

# Rural Community Vital Signs



## Community Health Indicators for the Redwood Coast Region

*Taking the Pulse of Communities in Rural Northern California*

by The California Center for Rural Policy at Humboldt State University

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The California Center for Rural Policy at Humboldt State University is a research and policy center committed to informing policy, building community, and promoting the health and well-being of people and environments.

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## Executive Summary

Initial work by the California Center for Rural Policy (CCRP) identified the need for a common set of community health indicators to help guide and assess outcomes resulting from improvement efforts in the region. Community health indicators are measures that act as barometers for underlying community health. In the fall of 2009, CCRP initiated a year-long process of facilitating a Working Group to develop a set of community health indicators known as the Rural Community Vital Signs. The Working Group included representation from Health and Human Services, Hospitals, Clinics, Political/Government/Tribes, Active Living, Youth, Aging, Education, Indian and Latino groups and organizations, as well as Foundations in the Redwood Coast Region (Del Norte, Humboldt, Trinity, and Mendocino counties).

The process included discussing shared community values and visions, reviewing existing models for using indicators to monitor community health, developing an indicator selection criteria, drafting a set of proposed indicators, performing a technical review of proposed indicators, and researching/compiling the data.

The outcomes of this project are a set of 48 community health indicators with existing data and a “wish list” of 44 indicators that would be useful for measuring community health, but currently lack a good or readily available data source for all four counties. The Vital Signs developed in this project link to numerous issues in various arenas (social, health, environment, and economy) and are intended to track trends and inspire action initiatives aimed at improving health in the region.

### ***What we learned***

#### **Our demographics are changing**

- The racial/ethnic composition of our population is becoming more diverse.
- The elderly population is growing proportionately larger.

#### **Areas relating to health in which we are doing well, but still need to address**

- Percent of live births with low birth-weight in each county is lower than California (but it has increased slightly).
- Teen birth rate in Humboldt & Mendocino is lower than California.
- Women who are exclusively breastfeeding at hospital discharge is higher in each county than California (but rates are decreasing in Del Norte & Humboldt).
- Parents reading to their young children is higher in each county than California (but it has decreased slightly).

#### **Areas in need of improvement**

- Deaths due to all causes and premature deaths are higher in each county than California.
- Teen birth rate in Del Norte is higher than California.
- Adults reporting a diagnosis of diabetes has increased in Mendocino.
- Percent of seniors with more than one fall in the past year is increasing and higher in each county than California.
- Rate of hospitalized Injuries/Falls among Seniors has increased in Del Norte.
- Specialty physicians, as well as dentists, are limited, especially for low-income populations.
- Percentage of children without health insurance is higher in Humboldt and Mendocino than California (there is only good data for Humboldt and Mendocino).
- Percentage of pregnant women receiving prenatal care is lower in each county than California.
- Childhood immunization rates are lower in each county (except Del Norte) than California.
- About 1 in 4 Kindergarten/1<sup>st</sup> grade students have untreated dental decay.

*Continued on next page*



## Areas in need of improvement (*continued*)

- Less than 40% of 7<sup>th</sup> graders are in the Healthy Fitness Zone for all 6 Physical Fitness Areas.
- Obesity is increasing among low-income children aged 2-4yrs [in Mendocino and Trinity] and aged 5-19yrs [in Del Norte, Trinity, and Mendocino].
- Nearly 60% of adults are overweight or obese and less than 50% meet the recommendations for physical activity.
- Fruit & vegetable consumption is decreasing among teens.
- Alcohol and drug use is higher among middle and high-school students in the region compared to all of California, especially in non-traditional schools (continuation, community day, and alternative schools).
- Admissions for drug treatment for which Methamphetamine was the primary drug of abuse is increasing.
- Prescriptions for narcotics and other controlled substances has increased in each county (except Trinity).
- Drug induced death rates in Humboldt County are increasing and are the highest in all of California.
- Participation rates in preschool, nursery school or Head Start is low.
- High School graduation rates have been decreasing.
- High School graduates with all courses required for UC or CSU entrance is lower than California.
- High School drop-out rates are high for certain racial and ethnic groups in the region.
- Poverty rates are high, especially for single women with children, and a low percentage of jobs pay an hourly wage above the self-sufficiency standard for these families.
- Unemployment rates are high and increasing.
- For the elderly, the maximum SSI payment is far below the income needed to meet basic needs.
- Percent of renters paying  $\geq 30\%$  of household income on rent is high and increasing.
- Percent of households with hunger is high, especially in households with children.
- Food stamp programs and school lunch programs are not adequately utilized among those who are eligible.
- Daily vehicle miles traveled per person is higher in each county (except Del Norte) than California.
- Residential electricity consumption per capita is higher in each county than California.
- Total pounds of pesticide use in Mendocino is high.
- Percentage of all lands in farms has decreased in Humboldt and Mendocino.
- Low-income adults are significantly more likely than non low-income adults to:
  - Experience depression (except in Del Norte where differences by income level are not significant)
  - Lack health insurance
  - Have difficulty obtaining healthcare for themselves and their children
  - Have transportation problems
  - Lack professional oral healthcare
  - Lack routine check-ups (except in Del Norte where differences by income level are not significant)
  - Lack screening for diabetes (except in Del Norte where differences by income level are not significant)
  - Lack internet access in the home

## Next Steps

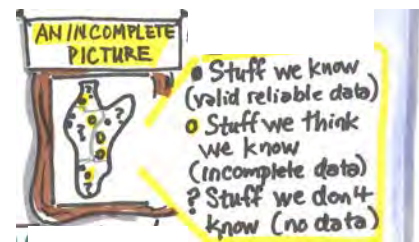
It is our hope that communities, policy makers and advocates will use the Rural Community Vital Signs to set realistic goals and implement programs, policies and initiatives aimed at improving conditions in the region. CCRP intends to disseminate and update this report regularly as new data becomes available (resource dependent). The indicator “wish list” will be used to help guide future data collection by CCRP. The indicators that make up the Vital Signs may change over time depending on community priorities and data availability. CCRP will be sharing policy and program ideas that are being used in other rural communities to improve health outcomes.



## The Purpose

From conversations with area policy makers and advocates, the California Center for Rural Policy (CCRP) identified the need for a common set of community health indicators to help guide and assess outcomes resulting from improvement efforts in the region. In order to provide meaningful assessments, a set of indicators that measure community health and well-being should be relevant to rural communities in the region of interest. Through regular assessments using a common set of indicators, rural communities can determine if policy and systems changes are making a difference. While many organizations have their own set of indicators that they have created or are mandated to report on, there was not a common set of indicators reflecting the values, health and well-being of rural communities in the Redwood Coast Region (Del Norte, Humboldt, Trinity, and Mendocino counties).

Currently, data collection in the region is fragmented, which results in an incomplete picture of the issues impacting community health. Policies and programs are then developed upon sub-optimal data, and it is difficult to assess if policy changes are making a difference. Through prioritization of community health issues, communities can determine the kinds of data that are critical to collect routinely and systematically, which can provide the evidence base for measuring improvements in community health (see Appendix A for a graphic representation of these concepts).



A community is similar to the human body- a complex organism which relies on numerous intricate systems to work in concert. When one system gets out of balance, it triggers problems in other systems and soon disease and illness set in. Diagnosing and treating the human body is complex and requires an approach that is thorough, systematic and timely. Community issues are equally, if not more, complex and thus they should be approached with the same diligence a doctor takes with his or her patients.

Routine “check-ups” are essential for maintaining the health of individuals as they allow for both primary prevention (preventing problems) and secondary prevention (catching problems in the early stages). Routine community “check-ups” are similarly important as they provide an evidence base that is essential for strategically coordinating improvement efforts and determining if improvement efforts are making a difference.

On an individual level, vital signs (temperature, blood pressure, heart rate, respiratory rate) are indicators for general health and can bring attention to an underlying problem. Each vital sign is generally an indicator for the health of a particular body system, but often there is overlap, making the vital signs particularly important as they give a quick assessment of the major systems. The purpose of the Rural Community Vital Signs project was to develop a set of community health indicators (vital signs) that could be measured on a regular basis and act as barometers for underlying community health problems as well as highlight successes. The Vital Signs developed in this project link to numerous issues in various arenas (social, health, environment, and economy) and are intended to track trends and inspire action initiatives aimed at improving health in the region.



## The Process

Starting in the fall of 2009, CCRP facilitated a year-long process of developing the Rural Community Vital Signs. The process started with the formation of a Working Group comprised of representatives from a wide range of organizations in Del Norte, Humboldt, Trinity, and Mendocino counties, bringing together diverse interests, expertise, and perspectives. The Working Group included representation from Health and Human Services, Hospitals, Clinics, Political/Government/Tribes, Active Living, Youth, Aging, Education, Indian and Latino groups and organizations as well as Foundations (see Appendix B for a complete list of participants). A series of six meetings were held with the Working Group, the majority of which were conducted using a web-based meeting platform.

The framework described in *The Community Indicators Handbook: Measuring Progress Toward Healthy and Sustainable Communities*<sup>1</sup> was used as a guide for developing the indicators. The process included discussing shared community values and visions, reviewing existing models, indicators and data, developing an indicator selection criteria, drafting a set of proposed indicators, performing a technical review of proposed indicators, and researching/compiling the data (see Appendix C for a Process Flow-Chart and Appendix D for the Indicator Selection Criteria). The process started with Working Group members writing newspaper headlines capturing their desired vision of a healthy community 10 to 20 years in the future (headlines are sprinkled throughout the report. See Appendix G for the newspaper created from the headlines). The conceptual framework for the indicators is presented on pages 12 and 13. Page 12 presents overall categories for the indicators and page 13 presents the categories for the indicators and how they relate to primary, secondary, and tertiary prevention.

The outcomes of this project are a set of 48 community health indicators with existing data and a “wish list” of 44 indicators that would be useful for measuring community health, but currently lack a good or readily accessible data source for all four Redwood Coast counties (“wish list” indicators are presented throughout the report. See Appendix E for all “wish list” indicators).

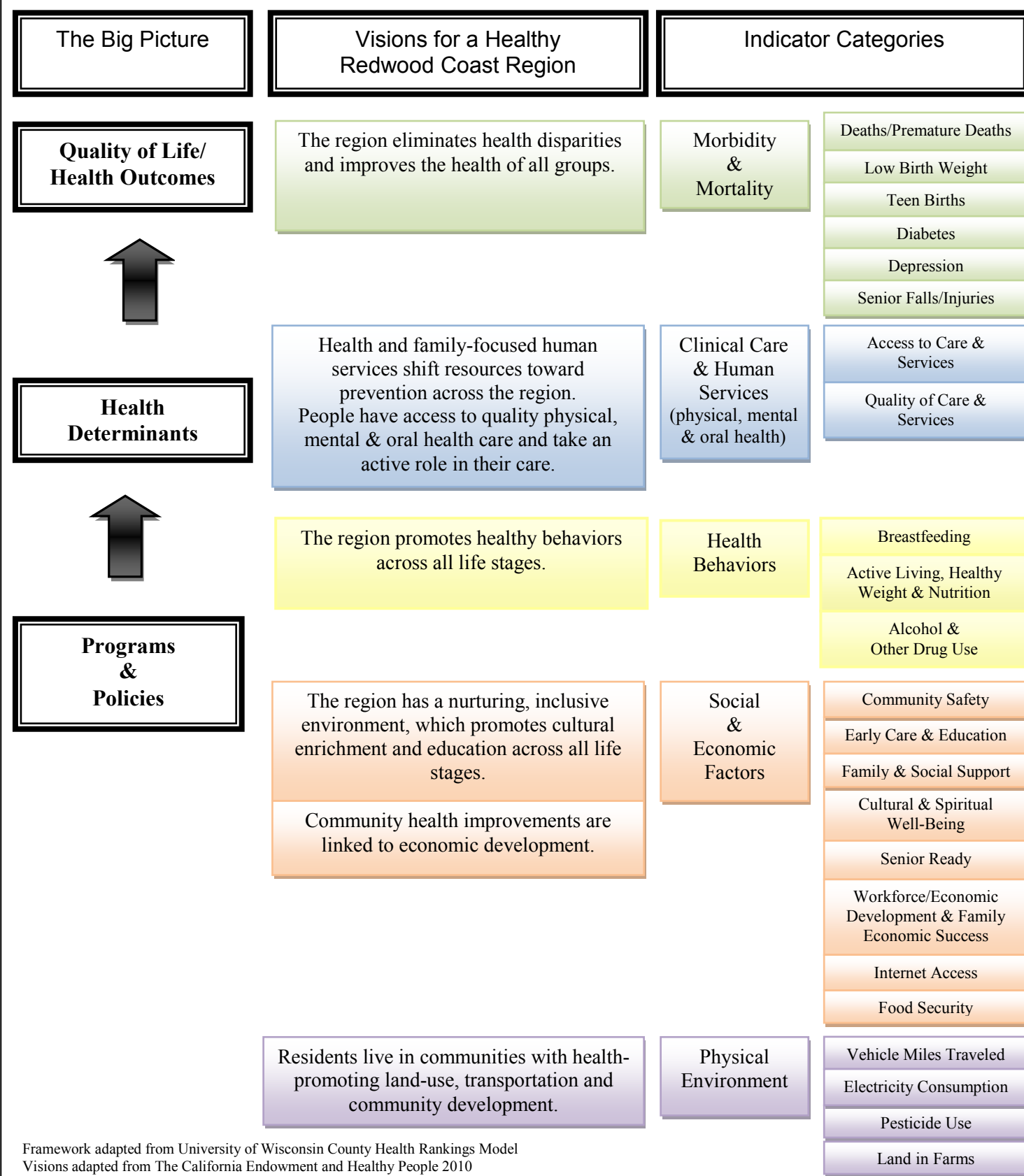
Rural areas, such as the Redwood Coast Region, are consistently challenged with a lack of data or small sample sizes. The data used for the indicators presented in this report come from a wide range of sources. The data presented are as accurate as the sources from which they were drawn. The most recent available data was used, but often data availability lags a few years from the time of collection. Standards for presenting small numbers vary by organization and these are noted throughout the report. Tests of statistical significance were only conducted for raw data (i.e., the data collected for CCRP’s Rural Health Information Survey).

CCRP intends to disseminate the report and update the report regularly (resource dependent). The indicator “wish list” will be used to help guide future data collection by CCRP. The indicators that make up the Vital Signs may change over time depending on community priorities and data availability.

It is our hope that communities, policy makers and advocates will use the Rural Community Vital Signs to set realistic goals and implement programs and initiatives aimed at improving conditions in the region. The framework and process developed in this project may also serve as a model for other rural communities. CCRP will be sharing policy and program ideas that are being used in other rural communities to improve health outcomes.



# Rural Community Vital Signs Indicator Framework



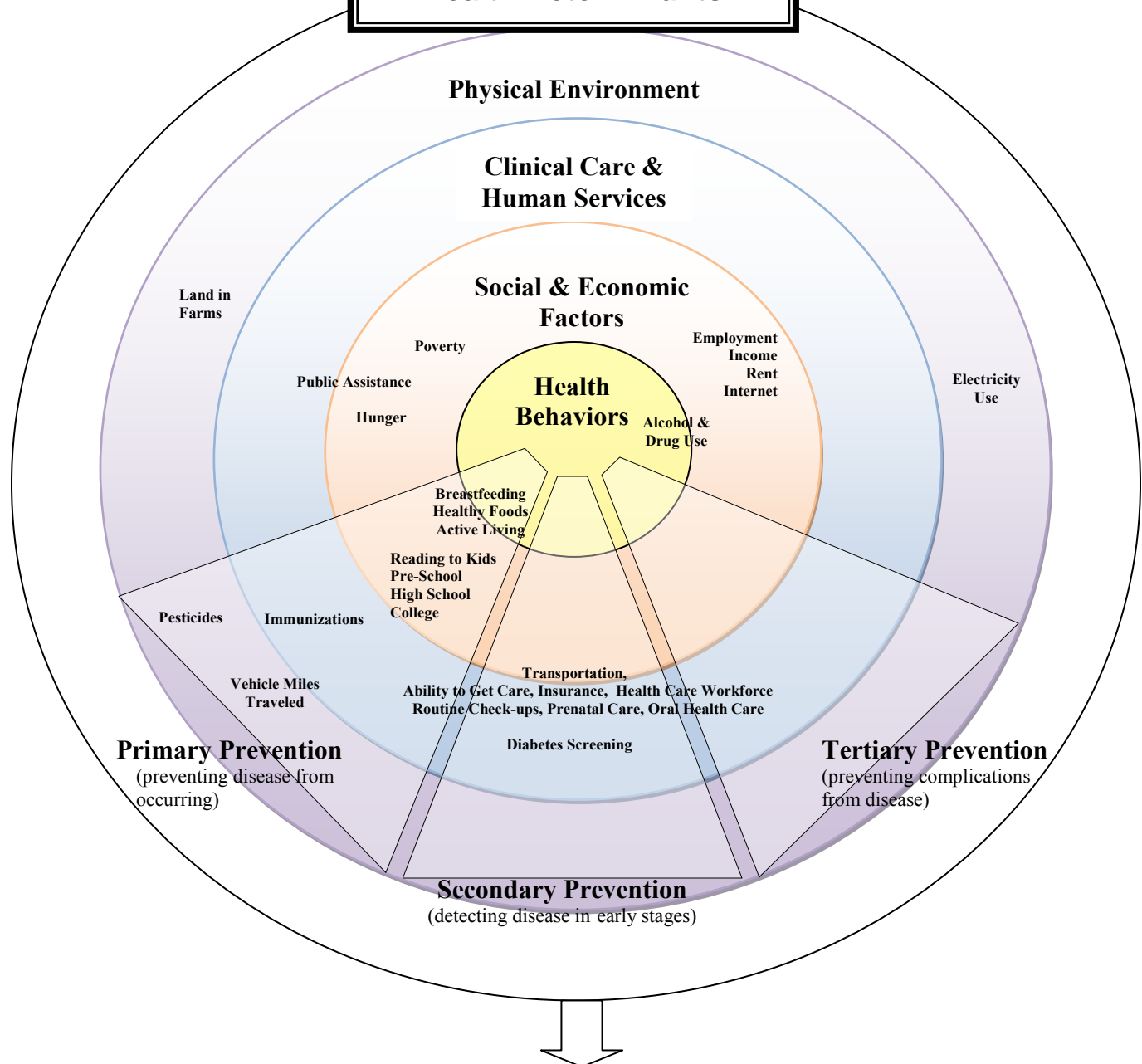
Framework adapted from University of Wisconsin County Health Rankings Model  
 Visions adapted from The California Endowment and Healthy People 2010

# Rural Community Vital Signs Indicator Framework

## Categories & Relationships

### Programs & Policies

### Health Determinants



1. Deaths Due to All causes
2. Premature Deaths
3. Low Birth Weight
4. Teen Births

5. Diabetes
6. Depression
7. & 8. Senior Falls/Injuries
17. Dental Caries

21. Physical Fitness
22. Overweight/Obesity
28. Drug Induced Deaths
29. & 30. Collisions/DUIs



## The Place

This report is about community health in four rural counties in Northern California. Del Norte, Humboldt, Trinity, and Mendocino counties, collectively known as the Redwood Coast Region, encompass 11,268 square miles of land.<sup>1</sup> The region is known for its beautiful and diverse topography including redwood forests, rugged coast-lines, mountain ranges, and numerous rivers and tributaries.

