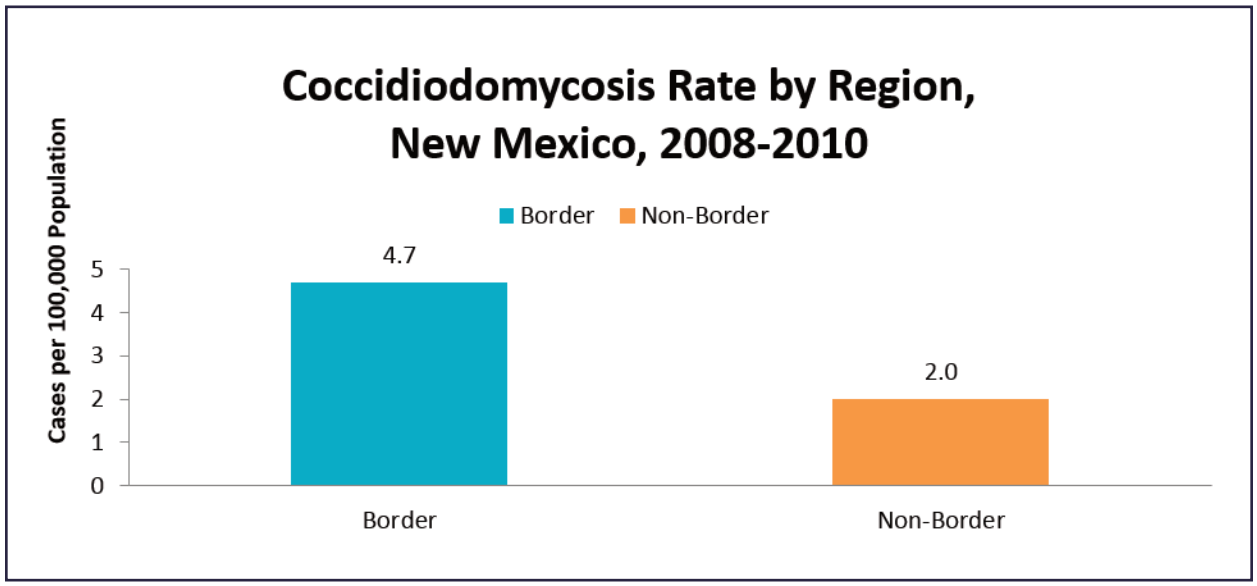
Source: New Mexico Department of Health

As demonstrated by the chart, the incidence rate of campylobacteriosis is higher in the Border region of New Mexico compared to the Non-Border region.

Coccidioidomycosis

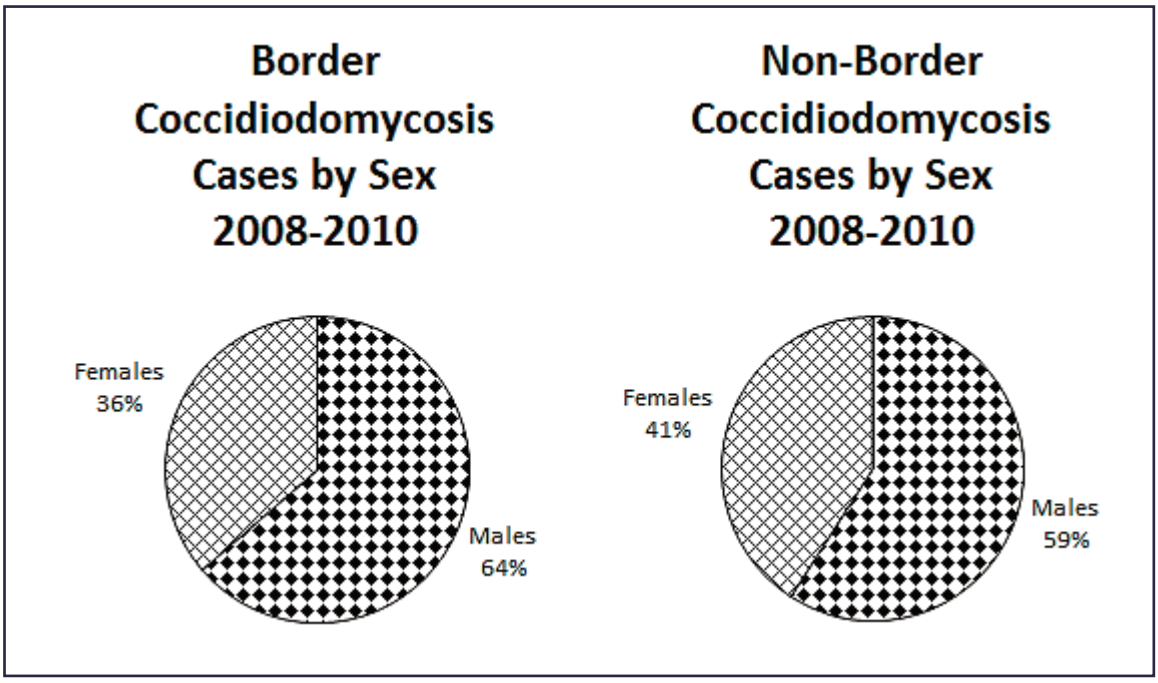
Coccidioidomycosis, also known as Valley Fever, is caused by a fungus called Coccidioides that lives in the soil of semiarid areas, such as the southwestern United States and parts of Mexico and South America. People get infected by inhaling spores that become airborne after disturbance of contaminated soil by humans (e.g., construction, agricultural work, military field training and archeological exploration) or natural disasters (e.g., dust storms and earthquakes). The infection cannot be spread from person to person or from animals to people. Many infections are not diagnosed due to lack of symptoms or very mild symptoms. Most people make a full recovery but a few may develop chronic lung infections in other parts of the body. People of African-American, Asian or Filipino descent, pregnant females during the third trimester and those with weakened immune systems are at higher risk of developing severe infection region. (New Mexico Department of Health, 2013)

Both confirmed and probable coccidioidomycosis cases are included in this analysis. From 2008-2010, a total of 33 coccidioidomycosis cases were recorded among residents of the Border region, and 110 among residents of the Non-Border.



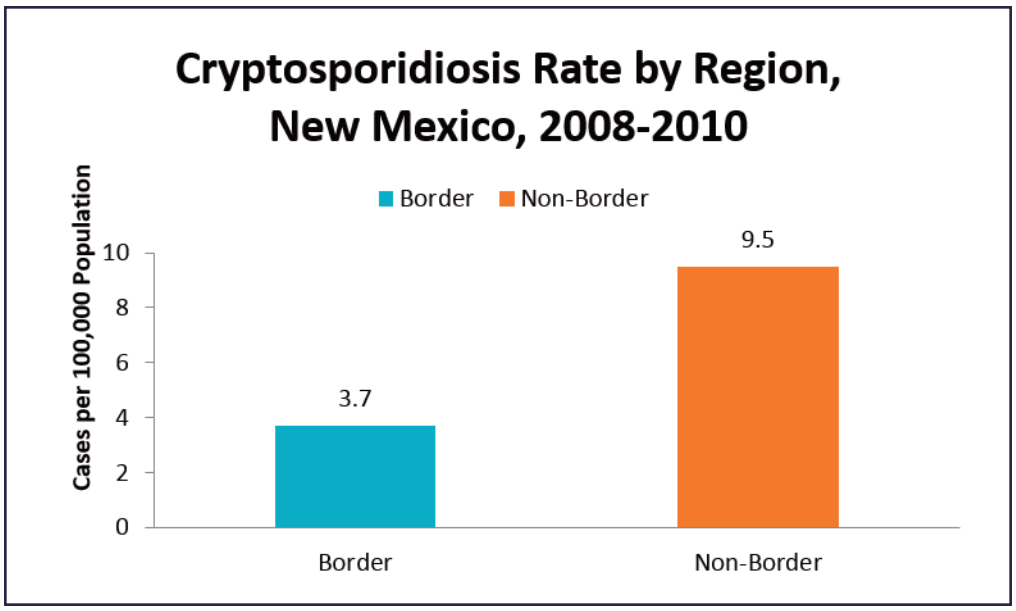
Source: New Mexico Department of Health

As can be seen, this also makes for a higher incidence rate within the Border region, compared to the Non-Border region.



Source: New Mexico Department of Health

A greater proportion of coccidioidomycosis cases were reported in males compared to females in both regions.



Source: New Mexico Department of Health

Cryptosporidiosis

Cryptosporidiosis is caused by a group of parasites called Cryptosporidium. Symptoms of cryptosporidiosis generally begin 1 to 12 days after becoming infected with the parasite. Symptoms usually last 1 to 2 weeks in people with healthy immune systems. Immunocompromised individuals may develop serious, chronic, and sometimes fatal illness. Cryptosporidium is one of the most common causes of waterborne disease in the United States. The parasite is protected by an outer shell that allows it to survive outside the body for long periods of time and makes it very resistant to chlorine disinfection. Outbreaks are frequently associated with exposure to contaminated recreational water sources such as swimming pools, water parks, and interactive fountains. (New Mexico Department of Health, 2013)

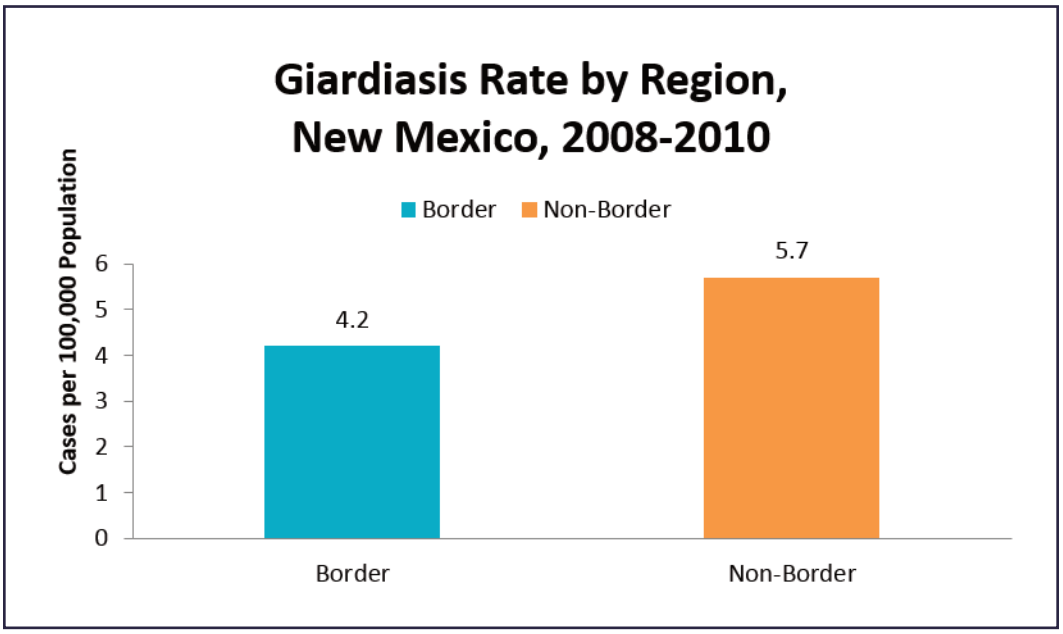
Both confirmed and probable cryptosporidiosis cases are included in this analysis. During 2008-2010, significantly more cases of cryptosporidiosis were reported in the Non-Border region (n=513) than in the Border region (n=26).

As shown above, the incidence rate of cryptosporidiosis is significantly higher in the Non-Border compared to the Border region.

Giardiasis

> Giardiasis is caused by a parasite called Giardia intestinalis (also known as Giardia lamblia)… Symptoms normally begin 1 to 2 weeks after becoming infected and usually last 2 to 6 weeks. Giardia parasites live in the intestines of infected animals and humans. Because the parasite is protected by an outer shell, it can survive outside the body and in the environment for long periods of time. Giardia is a common cause of waterborne disease in the United States. Giardia can also be spread from one person to another or from an infected animal to a person. Although anyone can get giardiasis, some groups are more likely to become infected including diaper-aged children, international travelers, backpackers, hikers, and campers who drink unfiltered, untreated water, and swimmers who swallow water while swimming in lakes, rivers, ponds, and streams. (New Mexico Department of Health, 2013)

Both confirmed and probable giardiasis cases are included in this analysis. From 2008-2010, 30 giardiasis cases were reported within the Border region and 310 cases were reported within the Non-Border region. Regional incidence rates for giardiasis are as follows:



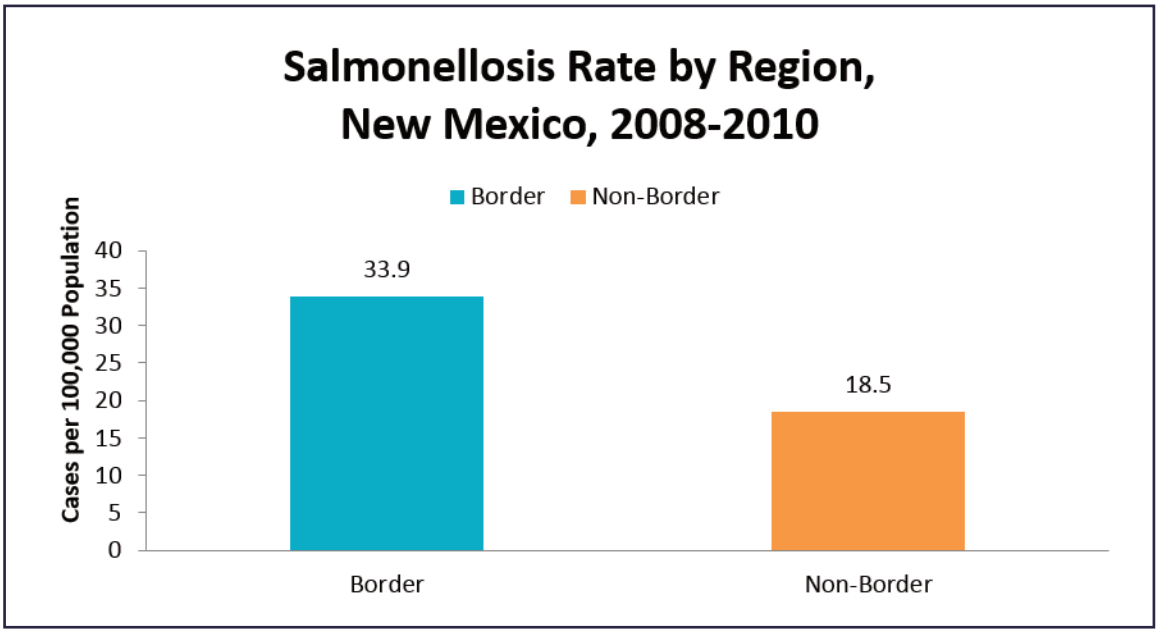
Source: New Mexico Department of Health

The incidence rate is higher for the Non-Border region. However, regional differences in incidence rates are not as drastic for giardiasis as for other food- and waterborne illnesses included in this report.

