



COMMUNITY TRANSFORMATION GRANT
DATA REPORT

Department of Public Health

www.fcdph.org

Table of Contents

Introduction..... 3

Community Demographics..... 3

 A. POPULATION 3

 B. CULTURAL DIVERSITY..... 4

 C. SOCIOECONOMIC STATUS 4

 D. EDUCATIONAL LEVEL 5

 E. INSURANCE STATUS..... 5

Environment..... 5

 A. AIR QUALITY..... 6

 B. POPULATION DENSITY 7

 C. FOOD DESERTS..... 8

 D. FAST FOOD LANDSCAPE..... 9

 E. PARKS AND RECREATION CENTERS..... 9

 F. CRIME..... 10

 G. TOBACCO RETAIL LANDSCAPE 11

Health Behaviors..... 11

 A. TOBACCO USE..... 12

 B. PHYSICAL ACTIVITY AND EXERCISE 15

 C. SOCIAL AND EMOTIONAL WELLNESS..... 18

 D. NUTRITION 20

 E. UTILIZATION OF CLINICAL SERVICES..... 21

Morbidity 21

 A. FRESNO COUNTY VS. CALIFORNIA 22

 B. HOSPITALIZATION RATES..... 24

 C. HIGH RISK GROUPS..... 27

 D. DATA LIMITATIONS 30

Mortality 31



Introduction

Fresno County, considered a “large county”, is located in the heart of the Central San Joaquin Valley. It is the sixth largest county in California with approximately 6,000 square miles.¹ The County is primarily categorized as metropolitan due to the Fresno-Clovis Metro area where nearly 60% of the county population lives. However, the metro area is highly influenced by rural communities, which make-up about 40% of the county’s population. Additionally, the population density of Fresno County is lower than the state as a whole, as well as lower than the national average. This data report will serve as a baseline measure for the current status of Fresno County health. It is these measures that will be monitored during the implementation of Community Transformation Grant (CTG) activities and assessed for positive change as a result of focused strategies.

Community Demographics

A. Population

Fresno County has a total population of 930,450 residents as of 2010.² This indicates a 16.4% increase from the year 2000.² Compared to California, Fresno County is a young population with an average age of 30.6 and 30% being under the age of 18 compared to only 25% for California.² Within Fresno County, lies 15 incorporated cities on the valley floor. Nearly 60% of the total population resides within the urban cities of Fresno and Clovis. This increase is due in part to the City of Clovis expanding its city limit border by incorporating a large segment of its area of influence which was previously consider under County jurisdiction.



B. Cultural Diversity

Fresno County is home to a very diverse population. The estimated 2010 population distribution was: 50.3% Hispanic, 32.7% White (non-Hispanic), 9.6% Asian, 5.3%, African American, 1.7% American Indian/Alaska Native, and .02% Native Hawaiian and other Pacific Islander. Nearly 42% of the population speaks a primary language other than English within the home.¹ The County has the second largest U.S. Hmong population with approximately 32,000 in residence.³ A smaller portion of Cambodians and Laotians can also be found within Fresno County.

C. Socioeconomic Status

During 2010, the median household income was \$44,869 for Fresno County residents. This represents a significantly lower level of prosperity compared to the California median household income of \$57,664.⁴ Twenty-one percent of the county's population lives below the poverty line compared to 14.3% nationally.¹ The May 2011 unemployment rate was 16.0% compared to 9.1% nationally.⁵ The number of individuals who are eligible for food and nutrition assistance programs in Fresno County is far greater than the number of actual participants. In 2009, only 62% of eligible individuals in the county participated in CalFresh.⁶ In 2009, nearly 30% of students eligible for free or reduced priced (FRP) lunch did not participate in the program. While 53% of students participating in the FRP lunch program did not participate in the FRP breakfast program.⁶

Because Fresno county residents face greater rates of poverty than other counties in California, the youth population also faces additional burdens. Thirty-eight (38%) percent of children under the age of 18 live in poverty compared to 22% for the state of California.⁷ This



places Fresno County 50th out of 58 California Counties for children living in poverty (with 58th being the highest number of children living in poverty).⁸

D. Educational Level

As of 2010, Fresno County has a total population of 545,988 over the age of 25. Of this population, 26.1% have not received a high school diploma demonstrating, a higher rate than for California (19.3%); 22.4% have completed the requirements to receive a high school diploma within the County.² Those receiving college degrees, including an associates, bachelors, or post-bachelorette, account for 28.3% of the total population over the age of 25 and is nearly 10% lower than the California trend of 37.7% degree achievement.²

E. Insurance Status

Over 20% of individuals in Fresno County are estimated to have no health insurance; of these, an estimated 22,000 are children.² Approximately 38.2% of residents receive government supplemented health insurance in the form of Medicare, Medicaid, or Healthy Families/CHIP; while 40.7% receive their coverage through an employer sponsored insurance program.¹⁰ Uninsured rates among Fresno County represent a slight increase in the California rate of 18.5%. Of those uninsured; African Americans, Latinos, Asians, and American Indians all experience higher rates than their Caucasian counterparts.²

Environment

The built environment has a tremendous impact on overall health. How cities and neighborhoods decide to utilize their land directly impacts the availability or absence of certain health promoting features. The County Health Rankings and Roadmaps rank physical environment by considering air pollution, access to recreation facilities, access to healthy food,



and fast food landscape. Of the 56 California Counties that are ranked, Fresno County ranks 53rd indicating a very poor set of environmental factors that limit the availability of health promoting features.⁷

A. Air Quality

Air quality within Fresno County is among one of the worst in the nation. Of the 277 metropolitan areas in the country, American Lung Association's State of the Air 2012, ranked Fresno-Madera in the top five for most polluted cities for all three indicators of high ozone days, 24-hour particulate pollution, and annual particulate pollution. Fresno County received a grade of "F" for air quality along with other Central Valley counties, such as Kern, Kings, Tulare, and Merced Counties.

The unhealthful air quality within Fresno County puts its 930,450 residents at an increased risk of asthma, chronic bronchitis, and other respiratory health concerns. Hospitalization rate for all respiratory health conditions in Fresno County 2006/07 was 788.1 per 100,000 persons. The hospitalization rate for adult asthma was 47.8 per 100,000 persons while pediatric asthma was higher at a 133.2 per 100,000 persons. A study conducted by Central Valley Health Policy Institute found that asthma emergency room admissions are strongly linked to increasing short-term ambient fine particulate matter (PM2.5) across the Valley, with higher risk among children.

In Fresno County, the population has a higher asthma rate of 17.3% compared to the state rate of 13.7%. About 11.0% of those Fresno County asthmatics reported having visited an emergency room or urgent care for asthma-related treatment within the past twelve months³. According to CHIS 2009 Fresno County data, 42.7% of those who have asthma take daily



medication to control the condition. Another 11.6% of those asthmatics had missed at least one or more days of work. When comparing tobacco smokers with asthma in Fresno County (19.5%) to the state (13.6%), there was a significant difference between the two, indicating that there are additional environmental exposures or factors that other Californians may not be exposed to that impact Fresno County residents with asthma.

Air pollution is caused by many sources in the Central Valley, such as farming operations, agricultural burnings, pesticides and fertilizers, passenger cars, large truck and train freight transportation, garbage burnings, wood smoke, small combustion engines, chemical off-gassing and other sources. Also, the physical landscape of the Central Valley entraps pollution in the bowl shape of the Valley encircled by mountain ranges. This geography, combined with stagnant weather patterns, contributes to the higher concentrations of air pollution in Fresno County. In addition, extreme heat and sunlight during the summer react with combustion emissions resulting in high levels of ground level ozone. Ozone and other air pollutants have been shown to exacerbate asthma and may contribute to higher rates of asthma in Fresno County. The *combination* of air pollution and bioallergens (pollen, endotoxin, mold) are thought to contribute to the elevated rate of asthma and other allergic disease in Fresno County.

B. Population Density

The population density of a community is a measure of how closely residents are to one another. Highly urbanized areas tend to have high density as opposed to rural communities in which residents lived spaced apart. Fresno County has a population density of 156.2 persons per square mile compared to California which has a density of 239.1 persons per square mile.² The population density is impacted by large number of rural communities that exist within the



County. In actuality, the urban Fresno-Clovis area is more dense than the remaining rural communities in the county.