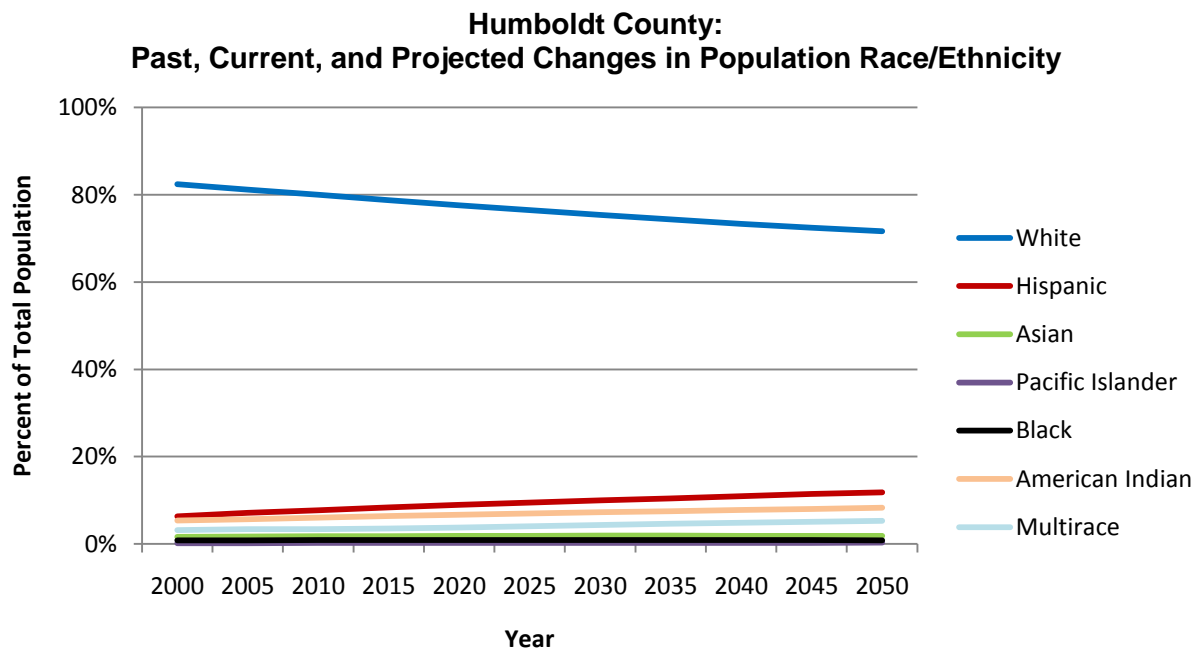
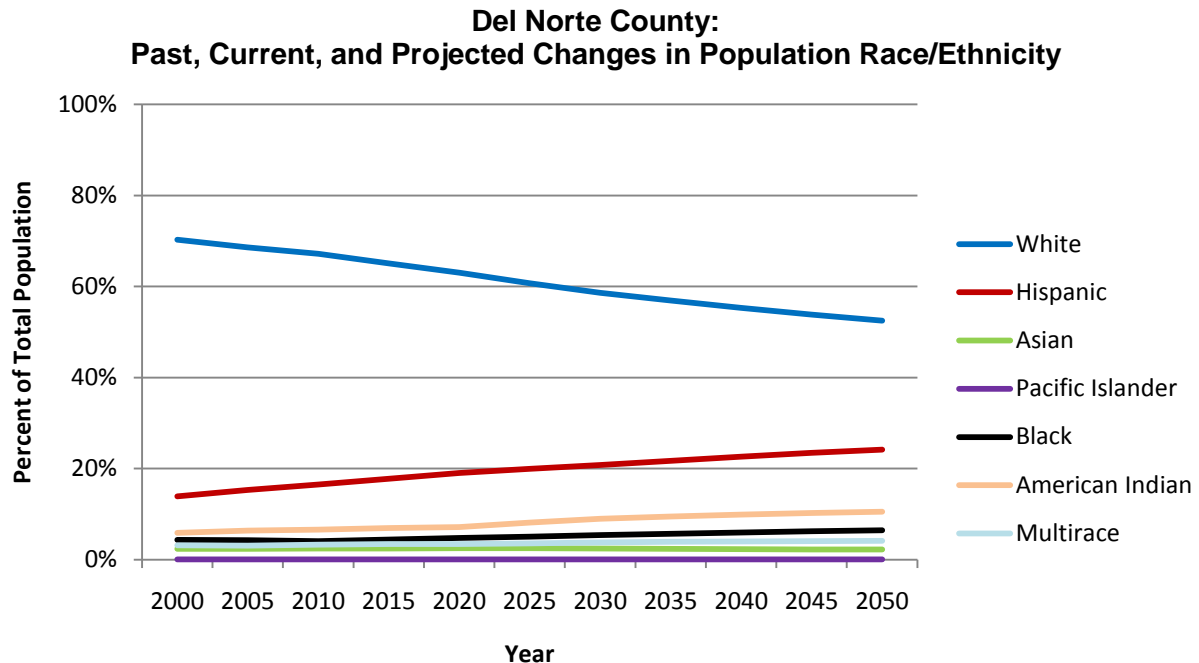
Previously, the major economic activities in the region were natural resource extractive industries, such as timber, fishing and mining. Today, jobs in these industries are severely diminished, and the economy has shifted towards more service-based industries. Over the years there has been an increase in the production and manufacturing of illegal substances, such as marijuana and methamphetamines.

The total population in the region in 2010 is estimated to be 267,260 (Del Norte 29,673; Humboldt 133,400; Trinity 13,898; Mendocino 90,289).<sup>2</sup> Parts of the region are designated as frontier or rural, as the average population density ranges from 4.1 people per square mile in Trinity County (frontier) to 35.4 people per square mile in Humboldt County (rural).<sup>1,3</sup> The majority of the region is designated as health professional shortage areas for primary care and dental care. Del Norte, Humboldt, and Trinity counties are also designated as mental health professional shortage areas.<sup>3</sup>



# The People

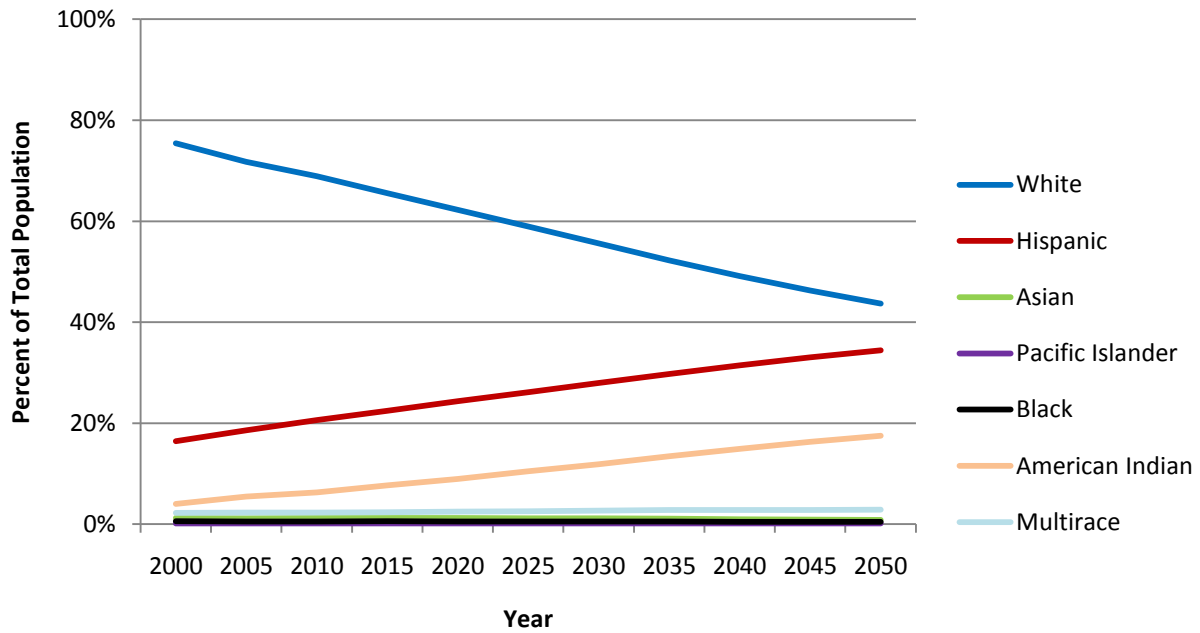
## Past, Current, and Projected Changes in Population Race/Ethnicity



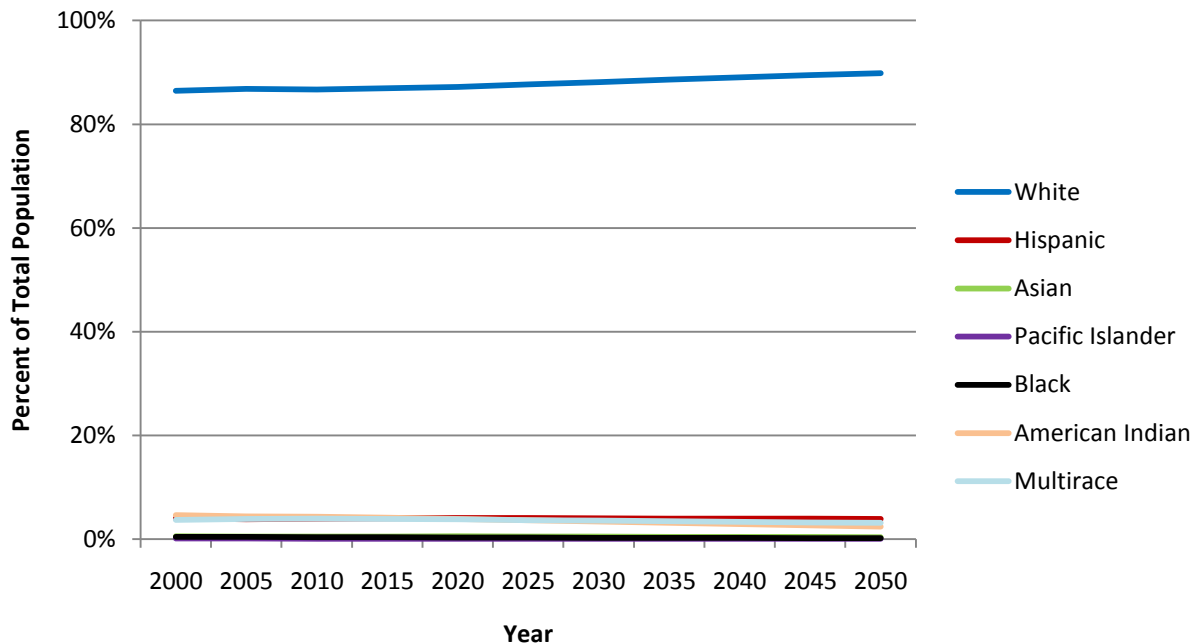
Data Source: State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

<http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

**Mendocino County:  
Past, Current, and Projected Changes in Population Race/Ethnicity**



**Trinity County:  
Past, Current, and Projected Changes in Population Race/Ethnicity**



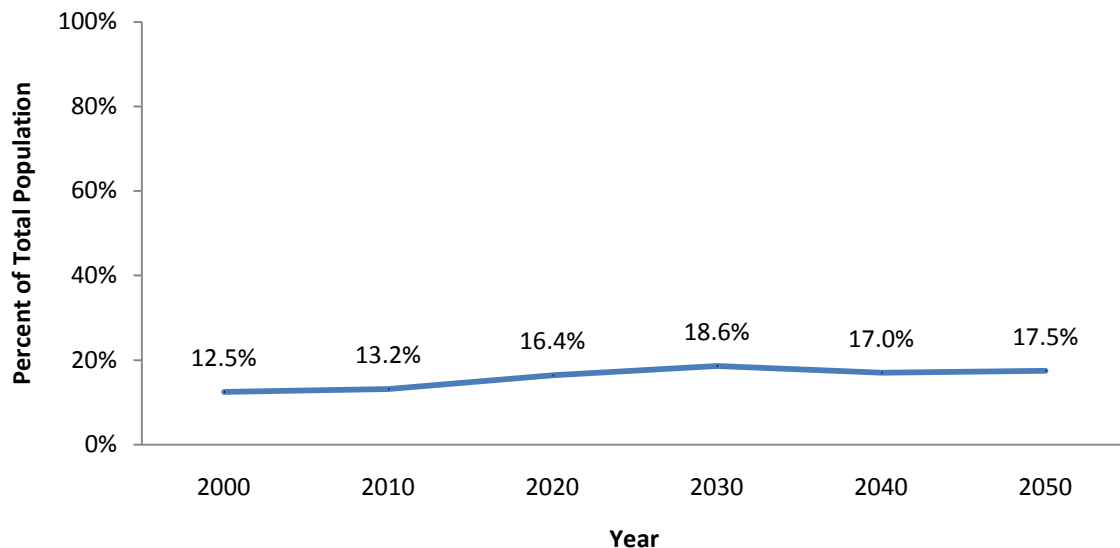
Data Source: State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

<http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

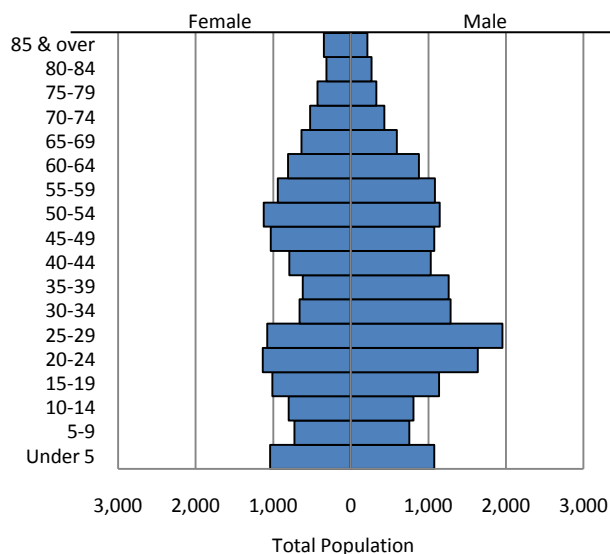


## Past, Current, and Projected Changes in Population Age

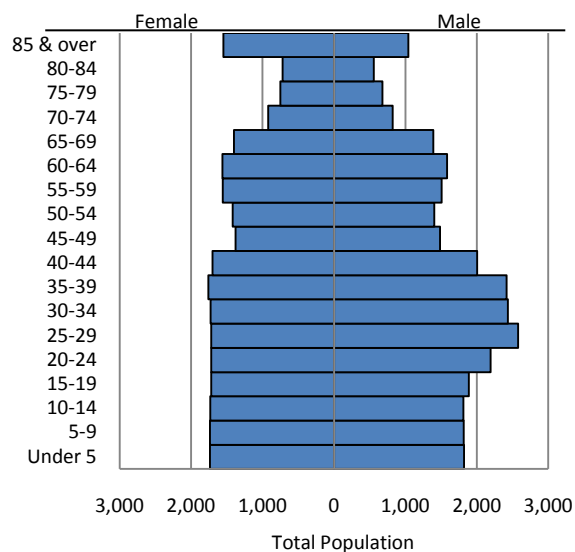
### Del Norte County: Past, Current, and Projected Changes in Population Age 65 Years and Over



#### Del Norte County: 2010 Population by Age & Gender



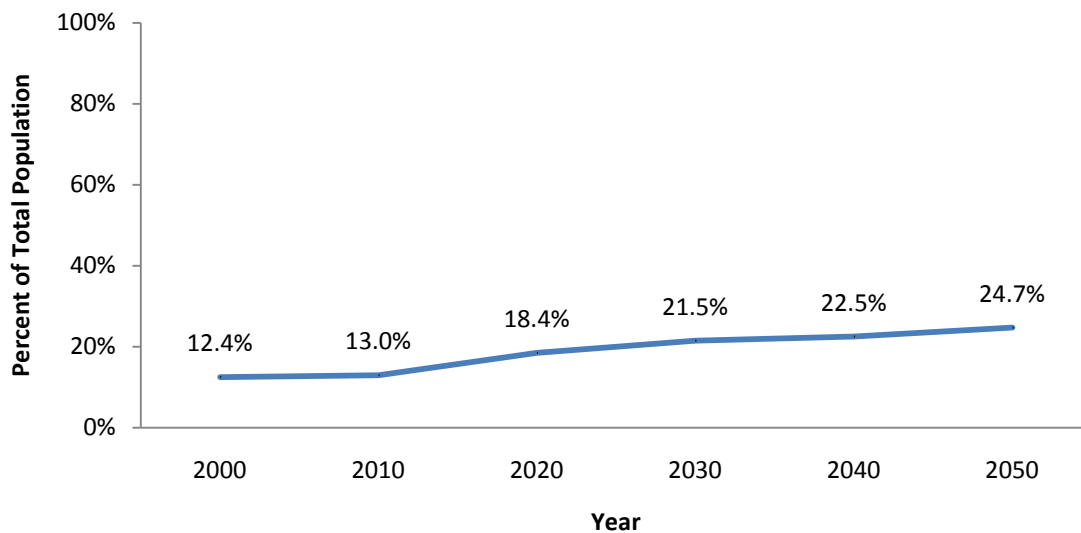
#### Del Norte County: 2050 Projected Population by Age & Gender