Salmonellosis

Salmonellosis is caused by a group of bacteria called Salmonella. The illness usually lasts 4 to 7 days, and most people recover without treatment. The main reservoirs of Salmonella are animals, including poultry, swine, cattle, reptiles, dogs and cats. Salmonellosis usually results from handling or eating undercooked or raw products of animal origin, such as eggs, milk, meat and poultry; however, recent outbreaks have been associated with fresh produce (e.g., tomatoes, cantaloupe, peppers), unpasteurized juices and peanut butter. Salmonella can also be spread from person to person or through direct contact with an infected animal. (New Mexico Department of Health, 2013)

Both confirmed and probable salmonellosis cases are included in this analysis. Respectively, a total of 240 Border and 1000 Non-Border salmonellosis cases were reported from 2008-2010. This translates into the following regional incidence rates.



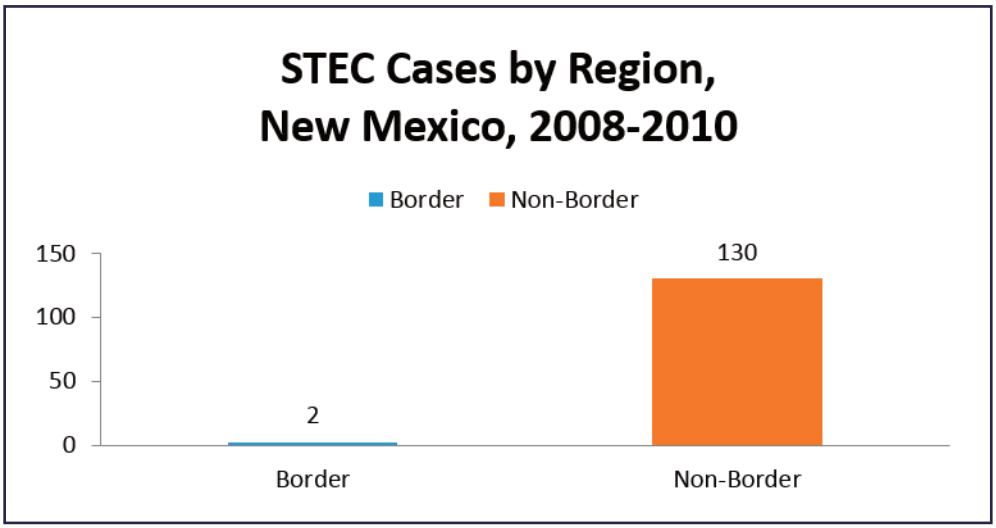
Source: New Mexico Department of Health

As is indicated above, the incidence rate of salmonellosis is significantly higher within the Border region population, compared to the Non-Border region. Within both regions, the distribution of salmonellosis cases by sex is virtually identical, being slightly higher among females than males (56% within the Border region; 55% within the Non-Border region).

Shiga Toxin-Producing E. Coli (STEC)

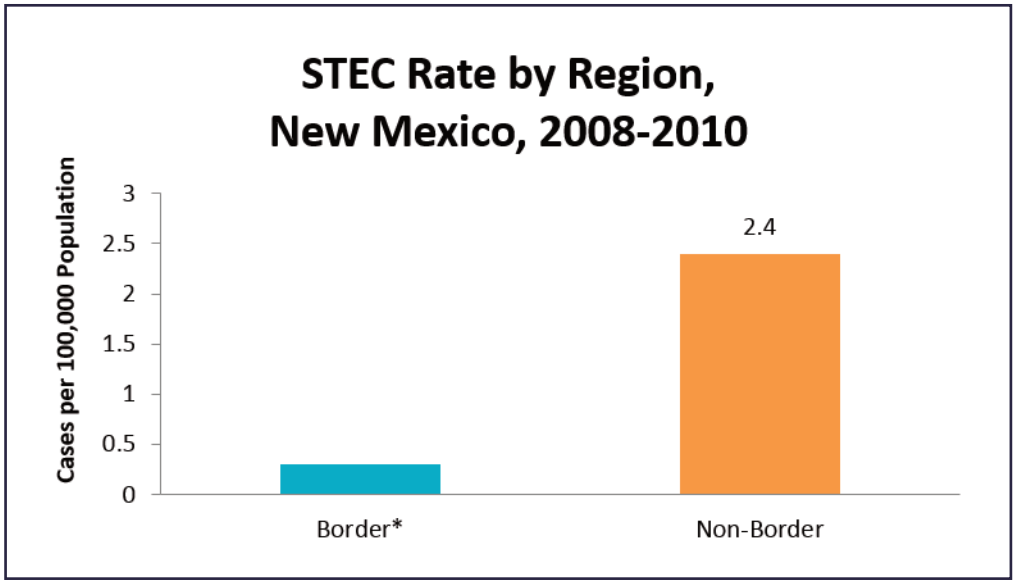
Shiga toxin-producing E. coli (STEC) are strains of a group of bacteria called Escherichia coli. E. coli O157 is the most well-known type of STEC, but there are many other types that can cause illness in humans. Illness caused by STEC often begins 3 to 4 days after exposure to the bacteria. Some people infected with STEC, particularly E. coli O157, may develop a serious complication called hemolytic-uremic syndrome (HUS) that can lead to chronic kidney failure. Children under the age of 5 and the elderly are more likely to develop HUS. STEC live in the intestines of healthy cattle, deer, sheep and goats. STEC infections usually result from handling or eating raw or undercooked ground beef, drinking unpasteurized milk, or improper hand-washing following contact with infected animals or surfaces contaminated with feces from an infected animal. However, recent outbreaks of STEC infection have been associated with sprouts, lettuce, spinach, salami, unpasteurized apple juice, and swimming in or drinking sewage-contaminated water. STEC may also be passed from one person to another. (New Mexico Department of Health, 2013)

Both probable and confirmed STEC cases were included in this analysis. Only two cases of STEC were reported in the Border region from 2008-2010. However, from 2008-2010, a total of 130 STEC cases were reported in the Non-Border. These frequency counts for STEC by region are portrayed below.



Source: New Mexico Department of Health

It is difficult to extrapolate both frequency statistics on a population level. The extremely low number of STEC cases reported in the Border region during 2008-2010 makes it impossible to calculate statistically reliable incident rates for that region, although it is possible to do so for the Non-Border region for the same time period.

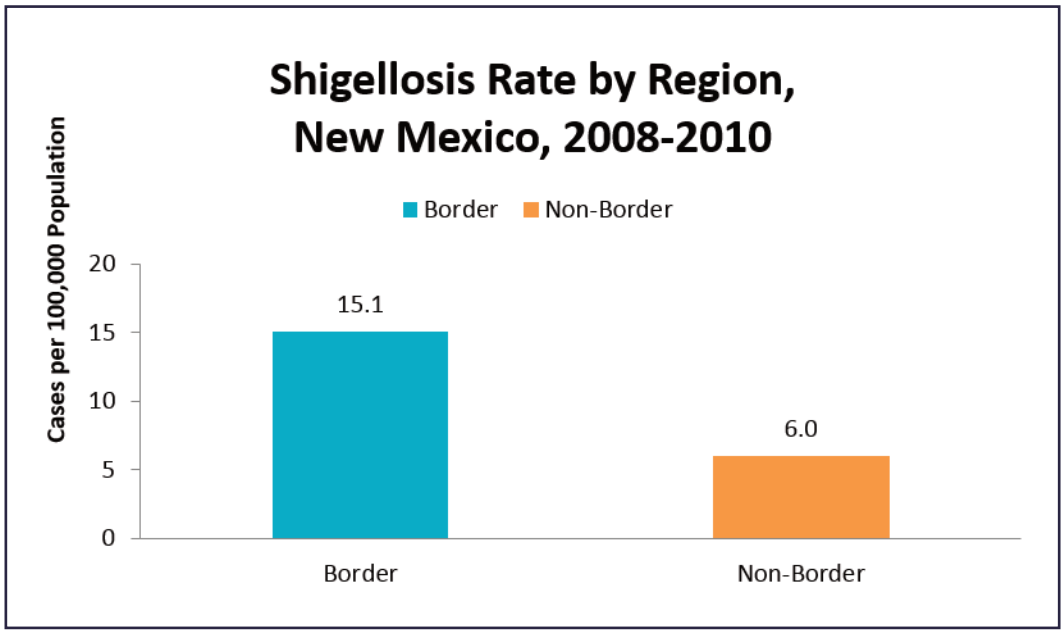


* This rate is extremely unstable (RSE >0.50) and should not be used to infer population risk.
Source: New Mexico Department of Health

Shigellosis

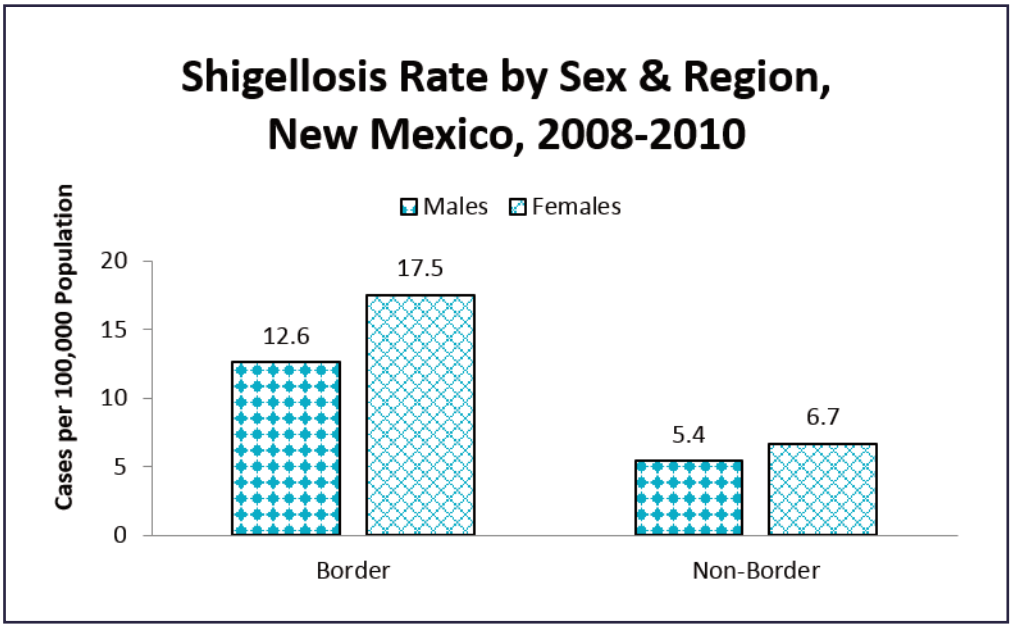
Shigellosis is caused by a group of bacteria called Shigella. There are many different types of Shigella, but one type, Shigella sonnei, accounts for over two-thirds of the shigellosis cases in the United States. Most people infected with Shigella develop symptoms starting 1 to 2 days after they are exposed to the organism. Shigellosis usually resolves in 5 to 7 days. In some persons, especially young children and the elderly, the diarrhea can be so severe that the patient needs to be hospitalized. Humans are the natural host for Shigella and infections are usually transmitted from person to person. Children in child care settings, their caregivers and other people living in crowded conditions are at increased risk of infection. Shigella can also be transmitted through eating contaminated food, drinking or swimming in contaminated water, or contact with contaminated objects. (New Mexico Department of Health, 2013)

Probable and confirmed shigellosis cases were included in this analysis. In 2008-2010, 107 shigellosis cases were reported in the Border region and 327 cases were reported in the Non-Border region. These frequency counts indicate a higher incidence rate in the Border compared to the Non-Border region.



Source: New Mexico Department of Health

As indicated above, the incidence rate of shigellosis is more than two times higher in the Border region compared to the Non-Border region. Statistically reliable differences in the incidence rate of shigellosis are apparent when data is disaggregated by sex and region.



Source: New Mexico Department of Health

As indicated, the incidence rate of shigellosis is higher for females in both regions; however, in the Non-Border region, the difference in incidence rate between females and males is much less than between females and males in the Border region. It can be seen in the above chart that the shigellosis incidence rate among females is higher for both regions compared to the regional incidence rate overall.

Summary Regarding Food-/Waterborne Infection Morbidity

The 2008-2010 incidence rates of primarily-waterborne infectious diseases, giardiasis and cryptosporidiosis, are higher in the Non-Border region than in the Border region. Alternately, primarily-foodborne illnesses, such as shigellosis, salmonellosis, and campylobacteriosis appeared with higher incidence rates in the Border compared to the Non-Border region. The two outliers from any obvious regional explanatory patterns are coccidioidomycosis and STEC. Coccidiodomycocis is spread through the inhalation of disturbed dirt; however, dust storms are common throughout all of New Mexico. Furthermore, although the incidence rate of coccidioidomycosis is higher in the Border region, the total number of cases in this region from 2008-2010 was still generally low.