C. Food Deserts

In Fresno County, twelve food deserts have been identified by the United States Department of Agriculture (USDA) Economic Research Service. Food deserts are defined as urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food. Fresno County food deserts have been identified by census tracts with eight of the twelve food deserts located in urban areas. The West Fresno area has the highest percentage of low-income people with low-access at 52.7%, accounting for about 1973 people.

A food desert is described as having limited access to grocery stores as one component of its definition. Access to grocery stores or markets can limit families' choices of food options. Many families are limited to available corner stores or fast food outlets in the neighborhood. Low-income families who lack transportation often have to rely on public transportation. Fresno County public transportation does not meet the California Department of Public Health Limited access to grocery stores restricts purchase of fresh fruits and vegetables, meats, and other healthy products that can be bought from grocery stores. As an alternative, families rely on fast foods and low-cost processed, prepackaged foods with long shelf-lives to feed their children, increasing their caloric intake with high calorie-dense and high sodium foods, which are often low in vital nutrients and fiber. As a result of consuming high-calorie, processed foods as their easy choice, obesity rates among children and adolescents has increased significantly over time. The point of access to grocery stores can be a factor to controlling obesity rates among low-income families.



A comprehensive review at the national level examined 54 studies that evaluated neighborhood access to food outlets found that individuals who have better access to supermarkets and limited access to fast food restaurants tend to have healthier diets and lower rates of obesity. On the contrary, individuals living in low-income, minority and rural neighborhoods are most often affected by poor access to supermarkets and healthful food while the availability of fast-food restaurants and high-fat, unhealthy foods tends to be greater in lower-income and minority neighborhoods.

Another study conducted in San Francisco using fresh fruits and vegetables mobile vendor resulted with low-income families purchasing more bags of fruits and vegetables.

D. Fast Food Landscape

In 2012, the current proportion of Fresno County restaurants that are fast food establishments is 54%, while California has a lower proportion of fast food restaurants at 49%. Fast food outlets are growing in numbers in low-income communities and serve as easy access to high-caloric and high-sodium foods. A survey indicated that children who ate fast food consumed more calories, more carbohydrates, more saturated fat, and more intake of food than those that did not eat fast food.

E. Parks and Recreation Centers

The amount of space designated for parks and recreation centers is a crucial component of achieving physical activity. Neighborhoods lacking safe and appealing areas to be physical active are at a disadvantage when trying to maintain good health. Fresno County has only 5.5 recreation facilities available for every 100,000 residents compared to 9 for the state of



California.¹² This places Fresno County as 47th of the 56 California counties ranked for access to recreation facilities.⁷

Within the city of Fresno, the most populated city in Fresno County, parkland totals 1,511 acres.¹³ Only 1.4 playgrounds exist for every 10,000 resident and the city spends on average, \$59 per resident for parks and recreation centers.¹³ In Fresno County, nearly 40% of teens and adults have not visited a park, playground, or open space within the last month.¹⁴ In comparison to other cities of similar size across the United States, Fresno does not rank in the upper half of cities with adequate parks and recreation facilities for residents.

F. Crime

The amount of crime within a community has a tremendous impact on overall health. Communities with high rates of crime face many barriers including barriers to physical activity, and access to healthy food options. Parents often feel it is unsafe to allow children to play at outdoors due to the threat of crime. Communities experiencing low rates of crime are not as burdened by these types of hardships with regard to outdoor play time for children. There are often limited accesses to healthy food outlets in high crime neighborhoods. Additionally, research shows that exposure to violence as an infant and child has long-term impact on health with increased chronic disease. These long-term chronic disease impacts are secondary to the more acute impacts of high rates of early death and disability caused by violence and related criminal activities and unhealthy lifestyle factors.

As of 2009, Fresno County had an overall violent crime rate of 494.7 per 100,000 which is only slightly higher than California as a whole (453.6).¹¹ This rate is influenced by many factors including the wide diversity of access to resources (education, jobs) and life experiences



(poverty, exposure to violence) that exists within the County. Of the 4,694 violent crimes that occurred in 2009, 62% of them were reported within the city of Fresno. This trend continues when looking at property crime and theft.¹¹ Disparities in crime exists with the highest concentrations of crime occurring in the southern portions of the city of Fresno where poverty and unemployment are also high.

G. Tobacco Retail Landscape

Tobacco retailers provide an access point for consumers. The density of retailers offering these type of products along with their proximity to areas where children are typically present, such as schools and parks, has a proven impact on usage rates. Within Fresno County, there are 110.81 tobacco retailers for every 100,000 persons. When comparing individual cities within the county, Firebaugh, a poor rural city, has the highest density with 251.9 retailers per 100,000 persons. Clovis, a city with a higher median income in the metro area, has the lowest density with only 79.47 retailers per 100,000 persons. Similar economic disparities occur throughout the county with the highest density of retailers located in low income communities.

Health Behaviors

Population health is, in part, a result of individuals choosing to engage in behaviors that promote their overall health. Behaviors such as; tobacco use, physical activity, nutrition, access to health care, and emotional well-being all have tremendous impact on individual health. The availability and ease of making these choices differs across the community and is impacted by many external and internal factors. However, individual health promoting behaviors are an overall indicator of health. Fresno County disproportionately burdened by residents choosing limited health promoting behaviors. In addition, the County also experiences a higher rate of



behaviors that negatively contribute to overall health. The ranking of health behaviors includes; smoking, obesity, physical activity, along with several other indicators. Fresno County ranked 51st of 56 California Counties experiencing higher rates of these behaviors that negatively contribute to overall health .⁷

A. Tobacco Use

Every day in the United States, more than 1,200 people die from tobacco related illness.¹⁵ For each of those deaths, at least two youth or young adults initiate smoking behaviors.¹⁵ Over 80% of adult smokers began before the age of 18.¹⁹ Many nonsmokers, however, still are involuntarily exposed to the harmful effects of tobacco through secondhand smoke. Over 126 million Americans are exposed to secondhand smoke with nearly 40 million of these being children aged 3 to 18.¹⁵ With these dramatic figures also come dramatic costs to society. Each year in the United States, cigarette smoking accounts for 5.1 million years of potential life lost and has a total economic cost of \$193 billion dollars.¹⁶

Tobacco Use in Fresno County

As of 2009 in Fresno County, 14.3% of adults are current smokers, 24.8% are former smokers, and 60.9% have never smoked.¹⁷ Among Fresno's adult smokers, 27.9% smoke 20 or more cigarettes per day.¹⁸ Most adult smokers indicate that they began smoking before the age of 18, attention must be given to youth rates of smoking. Fresno County schools indicate that 6% of 7th graders, 10% of 9th graders, and 13% of 11th graders have smoked a cigarette in the past 30 days; 4% of 9th and 11th graders have used chew tobacco or snuff within the last 30 days; and 29% of 11th graders admitted to smoking a cigarette in their lifetime.²⁰

Fresno County vs. California



The State of California has historically been a leader in tobacco prevention. With an adult smoking rate of 11.9%, California is one of only two states in the US to reach the target set by Healthy People 2020.²¹ However, Fresno County does not reach that same level of success with an adult smoking rate of 14.3%.¹⁷ Youth smoking rates in Fresno County are comparable to the state of California.

High Risk Groups

Tobacco use is typically exacerbated in low-income communities of color Fresno County, being largely low-income and a “majority minority” county also suffers from these types of disparities. When exploring the effect of household income, the smoking rate climbs to 41.6% in households making \$5,001 to \$10,000 annually;¹⁷ statistically significant results are unavailable for other income brackets.

Racial and ethnic fluctuations in rates of smoking varies between groups. Fresno County data demonstrates smoking rates of 11.3% among Latinos and 17.4% among whites;¹⁷ statistically significant data is unavailable for other racial groups.