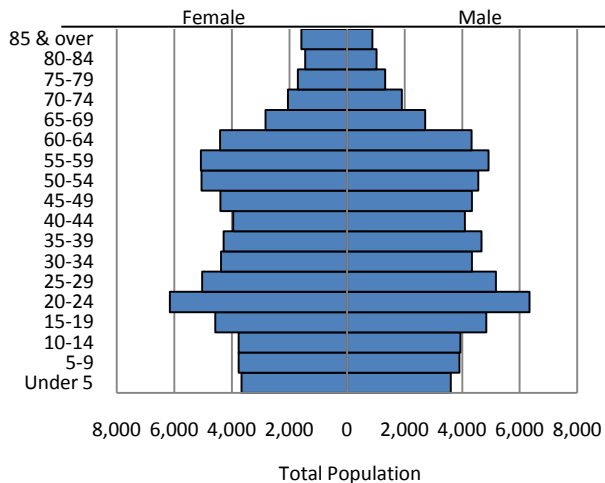
Data Source: State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

<http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

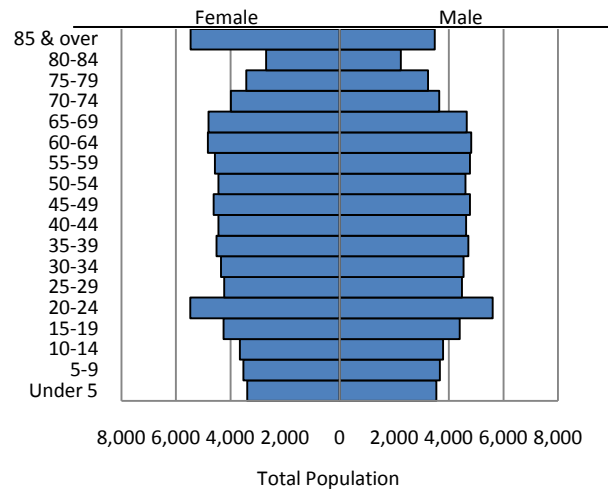
### Humboldt County: Past, Current, and Projected Changes in Population Age 65 Years and Over



**Humboldt County:  
2010 Population by Age & Gender**



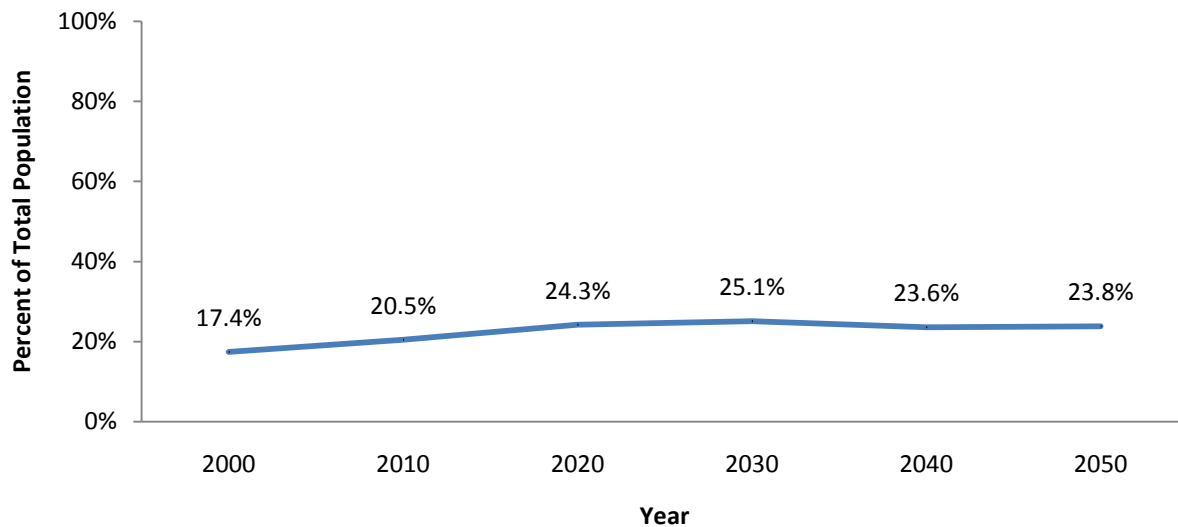
**Humboldt County:  
2050 Projected Population by Age & Gender**



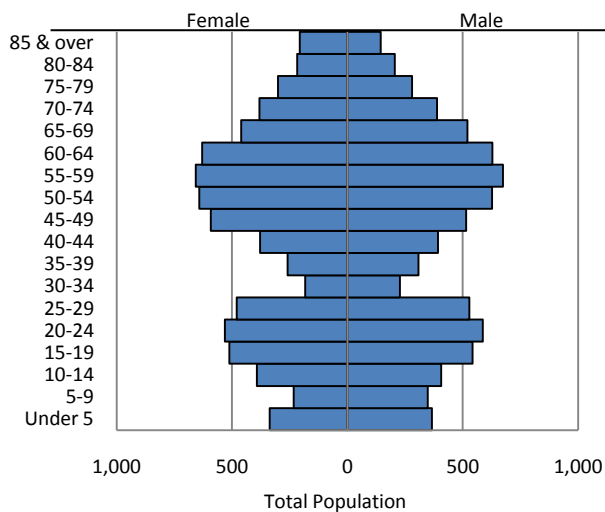
Data Source: State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

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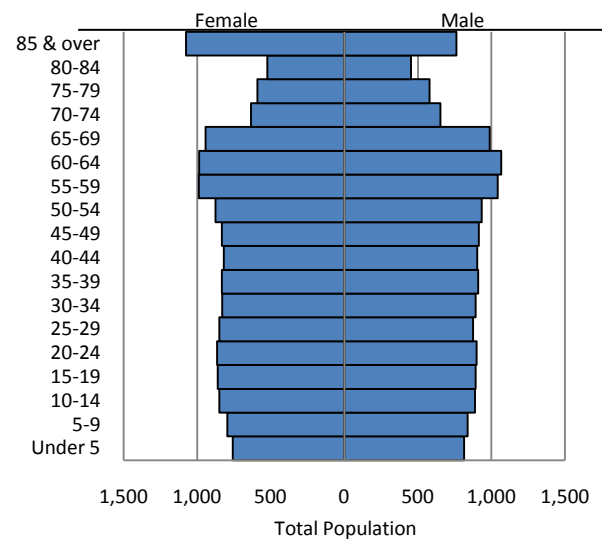
# **Trinity County: Past, Current, and Projected Changes in Population Age 65 and Over**



**Trinity County:  
2010 Population by Age & Gender**



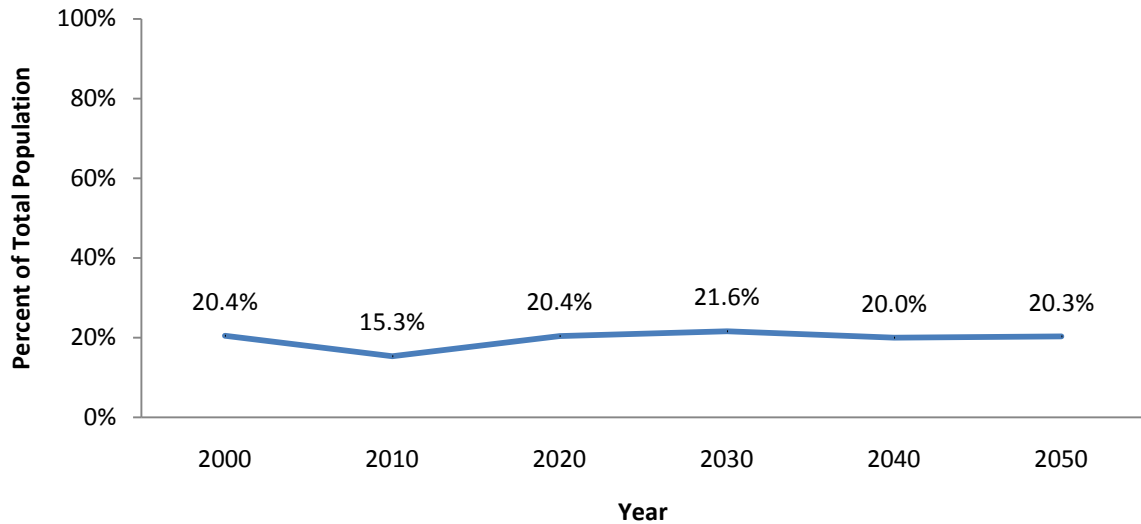
**Trinity County:  
2050 Projected Population by Age & Gender**



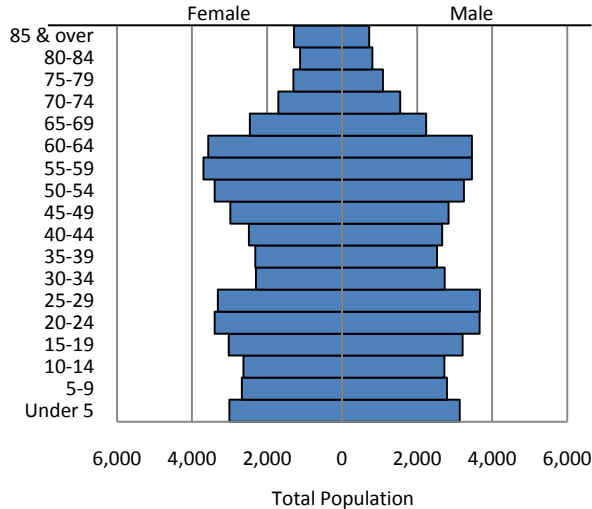
Data Source: State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

<http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

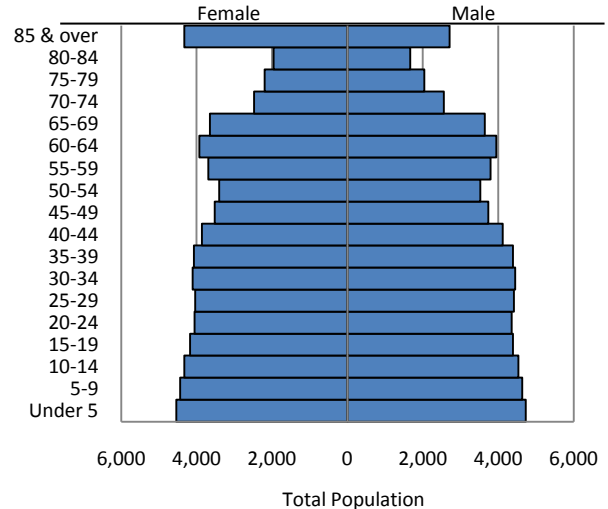
# **Mendocino County: Past, Current, and Projected Changes in Population Age 65 Years and Over**



**Mendocino County:  
2010 Population Age & Gender**



**Mendocino County:  
2050 Projected Population by Age & Gender**

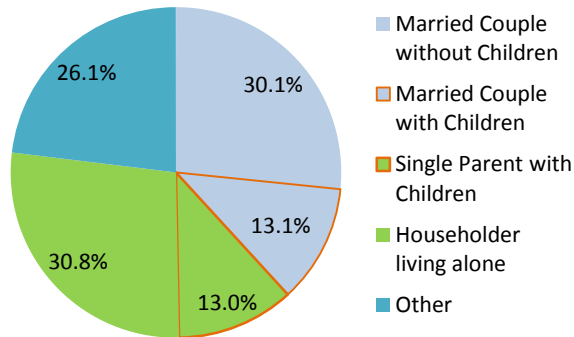


Data Source: State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000–2050. Sacramento, CA, July 2007.

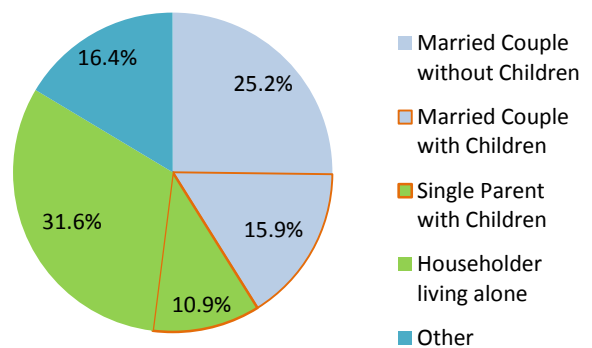
<http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

## Household Composition

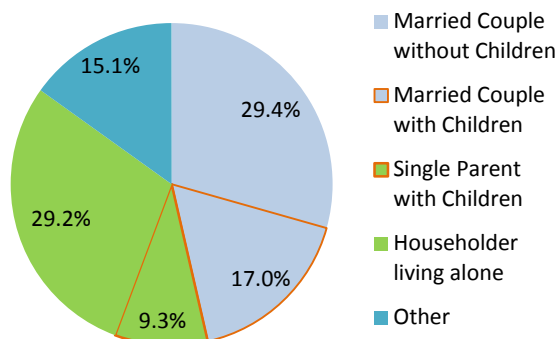
**Del Norte County:  
Households by Type, 2006-2008**



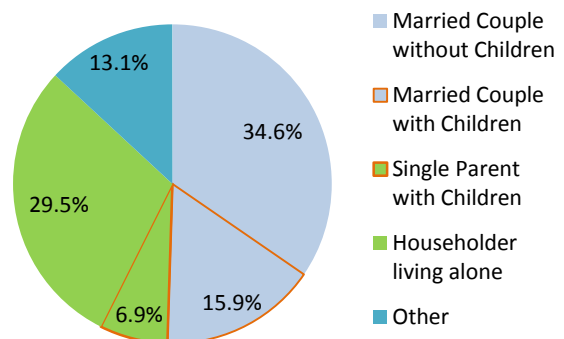
**Humboldt County:  
Households by Type, 2006-2008**



**Mendocino County:  
Households by Type, 2006-2008**



**Trinity County:  
Households by Type, 2000**



Data Source: U.S. Census <http://factfinder.census.gov>

Notes: Data for Del Norte, Humboldt and Mendocino counties are from the U.S. Census American Community Survey and are 3-year estimates based on data collected between January 2006 and December 2008. Data for Trinity County is from the 2000 Decennial Census (Trinity population is too small to be in the American Community Survey).

## Health Outcomes

Deaths Due to All causes  
Premature Deaths  
Low Birth Weight  
Teen Birth Rate

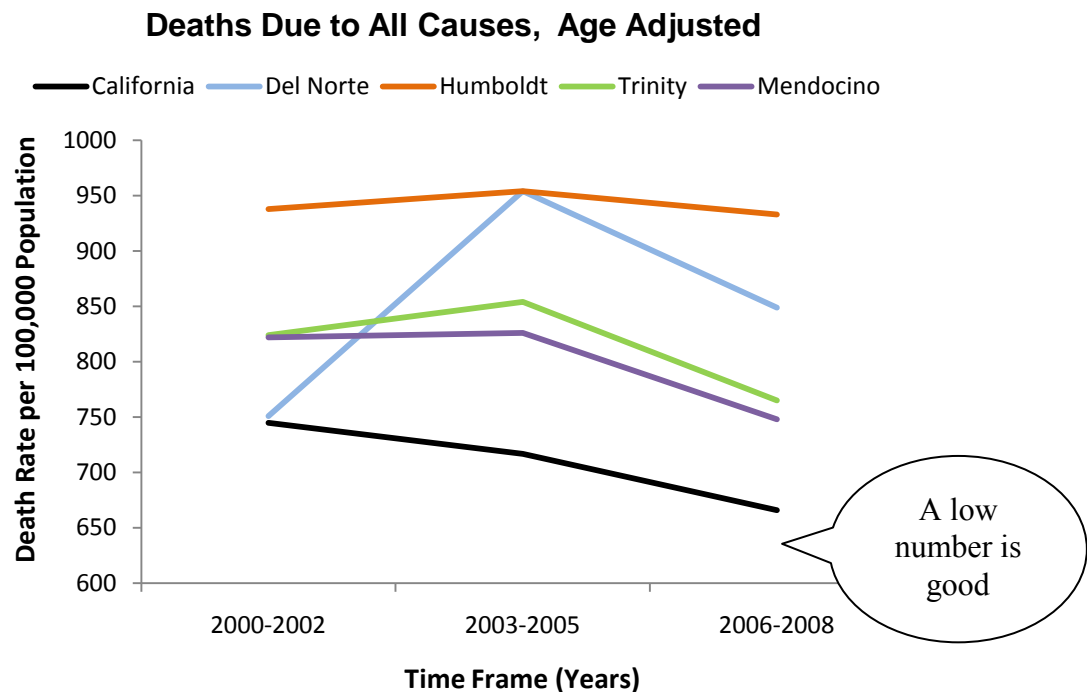
Diabetes  
Depression  
Senior Falls & Injuries

Vision for a Healthy Redwood Coast Region:  
**The Region Eliminates Health Disparities and Improves the Health of All Groups.**

### 1. Deaths Due to All Causes

Tracking overall death rate (mortality) is important because it tells us about the overall health of our communities. Age adjustment accounts for the age differences that may exist in different communities.

**In the Redwood Coast Region**, from 2000 to 2008, the age adjusted **death rates due to all causes have consistently been higher in each county than for the state of California as a whole, with Humboldt County being the highest**. From 2000 to 2008 death rates have decreased in Trinity, Mendocino and California, whereas rates have increased in Del Norte and remained steady in Humboldt (Indicator 1).