VACCINE-PREVENTABLE DISEASES

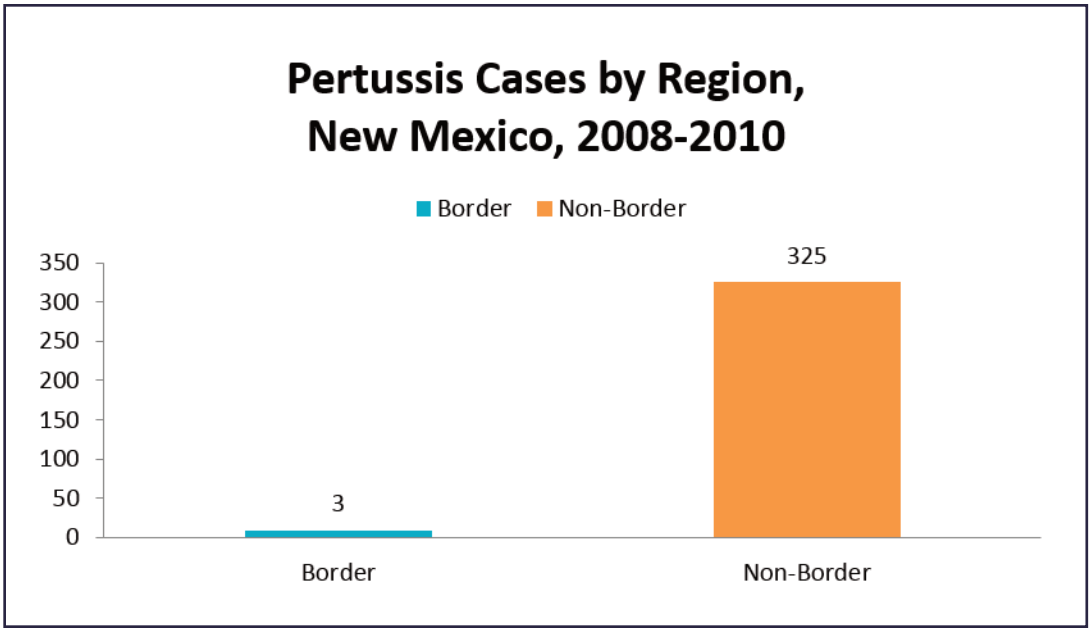
This section reviews the morbidity in New Mexico of certain diseases for which effective vaccines exist. Specifically, this section examines cases of pertussis (whooping cough), hepatitis A, and hepatitis B. In each case, a vaccine or vaccine regimen has been available in the United States for a minimum of 8 years (Akinsanya-Beysolow, Jenkins, & Meissner, 2013).

Pertussis

> Pertussis or "whooping cough" is a highly contagious respiratory tract infection caused by the Bordetella pertussis bacteria. Illness typically begins 7 to 10 days after infection with the bacteria...Very young children are at highest risk for severe and potentially life-threatening illness. Pertussis is transmitted from person to person by droplets produced from a cough or sneeze, or by direct contact with respiratory tract secretions from an infected person. Children under 7 years of age receive protection against pertussis from a 5-dose series of vaccines; however, protection begins to wane 5 to 10 years after the last dose. In 2005, a booster vaccine was licensed for use in the United States and is now recommended for adolescents and adults every 10 years. (New Mexico Department of Health, 2013)

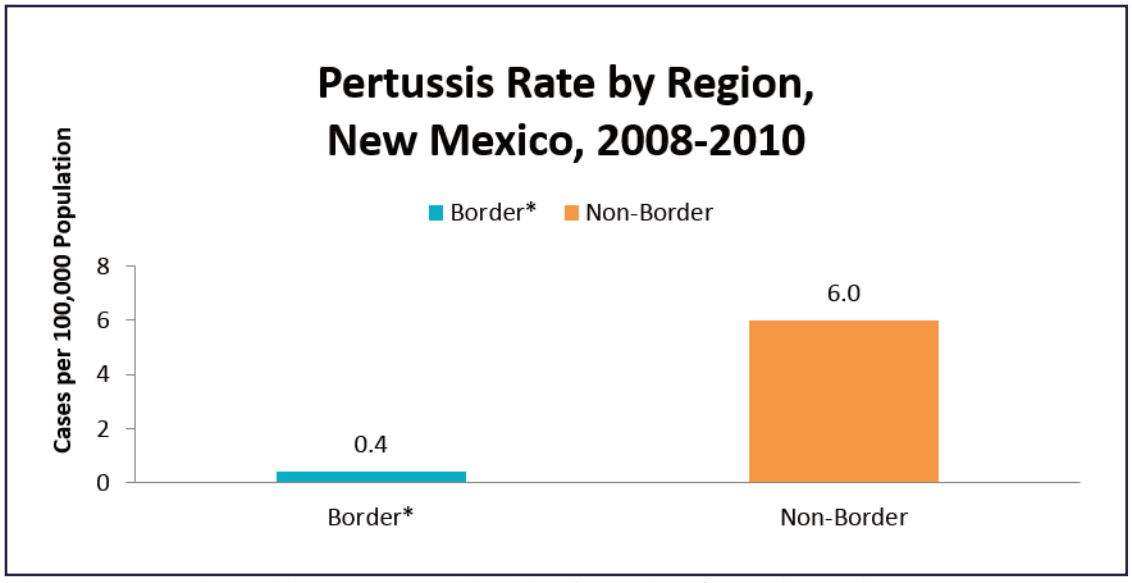
The booster shot was developed and released, in part, due to a resurgence of pertussis in recent years in numerous parts of the United States (CDC, 2013c). Because pertussis is most dangerous for infants and yet, the vaccine regimen for pertussis involves five doses that are not completed until a child is seven years of age, the best way to protect vulnerable populations from pertussis is by "cocooning" them via thorough vaccination of the rest of the population (Akinsanya-Beysolow, Jenkins, & Meissner, 2013). Therefore, any incidence of pertussis is notable and worthy of concern.

Both probable and confirmed cases of pertussis are included in this analysis. The overall frequency count of suspected or confirmed pertussis cases in New Mexico from 2008-2010 is especially low in the Border region, where only 3 cases were reported from 2008-2010. Meanwhile, 325 cases were reported in the Non-Border region.



Source: New Mexico Department of Health

Together, both charts support the assertion that pertussis is far more prominent in the Non-Border region of New Mexico, compared to the Border region. In 2008-2010, over 99% of pertussis cases reported in New Mexico occurred among Non-Border residents; this represents a disproportionate regional distribution of pertussis incidence within New Mexico.

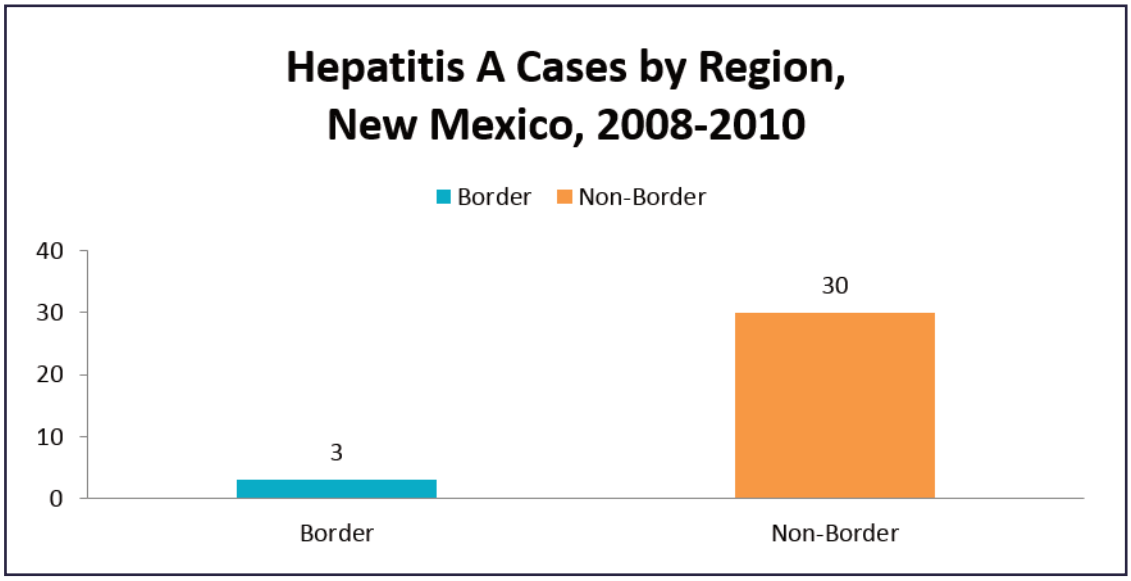


*This rate is extremely unstable (RSE >0.50) and should not be used to infer population risk.
Source: New Mexico Department of Health

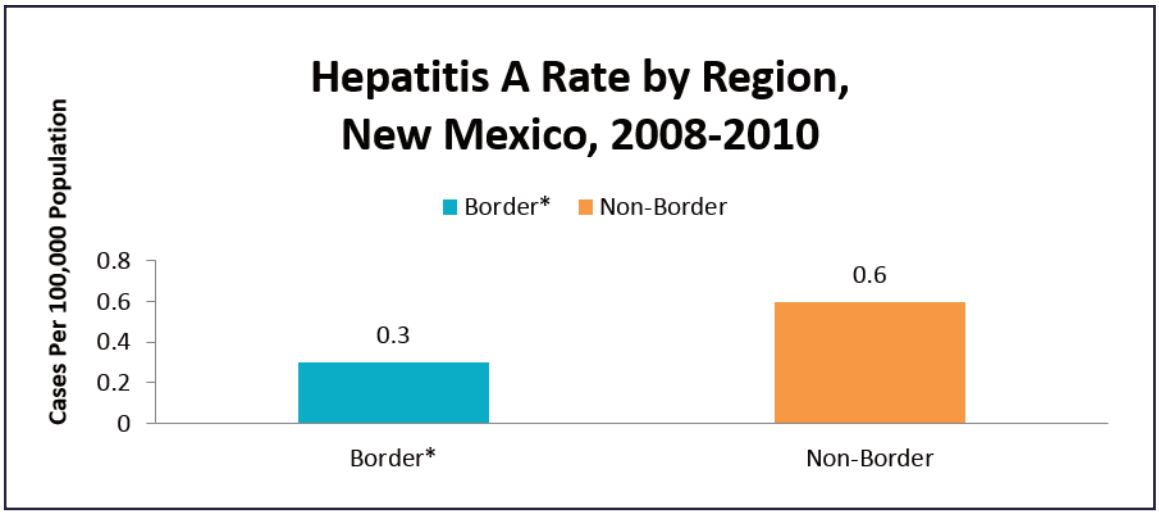
Hepatitis A

Hepatitis A is an acute liver disease caused by the hepatitis A virus (HAV). The symptoms of hepatitis A typically begin 25 to 30 days after infection with the virus...Hepatitis A usually resolves quickly and chronic infection does not occur. HAV is found in the stool of persons with hepatitis A. Infected persons are most likely to transmit HAV in the 2 weeks before the onset of their illness. HAV is most commonly spread from one person to another, although outbreaks caused by contaminated food can occur. In 1995, hepatitis A vaccine was licensed for use in the United States and since that time the incidence of hepatitis A has fallen dramatically. (New Mexico Department of Health, 2013)

Only acute, symptomatic probable and confirmed cases of hepatitis A were included in this analysis. From 2008-2010, the numerical frequency of reported hepatitis A cases was relatively low throughout New Mexico, as depicted by this chart.



Source: New Mexico Department of Health

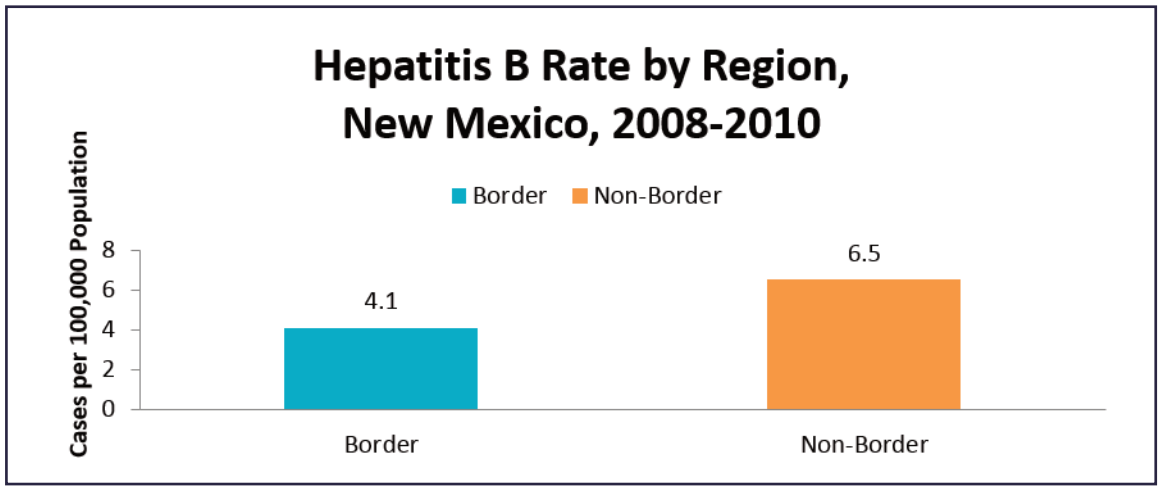


* This rate is extremely unstable (RSE >0.50) and should not be used to infer population risk.
Source: New Mexico Department of Health

Hepatitis B

Hepatitis B is a liver disease caused by the hepatitis B virus (HBV). The symptoms may appear 1 1/2 to 6 months after exposure, but usually within 3 months. Not everyone who is infected will have all or any of the symptoms. Hepatitis B virus can be found mainly in the blood, but sometimes in the saliva, semen and other body fluids of an infected person. It is spread by direct contact with infected body fluids, frequently by needlestick injury or sexual contact. The virus can be found in blood and other body fluids several weeks before symptoms appear and may last for several months afterward. Approximately 6 to 10 of infected adults become long-term carriers of the virus; this percentage is much higher (70-90 percent) for children infected very early in life. (New Mexico Department of Health, 2013)

Confirmed and probable cases of both acute and chronic cases of hepatitis B are included in the following analyses of New Mexico state data. A total of 29 acute and chronic hepatitis B cases were reported in the Border region for 2008-2010; 352 such cases were reported for the same time period within the Non-Border region (New Mexico Department of Health, 2013).