In an effort to generate statistically significant data regarding ethnic disparities within Fresno County, a broader look at the region is necessary. The Central San Joaquin Valley is comprised of 8 Counties including Fresno. Demographical characteristics are similar throughout the entire region. The regional data show that the smoking rate for adults is as follows: Latinos, 11.2%; Whites, 19%; African Americans, 19.4%; and non-Latino with two or more races, 26%;¹⁷ statistically significant results are unavailable for other racial groups.

When examining the effects both gender and race have on smoking rates, additional high risk groups emerge. Within Fresno County, when including all races, female adults have a



smoking rate of 15.1% compared to males at 13.4%.¹⁷ In the Central San Joaquin Valley, White adult females have the highest and statistically significant smoking rate, 18.6% while Latinos have the lowest rate at 6.3%. For adult males, smoking is also highest in whites at 19.4% and lowest in Latinos at 16%.¹⁷

Comparing the various effects race/ethnicity, gender, and income have on smoking demonstrate patterns of high risk. High risk groups include, low income, female, and African American emerged as having the highest rates of smoking. Current data suggests there may be high rates of smoking among American Indian/Alaska Native's, however; due to limited sample size statistically significant result was not determined.

Data Limitations

The California Health Interview Survey is a widely used data source for evaluating various health topics. In the case of tobacco use, this survey is unable to produce accurate results depicting rates within various populations such as race and ethnicity. Additionally, this data set is only capable of describing the County as a whole. Further data collection is underway across the jurisdiction. A detailed tobacco policy scan has been conducted looking at existing tobacco-related policies within local, state and national jurisdictions. Additionally, there were nine community-based focus groups conducted with diverse participations. During the summer of 2013 a retail assessment of over 400 stores is being conducted as well as a readiness assessment for each of the 15 jurisdictions within the county. All of this additional information is critical in the evaluation of how physical location within the County influences tobacco use.



B. Physical Activity and Exercise

Inadequate amounts of physical activity, combined with various other factors, are significant contributors to obesity and obesity related disease. More than 60% of American adults are not consistently physically active and 25% of adults are not active at all.²² Physical inactivity has a tremendously negative on individuals contributing to multiple chronic diseases. The cumulative impact of chronic disease across society is a burden both in terms of morbidity and mortality, and also in terms of economic impact. During 2006, California spent nearly \$8 billion on health care costs and over \$12 billion for loss of productivity totally \$20 billion dollars spent related to physical inactivity.²³ Fresno County alone spent approximately \$365 million related to impacts of physical inactivity.²³

Physical Activity in Fresno County

During 2009 within Fresno County, 35.1% of children do not engage in physical activity 3 or more times per week.²⁴ 20.8% of teens do not engage in any physical activity during the week.²⁵ Among adults in the County, 41.8% of them engage in moderated to vigorous physical activity.²⁶ This exceeds the Healthy People 2010 target calling for 30% of adults to be physically active. Adolescents, however, fail to reach the Healthy People 2010 target of 85%. Within Fresno County, only 69.6% of adolescents are physically active.²⁶

Within the Fresno County school system, the Fitness Gram is used to measure healthy fitness zones in 5th, 7th, and 9th graders. A total of 6 indicators are used. Among the entire County of Fresno, 25.6% of 5th graders, 32.1% of 7th graders, and 36% of 9th graders passed all 6 indicators for healthy fitness zone.²⁷ Variations in pass rates differ among the various school districts within Fresno County.



Fresno County vs. California

Within Fresno County, 21% of adults aged 20 and over report having no leisure or physical activity time. This places the County ranked 46th of the 56 California Counties ranked.⁷ Among school aged children within California; 25.2% of 5th graders, 32.1% of 7th graders, and 36.8% of 9th graders passed all 6 indicators for healthy fitness zone.²⁷ All rates are comparable to those within Fresno County with only slight variations of less than 1%.

High Risk Groups

Physical activity levels within Fresno County are dependent on various social determinants. Income, race/ethnicity, and physical location all have an impact on the amount of physical activity adults and children engage in. For children living at 100-199% of the Federal Poverty Line (FPL), 52.2% of them do not engage in vigorous physical activity at least 3 times per week compared to only 32.3% for those living above 300% of FPL.²⁴ Among adults in Fresno County, 35.2% living below 99% FPL, 42.3% living between 100-199% FPL, 47.2 living between 200-299% FPL, and 51.1% living above 300% FPL engage in some physical activity.²⁶ Economic status has a tremendous impact on passage rates for Fresno County Schools. 44.7% of 5th graders not economically disadvantaged pass all 6 indicators compared to only 21.4% of 5th graders who are economically disadvantaged.²⁷

Physical location within Fresno County has an impact on achieving a healthy fitness level. Among the various schools districts within the County, tremendous variations in pass rates occur. Among students in Clovis Unified School District, a primarily high income urban area, 55.3% of 5th graders, 57.4% of 7th graders, and 52.7% of 9th graders passed all 6 indicators for healthy fitness zone.²⁷ Within the Coalinga-Huron Joint Unified District, a primarily low income



rural area, 9.6% of 5th graders, 9.1% of 7th graders, and 30.7% of 9th graders passed all 6 indicators.²⁷ The school districts themselves also experience tremendous variations in pass rates. Fresno Unified School District, the largest district in the County, is made up of schools in both low income and high income areas. Within the district, pass rates vary from 0% to 28.8% for 5th graders passing all 6 indicators.²⁷

Statistically significant data is unavailable to describe the effect of race on physical activity levels within Fresno County. A broader look at the Central San Joaquin Valley yields significant results for Whites and Latinos. 35.4% of Latino and 16.2% of White children do not engage in vigorous physical activity at least 3 times per week. Adult physical activity levels for the Central San Joaquin Valley demonstrates significant results for Latinos, Whites, African Americans, and Asians however only slight variations occur. 38% of Latino, 35.6% of White, 35.6% of African American, and 39.2% of Asian adults engage in moderate to vigorous physical activity.²⁶

Within Fresno County Schools, large disparities emerge among various racial classes. Among 5th graders, Filipinos have the highest rate of passage with 48% passing all 6 indicators second to Whites with 41.6% passing all 6 indicators. Hispanics/Latinos have the lowest rate of passage with only 19.4% of 5th graders passing all 6 indicators. This is then followed by African Americans at 23.2% of 5th graders passing all 6 indicators.²⁷

Data Limitations



Data describing the trends of physical activity among Fresno County residents is limited by the ability to clearly show high risk populations. Inadequate statistically significant data is available to show the role race and socioeconomic status has on physical activity levels. Additionally, data is unavailable at the zip code or census tract level to depict varying levels of physical activity throughout geographic regions within Fresno County. School data is available to depict physical activity trends among individual schools within the County however; there is no way track where those students actually reside.

C. Social and Emotional Wellness

Social and emotional well-being has an impact on overall health and is a significant public health concern. There is a substantial economic burden due to mental illness; nearly \$300 billion in the United States.²⁸ It is estimated that nearly 25% of U.S. adults have a mental illness and 50% will develop at least one over the course of their lifetime. It has been demonstrated that those suffering from mental illness experience higher rates of chronic disease, tobacco use, and alcohol abuse.²⁸

Social and Emotional Health in Fresno County

Among Fresno County adults, nearly 7% have seriously thought about committing suicide.²⁹ Also within the County, 10.1% of adults have seen a provider for emotional-mental and/or drug or alcohol related issue in the past year.³⁰ Prescription medication is widely used for treating and managing mental illness. Within Fresno County, 9.0% of adults have taken a prescription medication for an emotional/mental health issue in the past year.³¹ Suffering from an emotional or mental illness may cause certain impairments to daily living such as interferences to



social, work, and family lives. Of Fresno County adults, 17.8%, 13.9%, and 18.9% have had moderate to severe social life, work, and family life impairments respectively.^{32,33,34}

Fresno County vs. California

In comparison to the state of California, Fresno County does comparable in terms of social and emotional health. For the entire state, 8.7% of adults have seriously thought about committing suicide compared to only 7% in Fresno County.²⁹ 10.9% of Californians saw a health care provider in the last year for an emotional/mental and/or drug or alcohol issue compared to 10.1% in Fresno County.³⁰ Finally, 9.7% of California residents has taken prescription medication in the past year compared to 9% for the County.³⁰

High Risk Groups

Determining high risk groups for social and emotional health proves to be difficult due to lack of statistically significant data available. For Fresno County adults who have seriously considered suicide, data is unavailable to demonstrate the effect of race, income, and gender. Adults' seeing a health care provider for an emotional/mental and/or alcohol or drug issue is slightly higher among Whites than Latinos. 11.3% of Whites have seen a provider compared to 10.1% of Latinos.³⁰ The same is true for adults taking prescription medication for an emotional/mental health issue with Whites again being higher. 13.7% of Whites compared to 6.7% of Latinos have taken prescription medication in the last year.³⁰

Statistically significant data is unavailable to describe what is experienced among other racial or social classes. When expanding to view the entire Central San Joaquin Valley, significant results still are unavailable. Due to this lack of available data, inferences about high risk groups cannot be made.