Indicator Data Source: California Department of Public Health, County Health Status Profiles (2004, 2007, 2010)  
<http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx>

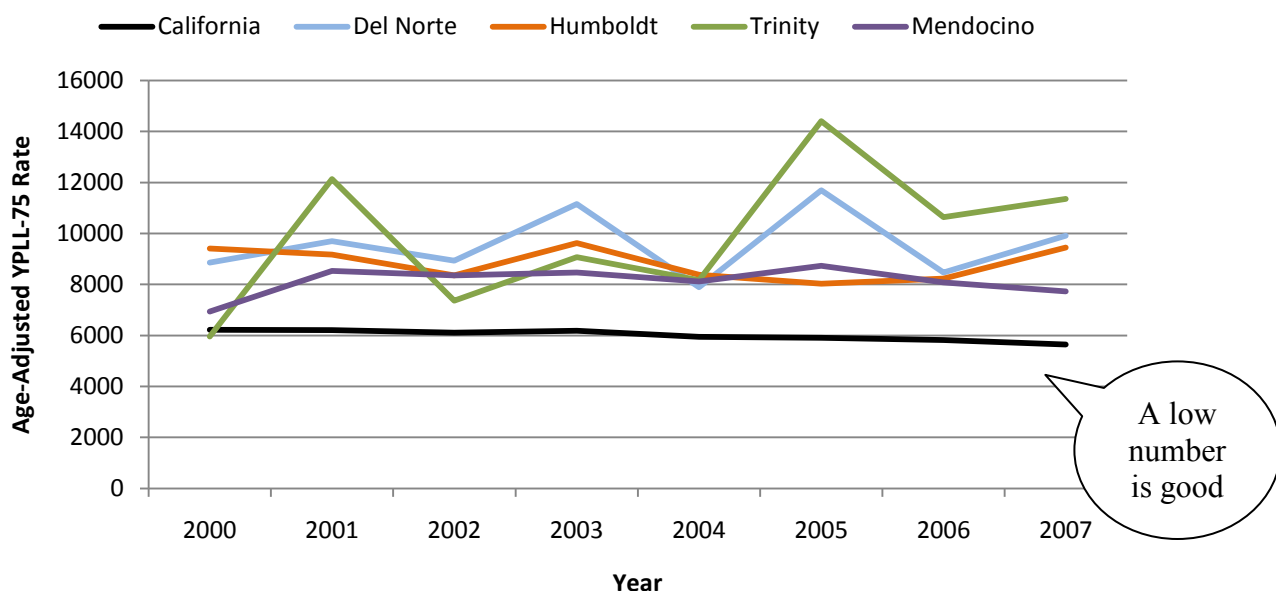
## 2. Premature Deaths- Years of Potential Life Lost

Years of potential life lost before age 75 (YPLL-75) is a measure of premature mortality in a population. Most deaths occur in older people and reflect disease processes of the elderly. Since deaths among younger people are likely to be preventable, it is important to monitor mortality trends among younger people.<sup>1</sup>

The younger the person is when they die, the more they contribute to the years of potential life lost. For example, if a 25 year old woman dies in a car crash, the event will be counted as 50 years of potential life lost. A 71 year old man who dies of cancer will be counted as 4 years of potential life lost.

**In the Redwood Coast Region**, there is year-to-year variability, but from 2000 to 2007 **the premature death rate increased in each county with Trinity County experiencing the largest increase**. From 2000 to 2007, the age-adjusted YPLL-75 rate for all California residents decreased slightly (Indicator 2).

### Age-Adjusted Years of Potential Life Lost Before Age 75 All Persons for All Causes of Death



Indicator Data Source: Center for Health Statistics <http://www.cdph.ca.gov/programs/ohir/Pages/OHIRreports.aspx#p>

Notes: Rates are rounded to the nearest whole number.

#### *Visions for the Future Desired Newspaper Headlines Contributed by various Working Group members, 2010*

“Redwood Region’s focus on the root causes of health inequities pays off.”

“Health disparities are eliminated in the Redwood Coast Region.”

“Greatly reduced health disparities for American Indians seen in Redwood Coast Region.”

“Citizens self-reported health status improves for tenth straight year.”

“Diabetes rates, along with other chronic illnesses such as heart disease, at record low.”

“Best in other outcomes measured by Healthy People 2020.”

### 3. Percent of Live Births with Low Birth Weight

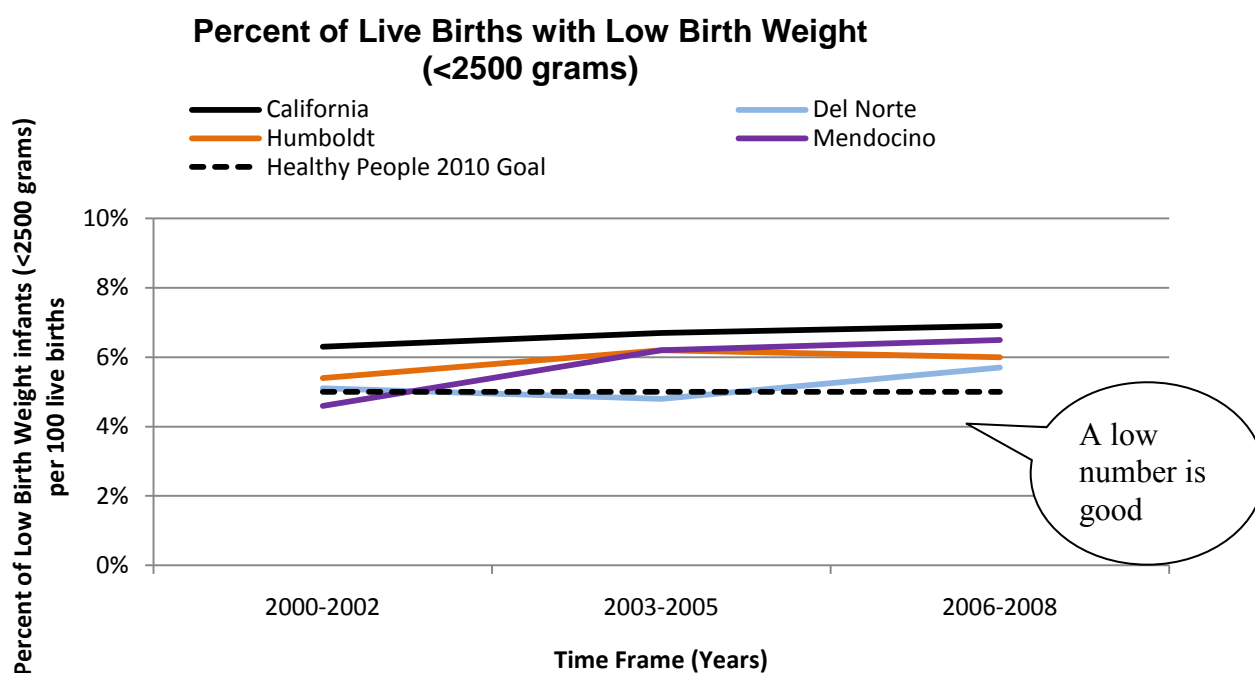
Birth weight and gestational age at delivery are the two most important predictors of an infant's subsequent health and survival. Infants born too soon and/or too small have a much greater risk of death and disability than those born full term (37–41 weeks of gestation) or with birth weights of 2,500 grams or more.<sup>1</sup>

Disorders associated with low birth weight are the second cause of infant death in the United States.<sup>1</sup> Babies born with low birth weights are more likely to have underdeveloped lungs, anemia, and heart and liver problems. They also tend to have difficulty maintaining a normal body temperature due to their lack of body fat. Bleeding of the brain is another serious problem associated with very low birth weight, which can lead to behavioral and learning problems later in life.<sup>2</sup>

Maternal medical conditions such as chronic asthma or hypertension can lead to low birth weight, as can smoking, alcohol consumption, and use of illicit drugs. Maternal malnutrition and/or under-consumption of food are also risk factors for low birth weight and other fetal problems.<sup>3</sup>

Nationally, the low birth weight rate was found to be 8.3 percent of all births in 2006, the highest level reported in the U.S. in four decades.<sup>4</sup> According to research done in 1988, children born with low birth weights were estimated to cost the United States government and taxpayers an additional \$5.5 to \$6 billion annually for health, educational, and care costs compared to full term infants.<sup>5</sup>

**In the Redwood Coast Region**, the percent of live births with low birth weight in Del Norte, Humboldt and Mendocino counties is lower than California, but has **increased from 2000 to 2008**, and is **not at the Healthy People 2010 goal** (Indicator 3).



Indicator Data Source: County Health Status Profiles (2004, 2007, 2010)

<http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx>

Notes: Trinity County data not shown as percentage is unreliable, relative standard error is greater than or equal to 23 percent. *Healthy People 2010* identifies the most significant preventable threats to our health and establishes national goals to reduce those threats. *Healthy People 2020* is currently being developed.

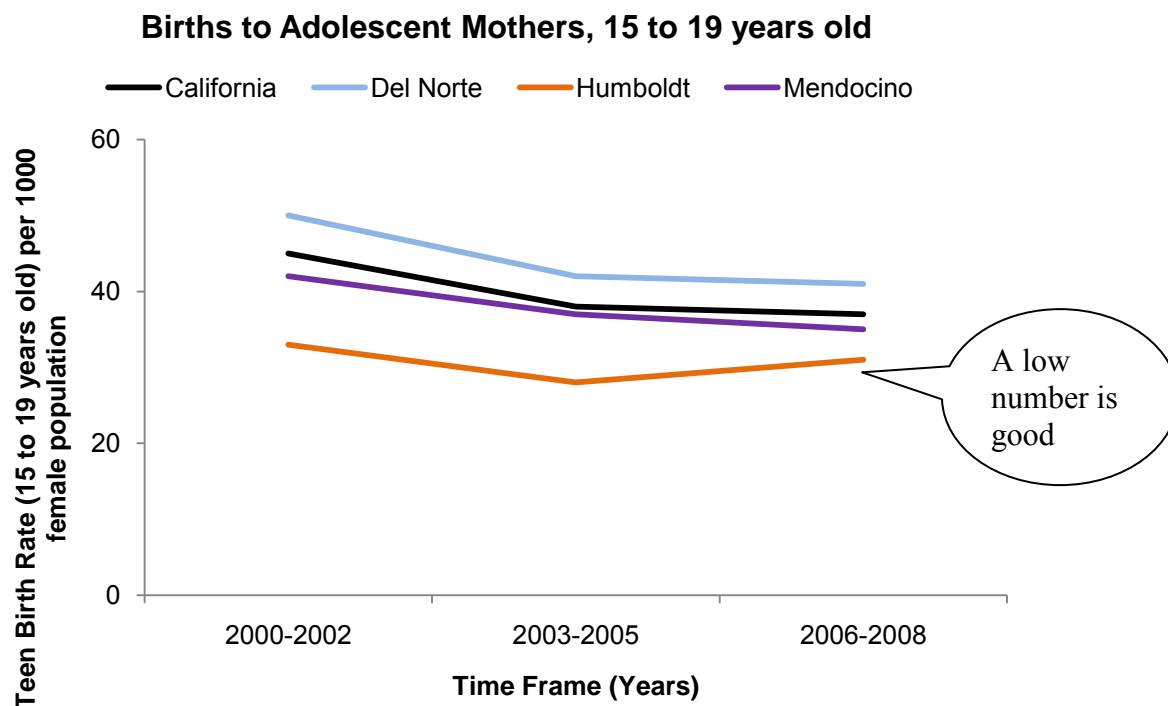


## 4. Teen Birth Rate

Infants born to teen mothers have been shown to have higher rates of low birth weight, preterm births, death in infancy, and abuse/ neglect. They are also more likely to be placed in foster care than children of older mothers.<sup>1,2</sup> Teens who give birth are more likely to be single parents, drop out of high school, live in poverty, and rely on public financial and/or food assistance programs.<sup>2</sup> One in five teen births is to a teen who has already had a baby, which can exacerbate the problems mentioned above.<sup>3</sup> The United States has the highest rate of teen births compared to any other industrialized country in the world and the rate has been increasing.<sup>1</sup> It has been reported that teen childbearing costs the United States government and taxpayers \$9.1 billion annually.<sup>4</sup>



**In the Redwood Coast Region, teen birth rates have decreased from 2000 to 2008. Del Norte County has a teen birth rate that is higher than California, whereas Humboldt and Mendocino have rates lower than California (Indicator 4).**



Indicator Data Source: County Health Status Profiles (2004, 2007, 2010)

<http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx>

Notes: Trinity County data not shown as rate is unreliable, relative standard error is greater than or equal to 23 percent.

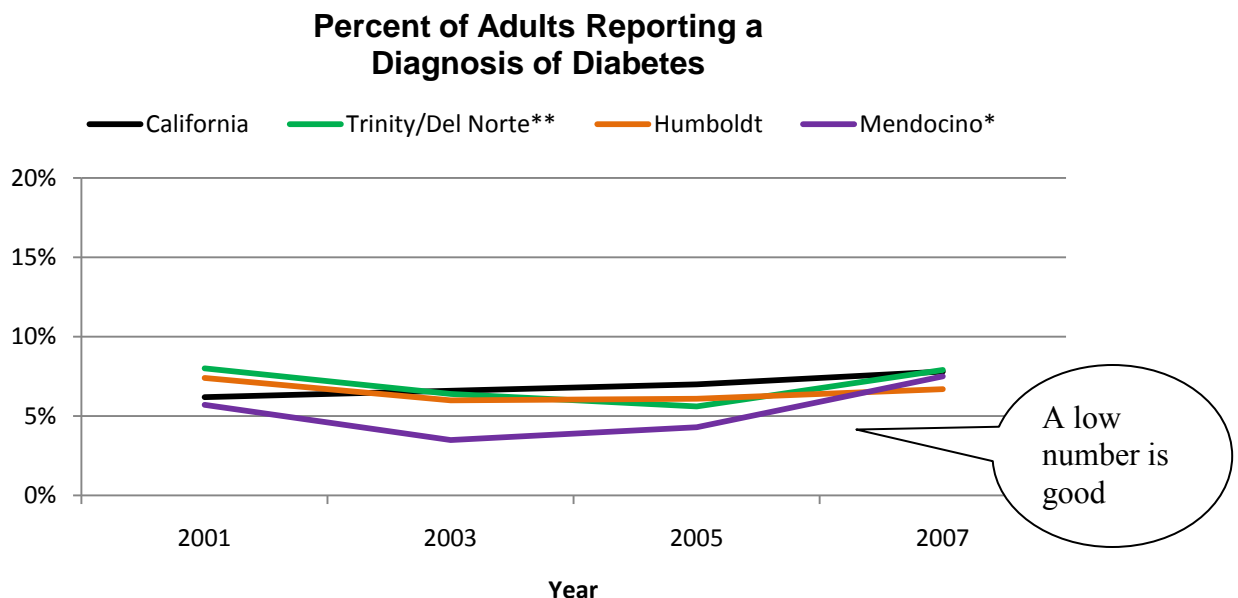
## 5. Percent of Adults with a Diagnosis of Diabetes

Diabetes is a metabolic disease in which the body does not produce enough insulin or cells do not respond to the insulin, resulting in high blood sugar levels. A wide range of complications can occur in people with diabetes, particularly if the disease is not managed appropriately. Complications from diabetes include eye disease or blindness, kidney disease, nerve damage, heart disease, high blood pressure, stroke, pregnancy complications, dental disease, and many others.<sup>1</sup>

The prevalence of diabetes in the U.S. has been continually increasing over the last three decades and as of 2007, 23.6 million people or 7.8% of the population was believed to be plagued by the disease.<sup>2,3</sup> It is estimated that 25% of people with diabetes are not aware that they have it as the onset occurs an average of 4-7 years before diagnosis.<sup>1,2</sup> Pre-diabetes is a condition where blood sugar levels are elevated, but not high enough to be diagnosed with diabetes. Approximately 40% of U.S. adults aged 40-74 years are estimated to have pre-diabetes. If diagnosed early, this condition can be reversed and progression to diabetes can be prevented.<sup>2</sup>

Disparities exist among ethnic groups in the U.S., with the highest rates of diabetes among American Indian/Alaska Natives, followed by Blacks and Hispanics. Whites have the lowest rates of diabetes.<sup>2</sup> In 2007, diabetes was listed as the 7<sup>th</sup> leading cause of death in the U.S., and it has been shown to lower a person's life expectancy up to 15 years.<sup>4</sup> In 2007, the total estimated cost of diabetes in the U.S. was \$174 billion, including \$116 billion for direct medical costs with the remaining \$58 billion related to disability, work loss, and premature mortality.<sup>2</sup>

**In the Redwood Coast Region, from 2001 to 2007, adults reporting a diagnosis of diabetes has increased in Mendocino, decreased slightly in Humboldt, and remained about the same in Del Norte/Trinity (Indicator 5).** It is important to keep in mind that access to health care can impact the number of people with a diagnosis of diabetes. If people have limited access to health care they may not be receiving screening tests and may be unaware that they have diabetes. In the region, **low-income adults are less likely to receive routine check-ups and screenings for diabetes compared to non low-income adults** (except in Del Norte where these disparities do not exist) (Indicators 12a & 13).



Indicator Data Source: California Health Interview Survey <http://www.chis.ucla.edu>

Notes:

\*2003 data for Mendocino is unreliable/statistically unstable meaning cell has not met the criteria for a minimum number of respondents needed and/or has exceeded an acceptable value for coefficient of variance.

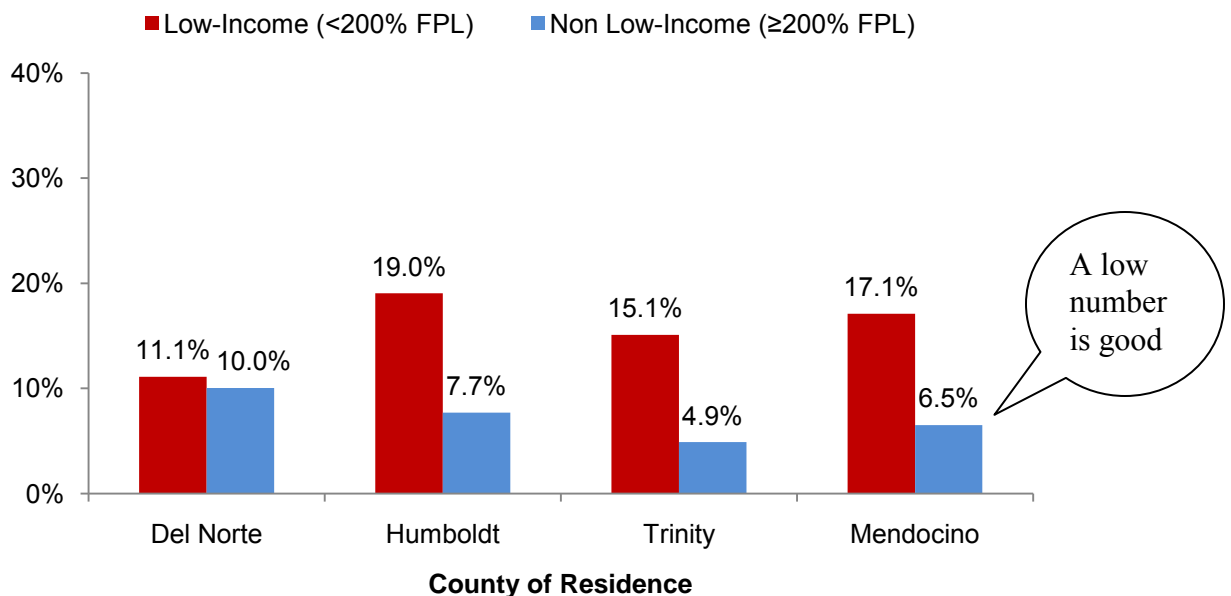
\*\*Trinity and Del Norte data aggregated with 5 other counties

## 6. Percent of Adults Reporting Feeling Sad or Depressed “Most” or “All” of the Time During the Past 6 Months

Studies have indicated a connection between depression and poor health. For instance, middle-aged men and women with depression were more likely to report having poor health in comparison to adults without depression.<sup>1,2</sup> Researchers have also found that older adults who had a past diagnosis of depression still rated poorer health than adults without depression.<sup>2</sup> The World Health Survey found that depression had the greatest association with perceived poor health among adults than any of the other chronic illness.<sup>3</sup> Not only is depression associated with lower quality of health, it is also associated with less productivity and financial loss. That is, adults diagnosed with depression have more sick days from work when compared with adults without depression.<sup>4</sup>

**In the Redwood Coast Region, low-income adults are significantly more likely than non low-income adults to experience depression** (except in Del Norte where differences due to income level are not significant) (Indicator 6).