Source: New Mexico Department of Health

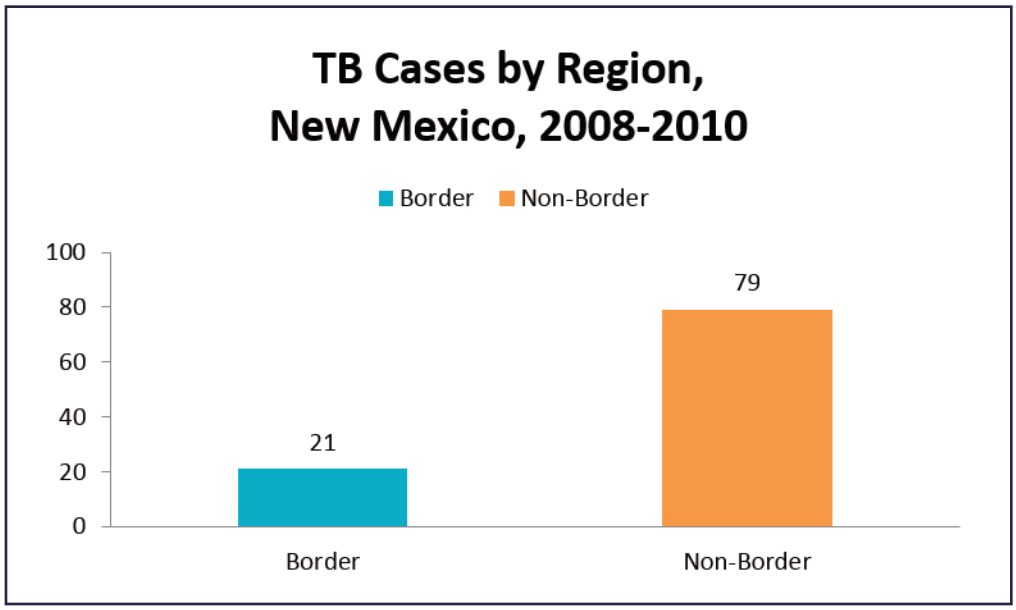
As with other aforementioned vaccine-preventable diseases, the incidence rate for hepatitis B is observably higher in the Non-Border region of New Mexico compared to the Border region.

Tuberculosis

According to the CDC (2013d), tuberculosis, also known as "TB,"

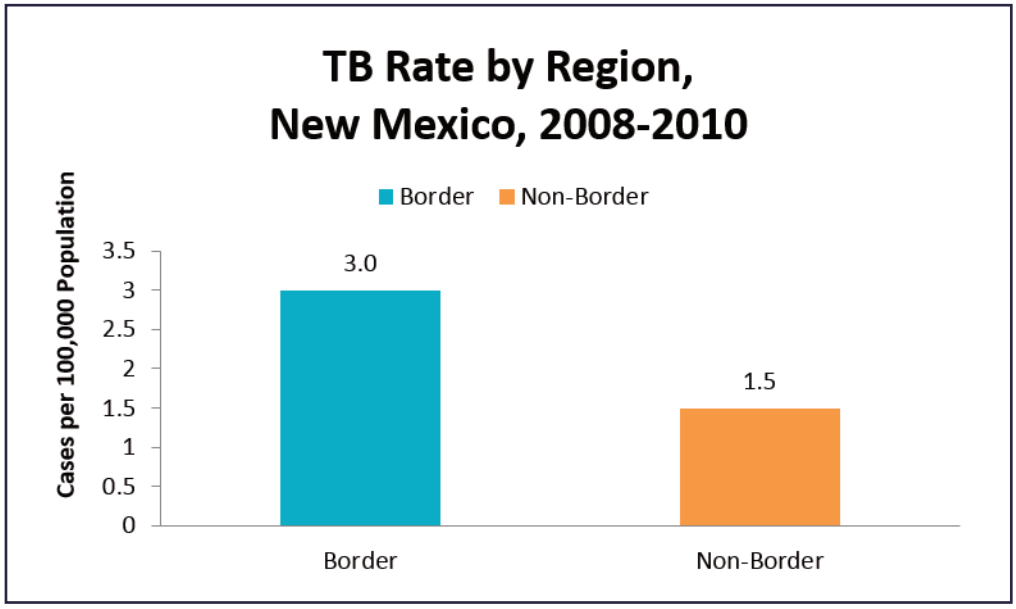
> …is a disease caused by a bacterium called Mycobacterium tuberculosis. The bacteria usually attack the lungs, but TB bacteria can attack any part of the body such as the kidney, spine, and brain. If not treated properly, TB disease can be fatal.

The frequency counts of TB cases diagnosed in New Mexico for 2008-2010 is shown below.



Source: New Mexico Department of Health

The numerically lower frequency of TB cases in the Border region translates into a higher incidence rate for the Border compared to the Non-Border regions. The following chart depicts the incidence rates of TB by region.



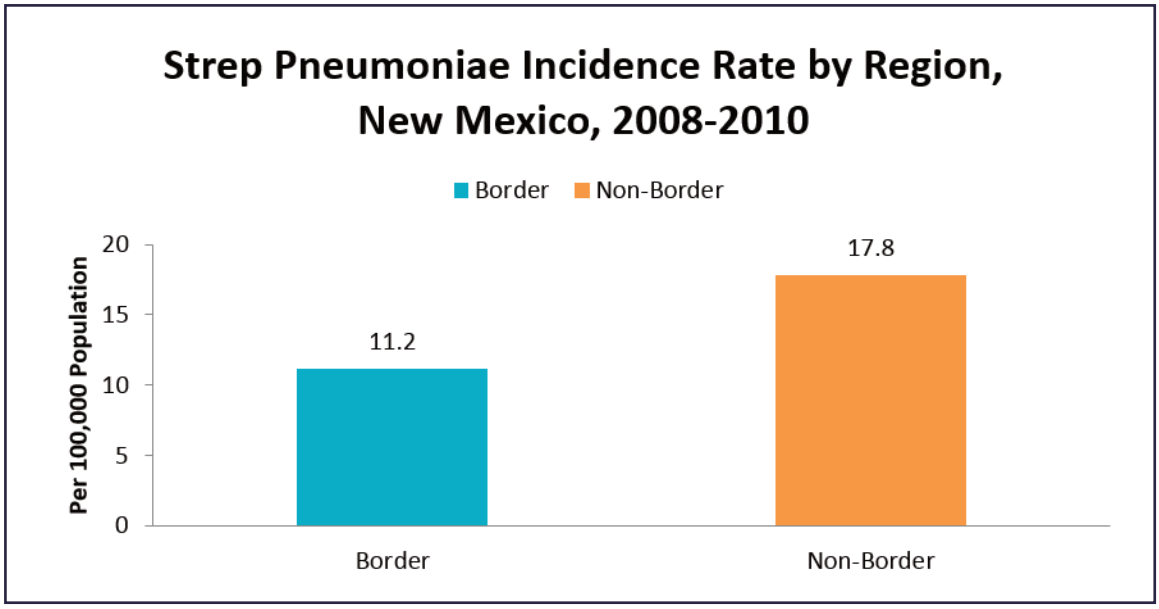
Source: New Mexico Department of Health

Streptococcus Pneumoniae

According to the National Foundation for Infectious Diseases (NFID) (2009),

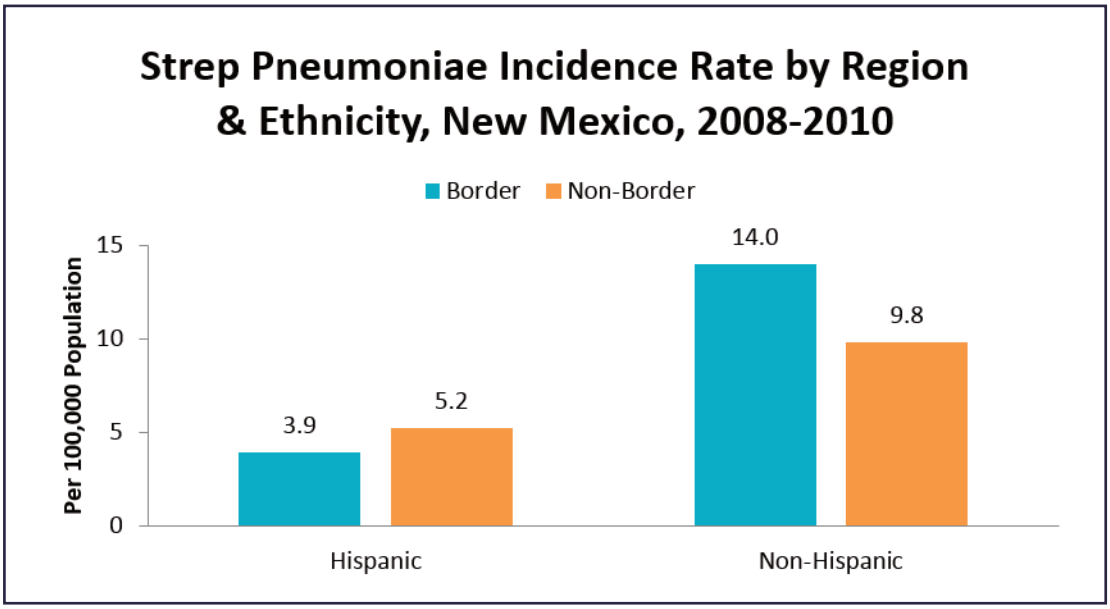
> Pneumococcal disease is an infection caused by a type of bacteria called Streptococcus pneumoniae. When these bacteria invade the lungs, they can cause pneumonia. They can also invade the bloodstream (bacteremia) and/or the tissues and fluids surrounding the brain and spinal cord (meningitis). Invasive pneumococcal infection kills thousands of people in the United States each year, most of them 65 years of age or older.

In New Mexico, differences in the incidence rate of this infection occur between the Border and Non-Border region. The chart below shows that the rate is higher in the Non-Border region (New Mexico Department of Health, 2013).



Source: New Mexico Department of Health

Differences by region and ethnicity are also present, as shown below (New Mexico Department of Health, 2013).



Source: New Mexico Department of Health

Summary Regarding Vaccine-Preventable Diseases, Streptococcus Pneumoniae, and Tuberculosis

The frequencies of reported pertussis and hepatitis A reports are so low within the Border region for 2008-2010 that statistics such as rates are unstable; this makes further comparisons between the Border and Non-Border regions difficult. Data regarding Hepatitis B incidence was sufficient enough for both the Border and Non-Border regions for 2008-2010 to allow for stable statistical comparisons (New Mexico Department of Health, 2013).

Statistical instability notwithstanding, numerically and proportionate to population, the incidence of all three vaccine-preventable diseases discussed in this section—pertussis, hepatitis A, and hepatitis B—were lower in the Border region compared to the Non-Border region. This is especially well-supported in the case of regional differences in Hepatitis B incidence, which was lower in the Border region versus the Non-Border region of New Mexico. New Mexico pertussis data for 2008-2010 indicate low Border region incidence rates (New Mexico Department of Health, 2013).

It may be that the lower incidence of pertussis in the Border region is due to better compliance with vaccine recommendations or it may be due to other factors. However, it does appear that the incidence of vaccine-preventable diseases remains relatively low within the Border region of New Mexico. Tuberculosis is a matter for concern statewide. In the Border region, the incidence of tuberculosis is twice that of the Non-Border region (New Mexico Department of Health, 2013). This is likely due to the fact that tuberculosis rates are higher among foreign-born persons.

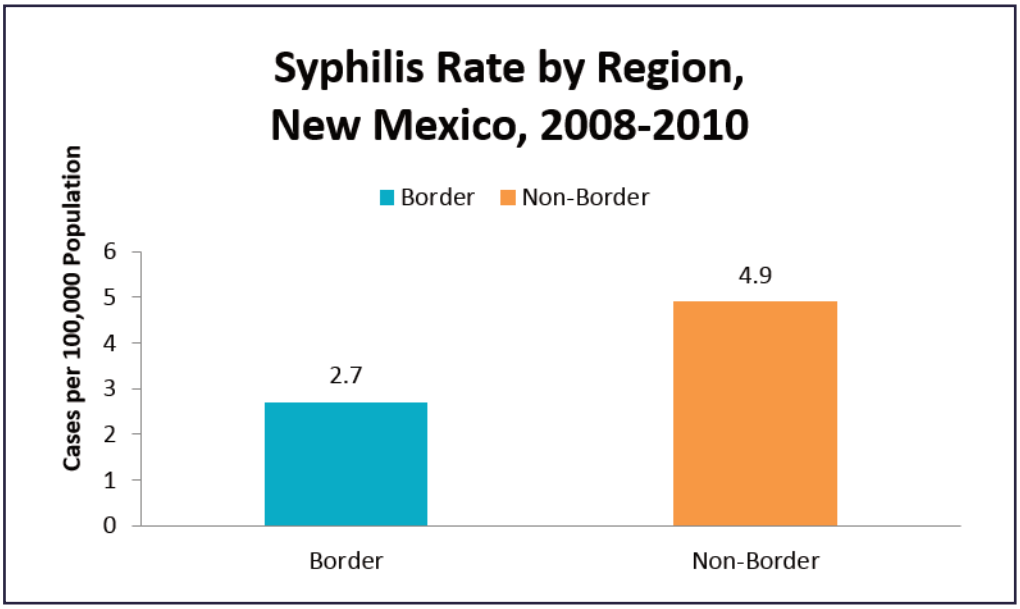
The differences in incidence of streptococcus pneumoniae indicate that morbidity rates are highest among Border Non-Hispanics and second highest amongst Non-Border Non-Hispanics. In the Border region and Non-Border regions, Non-Hispanics comprise significant portions of the population age 65 and older (New Mexico Department of Health, 2013). Thus, this finding is in keeping with standard information about patterns of infection associated with this disease (NFID, 2009).

SEXUALLY-TRANSMITTED DISEASES, HEPATITIS C, AND HIV/AIDS

Many common diseases are transmitted via sexual intercourse. This section reviews New Mexico data for syphilis, gonorrhea, chlamydia, Hepatitis C, and HIV/AIDS. Left untreated, even asymptomatic cases can cause long-lasting, and sometimes fatal, harm. Therefore, vigilant surveillance and treatment programs must be ongoing.

Syphilis

The following chart compares the incidence of syphilis in the Border region versus Non-Border regions of New Mexico. Primary, secondary, and early latent stage cases reported for 2008-2010 were included. During this time period, not every county reported cases; data indicate that syphilis was reported in only 17 of 3 counties within New Mexico during 2008-2010. Cases were only reported for one of the three border counties (Doña Ana) (New Mexico Department of Health, 2013).