Data Limitations

Data depicting the trends of social and emotional health within Fresno County is extremely limited by its significance. Inadequate data is available to clearly identify sub-populations at high risk. Additionally, there is no data to depict the effect of geographic location within the County such as varying rates among zip codes or census tracts. Further data collection must be completed in order to understand that factors that increase ones risk for social or emotional disease.

D. Nutrition

Communities located in food deserts are identified as being high risk group for poor nutrition due to the lack of access to grocery stores. Access to fresh food outlets serves as a barrier to obtaining and providing healthy food for families in these areas. Also, the absence of grocery stores does not imply that there is an absence of fast food restaurants in neighborhood. The availability of fast foods increases the likelihood that communities and neighborhoods will purchase and provide these to families to consume, thus leading to a high caloric and sodium intake of foods. Another contributing factor when purchasing fast food is the unhealthy option to buy sugar sweetened beverages, such as soda, that add empty calories.

There is a disproportionate health disparity among minority and ethnic groups. Food insecurity is strongly associated with the lack of a healthy nutrition. Not having enough food and a variety of healthy food to eat can limit a family to eat available unhealthy food in nearby areas, such as snacks and fast food, which returns a greater value for their dollar. The cross snapshot of overlaying crime rates over food deserts help understand if neighborhoods and families are struggling with food insecurity issues.



E. Utilization of Clinical Services

Utilization of clinical preventive services is an indication measured by the health status of the Fresno County population. According to 2009 CHIS data, about 6.3% of residents are diagnosed to have heart disease compared to the state at 5.9%. Of those that have a heart disease condition, 60.8% reported that they felt very confident at managing their condition, 32.8% at somewhat confident, and a small 6.5% felt that they are not confident at all. High blood pressure is captured at a slightly percentage for Fresno County at 28.5% compared to the state at 26.2%. However, of those diagnosed with high blood pressure, only 68.3% of them are taking medicine to control it compared to the state of 70.2%. Having a stroke is another indicator that measures the health status of Fresno County. There are a reported 3.0% of strokes in Fresno County according to the 2005 CHIS data; this is higher than the state at 2.3%. High blood cholesterol is a clinical measurement where Fresno County (14.5%) is lower than the state (22.1%). Those diagnosed with diabetes in Fresno County is slightly less at 7.6% compared to the state at 8.5%. In Fresno County and the Central Valley, asthma rates and visits to the emergency room due to asthma is a strong indicator of the health status. People diagnosed with asthma are at a higher percentage than the state at 16.6% compared to the state 13.5%. Also, at comparable rates, there is a 9.0% of visits to the emergency room due to asthma while the state percentage is at 8.9%.

Morbidity

Morbidity within Fresno County is measured utilizing various sources of information. Hospitalization rates along with prevalence of certain chronic diseases are the primary types of information used to characterize morbidity. Overall, Fresno County does quite poorly with



respect to those suffering from disease. Of the 56 California Counties ranked, Fresno is 45th for morbidity indicating a great need for improvement.⁷

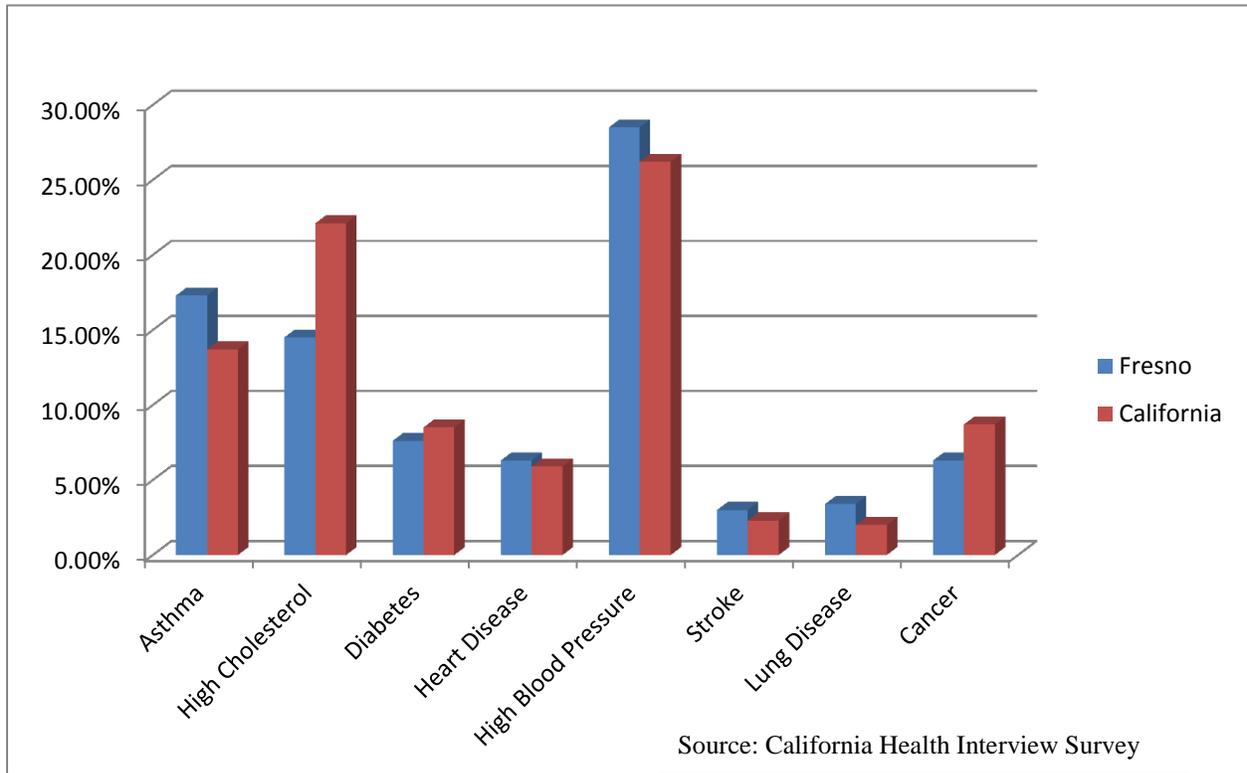
The following sections will carefully exam the sources of morbidity among Fresno County residents. Comparisons will be made to identify high risk sub-populations and determine how Fresno County compares to state trends. Cancer, diabetes, cardiovascular, and respiratory disease will be included in this evaluation.

A. Fresno County vs. California

When exploring various causes of morbidity within Fresno County, it is revealed that the county does poorly in respect to certain chronic disease measures when compared to the state. Within Fresno County, 17.3% of residents have asthma compared to 13.7% statewide, 6.3% have heart disease compared to 5.9% statewide, 28.5% have high blood pressure compare to 26.2% statewide, 3.0% have had a stroke compared to 2.3% statewide, and 3.4% have been diagnosed with lung disease other than asthma compared to 2.0% statewide.^{35,36,37,38,39}

Despite doing poorly in regards to the previous measures, Fresno County does do favorably compared to the state for other chronic disease measures. Within the County, 14.5% of residents have high cholesterol compared to 22.1% statewide, 7.6% have diabetes compared to 8.5% statewide, and 6.4% have had cancer compared to 8.7% statewide.^{40,41,42} The table below shows a visualization of these comparisons.