**Percent of Adults Reporting Feeling Sad or Depressed  
"Most" or "All" of the Time During the Past 6 Months  
by County and Income Level, 2006**



Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy

<http://www.humboldt.edu/ccrp/rural-health-information-survey>

Notes: Within each county, the difference between income levels is statistically significant for all counties except Del Norte. The Federal Poverty Level (FPL) varies by household size. For a family of four (two adults, two children) the 2006 Federal Poverty Level (100% FPL) was \$20,444, 200% FPL was \$40,888 and 300% FPL was \$61,332.

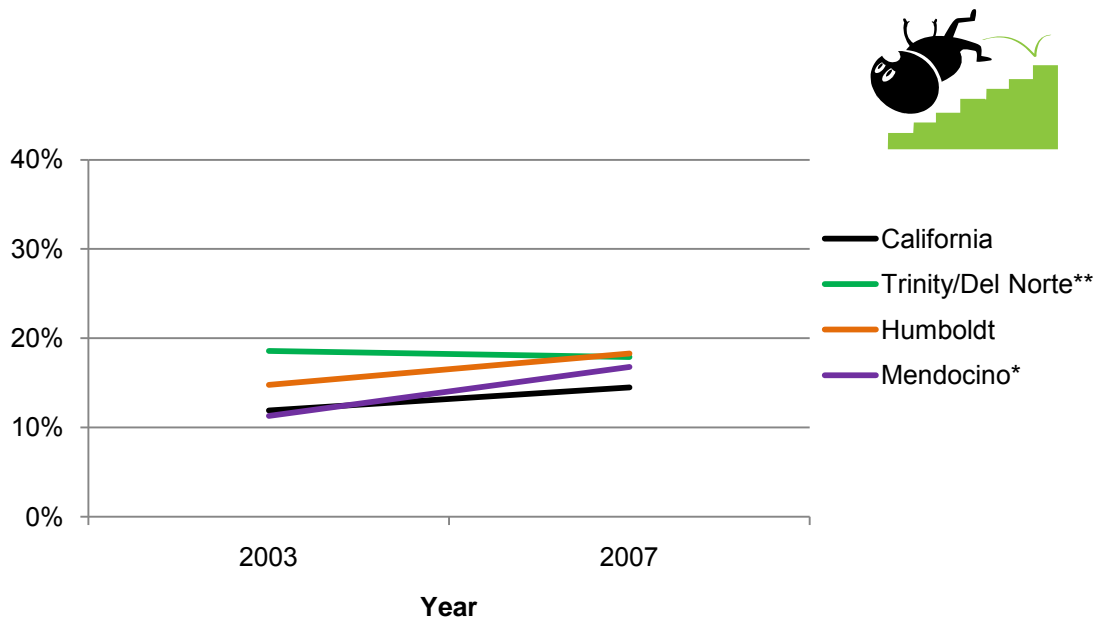
## Senior Falls

Falls are the main cause of fatal and nonfatal injuries in the elderly population (ages 65 and over), resulting in a high number of deaths and hospitalizations each year.<sup>1-3</sup> Over one-third of the elderly population residing in the U.S. fall each year, with about one-third of these suffering moderate to severe injuries that may include bone fractures, cuts and bruises, injuries to internal organs, head trauma, and increased risk of early death.<sup>2,4</sup> Such injuries limit mobility resulting in difficulties participating in activities of daily living (e.g., cooking, cleaning, keeping proper hygiene, etc.) and increased dependence on others.<sup>4</sup>

The cost burden of falls is significant, both in terms of direct costs and long-term effects such as disability, loss of independence, decreased productivity, and reduced quality of life.<sup>5</sup> The total direct cost (hospital, nursing home care, doctors and other professionals, rehabilitation, community based services, medical equipment, prescription drugs, changes made to the home, and insurance processing) for all fall injuries for people ages 65 and over in the U.S. was over \$19 billion in 2000. It is estimated that by the year 2020 direct and indirect costs of fall injuries will reach about \$55 billion.<sup>6</sup> Hospitalization rates for falls are higher in rural areas than in urban areas and on a per-capita basis, hospital charges are higher in rural areas.<sup>7</sup>

**In the Redwood Coast Region, the percent of seniors who reported having more than one fall in the past year has increased from 2003 to 2007 and is higher than in California as a whole (Indicator 7). From 2000 to 2006, hospitalization rates for falls among seniors has increased in Del Norte and decreased in Humboldt, Trinity, and Mendocino counties (Indicator 8).**

### 7. Percent of Seniors with More than One Fall in the Past Year



Indicator Data Source: California Health Interview Survey <http://www.chis.ucla.edu>

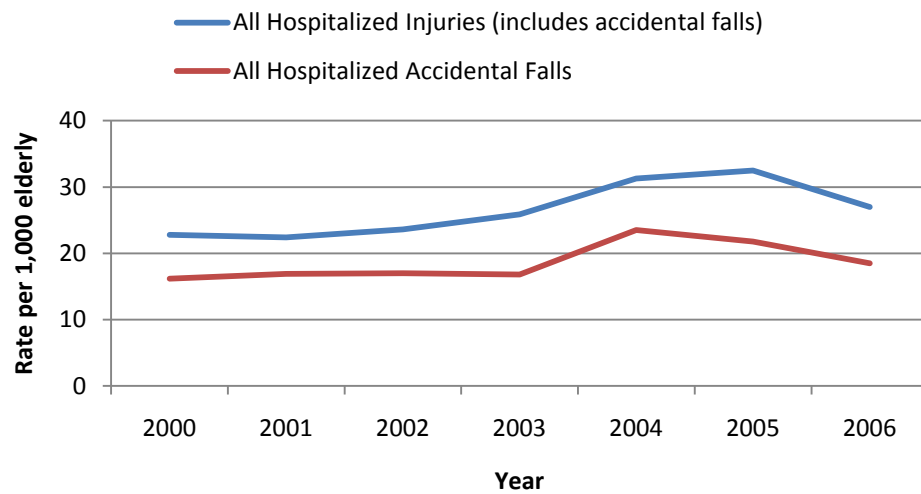
Notes: Question asked of all respondents 65 years and older

\*2003 data for Mendocino is unreliable/statistically unstable meaning cell has not met the criteria for a minimum number of respondents needed and/or has exceeded an acceptable value for coefficient of variance.

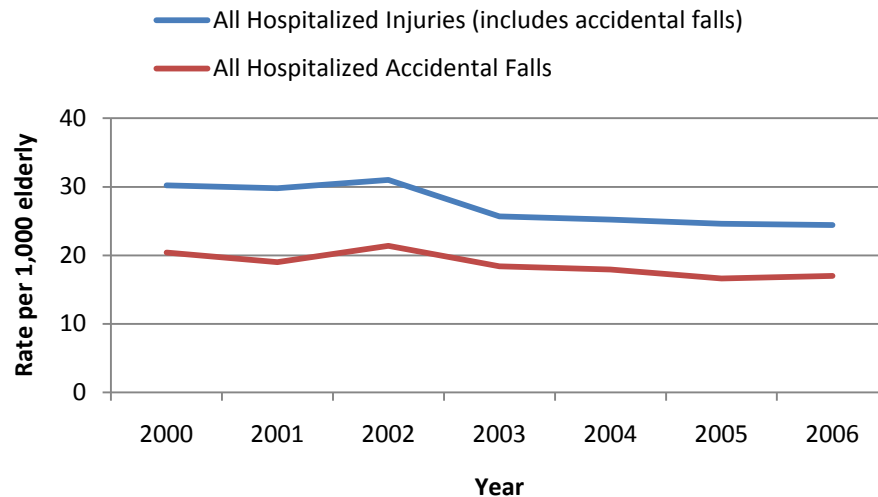
\*\*Trinity and Del Norte data aggregated with 5 other counties

## 8. Rate of Hospitalized Injuries/Falls Among Seniors

### Del Norte County: Nonfatal Hospitalized Injuries, age 65+



### Humboldt County: Nonfatal Hospitalized Injuries, age 65+



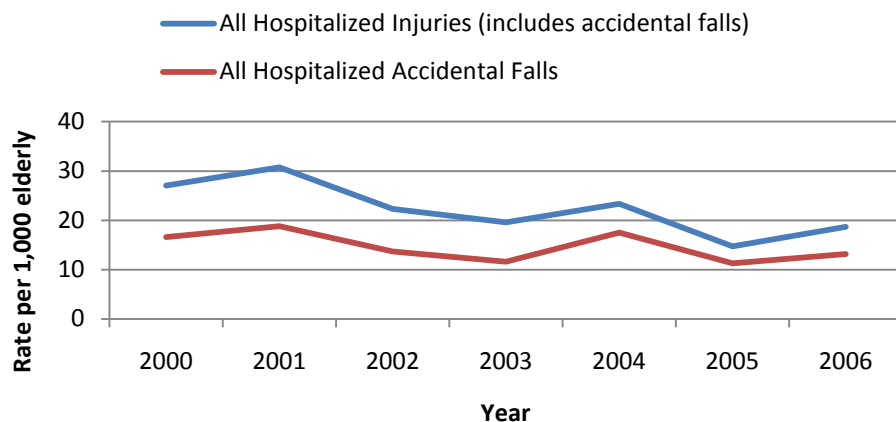
Indicator Data Sources:

California EPI Center <http://www.applications.dhs.ca.gov/epidata/default.htm#topics>

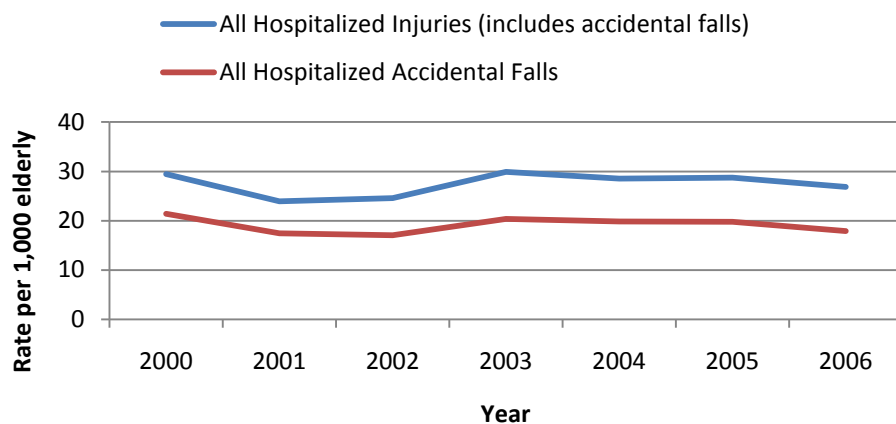
Population Data from California Department of Finance <http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

## Rate of Hospitalized Injuries/Falls Among Seniors (*continued*)

### Trinity County: Nonfatal Hospitalized Injuries, age 65+



### Mendocino County: Nonfatal Hospitalized Injuries, age 65+



Indicator Data Sources:

California EPI Center <http://www.applications.dhs.ca.gov/epicdata/default.htm#topics>

Population Data from California Department of Finance <http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

## Clinical Care & Human Services (Physical, Mental & Oral Health)

Health Care Provider Workforce  
Ability to get Needed Healthcare  
Health Insurance  
Routine Check-ups  
Screening for Diabetes

Prenatal Care  
Vaccinations  
Professional Teeth Cleaning  
Oral Health Assessments  
Transportation to Healthcare

Vision for a Healthy Redwood Coast Region:

**Health and family-focused human services shift resources toward prevention across the region. People have access to quality physical, mental & oral health care and take an active role in their care.**

Access to care and services and quality of care and services can be impacted by many factors including availability of the health care workforce, insurance, and transportation. Having sufficient numbers of health care providers plays an important role in whether or not people can access health care. Rural areas tend to have limited numbers of health care professionals and less specialty care, thus making access to health care more difficult.<sup>1</sup>

Numerous studies have shown that lack of health insurance or inadequate health insurance are significant barriers to receiving health care services, particularly preventive health services.<sup>2,3</sup> Lack of health insurance is associated with a lower likelihood of having a “medical home” or usual source of care, which translates to less preventive care, inadequate management of chronic conditions, over-burdening hospital emergency departments, and increased costs of health care.<sup>3,4</sup>

Preventive or periodic health examinations (PHEs) are important for health promotion, as well as screening, early detection and treatment of many health conditions.<sup>5-7</sup> Early detection through screening has been demonstrated to reduce mortality from breast, cervical and colorectal cancer.<sup>5</sup> PHEs provide opportunities to screen for diseases such as diabetes, high blood pressure and high cholesterol, which often have no symptoms in the early stages, but are critical to detect early in order to prevent complications.

**In the Redwood Coast Region, there are fewer physicians working full-time (or full-time equivalent) per 100,000 population compared to the physician availability in the state.** The region has less specialty care physicians and more primary care physicians per 100,000 population (except Trinity County, which has less primary care physicians). **The low-income population has less specialty and primary care physicians who care for them** compared to the general population (except Trinity County, which does not have this disparity) (Indicator 9a).

**The region has a severe shortage of dentists.** In 2000, California had 81.4 dentists per 100,000 population and the national rate was 63.6. This number is considerably lower in the region and the low-income population has very few dentists available to them (Indicator 9b).

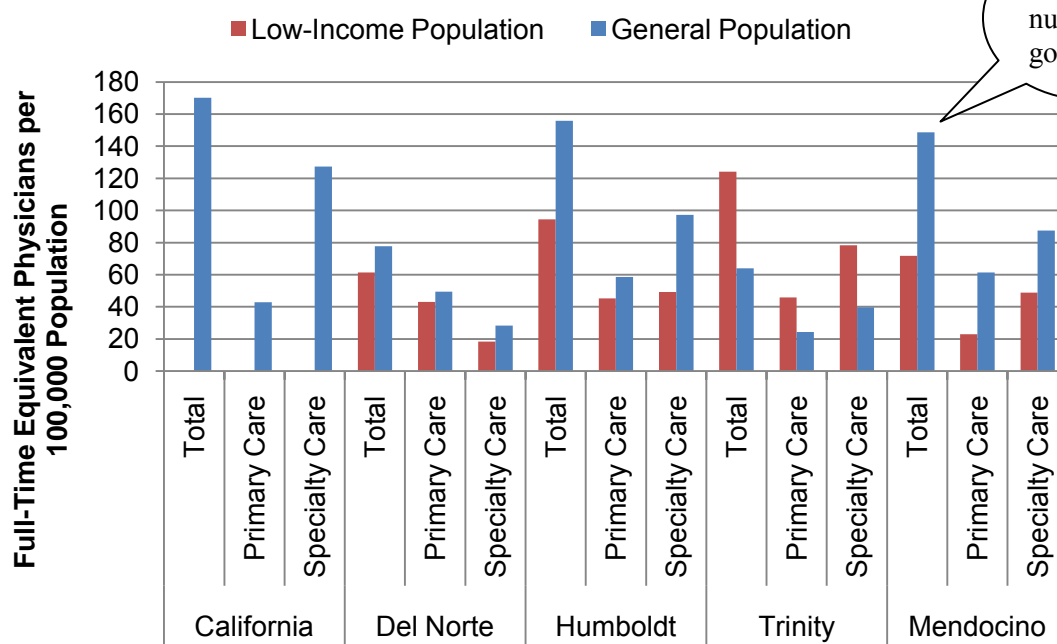
Del Norte had the highest percent of adults who reported not being able to obtain needed health care in 2006. In each county, **access to health care for adults and children was more difficult for the low-income population** (Indicator 10).

**A high percent of low-income adults had no health insurance** in 2006 (Indicator 11a). In 2008, the American Community Survey asked about health insurance coverage in areas with a population greater than 65,000, which indicated that **22.5% of children in Mendocino and 12.7% of children in Humboldt are without health insurance.** Among children under the age 18 in the region, a high percent were relying on public insurance in 2007 (Indicator 11b).

**Low-income adults are less likely to receive routine check-ups (preventive health exams) and screenings for diabetes compared to non low-income adults** (except in Del Norte where these disparities do not exist) (Indicators 12a & 13). **Routine check-ups among adolescents has decreased in Humboldt**, and increased in Mendocino, Del Norte, and Trinity counties (Indicator 12b).

## 9. Health Care Provider Workforce- Physicians & Dentists

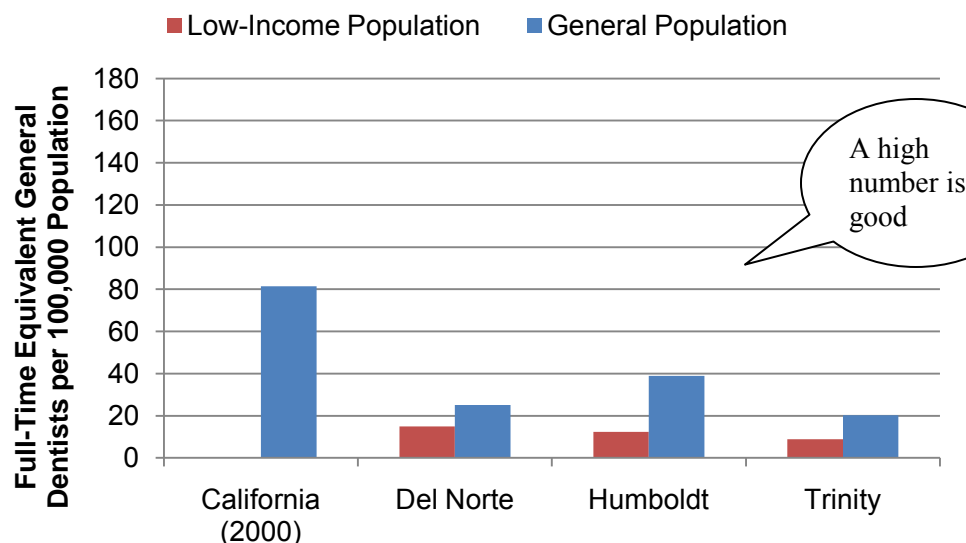
### 9a. Full-Time Equivalent Physicians per 100,000 Population (General & Low-Income), 2010



*The region has fewer physicians working full-time compared to the physician availability in the state.*

*There is less specialty care and the low-income population tends to have proportionally less physicians who care for them.*

### 9b. Full-Time Equivalent Dentists per 100,000 Population (General & Low-Income), 2010



*The region has a severe shortage of dentists. The low-income population has very few dentists available to them.*

Indicator Data Sources: Bonser-Bishop H. *Specialty Access on the North Coast: Mental, Dental and Medical Access in Humboldt, Del Norte, Trinity and Mendocino Counties*. July, 2010.