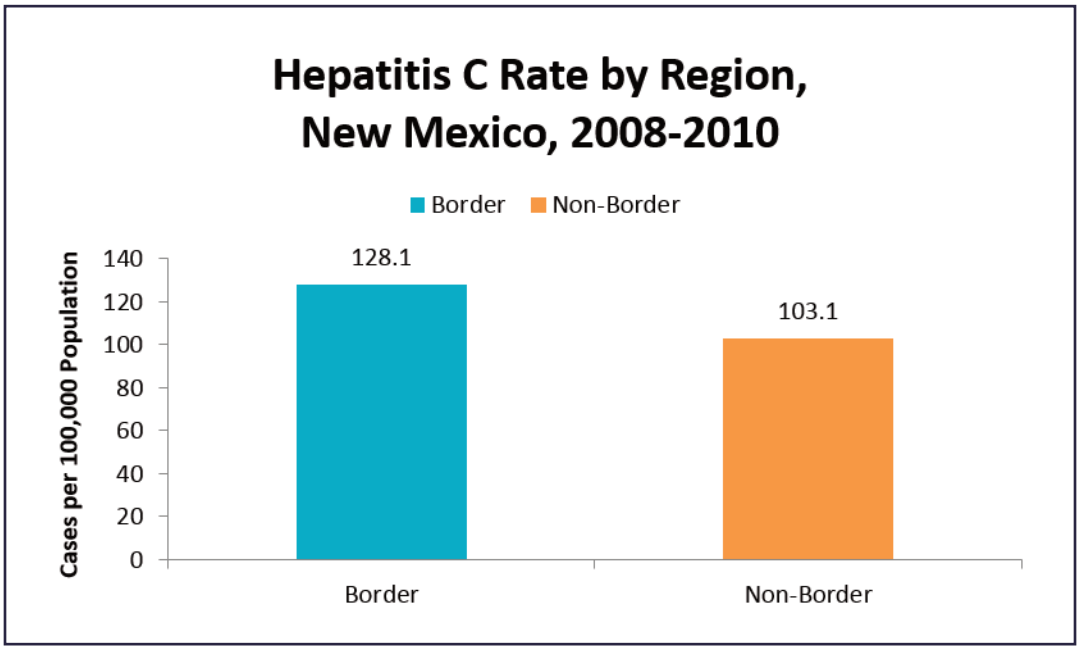


Source: New Mexico Department of Health

Hepatitis C

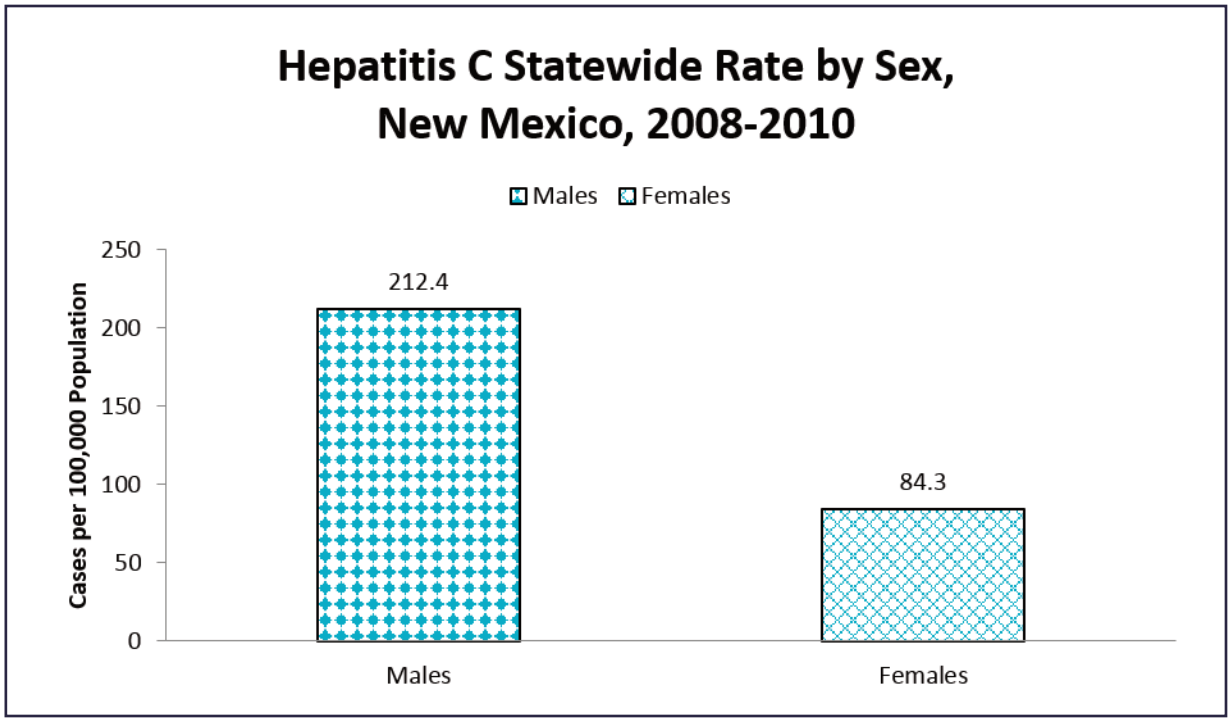
Hepatitis C is a liver infection and is caused by the hepatitis C virus (HCV); it is the most common blood borne disease in the United States (New Mexico Department of Health, 2013; CDC, 2012e). A majority (75-85%) of initial hepatitis C infections will result in chronic infection and 1-5% of people with chronic hepatitis C infectious will die from liver failure or liver cancer (New Mexico Department of Health, 2013). A majority of people remain asymptomatic for several years following initial infection and thus a majority of carriers are unaware of their condition (New Mexico Department of Health, 2013). Most new hepatitis C infections occur when people share needles or other equipment for injecting drugs. Prior to 1992, when screening of the blood supply first began, blood transfusions and organ transplants were also a common mode of hepatitis C infection. Hepatitis C is also transmitted by sexual contact (CDC, 2012e). Unlike hepatitis A and B, there is no vaccine for hepatitis C (New Mexico Department of Health, 2013).

Unavoidably, hepatitis C data includes evidence of both past and current infection (New Mexico Department of Health, 2013). It was not possible to present data disaggregated by ethnicity in the available data source (New Mexico Department of Health, 2013). The following chart, therefore, shows the combined incidence and prevalence rate of hepatitis C in the Border and Non-Border regions of New Mexico during 2008-2010.



Source: New Mexico Department of Health

As shown, the hepatitis C rate is higher in the Border region compared to the Non-Border region. According to the CDC (2013f), "surveillance capacity to monitor both acute and chronic viral hepatitis is limited at the state and local levels, resulting in incomplete and variable data." However, although New Mexico data may be incomplete, trends are apparent not only regionally, but also by sex, as shown on the next page.



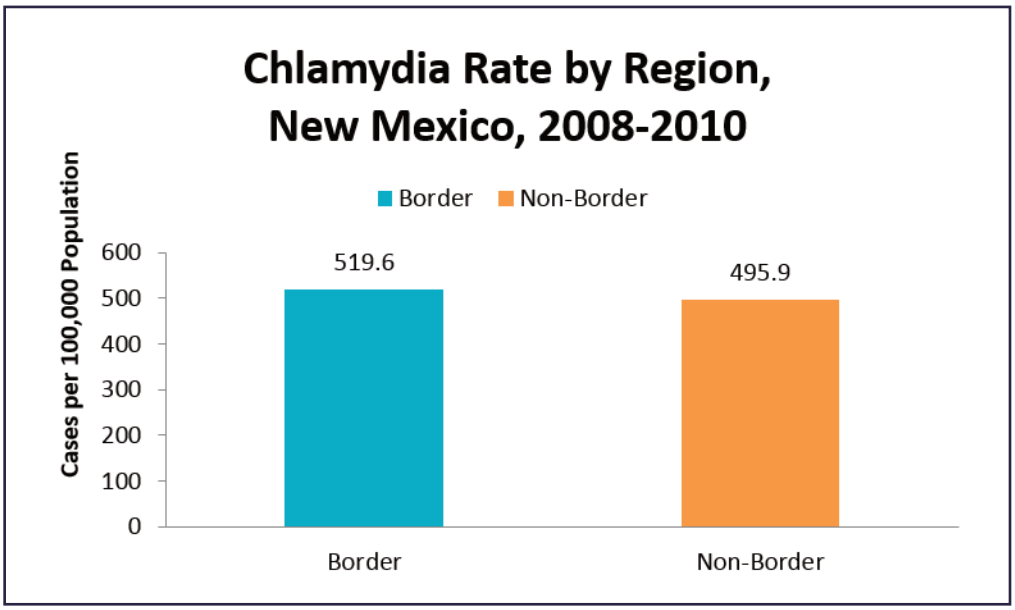
Source: New Mexico Department of Health

The difference by sex is large, with males accounting for more than 2.5 times as many cases of hepatitis C as females. This could indicate different patterns of transmission or diagnosis, but in either case could serve to inform public health interventions.

Chlamydia

According to the CDC (2012b), chlamydia is a common sexually transmitted disease; it is the most commonly reported sexually transmitted disease. It can be asymptomatic in both males and females, but causes a permanent reproductive damage if left untreated in females. As can clearly be seen below, whether because of transmission or testing patterns, chlamydia is commonly reported in New Mexico.

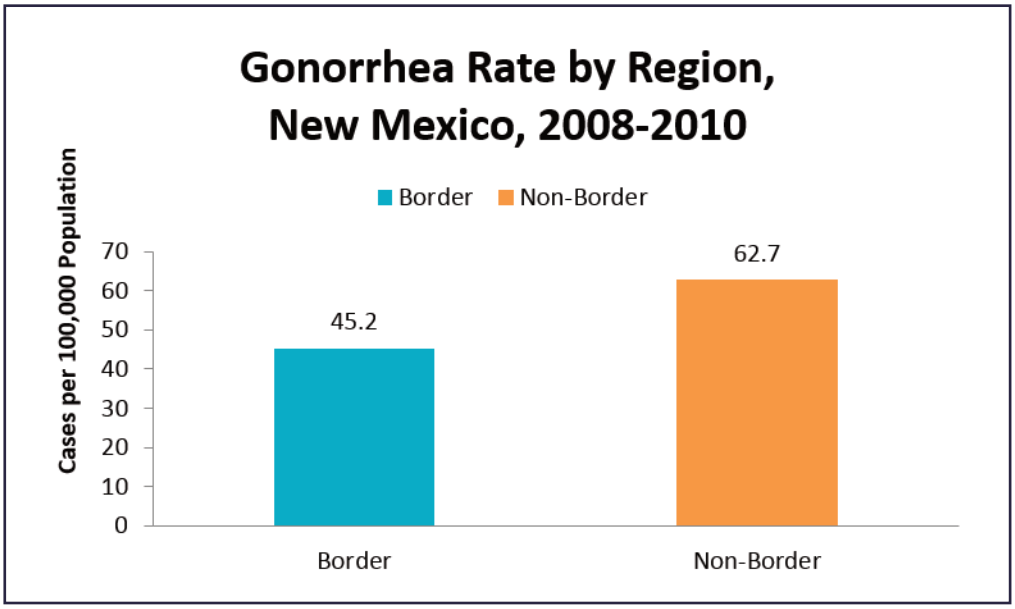
The chlamydia rate is higher in the Border region than within the Non-Border region (New Mexico Department of Health, 2013).



Source: New Mexico Department of Health

Gonorrhea

According to the CDC (2012a), gonorrhea is a common sexually transmitted disease, which, if left untreated, can cause serious complications ranging from pelvic inflammatory disease and infertility to blood infection and death in both males and females. Regional New Mexico rates are presented below.

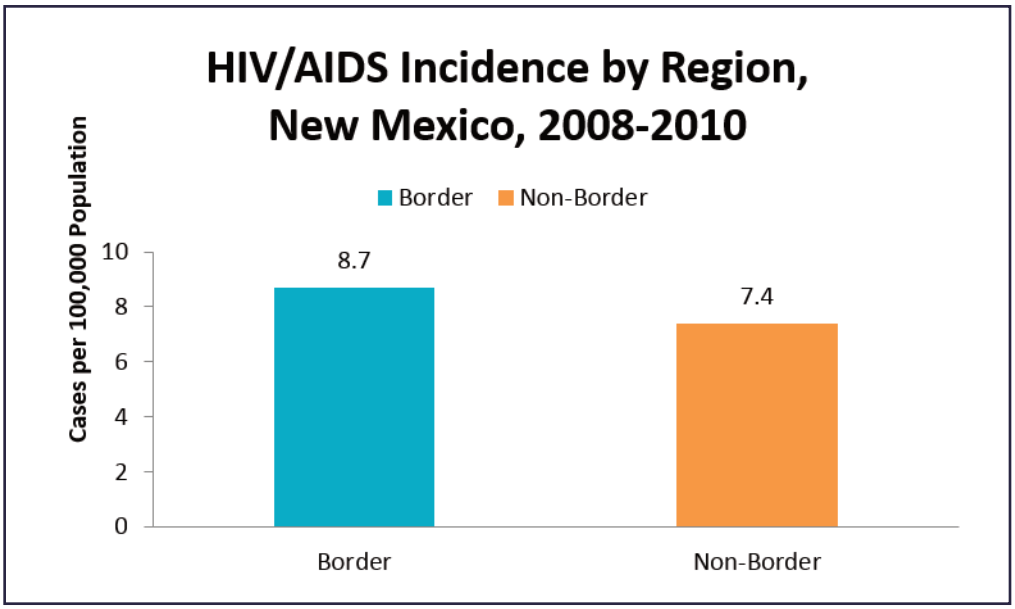


Source: New Mexico Department of Health

HIV

The Human Immunodeficiency Virus (HIV) is spread through sexual or blood contact and can lead to Acquired Immunodeficiency Syndrome (AIDS) (CDC HIV/AIDS Statistics Center, 2013). In 2011, the CDC reports that the most common modes of transmission include sexual contact and intravenous (IV) drug use or a combination of sexual contact and IV drug use. Other common modes of transmission include perinatal infection, hemophilia, and blood transfusion (CDC HIV/AIDS Statistics Center, 2013).

Although there is no cure for HIV/AIDS, treatments have improved and persons with HIV/AIDS may live with the condition for many years (CDC, 2012k). As persons may move or seek treatment elsewhere, regional prevalence rates of HIV/AIDS may reflect patterns other than those directly related to infection. Thus, this section only contains HIV/AIDS incidence data. The following data includes diagnoses for HIV/AIDS among individuals living in New Mexico during 2008-2010.



Source: New Mexico Department of Health

According to the above data, HIV/AIDS incidence in the Border region is higher than in the Non-Border region of New Mexico (New Mexico Department of Health, 2013). Whether this regional difference is related to diagnostic or transmission patterns is unclear. The rate for the Border region reflects 62 cases diagnosed among regional residents over 2008-2010, while the Non-Border rate reflects 402 cases diagnosed among regional residents over the same time period (New Mexico Department of Health, 2013).