B. Hospitalization Rates

Hospitalization rates within Fresno County provide a measure of how residents suffer from chronic disease and exacerbated illness. Hospitalization rates are analyzed using comparisons to regional (Central San Joaquin Valley) and state trends. Table 1 below displays rates (per 100,000 population) for selected leading causes of chronic disease. In most instances, Fresno County does favorable when compared to the Central San Joaquin Valley. When compared to the state, however, the County, in many instances, does poorly by comparison.⁴³

Table 1. Hospitalization rates (per 100,000 population) in Fresno County compared to San Joaquin Valley (SJV) and California, 2006/2007.

Condition	06/07 Hospitalization Rate Fresno Co.	06/07 Hospitalization Rate SJV	06/07 Fresno Co. vs. SJV Hospitalization Rate Ratio ¹ (95% CI)	2007 Hospitalization Rate California	06/07 Fresno Co. vs. California Hospitalization Rate Ratio ¹ (95% CI)
All Hospitalizations	11018.0	11237.5	0.98 (0.98 - 0.98)	10612.8	1.04 (1.03 - 1.04)
All Cancer	420.1	447.8	0.94 (0.92 - 0.96)	465.2	0.90 (0.87 - 0.93)
Lung Cancer	25.9	28.0	0.93 (0.84 - 1.02)*	30.6	0.85 (0.74 - 0.97)
Breast Cancer	25.4	24.7	1.03 (0.94 - 1.13)*	28.1	0.90 (0.79 - 1.04)*
Colon, Rectum, Anal Cancer	34.2	33.1	1.03 (0.95 - 1.12)*	38.6	0.88 (0.78 - 1.00)*
All Cardiovascular	1122.7	1310.6	0.86 (0.84 - 0.87)	1230.7	0.91 (0.90 - 0.93)
Acute Myocardial Infarction	163.7	152.9	1.07 (1.03 - 1.11)	146.6	1.12 (1.06 - 1.18)
Coronary Atherosclerosis	250.7	259.4	0.97 (0.94 - 1.00)*	196.1	1.28 (1.23 - 1.33)
Heart Failure	241.5	252.5	0.96 (0.93 - 0.99)	229.2	1.05 (1.01 - 1.10)
All Respiratory	788.1	850.6	0.93 (0.91 - 0.94)	661.4	1.19 (1.16 - 1.22)
Acute Bronchitis	60.3	62.1	0.97 (0.91 - 1.03)*	35.8	1.68 (1.54 - 1.83)
Pneumonia	302.4	340.6	0.89 (0.81 - 0.94)	257.8	1.17 (1.13 - 1.22)
Adult Asthma	47.8	54.8	0.87 (0.81 - 0.94)	85.7	0.56 (0.50 - 0.62)
Pediatric Asthma	133.2	90.2	1.48 (1.37 - 1.59)	N/A	N/A
Chronic Obstructive Pulmonary Disease (COPD)	68.5	89.5	0.77 (0.72 - 0.81)	100.0	0.68 (0.63 - 0.74)
Diabetes (All Ages)	139.3	144.5	0.96 (0.93 - 1.00)*	138.0	1.01 (0.96 - 1.06)*
Diabetes (0 - 19 years)	16.9	21.0	0.80 (0.65 - 0.98)	N/A	N/A

Source: Central Valley Health Policy Institute, California State University Fresno (2010)

¹ A rate of 1.00 = no difference; < 1.00 = lower than; > 1.00 = higher than

*Confidence interval (CI) with value 1 implies no statistically significant difference



When comparing how Fresno County does relative to time, it is revealed that the County has made much improvement with respect to hospitalization. Table 2 below demonstrates the rates from 99/00 to 06/07. Overall hospitalization rates increased 2% in Fresno County during this time period compared to 10% statewide.⁴³ Cancer, cardiovascular, and respiratory hospitalizations have all experienced substantial improvement. Diabetes, however, has experienced a 21% increase in the rate of hospitalization during this 7 year time frame.⁴³

Table 2. Changes in hospitalization rates (per 100,000 population) in Fresno County and in California between 1999/2000 and 2006/2007.

Condition	99/00 Hospitalization Rate Fresno Co.	06/07 Hospitalization Rate Fresno Co.	06/07 vs. 99/00 Hospitalization Rate Ratio ¹ (95% CI) Fresno Co.	99/00 Hospitalization Rate California	06/07 Hospitalization Rate California	06/07 vs. 99/00 Hospitalization Rate Ratio ¹ (95% CI) California
All Hospitalizations	10754.7	11018.0	1.02 (1.02 - 1.03)	9631.7	10612.8	1.10 (1.10 - 1.10)
All Cancer	472.8	420.1	0.89 (0.87 - 0.91)	481.2	465.2	0.97 (0.96 - 0.97)
Lung Cancer	28.6	25.9	0.91 (0.83 - 1.00)*	41.2	30.6	0.74 (0.73 - 0.76)
Breast Cancer	42.4	25.4	0.60 (0.55 - 0.66)	34.6	28.1	0.81 (0.80 - 0.83)
Colon, Rectum, Anal Cancer	37.2	34.2	0.90 (0.83 - 0.98)	46.8	38.6	0.83 (0.81 - 0.84)
All Cardiovascular	1170.1	1122.7	0.96 (0.95 - 0.97)	1399.3	1230.7	0.88 (0.88 - 0.88)
Acute Myocardial Infarction	196.4	163.7	0.83 (0.80 - 0.86)	194.1	146.6	0.76 (0.75 - 0.76)
Coronary Atherosclerosis	305.1	250.7	0.82 (0.80 - 0.85)	281.0	196.1	0.70 (0.69 - 0.70)
Heart Failure	235.4	241.5	1.03 (0.99 - 1.06)*	36.5	229.2	0.90 (0.90 - 0.91)
All Respiratory	918.7	788.1	0.86 (0.84 - 0.87)	946.9	661.4	0.70 (0.70 - 0.70)
Acute Bronchitis	103.2	60.3	0.58 (0.55 - 0.62)	67.5	35.8	0.53 (0.52 - 0.54)
Pneumonia	372.9	302.4	0.81 (0.79 - 0.83)	403.4	257.8	0.64 (0.64 - 0.64)
Adult Asthma	48.9	47.8	0.98 (0.91 - 1.05)*	114.8	85.7	0.75 (0.74 - 0.75)
Pediatric Asthma	207.9	133.2	0.64 (0.60 - 0.69)	N/A	N/A	N/A
Chronic Obstructive Pulmonary Disease (COPD)	108.4	68.5	0.63 (0.60 - 0.67)	193.9	100.0	0.65 (0.65 - 0.66)
Diabetes (All Ages)	115.3	139.3	1.21 (1.16 - 1.26)	134.7	138.0	1.02 (1.02 - 1.03)
Diabetes (0 - 19 years)	15.5	16.9	1.09 (0.88 - 1.33)*	N/A	N/A	N/A

Source: Central Valley Health Policy Institute, California State University Fresno (2010)

¹ A rate ratio of 1.00 = no difference; < 1.00 = lower than; > 1.00 = higher than

*Confidence interval (CI) with value 1 implies no statistically significant difference

An additional measure to consider when evaluating morbidity includes the rate of avoidable hospitalization. This measure provides an indicator for the health care system and its



functionality in managing chronic disease. Below is a table summarizing the results in Fresno County compared to state wide. The County does favorable when compared to the state in all avoidable hospitalization conditions suggesting a high level of chronic disease management services.⁴³