Dentist data for California obtained from Health Resources and Services Administration. State Health Workforce Profiles.

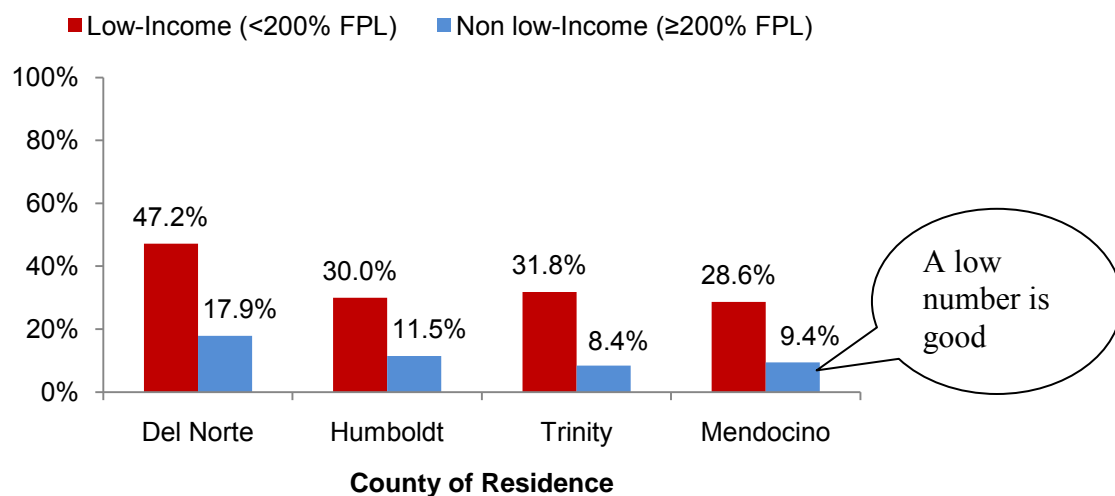
<http://bhpr.hrsa.gov/healthworkforce/reports/statesummaries/california.htm>

Notes: Data for dentists was not available for Mendocino County.



## 10. Percent of People Not Able to Get Needed Healthcare in Past 12 Months

### 10a. Percent of Adults Not Able to Get Needed Healthcare in Past 12 Months

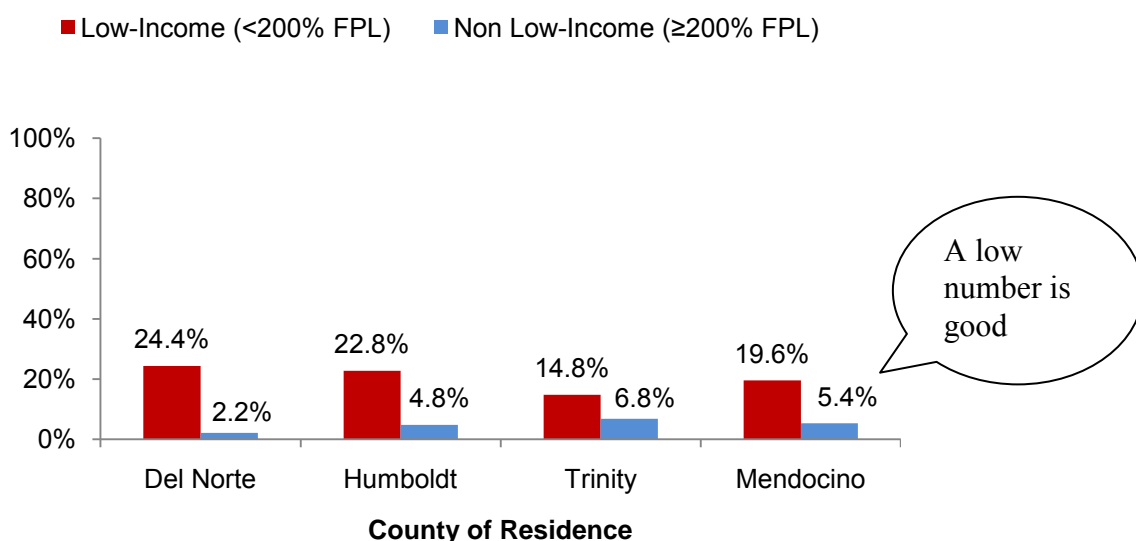


Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy

<http://www.humboldt.edu/ccrp/rural-health-information-survey>

Notes: Within each county, the difference between income levels is statistically significant.

### 10b. Percent of Children Not Able to Get Needed Healthcare in Past 12 Months



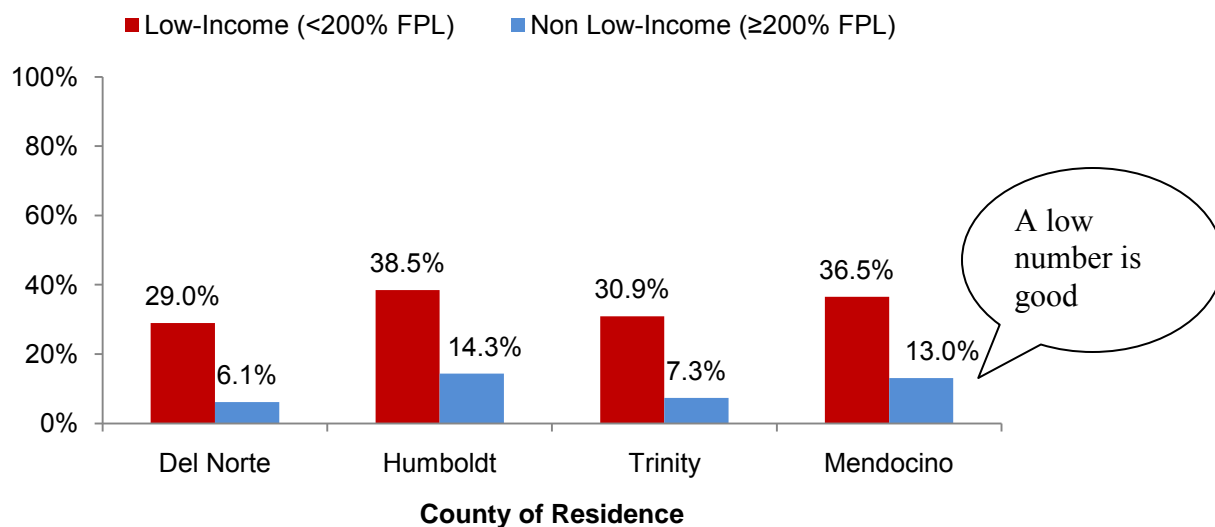
Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy

<http://www.humboldt.edu/ccrp/rural-health-information-survey>

Notes: Analysis was restricted to respondents with children under the age of 18. Within each county, the difference between income levels is statistically significant.

## 11. Percent of People with/without Health Insurance

### 11a. Percent of Adults without Health Insurance (age 18-64), 2006



Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy  
<http://www.humboldt.edu/ccrp/rural-health-information-survey>

Notes: Within each county, the difference between income levels is statistically significant.

#### *Visions for the Future* *Desired Newspaper Headlines* *Contributed by various Working Group members, 2010*

“All Residents in the Redwood Coast Region have a Medical Home and Dental Home.”

“Rural hospital and clinics thriving. Three new Physicians practicing in the area.”

“Redwood Region rated #1 place to practice for health care professionals.”

“Redwood Region has the most and best mental health resources in the State.”

“Trinity Hospital (Mountain Communities Healthcare District) has provided Health Clinics geographically available to all residents. Transportation vans run twice a week to assist residents to and from the Clinics.”

“Increasing trend in consumers' local Wellness Visits.”

“Latino Community access to health being addressed in the Redwood Region.”

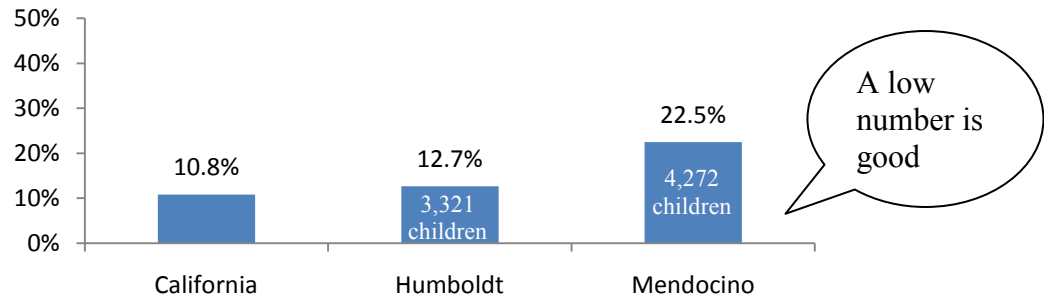
“Health Care in the Redwood Region offers residents preventive maintenance programs which has reduced costs and morbidity in our communities.”

“The Redwood Region provides mini-grants to grassroots organizations that provide health-related programs for its residents.”

“North Coast community has highest health literacy rate in the State.”

## 11b. Percent of Children with/without Health Insurance and Type of Insurance

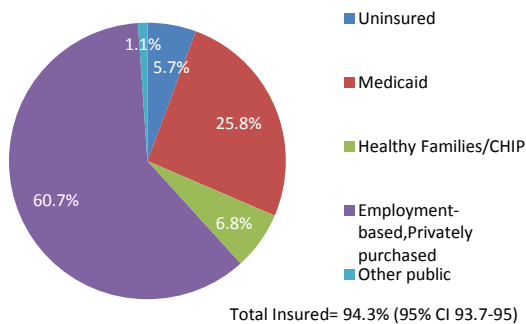
**Percent of Children without Health Insurance, 2008  
(age under 18yrs)**



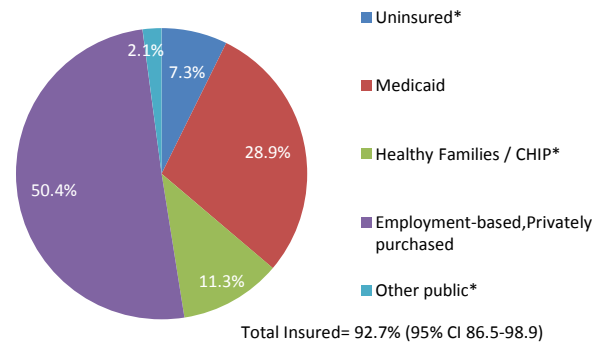
Indicator Data Source: American Community Survey, 2008.

Notes: In 2008 the American Community Survey (ACS) added a question on health insurance coverage for counties with population of 65,000 or more, so data is not available for Del Norte and Trinity counties. The ACS has much higher numbers than the California Health Interview Survey (below), so percent of children without health insurance is more stable/reliable.

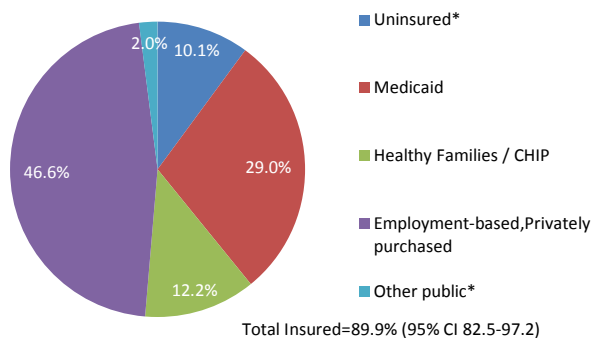
**California:  
Type of Current Health Insurance  
for Children, 2007 (0-17yrs)**



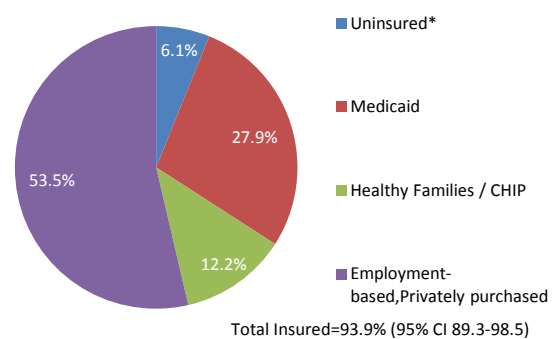
**Del Norte/Trinity\*\* Counties:  
Type of Current Health Insurance  
for Children, 2007 (0-17yrs)**



**Humboldt County:  
Type of Current Health Insurance  
for Children, 2007 (0-17yrs)**



**Mendocino County:  
Type of Current Health Insurance  
for Children, 2007 (0-17yrs)**



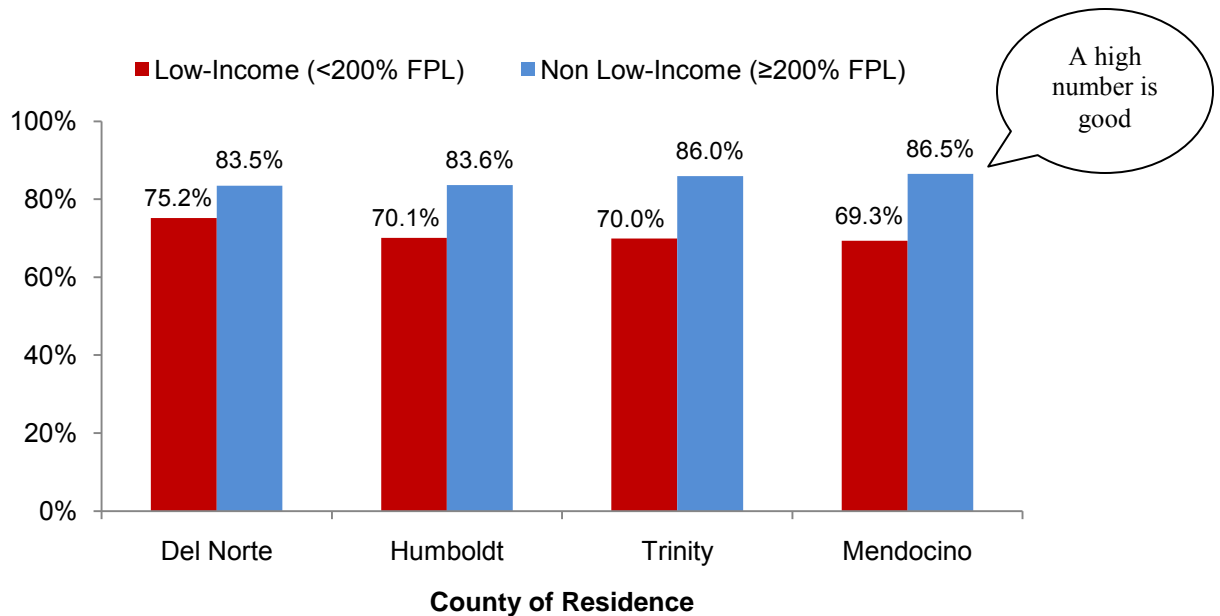
Indicator Data Source: California Health Interview Survey <http://www.chis.ucla.edu>

Notes: \* unreliable/statistically unstable meaning cell has not met the criteria for a minimum number of respondents needed and/or has exceeded an acceptable value for coefficient of variance.

\*\*Trinity and Del Norte data aggregated with 5 other counties

## 12. Routine Check-ups

### 12a. Percent of Adults with a Routine Check-up in the Past 2 Years

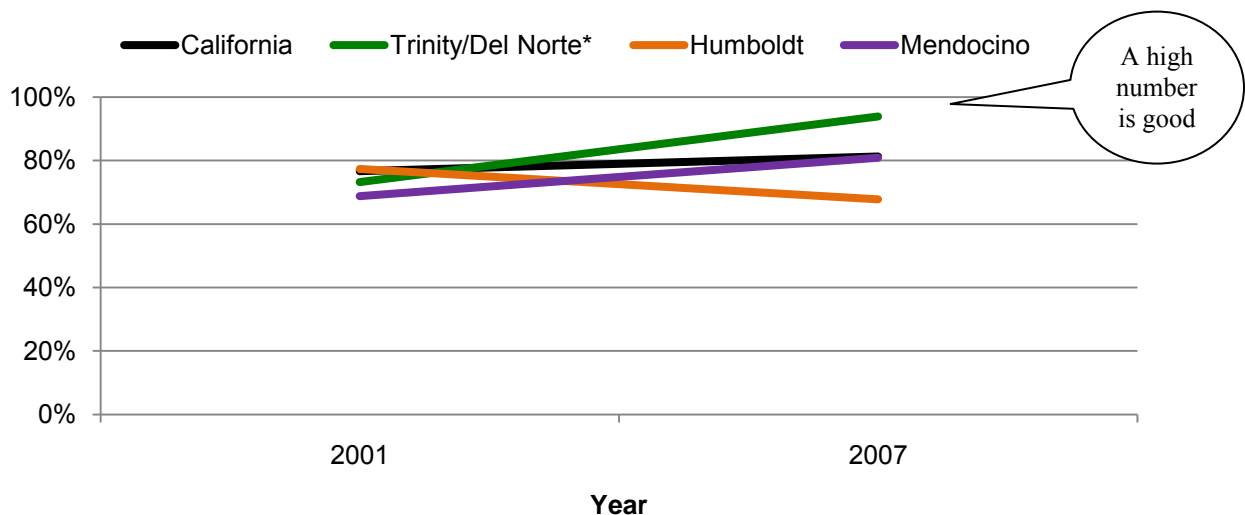


Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy

<http://www.humboldt.edu/ccrp/rural-health-information-survey>

Notes: The difference between income levels is statistically significant in each county, except Del Norte.