Conclusions Regarding Sexually-Transmitted Diseases, Hepatitis C, and HIV/AIDS

Out of all the sexually-transmitted diseases reported in New Mexico, chlamydia is by far the most common in both the Border region and the Non-Border region. Incidence of chlamydia and hepatitis C are especially high in the Border region compared to the Non-Border region. HIV/AIDS incidence is higher in the Border region compared to the Non-Border region. Syphilis and gonorrhea rates are higher in the Non-Border region than in the Border region. This warrants more widespread testing and preventive interventions throughout New Mexico.

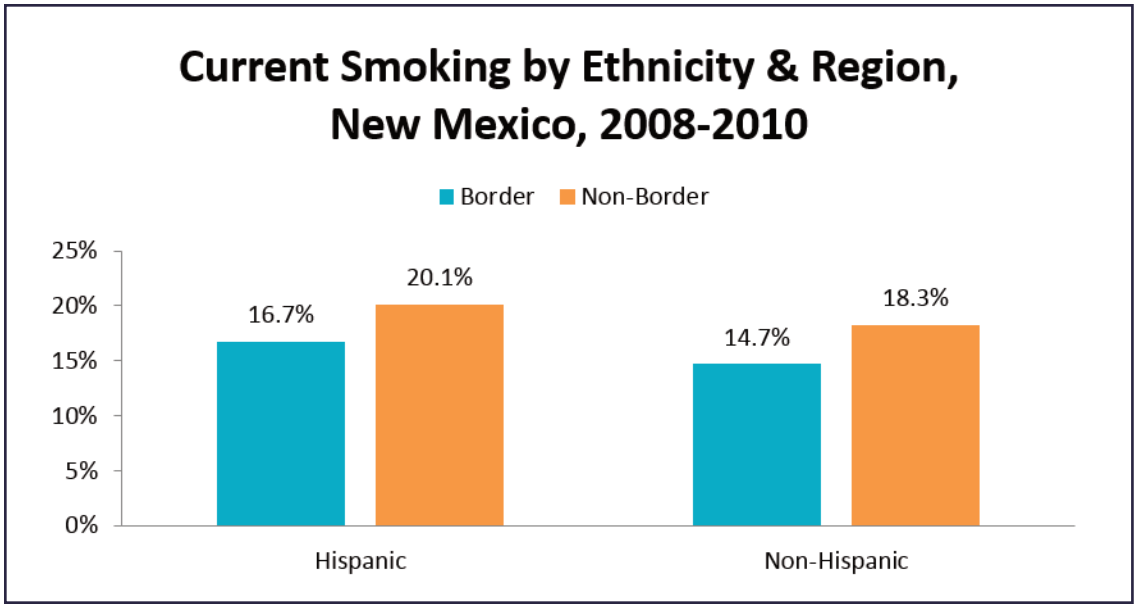
RISK BEHAVIORS AND CHRONIC ILLNESSES

Certain chronic illnesses and risk factors can contribute to an increased risk of death or morbidity. Some chronic conditions or behaviors are interrelated with each other and/or with chronic illnesses indicative of future risk for morbidity or mortality; these factors are sometimes related to demographic factors such as education and income, although the mechanisms of interaction are as yet too complex to be linked to decisive overarching patterns of interaction (Ogden, Carroll, Kit, & Flegal, 2012; Ogden, Lamb, Carroll, & Flegal, 2010).

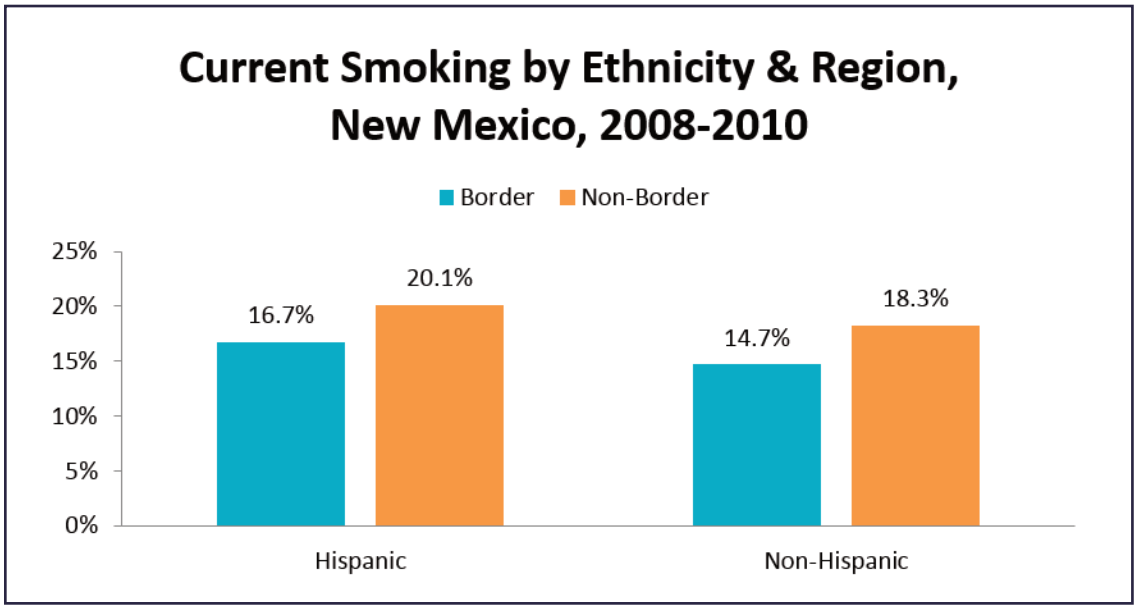
Some examples of such factors include smoking and overweight and obesity, physical inactivity, diabetes, alcohol consumption, and asthma. Accordingly, inquiries related to doctor-diagnoses of asthma and diabetes, and behaviors related to smoking, drinking, and leisure-time physical activity are among the questions asked of respondents to the Adult Behavior Risk Factor Surveillance Survey (BRFSS). The following subsections present data regarding 2008-2010 responses to these questions for the Border and Non-Border regions of New Mexico.

Smoking

According to the CDC (2012c), cigarette smoking affects every organ in the body. Furthermore, the CDC (2012c) reports that the adverse health effects of smoking "…account for an estimated 443,000 deaths, or nearly one of every five deaths, each year in the United States." The CDC (2013) considers smoking to be the number one leading cause of preventable death in the United States and that 19% of U.S. adults age 19 years and older currently smoke cigarettes. BRFSS (2008-2010) asks people the following question: "Have you smoked at least 100 cigarettes in your entire life? Do you now smoke cigarettes every day, some days, or not at all?" (New Mexico Department of Health, 2013) Answers are categorized as "not a current smoker" or as "current smoker" (New Mexico Department of Health, 2013). New Mexico data for 2008-2010 are reported on the next page.



Source: New Mexico Department of Health



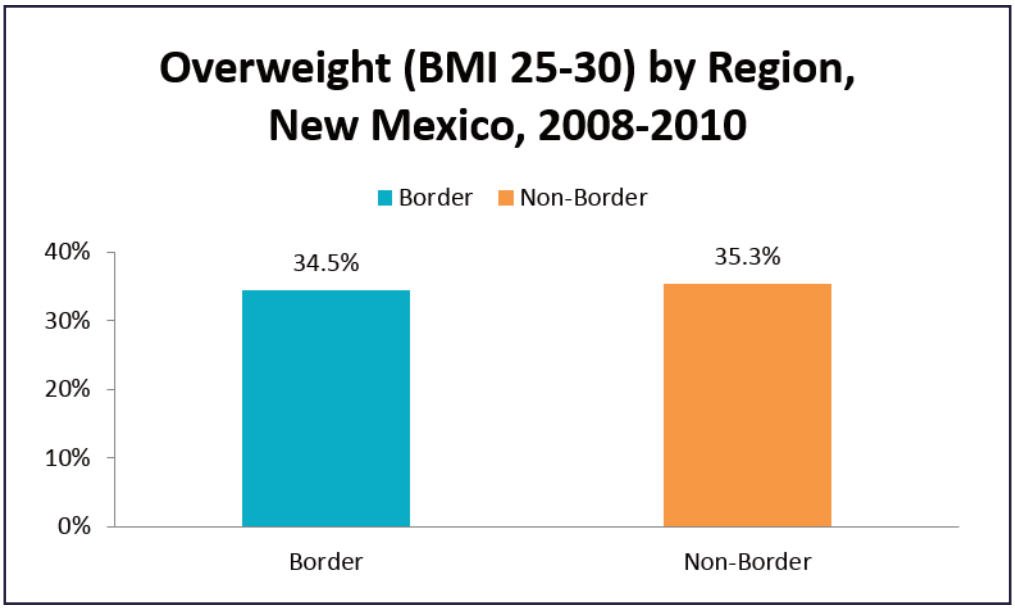
Source: New Mexico Department of Health

The above data shows that the percentage of adults who reported smoking during 2008-2010 is higher in the Non-Border region compared to the Border region; the percentages of adults who reported smoking during the same time period were highest for Hispanics in the Non-Border region (New Mexico Department of Health, 2013).

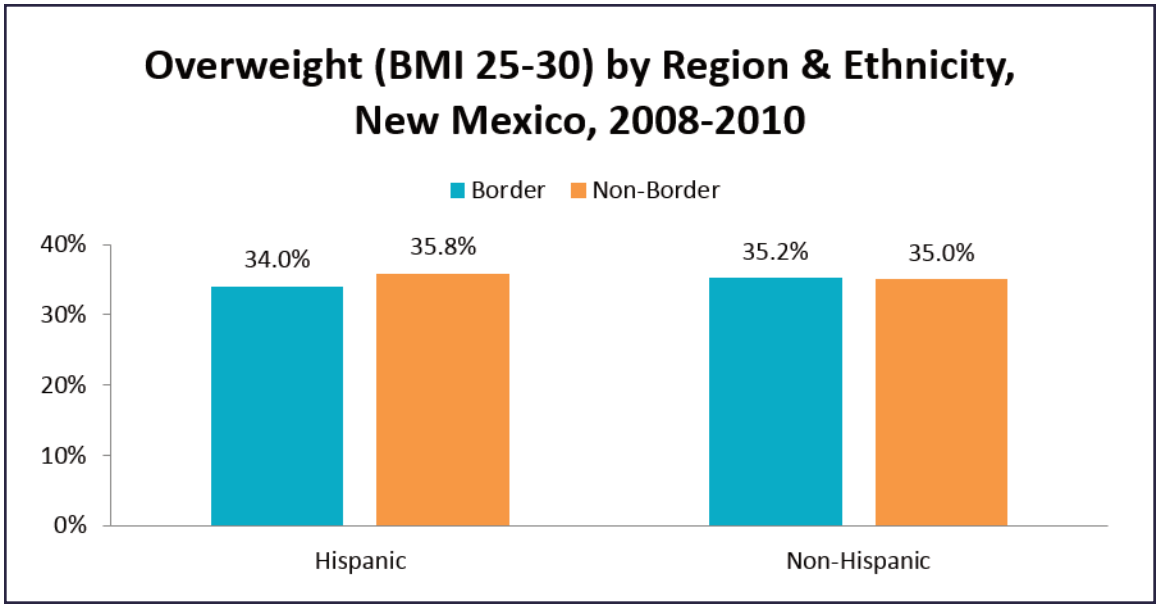
Overweight and Obesity

The CDC defines overweight and obesity based on the body mass index (BMI), a ratio of height to weight. A body mass index of 25-30 is considered overweight, while a body mass index of 30 or higher is categorized as obese (New Mexico Department of Health, 2013; Ogden, Carroll, Kit, & Flegal, 2012). Obesity is a major risk factor for a number of illnesses, including diabetes, high cholesterol, hypertension, cancer, and more (Ogden, Carroll, Kit, & Flegal, 2012; CDC, 2012e).

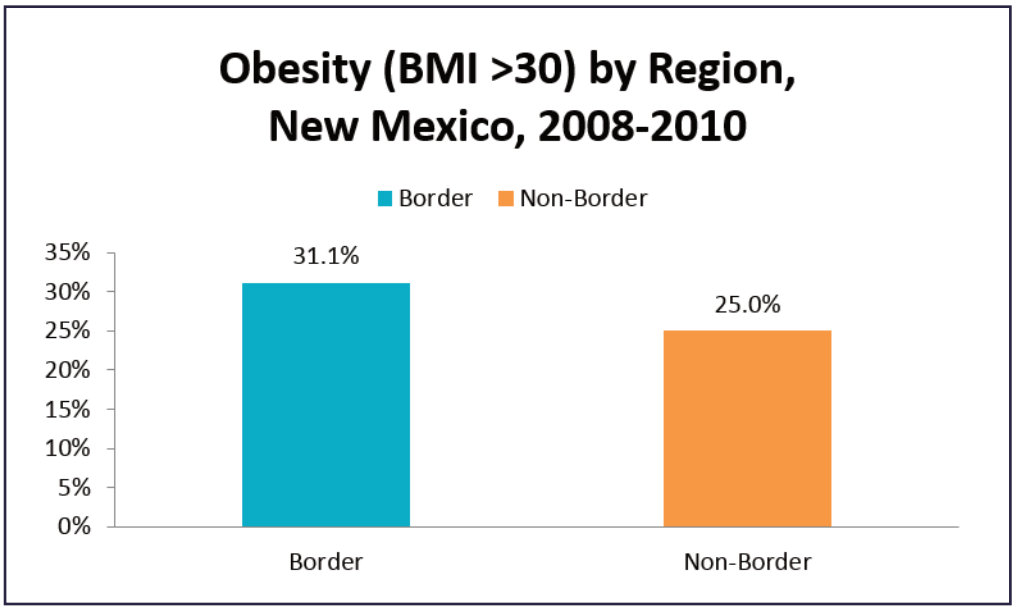
Over the last several decades, overweight and obesity among adults in the U.S. has increased dramatically. According to the CDC from 2009-2010, 33% of U.S. adults age 20 years and older were overweight, while 35.7% of U.S. adults age 20 years and older were obese (Ogden, Carroll, Kit, & Flegal, 2012). In order to track self-reported weight and calculate BMI as part of the BRFSS, one series of questions goes as follows (New Mexico Department of Health, 2013): "How much do you weigh without shoes? How tall are you without shoes?" Using this information to calculate BMI, BRFSS and New Mexico Department of Health (2013) categorized New Mexico residents' responses for 2008-2010 as follows:



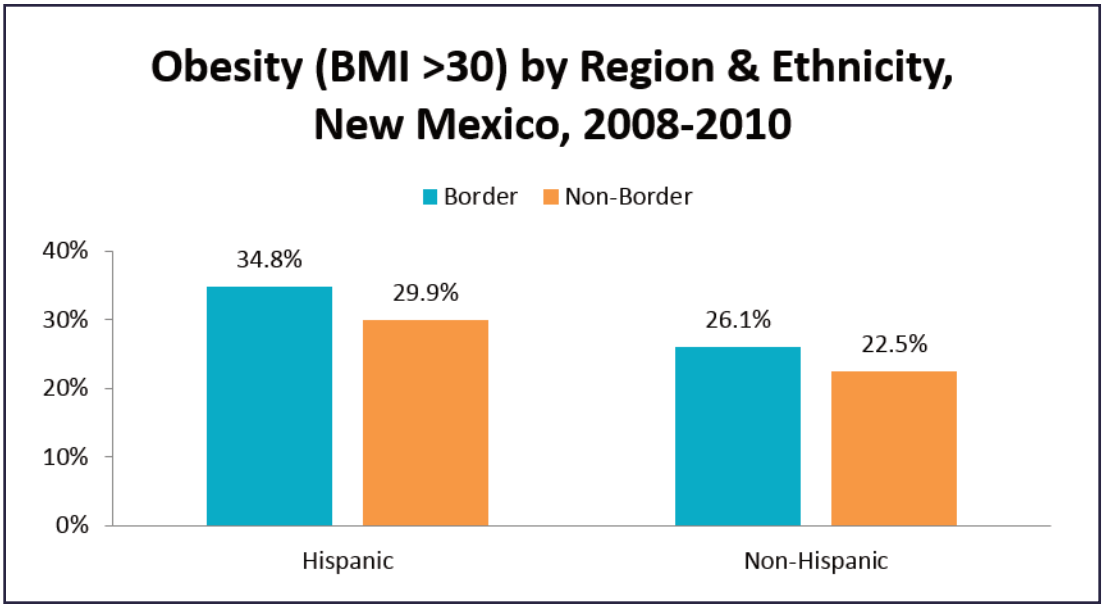
Source: New Mexico Department of Health



Source: New Mexico Department of Health



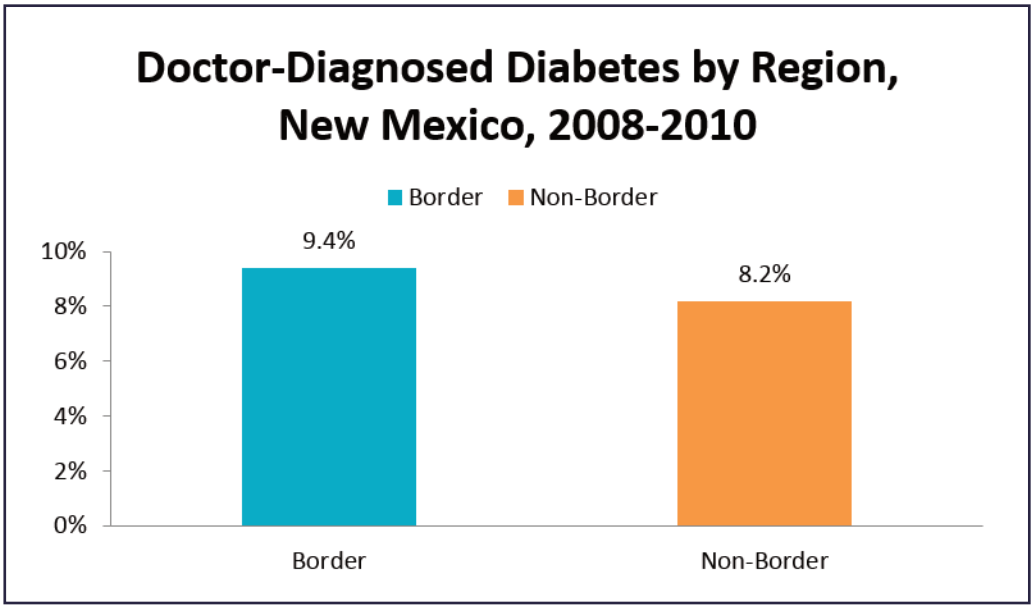
Source: New Mexico Department of Health



Source: New Mexico Department of Health

The preceding charts show that overweight is more prevalent among both Hispanics and Non-Hispanics in the Non-Border region, while obesity is more prevalent among Hispanics and Non-Hispanics in the Border region (New Mexico Department of Health, 2013). During 2008-2010, the percentage of overweight adults among New Mexico Hispanics and Non-Hispanics in both the Border and Non-Border regions were slightly higher (34% or more) (New Mexico Department of Health, 2013) than the national percentage (33%) of overweight adults for 2009-2010 (Ogden, Carroll, Kit, & Flegal, 2012).

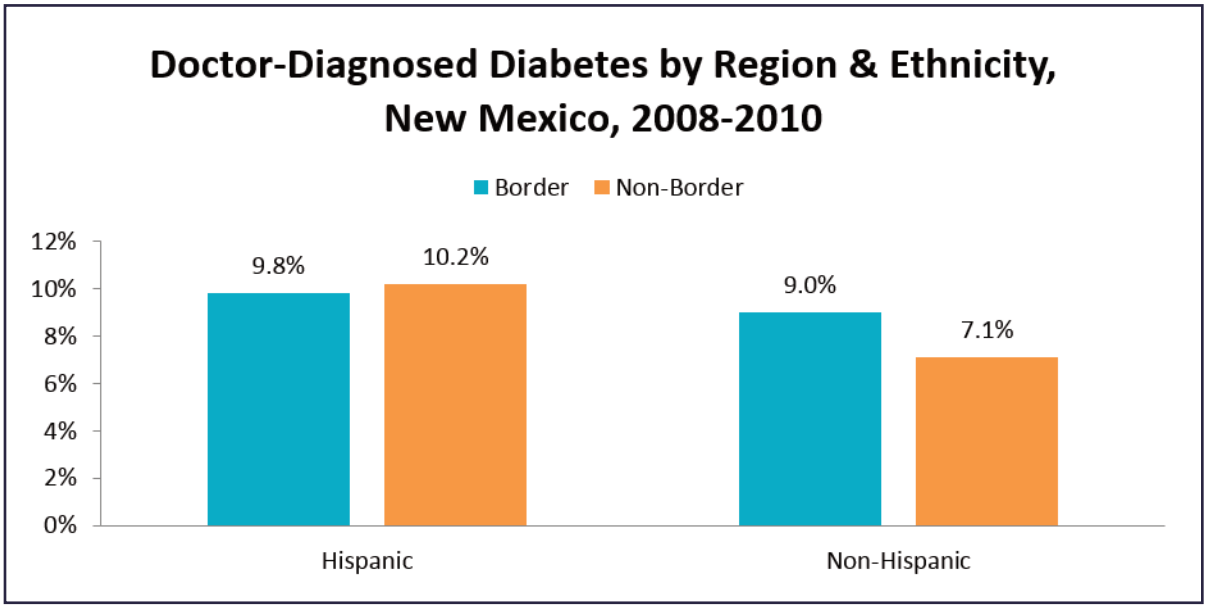
However, for 2008-2010, the percentage of obese adults among New Mexico Hispanics and Non-Hispanics and in both the New Mexico Border and Non-Border regions was lower (34.8% or less) than the national percentage (35.7%) of obese adults for 2009-2010 (Ogden, Carroll, Kit, & Flegal, 2012).



Source: New Mexico Department of Health

Diabetes

The BRFSS (2008-2010) asks participants about whether they have been diagnosed with diabetes. The question is worded as follows: "Have you ever been told by a doctor that you have diabetes?" (New Mexico Department of Health, 2013). In 2010, the national prevalence of diabetes among adults age 20 years and older was 11.3% (CDC, 2011a). As seen below, lower percentages of New Mexico residents in both the Border and Non-Border regions self-reported that they had been diagnosed with this disease.

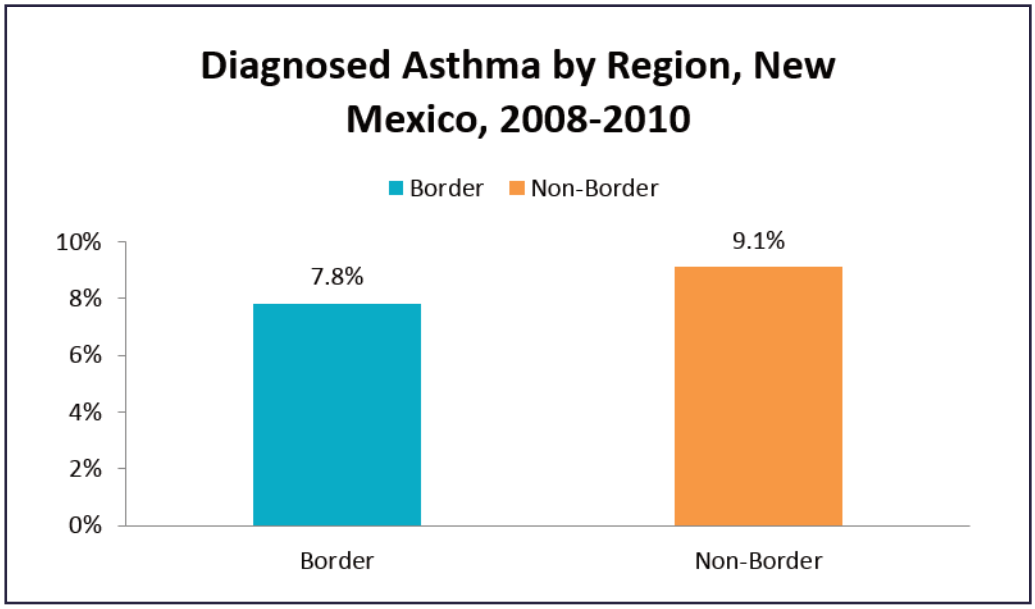


Source: New Mexico Department of Health

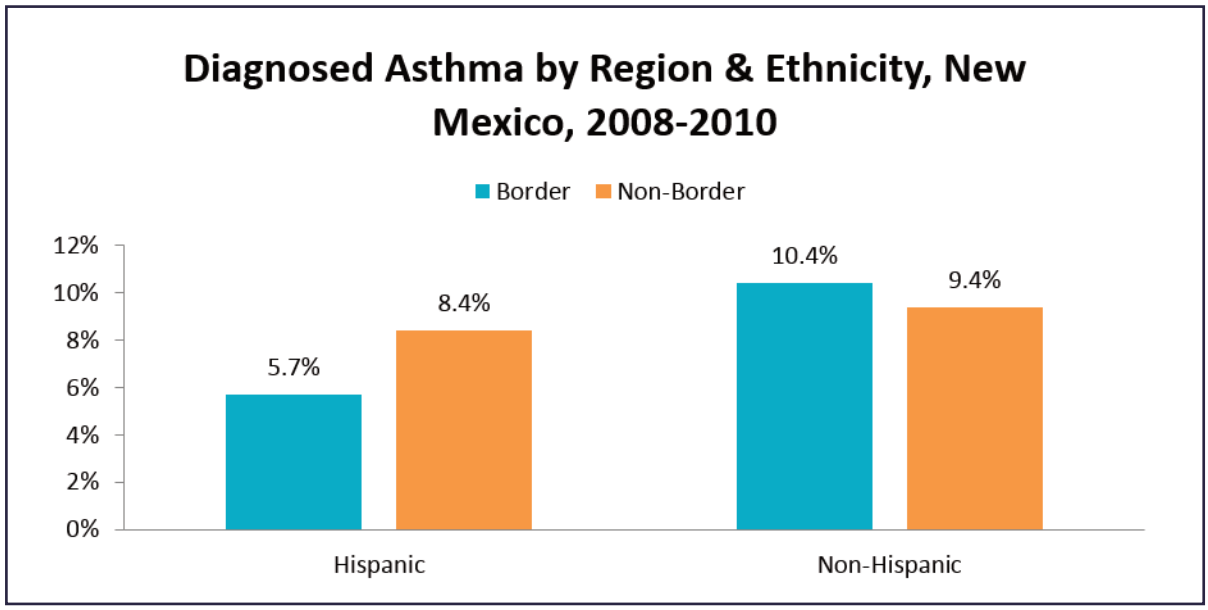
Throughout New Mexico, by region as well as by region and ethnicity, the percentage of adults with diagnosed diabetes during 2008-2010 remains lower than the national percentage of adults with diabetes in 2010 (New Mexico Department of Health, 2013; Ogden, Carroll, Kit, & Flegal, 2012). The reported prevalence of diabetes is higher for Non-Hispanics in the Border region compared to Non-Hispanics in the Non-Border region.

Asthma

The BRFSS asks about health care provider diagnosed asthma. Specifically, one series of a question is, "Have you ever been told by a doctor, nurse, or other health professional that you had asthma? Do you still have asthma?" (New Mexico Department of Health, 2013). As can be seen below, the percentage of diagnosed asthma among adults is higher within the Non-Border region compared to the Border region of New Mexico (New Mexico Department of Health, 2013).