Avoidable hospitalization conditions rates (per 100,000 population) in Fresno County and California, 2006/2007.			
California Ambulatory Sensitive Conditions (ASCs) or Avoidable Hospitalization List	06/07 Hospitalization Rate		06/07 Fresno Co. vs. California Hospitalization Rate Ratio ¹ (95% CI)
	Fresno Co.	2007 Hospitalization Rate California	
Hypertension	15.5	26.5	0.59 (0.50 - 0.68)
Congestive Heart Failure	212.0	251.3	0.84 (0.80 - 0.89)
Adult Asthma	47.8	85.7	0.56 (0.50 - 0.62)
Bacterial Pneumonia	187.0	226.4	0.83 (0.79 - 0.87)
Chronic Obstructive Pulmonary Disease (COPD)	68.5	100.0	0.68 (0.63 - 0.74)
Urinary Tract Infection (AH list)	99.6	135.0	0.74 (0.69 - 0.79)
Lower Extremity Amputation	26.3	N/A	N/A
Low Birth Weight	53.9	N/A	N/A
Dehydration	37.0	69.4	0.53 (0.48 - 0.59)
Perforated Appendix	16.1	N/A	N/A
Diabetes, short term complications	32.5	38.8	0.84 (0.75 - 0.90)
Diabetes, long term complications	78.2	84.8	0.92 (0.86 - 0.99)

Source: Central Valley Health Policy Institute, California State University Fresno (2010)

¹A rate ratio of 1.00 = no difference; < 1.00 = lower than; > 1.00 = higher than

*Confidence interval (CI) with value 1 implies no statistically significant difference



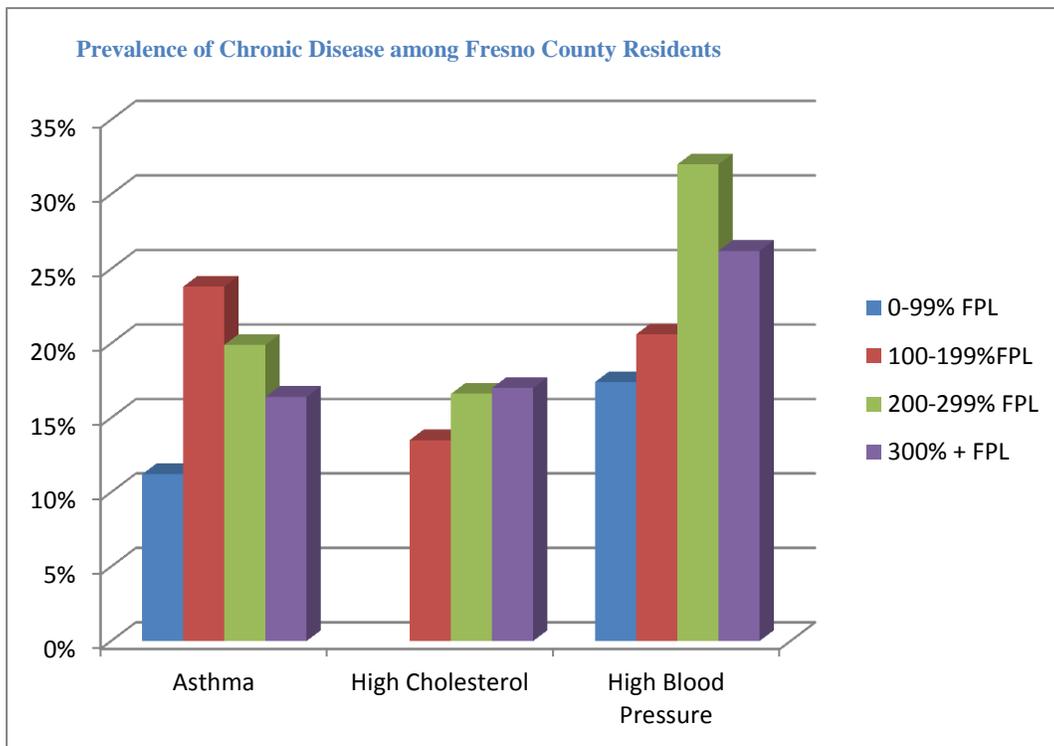
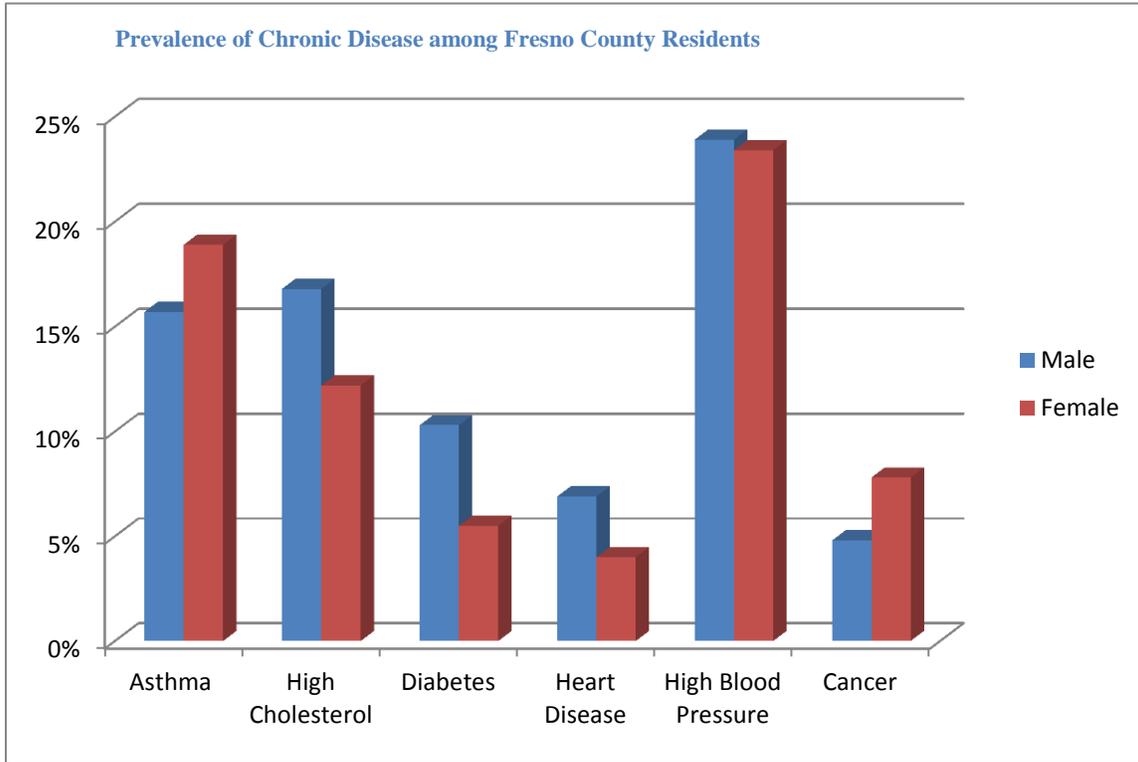
C. High Risk Groups

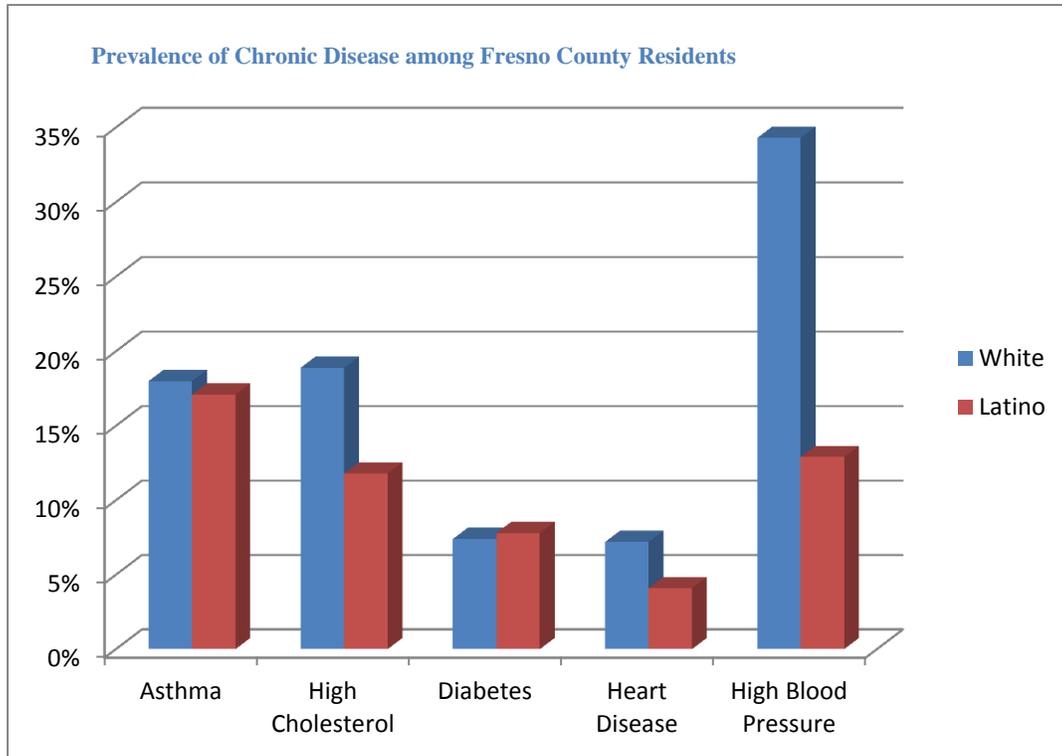
Fresno County residents suffer differently in terms of chronic disease rates. Controlling for race, income, gender, and physical location reveals wide variations in the amount of disease within a community. Certain less affluent populations face much poorer health outcomes than do their more affluent counterparts. For all children, teens, and adults in Fresno County, 18.9% of females and 15.7% of males suffer from asthma.³⁵ When controlling for race, 17.1% of Latinos and 18% of whites have asthma.³⁵ Rates do appear much higher in African American and American Indian/Alaska Native however these results are not statistically significant. Residents living at 100-199% of Federal Poverty Level (FPL) have the highest rate of asthma at 23.8%.³⁵