### 12b. Percent of Adolescents (12-17 yrs) with a Routine Check-up in the Past Year



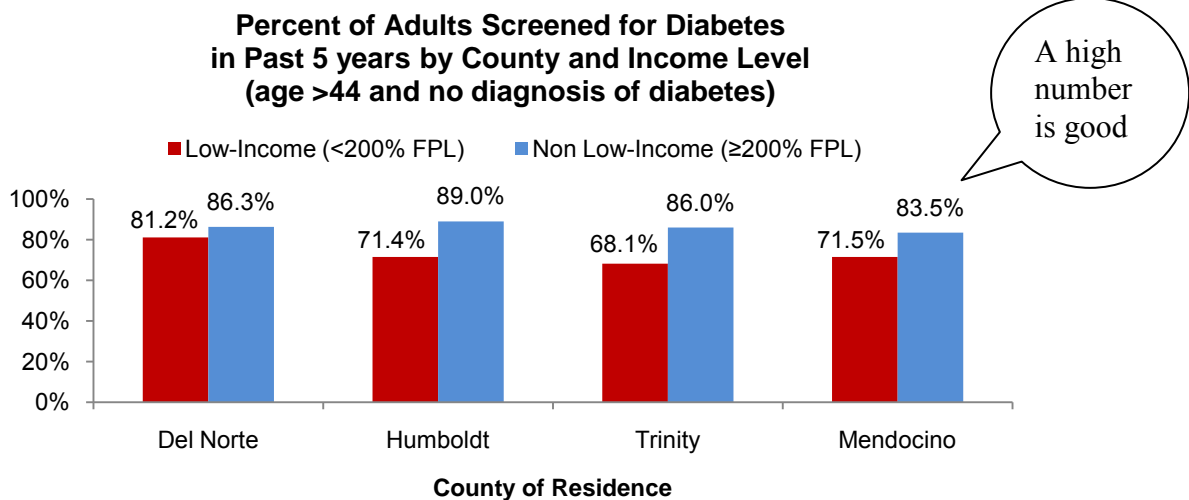
Indicator Data Source: California Health Interview Survey

<http://www.chis.ucla.edu>

Notes: This question was not asked of adults or children

\*\*Trinity and Del Norte data aggregated with 5 other counties

### 13. Percent of Adults Screened for Diabetes in Past 5 Years



Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy  
<http://www.humboldt.edu/ccrp/rural-health-information-survey>

Notes: This analysis includes adults who did not report a diagnosis of diabetes and were over age 44. Within each county, the difference between income levels is statistically significant for all counties except Del Norte.

*Our Wish List:* What we would really like to know.....

- ◆ Average length of time to get an appointment with a primary care provider.
- ◆ Number of individuals without health insurance accessing care through the Emergency Department.
- ◆ Percent of adults/teens who have participated in a health education prevention class in the past 2 years.
- ◆ Percent of adults with access to culturally appropriate health services.
- ◆ Number of health care practices that are linguistically competent.
- ◆ The level of health literacy in the community.
- ◆ Number of clinics assessing health literacy of their clients.
- ◆ The stages at which cancer diagnoses are made.
- ◆ More information about health professionals: average retention as a measure of turnover; rate of pay vs. cost of living, etc.



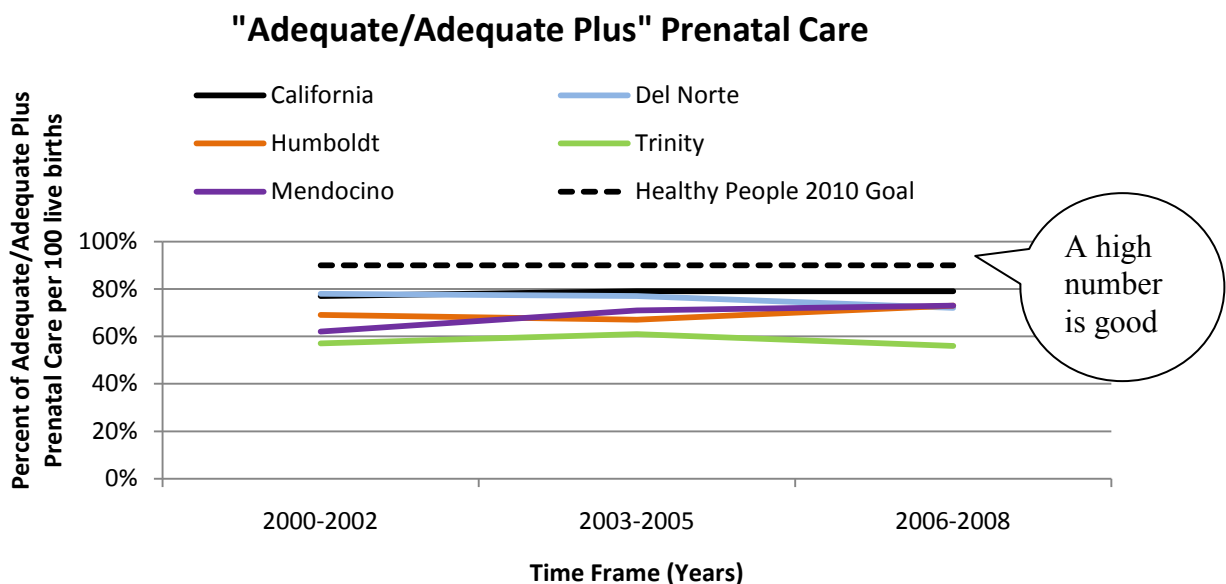
## 14. Percent of Women with Adequate/Adequate Plus Prenatal Care



Prenatal care is designed to promote healthy development of the mother and baby through the provision of preventive, diagnostic, and therapeutic services. Prenatal visits consist of a thorough account of the woman's health history, screening for pregnancy complications, fetal monitoring and testing, childbirth education, as well as information about healthy nutrition, weight gain, and activities.<sup>1</sup> Prenatal care visits are important for diagnosing pregnancy-related problems, such as gestational diabetes, which can lead to negative health outcomes for the mother and child if not diagnosed and treated appropriately.<sup>2</sup> Some of the most common risks associated with inadequate or infrequent prenatal care is preterm delivery and low birth weight, although the risks for other complications also increase if problems are not detected early.<sup>2-4</sup> The risk of infant and mother mortality has also been shown to increase when prenatal care is limited.<sup>2</sup>

It has been shown that women living in rural areas tend to use prenatal care less frequently than their urban and suburban peers. Some of the barriers to prenatal care for women living in rural communities include a decreasing number of health care providers providing prenatal and obstetrical services, less health insurance coverage, further distances to travel, transportation problems, and child care problems for larger families.<sup>3</sup>

**In the Redwood Coast Region, the percentage of women receiving adequate/adequate plus prenatal care is lower in each county compared to California and is below the Healthy People 2010 goal (Indicator 14).**



Indicator Data Source: County Health Status Profiles (2004, 2007, 2010)

<http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx>

Notes: Adequate/Adequate Plus prenatal care is based on the Kotelchuck Index. Women are considered to have received Adequate/Adequate Plus prenatal care if prenatal care began by 4<sup>th</sup> month and  $\geq 80\%$  of recommended visits were received.



*We would also really like to know.....*

- ◆ Percent of pregnant women that receive dental care during pregnancy.
- ◆ True rate of post-partum depression.

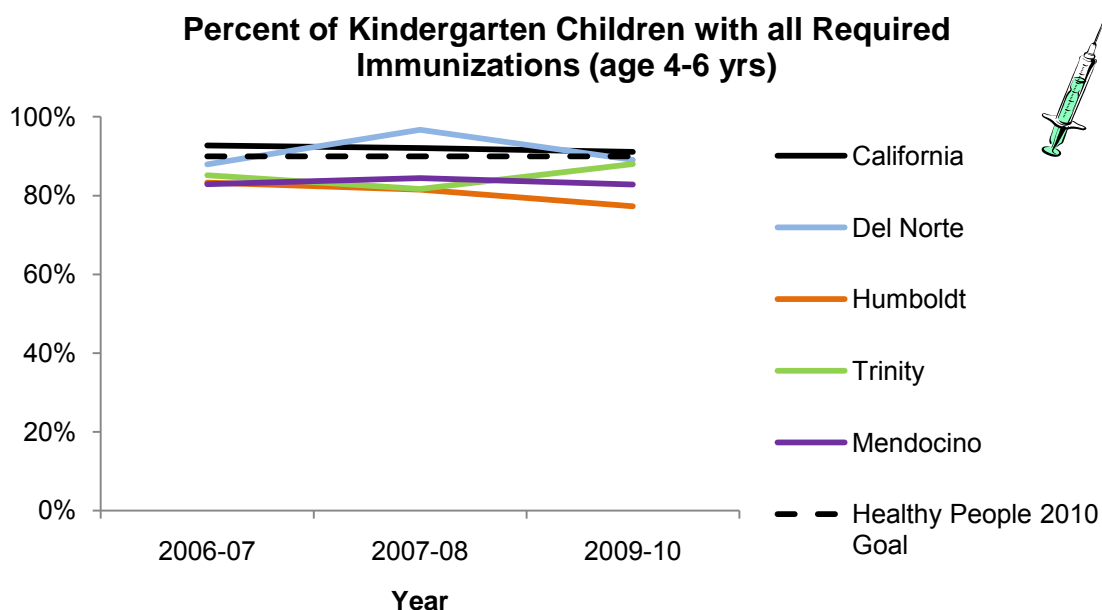
## 15. Percent of Kindergarten Children with all Required Immunizations

Childhood immunization is one of the most cost effective forms of disease prevention worldwide.<sup>1</sup> There are three primary reasons for immunizing children: the protection of the individual child from infection and related symptoms, prevention of an outbreak of infectious disease in the child's immediate population, and worldwide eradication of the disease.<sup>1</sup>

In the U.S., there are no federal laws that require parents to immunize their children, however each state has specific laws that require children to have some vaccinations prior to entering public school systems, most commonly including diphtheria, pertussis, tetanus, measles, mumps, rubella, polio, and hepatitis B.<sup>2</sup> The number of children vaccinated in a population greatly reflects the health of the community because it represents the defense taken to protect against potentially fatal diseases, not only for the immunized children but also for the adults that interact with them. This is particularly important for pregnant women as many of the diseases that are preventable by vaccination can cause severe birth defects and death to the unborn child.

In recent years, there has been a lot of speculation about the safety of vaccinations, particularly in relation to autism spectrum disorders and the administration of combination vaccines. The study that initiated the controversy was recently removed by the *Lancet* journal that published it in 1998, after finding some of its claims to be false.<sup>3</sup> Multiple other studies, including a recent one published in the journal *Pediatrics*, have shown no correlation between vaccination and development of autism spectrum disorders.<sup>4</sup> Although for many people the debate is ongoing, research has convinced the medical community of the safety of vaccinations and their benefits, which heavily outweigh any evidence against vaccinating children.

**In the Redwood Coast Region, childhood immunization rates are consistently lower in each county (except Del Norte) compared to California and are the lowest in Humboldt County (Indicator 15).**



Indicator Data Source: CA Dept of Health Services, Immunization Branch  
<http://www.cdph.ca.gov/programs/immunize/Pages/ImmunizationLevels.aspx>

Notes: Percentage rounded to nearest 10<sup>th</sup>.

## Oral Health



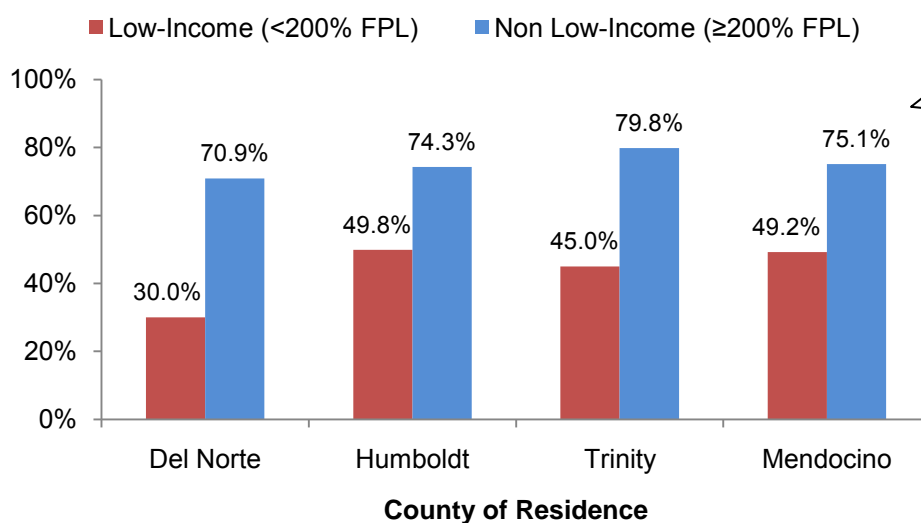
There is a growing body of literature showing that oral health is integral to the overall health of the individual.<sup>1-3</sup> Dental diseases are common and widespread making them a major public health problem worldwide.<sup>2,3</sup> Dental caries (tooth decay) is the single most common chronic childhood disease-5 times more common than asthma.<sup>1</sup> Research has shown an association between poor oral health and numerous adverse health outcomes including diabetes,<sup>4,5</sup> cancer,<sup>6-8</sup> cardiovascular disease,<sup>9-13</sup> and pregnancy complications.<sup>2,14,15</sup>

The social impact of oral diseases is substantial. Untreated dental diseases can cause significant pain and suffering and interfere with essential functions such as eating, swallowing, speaking, and other activities of daily living such as work, school, and family interactions. In the U.S. each year, children lose more than 51 million school hours and employed adults lose more than 164 million hours of work due to dental-related illness.<sup>1</sup>

Periodontal disease is a chronic bacterial infection in the mouth causing inflammation of the gums (gingivitis), which can lead to the gradual destruction of the surrounding tissue and bones (periodontitis).<sup>2,7</sup> Periodontal disease is a preventable and treatable condition. Experts recommend that individuals have a professional dental check-up at least every year starting as young as 12 months.<sup>16,17</sup> Good personal oral hygiene and routine professional care are necessary to maintain optimal oral health. Regular dental check-ups are important as they provide opportunities for the early diagnosis, prevention, and treatment of oral diseases.

**In the Redwood Coast Region, a very low percentage of low-income adults have had their teeth professionally cleaned in the past 12 months (Indicator 16) and a fairly high percentage of kindergarten/1<sup>st</sup> grade students have untreated tooth decay (Indicator 17).**

### 16. Percent of Adults with Professional Teeth Cleaning in the Past 12 Months

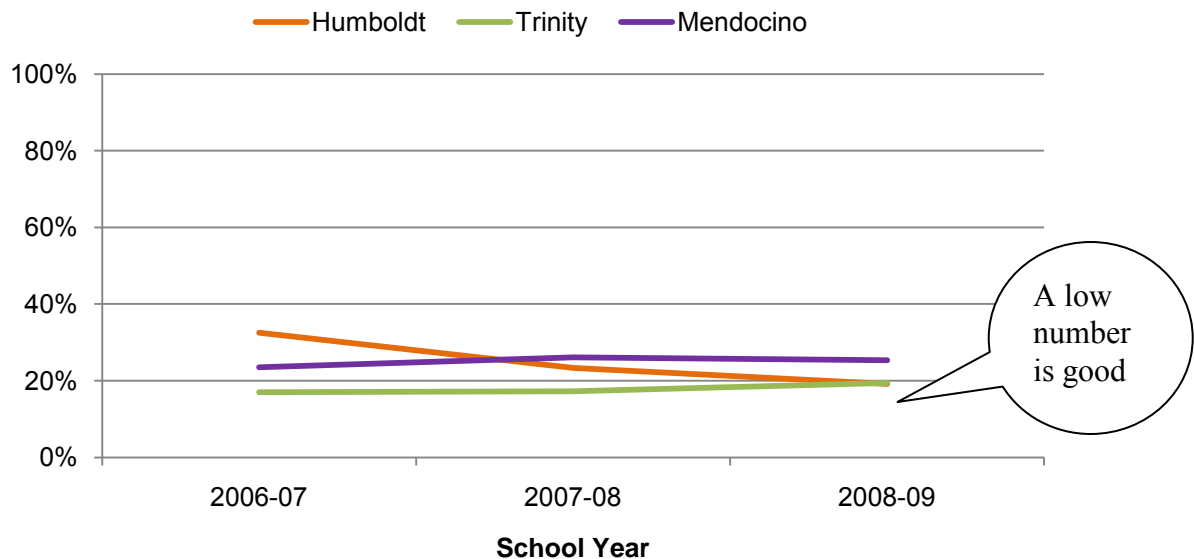


Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy  
<http://www.humboldt.edu/ccrp/rural-health-information-survey>

Notes: Differences between low-income and non low-income are statistically significant for each county. Analysis includes adults 18 years and older.



## 17. Percent of Kindergarten/1<sup>st</sup> Grade Students with Oral Health Assessments Found to Have Untreated Decay



County	# Students Submitting Assessment Form			# Students with Untreated Decay			Percent with Untreated Decay		
	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09
Del Norte	75	75	48	*	*	*	*	*	*
Humboldt	774	824	1184	252	192	227	33%	23%	19%
Trinity	47	93	98	8	16	19	17%	17%	19%
Mendocino	671	222	335	158	58	85	24%	26%	25%



### *Vision for the Future Desired Newspaper Headline*

“Redwood Region has the lowest rate of childhood dental caries in the State.” Working Group member, 2010

Indicator Data Source: California Dental Association

Notes: Data collected as part of AB 1433. In 2009-2010 districts were relieved of the obligation to participate, but are still encouraged to collect the data.

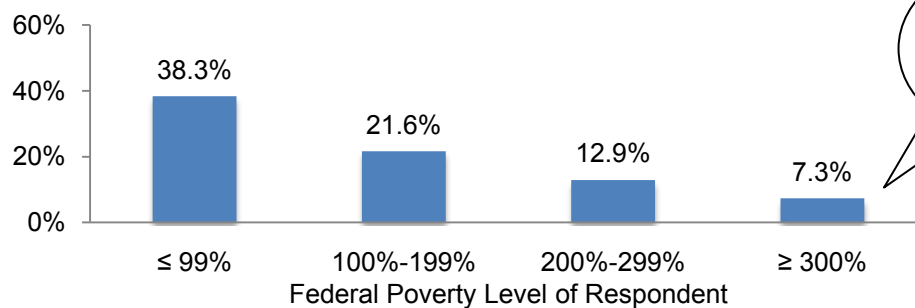
\*Del Norte reported number of children assessed, but did not report number with untreated decay.