Source: New Mexico Department of Health

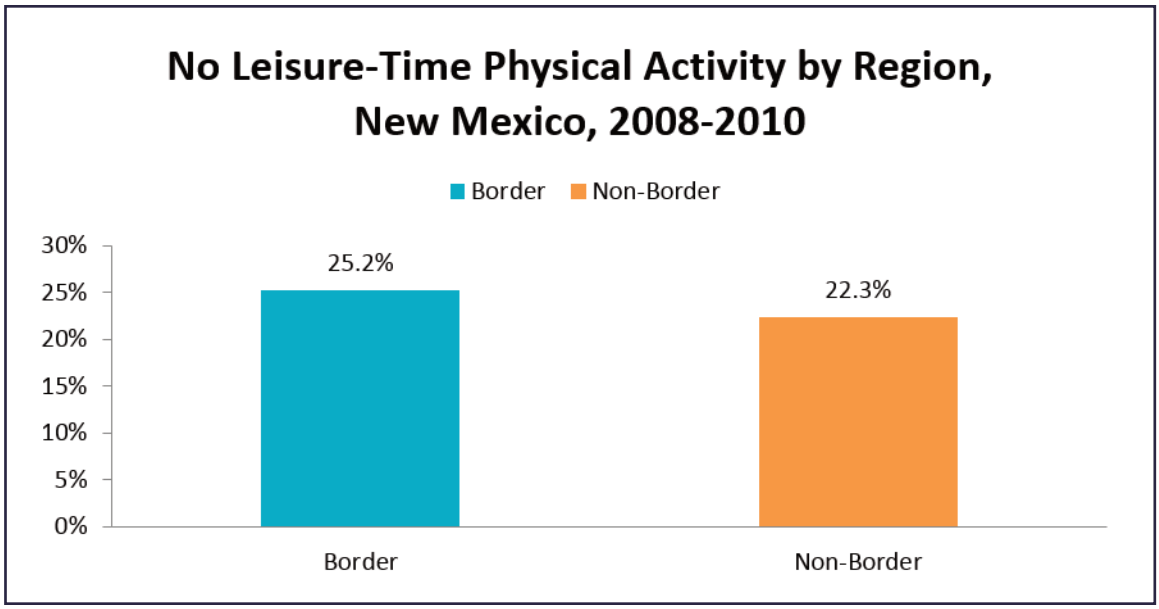


Source: New Mexico Department of Health

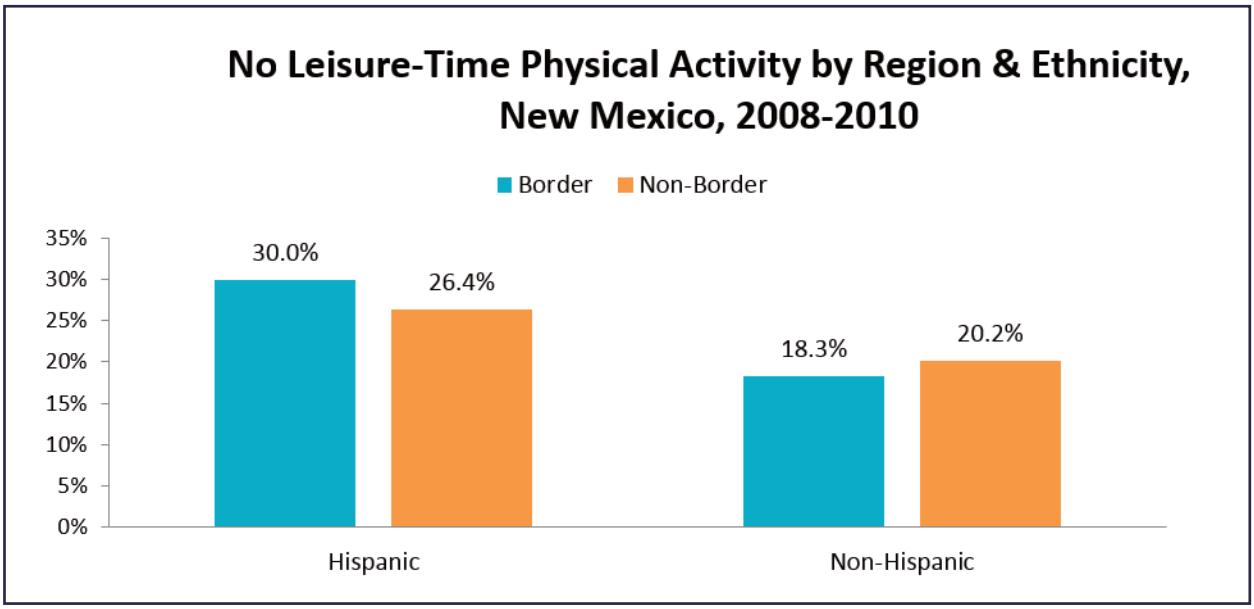
The above data show that the percentage of adults with health care provider diagnosed asthma varies by region and ethnicity, with the highest percentage being among Border Non-Hispanics. The percentage of Non-Border Non-Hispanic versus Hispanic adults with health care provider diagnosed asthma differs by only one percent (New Mexico Department of Health, 2013).

Physical Inactivity

Physical inactivity is considered to be a risk factor that is interrelated with diabetes and excess body weight (Ogden, Carroll, Kit, & Flegal, 2012). BRFSS asked New Mexico residents the following question: "During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?" (New Mexico Department of Health, 2013). Below are the percentages of New Mexico adults reporting physical inactivity in response to this question for 2008-2010.



Source: New Mexico Department of Health



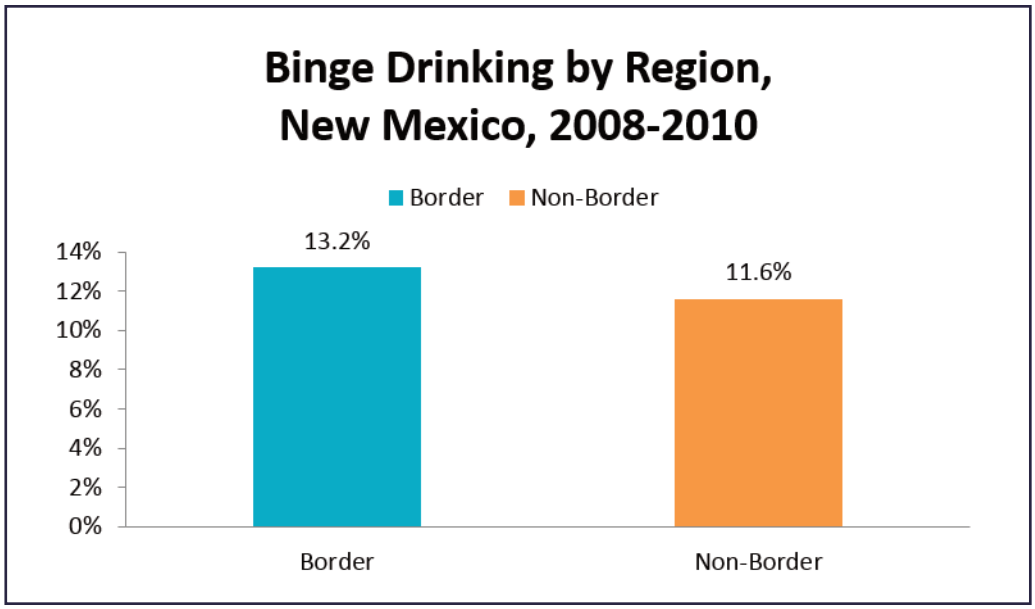
Source: New Mexico Department of Health

Differences in physical inactivity are especially visible between Hispanics and Non-Hispanics in the Border region. However, the overall differences by region are small.

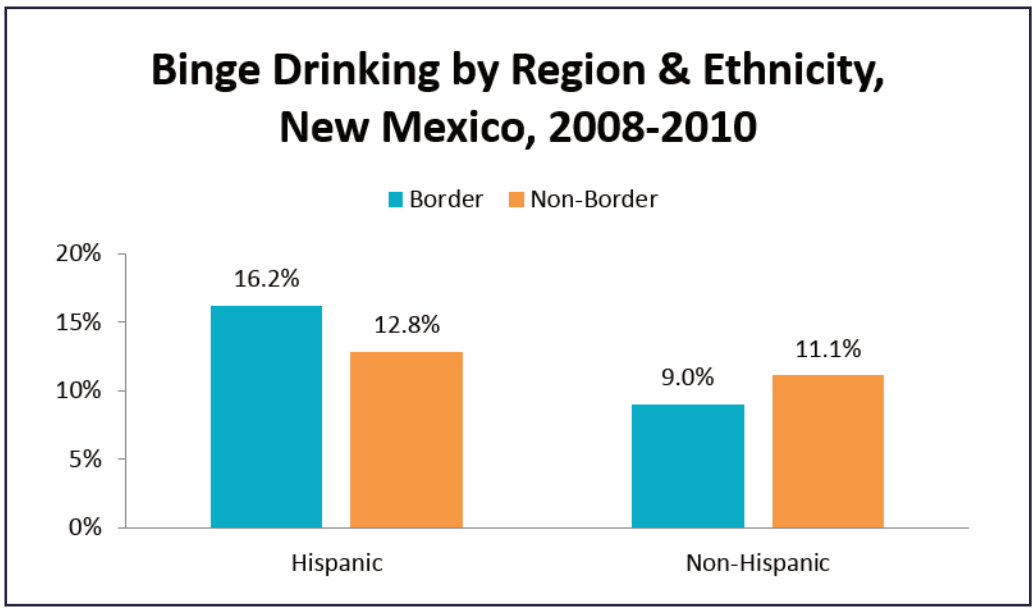
Binge Drinking

According to the CDC (2011b), binge drinking is the most common form of excessive alcohol use in the U.S. Binge drinking is defined as four or more drinks for a woman or five or more drinks for a man in a short time period (CDC, 2011b). Recent statistics suggest that more than 15% of U.S. adults report binge drinking in the last 20 days (CDC, 2011b). This statistic is derived from studies such as the BRFSS, which asks: "Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 or more drinks for males or 4 or more drinks for females on an occasion?" (New Mexico Department of Health, 2013). This information is used to gauge binge drinking in the United States and in New Mexico (New Mexico Department of Health, 2013).

For 2008-2010, the percentage of New Mexicans who answered the BRFSS question with information that indicated binge drinking behavior is reported below.



Source: New Mexico Department of Health



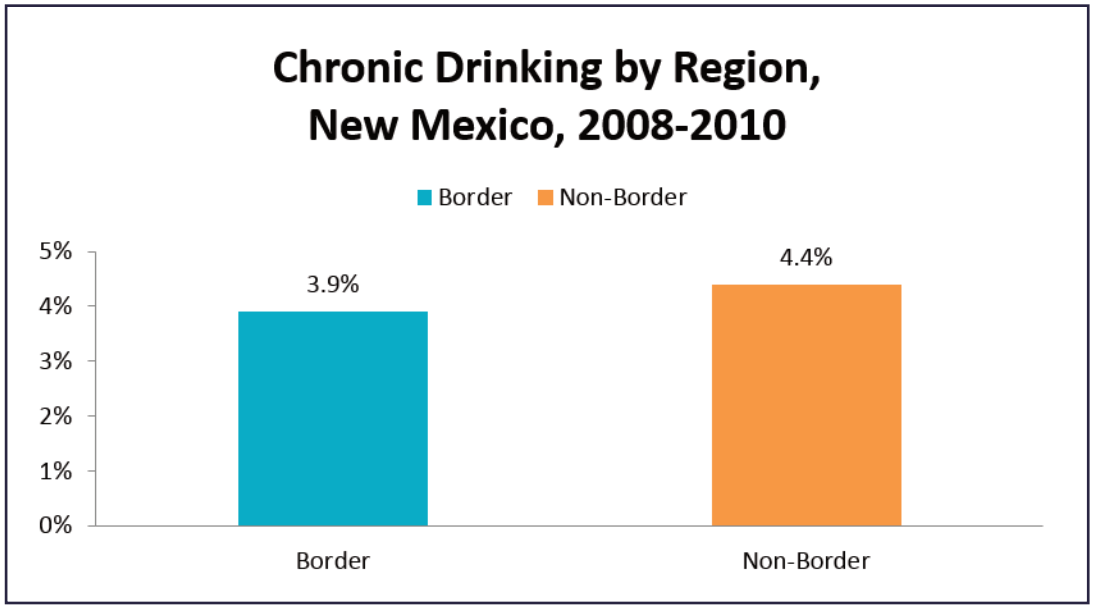
Source: New Mexico Department of Health

Chronic Drinking

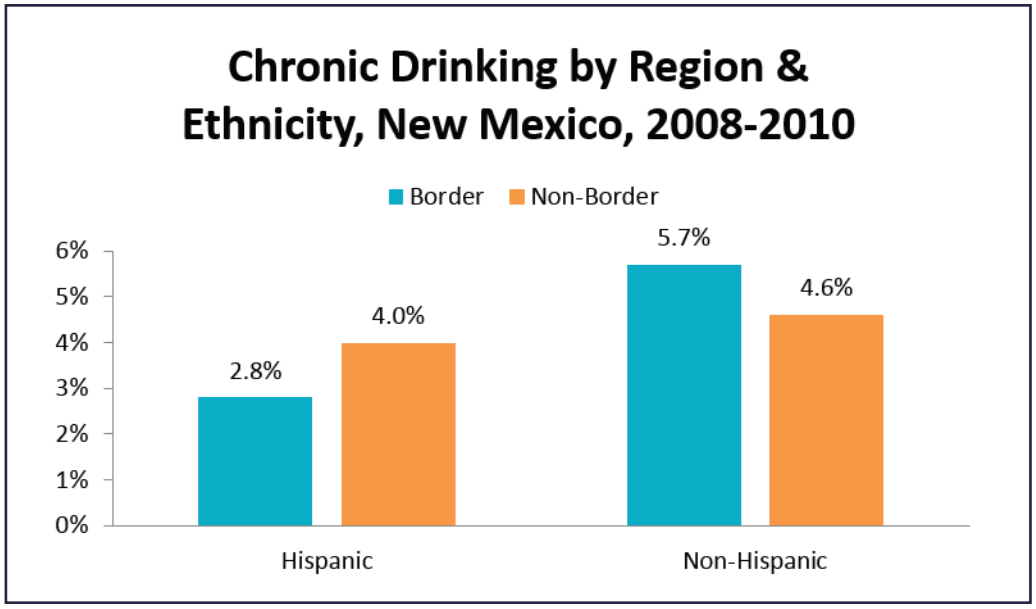
To gauge chronic drinking, BRFSS states and asks the following:

> One drink is equivalent to a 12 ounce beer, a 4 ounce glass of wine, or a drink with one shot of liquor. On the days when you drank, during the past 30 days, about how many drinks did you drink on the average? (New Mexico Department of Health, 2013)

Below, New Mexico residents' 2008-2010 responses to this question are presented.



Source: New Mexico Department of Health



Source: New Mexico Department of Health

Summary Regarding Drinking Risk Behaviors

According the CDC, nationally more than 15% of adults report binge drinking (CDC, 2011b); thus, the percentage of adults who reported binge drinking is comparatively lower in both regions of New Mexico for 2008-2010. However, 16.2% of Hispanics in the Border region reported binge drinking, which may be a closer approximation to national statistics for this behavior.

In the Border region, the percentage of Non-Hispanic adults who reported chronic drinking in 2008-2010 is nearly that of Hispanics. The percentages of adults who self-reported chronic drinking in response to the 2008-2010 BRFFS is similar for both Hispanics and Non-Hispanics in the Non-Border region of New Mexico (New Mexico Department of Health, 2013).

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