High cholesterol among Fresno County residents shows similar variances within sub-populations. 16.8% of males compared to 12.2% of females have been diagnosed with high cholesterol.⁴⁰ Whites also experience higher rates with 18.9% having high cholesterol compared to only 11.8% of Latinos.⁴⁰ Statistically significant data is unavailable to describe additional races. In the case of this particular condition, income has an inverse effect with the highest income category, 300% and above FPL, also experiencing the highest rate of disease.⁴⁰

Diabetes, heart disease, and high blood pressure are all more prevalent in males residing within Fresno County. Cancer, however, is more prevalent in females. Heart disease and high blood pressure are most prevalent in the White population. Statistically significant data is unavailable to characterize the role income has in risk for these specific conditions. The 3 tables below summarize the previous findings.







Limited statistically significant data is available to characterize the relationship between race and chronic disease prevalence. To better understand this interaction, hospitalization rates are utilized. When comparing hospitalization rates, dramatic disparities emerge. Non-Latinos are much less likely to be hospitalized than Latino’s. In nearly all instances, this rate is dramatically lower in non-Latinos with the exception of acute bronchitis, pediatric asthma, and juvenile diabetes.⁴³

When comparing Caucasians vs. African Americans, the results are not nearly as dramatic as is the case in non-Latino vs. Latino. In terms of overall hospitalization, Whites have a slightly reduced rate compared to African Americans. Whites do favorably in respiratory disease, cardiovascular disease, and diabetes. African Americans do favorably in cancer. The largest disparities emerge in adult asthma and colon, rectum, and anal cancer. Whites are 65% less likely to have adult asthma and 100% more likely to have colon, rectum, or anal cancer than their African American counterparts.⁴³ Table 3 below summarizes the previous findings.



Table 3. Hospitalization rates (per 100,000 population) in Fresno County by race and ethnicity, 2006/2007.

Condition	06/07 Hospitalization Rate Non-Latino	06/07 Hospitalization Rate Latino	06/07 Non-Latino vs. Latino Hospitalization Rate Ratio ¹ (95% CI)	06/07 Hospitalization Rate White	06/07 Hospitalization Rate Black	06/07 White vs. Black Hospitalization Rate Ratio ¹ (95% CI)
All Hospitalizations	10276.4	11873.7	0.87 (0.86 - 0.87)	11465.0	11785.8	0.97 (0.97 - 0.98)
All Cancer	314.1	542.4	0.58 (0.56 - 0.60)	832.0	551.3	1.51 (1.14 - 1.54)
Lung Cancer	10.3	44.4	0.24 (0.19 - 0.29)	33.9	39.2	0.86 (0.77 - 0.97)
Breast Cancer	15.3	37.2	0.41 (0.35 - 0.49)	34.2	25.8	1.33 (1.18 - 1.49)
Colon, Rectum, Anal Cancer	21.6	48.6	0.44 (0.38 - 0.51)	47.0	23.5	2.00 (1.81 - 2.20)
All Cardiovascular	749.4	1553.5	0.48 (0.47 - 0.49)	1388.0	1410.8	0.98 (0.97 - 1.00)*
Acute Myocardial Infarction	102.2	234.6	0.44 (0.41 - 0.46)	206.0	153.5	1.34 (1.28 - 1.41)
Coronary Atherosclerosis	162.3	352.8	0.46 (0.44 - 0.48)	327.7	211.8	1.55 (1.49 - 1.61)
Heart Failure	156.7	339.3	0.46 (0.44 - 0.49)	280.9	478.5	0.59 (0.56 - 0.61)
All Respiratory	635.0	964.7	0.66 (0.65 - 0.67)	957.4	1062.3	0.90 (0.89 - 0.92)
Acute Bronchitis	80.0	37.4	2.14 (1.99 - 2.30)	73.6	42.6	1.73 (1.60 - 1.87)
Pneumonia	237.9	376.7	0.63 (0.61 - 0.66)	363.2	313.8	1.16 (1.12 - 1.20)
Adult Asthma	29.7	68.8	0.43 (0.38 - 0.49)	52.7	151.3	0.35 (0.2 - 0.38)
Pediatric Asthma	184.7	91.2	2.02 (1.85 - 2.21)	205.5	308.2	0.67 (0.61 - 0.73)
Chronic Obstructive Pulmonary Disease (COPD)	29.0	114.2	0.25 (0.22 - 0.29)	96.3	118.8	0.81 (0.76 - 0.87)
Diabetes (All Ages)	137.6	141.2	0.97 (0.92 - 1.03)*	128.4	249.9	0.51 (0.48 - 0.55)
Diabetes (0 - 19 years)	20.2	14.2	1.42 (1.06 - 1.86)	20.8	17.8	1.17 (0.87 - 1.54)

Source: Central Valley Health Policy Institute, California State University Fresno (2010)

¹ A rate ratio of 1.00 = no difference; < 1.00 = lower than; > 1.00 = higher than

*Confidence interval (CI) with value 1 implies no statistically significant difference

D. Data Limitations

Current data describing the morbidity of Fresno County residents is limited by statistical significance. Data characterizing the prevalence of various chronic diseases is unavailable for certain racial and ethnic classes. Additionally, prevalence data does not describe populations beneath county level. Further evaluation would need to be conducted to determine the prevalence of disease within the communities of Fresno County.



Mortality

The rates and causes of death are important indicators of the population health status. In the United States, the number of deaths was 2,437,163 people for the year 2009, the most recent data available. The death rate for the general population in the country is 793.8 deaths per 100,000 persons. The infant mortality rate is 6.39 deaths per 1,000 live births. For the country (county?) as a whole, the life expectancy is approximately 78.5 years....life expectancy for Fresno? The top ten causes of death in the country are as follows: 1) heart disease; 2) cancer; 3) chronic lower respiratory diseases; 4) stroke; 5) accidents (unintentional injuries); 6) Alzheimer's disease; 7) diabetes; 8) influenza and pneumonia; 9) nephritis, nephrotic syndrome, and nephrosis; and 10) intentional self-harm (suicide) .

The state of California's top ten causes of death slightly differs from the nation. The third leading cause of death for California is actually stroke instead of chronic lower respiratory diseases. Of the ten leading causes of death, the death rate decreased for three of the leading causes, (cancer, chronic liver disease & cirrhosis, and intentional self-harm). The total number of deaths for the state in 2009 is 232,736. The death rate for California was 629.7 deaths per 100,000 persons in 2009, a decrease from 2008 (612.0 deaths per 100,000 persons) 11.

Fresno County's leading causes of death slightly varies from the state's top leading causes of death. According to State of California, Department of Public Health, the leading causes of death in Fresno County are as follows: 1) heart disease; 2) cancer; 3) stroke; 4) accidents; 5) chronic lower respiratory disease; 6) Alzheimer's disease; 7) influenza and pneumonia; 8) diabetes; 9) chronic liver/cirrhosis; and 10) intentional self-harm (suicide). The total number of deaths for all causes is 6,089 deaths for the year 2009, this includes a total of



1,500 deaths under other causes of deaths. The number one cause of death, heart disease, caused a total of 1,461 deaths in 2009, compared to the number ten cause of death of intentional self-harm at 64 deaths. The total number of deaths caused by cancer was close to the total deaths by heart disease at 1,267 with 194 deaths difference¹¹.

Of the total deaths in Fresno County, there is a disproportionate sub-population between different race/ethnic groups. Between the genders, the total deaths are comparable at 3,064 for males and 3,025 for females. However, with the breakdown of total deaths by race/ethnicity, there is a distinctive difference. People reported as Whites accounted for about 61.5% (3,742 deaths) of all deaths with Hispanic group following at 25.5% (1,555 deaths). Sub-populations of Asian and Black were at the lower spectrum of about 6.2% (377 deaths) and 5.5% (336 deaths) respectively. Within the Asian race/ethnic, the Hmong has the highest number of deaths at 100 with Japanese following at 72 deaths. These death percentages do not entail what death cause is associated or compared to the total population of that race/ethnic¹¹.

Another review of mortality on the age-adjusted death rates as indicated by Central Valley Health Policy Institute shows that non-Hispanic have a higher mortality rates. When comparing non-Hispanics to Hispanics, there is a far greater death rate for non-Hispanics in the leading death causes of cancer, heart disease, respiratory disease, suicide, and Alzheimer's disease. The greatest differences in death rate ratio of non-Hispanics compared to Hispanics lie with two leading causes of death, lung cancer (2.27) and suicide (2.72). Being non-Hispanic increases the chance of dying from these two causes of death. When comparing Whites to Blacks, the death rates were generally higher for most death causes except homicide. The likelihood that Blacks die due homicide is greater than that of Whites. Other leading causes of death were comparable are cancer and heart disease.



References

- ¹ U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, Census of Population and Housing, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Last Revised: Friday, 03-June 2011
- ² U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report Last Revised: Tuesday, 31-Jan-2012
- ³ California State University, Fresno (2011). Hmong and Southeast Asian Resources and Information. Retrieved from <http://www.csufresno.edu/hsari/demographics/index.shtml>
- ⁴ Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS) data.
Bureau of the Census, Small Area Income & Poverty Estimates Program
- ⁵ Sheehan, T. (2011, June 18). Fresno Co. Jobless Rate Drops. The Fresno Bee (Fresno, CA), p. A14.
- ⁶ CA Food Policy Advocates. (2010). 2010 Fresno County Nutrition and Food Insecurity Profile. Retrieved from <http://www.cfpa.net/2010CountyProfiles/Fresno.pdf>
- ⁷ Robert Wood Johnson Foundation (2012). 2012 County Health Rankings, Fresno, CA. Retrieved from <http://www.countyhealthrankings.org/california/fresno>



- ⁸ Children Now (2007) 2007 California County Data Book, Fresno County. Retrieved from http://www.childrennow.org/subsites/publications/invest/cdb07/cdb07_home.htm
- ⁹ California HealthCare Foundation (2009, July). Fresno: Poor Economy, Poor Health Stress an Already Fragmented System. *California Health Care Almanac. Regional Markets Issue Brief July 2009*. Retrieved from <http://www.chcf.org/~media/Files/PDF/A/PDF%20AlmanacRegMktExecFresno09.pdf>
- ¹⁰ California Health Interview Survey. (2009). *Type of current health insurance coverage - all ages*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.0736658
- ¹¹ State of California Department of Justice. Office of the Attorney General. *Statistics, Crimes 1999-2009*. Retrieved from: <http://ag.ca.gov/cjsc/statisticsdatatabs/CrimeCo.php>
- ¹² United States Department of Agriculture. (2008) *Food Environment Atlas*. Retrieved from: <http://maps.ers.usda.gov/FoodAtlas/foodenv5.aspx>
- ¹³ The Trust for Public Land. *2011 City Park Facts*. Center for City Park Excellence.
- ¹⁴ California Health Interview Survey. (2007). *Visited a park, playground or open space in the last month*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.2243616
- ¹⁵ U.S. Department of Health and Human Services. (2006) *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General—Executive Summary*. Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health



- ¹⁶ Centers for Disease Control and Prevention. *Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses—United States, 2000–2004*. Morbidity and Mortality Weekly Report 2008;57(45):1226–8.
- ¹⁷ California Health Interview Survey. (2009). *Smoking status- Current, former, or never*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.371258
- ¹⁸ California Health Interview Survey. (2009). *Number of Cigarettes Smoked per Day*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.4436609
- ¹⁹ U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Young People: A Report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Office on Smoking and Health.
- ²⁰ *California Healthy Kids Survey, 2007-09, County Results: Main Report* San Francisco: WestEd Health and Human Development Program for the California Department of Education.
- ²¹ Behavioral Risk Factor Surveillance System (BRFSS) 1984-2010. California Department of Public Health, California Tobacco Control Program, April 2011.
- ²² U.S. Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996.
- ²³ *The Economic Costs of Overweight, Obesity, and Physical Inactivity Among California Adults—2006* (July 2009). The California Center for Public Health Advocacy.



- ²⁴California Health Interview Survey. (2009.) *Vigorous physical activity at least 3 days per week*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.5904352
- ²⁵California Health Interview Survey. (2009). *Number of days physically active at least one hour (typical week)*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.4436609
- ²⁶California Health Interview Survey. (2007). *Level of physical activity*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.3588373
- ²⁷California Department of Education. *2010-11 California Physical Fitness Report Overall - Meeting Healthy Fitness Zone Summary of Results*.
- ²⁸U.S. Department of Health and Human Services. *CDC Mental Illness Surveillance*. Centers for Disease Control and Prevention Office of Surveillance, Epidemiology, and Laboratory Services.
- ²⁹California Health Interview Survey. (2009). *Ever seriously thought about committing suicide*. . [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.2410242
- ³⁰California Health Interview Survey. (2009). *Saw any healthcare provider for emotional-mental and/or alcohol-drug issues in past year*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.6790888
- ³¹California Health Interview Survey. (2009). *Has taken prescription medicine for emotional/mental health issue in past year*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.5525324
- ³²California Health Interview Survey. (2009). *Social Life Impairment Past 12 Months*. [DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.6790888



- ³³ California Health Interview Survey. (2009). *Work Impairment Past 12 Months*. [DataFile]
Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.6790888
- ³⁴ California Health Interview Survey. (2009). *Family Life Impairment Past 12 Months*.
[DataFile] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.6790888
- ³⁵ California Health Interview Survey. (2009). *Ever Diagnosed with Asthma*. [Data File]
Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.3401148
- ³⁶ California Health Interview Survey. (2009). *Ever Diagnosed with Heart Disease*. [Data File]
Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.3401148
- ³⁷ California Health Interview Survey. (2009). *Ever Diagnosed with High Blood Pressure*. [Data
File] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.3401148
- ³⁸ California Health Interview Survey. (2005). *Ever Had a Stroke*. [Data File] Retrieved from:
http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.3401148
- ³⁹ California Health Interview Survey. (2009). *Ever Told Have Lung Disease Other Than Asthma*
[Data File] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.3401148
- ⁴⁰ California Health Interview Survey. (2005). *High Cholesterol Identified*. [Data File] Retrieved
from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.3401148
- ⁴¹ California Health Interview Survey. (2009). *Ever Diagnosed with Diabetes*. [Data File]
Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.3401148
- ⁴² California Health Interview Survey. (2009). *Ever Diagnosed with any Type of Cancer*. [Data
File] Retrieved from: http://www.chis.ucla.edu/main/DQ3/output.asp?_rn=0.3401148
- ⁴³ Central Valley Health Policy Institute. (2010) *How Time, Place, and Race Impact Morbidity
and Mortality in Fresno County*.