## 18. Percent of Adults Reporting Transportation as a Problem in Meeting Health Needs

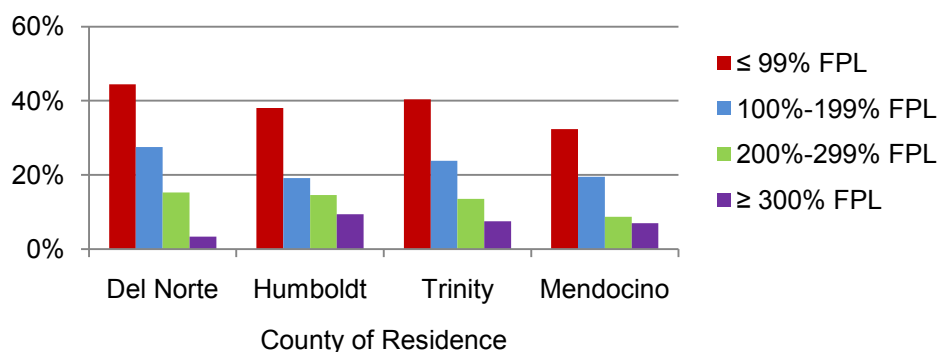
Transportation is an important determinant of health, and rural areas are particularly challenged when it comes to transportation.<sup>1,2</sup> Research has shown that rural residents have greater transportation difficulties and have to travel longer distances to receive health care compared to urban residents.<sup>3</sup> Transportation is frequently reported as one of the major barriers to accessing health care and health programs among rural residents and this is particularly true among the elderly and lower income individuals in rural communities.<sup>4</sup> Limited or no public transportation, needing to travel far distances for specialty care, inhospitable terrain, and weather have all been identified as barriers to accessing health care among rural populations.<sup>3</sup>

**In the Redwood Coast Region, transportation is a common problem affecting a high percentage of adults living in poverty (<100% federal poverty level) or low-income (≤200% federal poverty level) (Indicator 18).**

**Redwood Coast Region:  
Percent of Adults Reporting Transportation as a  
Problem in Meeting Health Needs by  
Federal Poverty Level**



**Percent of Adults Reporting Transportation as a  
Problem in Meeting Health Needs  
by County and Federal Poverty Level**



Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy  
<http://www.humboldt.edu/ccrp/rural-health-information-survey>

## Health Behaviors

Breastfeeding  
Active Living

Healthy Weight & Nutrition  
Alcohol and Other Drug Use

Vision for a Healthy Redwood Coast Region:  
**The region promotes healthy behaviors across all life stages.**

### Breastfeeding

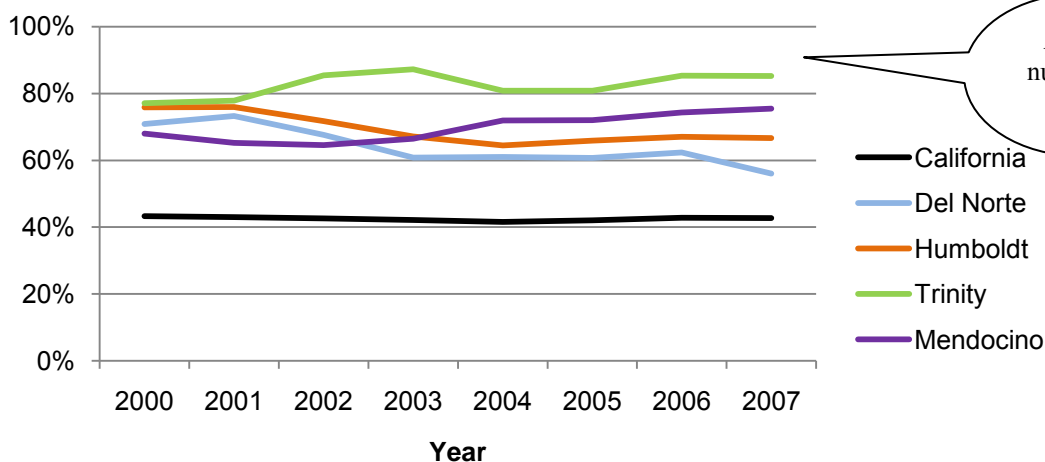
A great deal of research in recent years has shown that breastfeeding provides important health benefits to infants, mothers, and the surrounding community. In regard to infants, breastfeeding has been associated with lower rates of gastroenteritis, otitis media, severe lower respiratory tract infections, atopic dermatitis, asthma, obesity, diabetes (type 1 and 2), leukemia, and sudden infant death syndrome.<sup>1</sup> With the obesity epidemic in the U.S., breast feeding is an important public health approach to obesity prevention.<sup>2</sup>

For mothers, breastfeeding results in less postpartum bleeding, an earlier return to pre-pregnancy weight, reduced risk of type 2 diabetes as well as decreased risk of breast and ovarian cancer.<sup>1,2</sup> Lack of breast feeding or early cessation of breast feeding has been associated with an increased risk of postpartum depression.<sup>1</sup> These lowered risks for health problems also provide benefits to the community, lowering the frequency of illness and decreasing health care costs overall.<sup>3</sup>

Numerous medical organizations recommend exclusive breastfeeding for the first 6 months of life since increased duration of breast feeding provides increased health benefits to the mother and child.<sup>2</sup> Mothers residing in rural areas have been noted to be less likely to initiate and continue breast feeding compared to mothers residing in urban areas.<sup>4</sup>

**Mothers in the Redwood Coast Region are more likely to breastfeed exclusively at the time of hospital discharge compared to California as a whole.** From 2000 to 2007, exclusive breastfeeding at hospital discharge increased slightly in Trinity and Mendocino counties and **decreased in Del Norte and Humboldt counties.** Hispanic and American Indian women are less likely than White women to breast feed exclusively at hospital discharge (Indicator 19).

### 19. Percent of Women with Exclusive Breastfeeding at Hospital Discharge



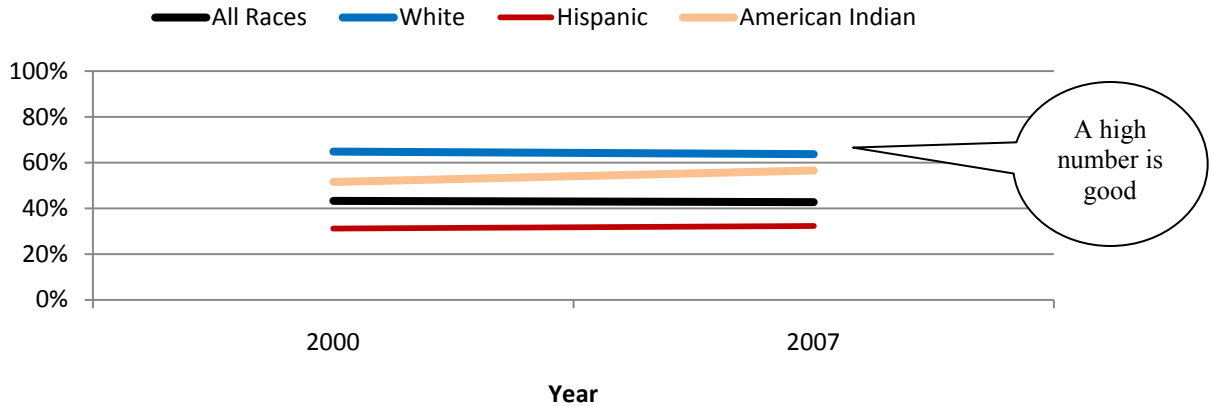
What we would really like to know....

- ◆ The percent of women who breastfeed for at least 6 months.

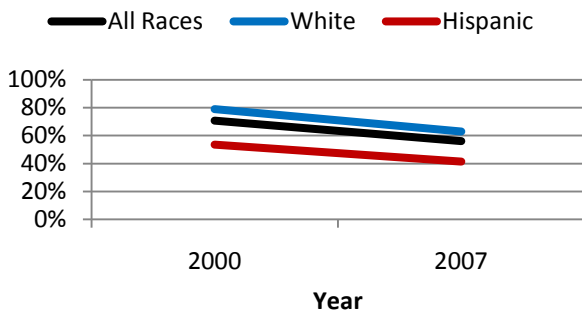
Indicator Data Source: California Department of Public Health, Center for Family Health, Genetic Disease Screening Program, Newborn Screening Data, 2000 <http://www.cdph.ca.gov/data/statistics/Pages/BreastfeedingStatistics.aspx>

# Percent of Women with Exclusive Breastfeeding at Hospital Discharge by Race/Ethnicity

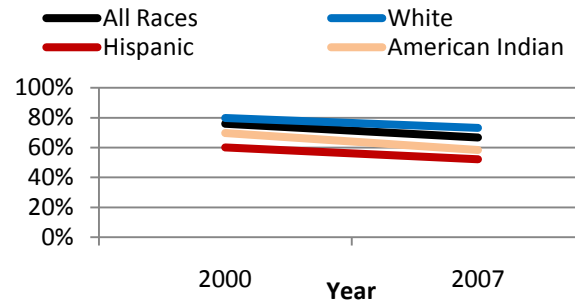
## California: Percent of Women with Exclusive Breastfeeding at Time of Hospital Discharge by Race/Ethnicity



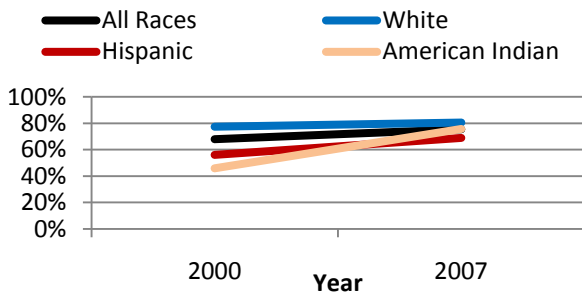
### Del Norte County: Exclusive Breastfeeding at Hospital Discharge by Race/Ethnicity



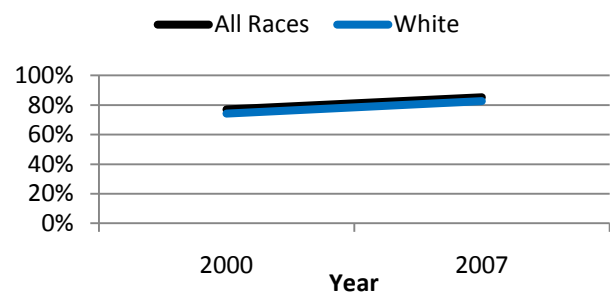
### Humboldt County: Exclusive Breastfeeding at Hospital Discharge by Race/Ethnicity



### Mendocino County: Exclusive Breastfeeding at Hospital Discharge by Race/Ethnicity



### Trinity County: Exclusive Breastfeeding at Hospital Discharge by Race/Ethnicity



Indicator Data Source: California Department of Public Health, Center for Family Health, Genetic Disease Screening Program, Newborn Screening Data, 2000

<http://www.cdph.ca.gov/data/statistics/Pages/BreastfeedingStatistics.aspx>

## Active Living & Healthy Weight

Engaging in regular physical exercise is a key factor in the maintenance of physical and mental health throughout the lifespan.<sup>1-5</sup> According to an extensive and continually growing body of research, exercising regularly lowers the risk for cardiovascular disease, coronary artery disease, hypertension, obesity, non-insulin dependent diabetes, osteoporosis, arthritis, falls, cancers of the colon and breast, and overall mortality.<sup>2-5</sup> Additionally, physical activity helps to relieve symptoms of depression and anxiety, improve mood and overall quality of life.<sup>2-5</sup> It has been estimated that relatively small increases in physical activity could avert 30,000-35,000 deaths per year.<sup>6</sup> A report by the California Center for Public Health Advocacy estimated that the economic cost (health care & lost productivity) of physical inactivity in 2006 was \$20.2 billion in California, \$51.1 million in Humboldt County, and \$23.3 million in Mendocino County (not calculated for Del Norte and Trinity).<sup>7</sup>

An extensive body of research shows that being overweight or obese is associated with multiple diseases and high health care costs.<sup>1,8-10</sup> As the seventh leading cause of death in the US, being overweight or obese increases the risk for coronary heart disease, gallbladder disease, type 2 diabetes, high blood pressure, stroke, osteoarthritis, respiratory problems, and some types of cancer.<sup>1,8,10</sup> The total economic cost of overweight and obesity in 2006 was estimated to be \$21.0 billion in California, \$60.5 million in Humboldt County and \$23.7 million in Mendocino County (not calculated for Del Norte and Trinity).<sup>7</sup>

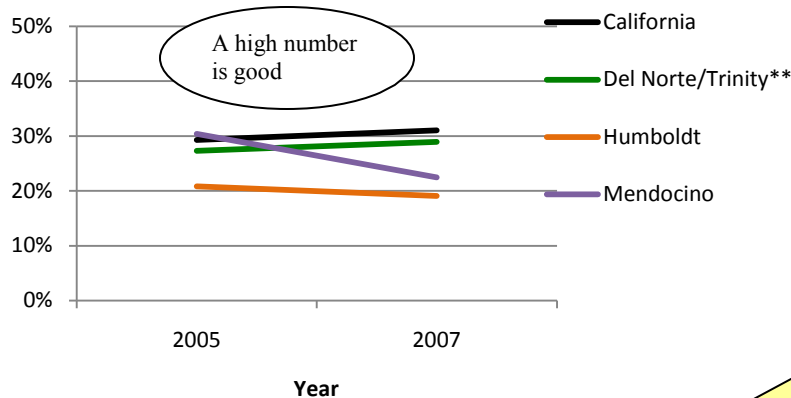
**In the Redwood Coast Region, less than 40% of 7<sup>th</sup> graders are in the Healthy Fitness Zone for all 6 Physical Fitness Areas (Indicator 21). Obesity is increasing among low-income children age 2-4 years in Mendocino and Trinity and age 5-19 years in Del Norte, Trinity and Mendocino (Indicator 22a). Nearly 60% of adults are overweight or obese (Indicator 22b) and less than 50% meet the recommendations for physical activity (Indicator 23).**



## 20. Percent of Children/Teens who Walk, Bike or Skate to or from School



**Percent of Children/Teens who Walked, Skated or Biked to or from School in the Past Week (age 5-17)**

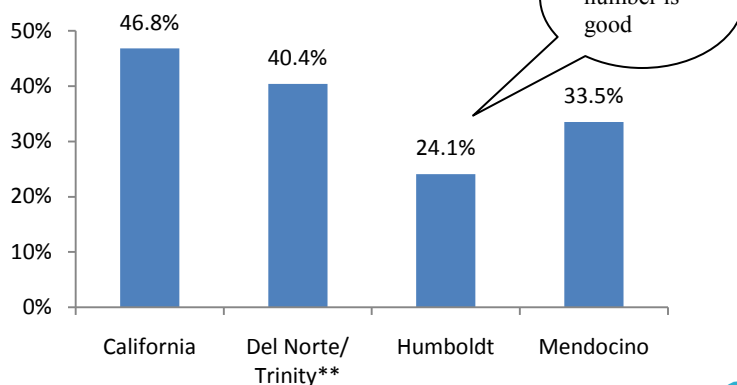


### Problem with this indicator:

In rural areas it is often not possible for many children/teens to walk, bike or skate to school due to large geographic distances.

In 2007, CHIS asked those children/teens who *did not* walk, bike, or skate to school if they could have in 30 minutes or less.

**Percent of Children/Teens who Did Not Walk, Bike or Skate to or from School in Past Week, but could have within 30 minutes, 2007\* (age 5-17)**



*What we would really like to know...*

- ◆ Of the kids who live within a reasonable and safe walking, biking, or skating distance to school, how many are doing it? If they are not doing it, what are the barriers? Are they physically active in other ways in their daily routines?



Indicator Data Source: California Health Interview Survey  
<http://www.chis.ucla.edu>

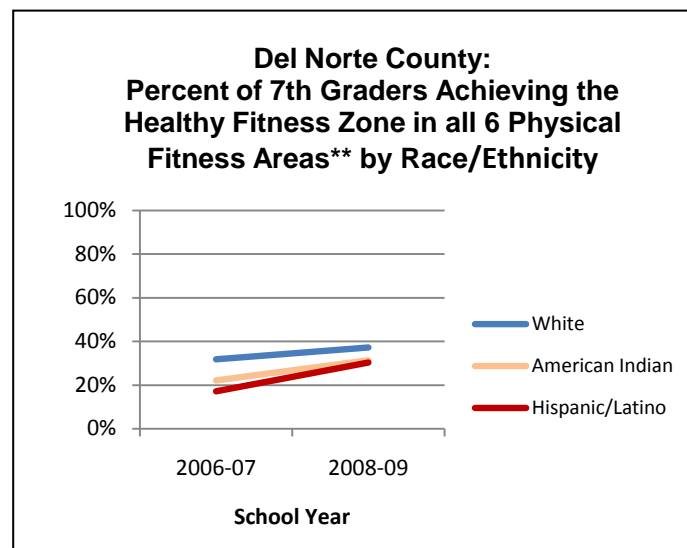
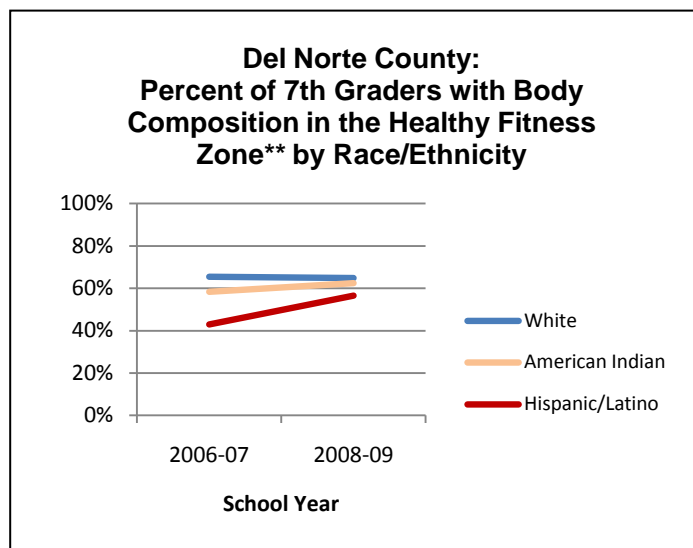
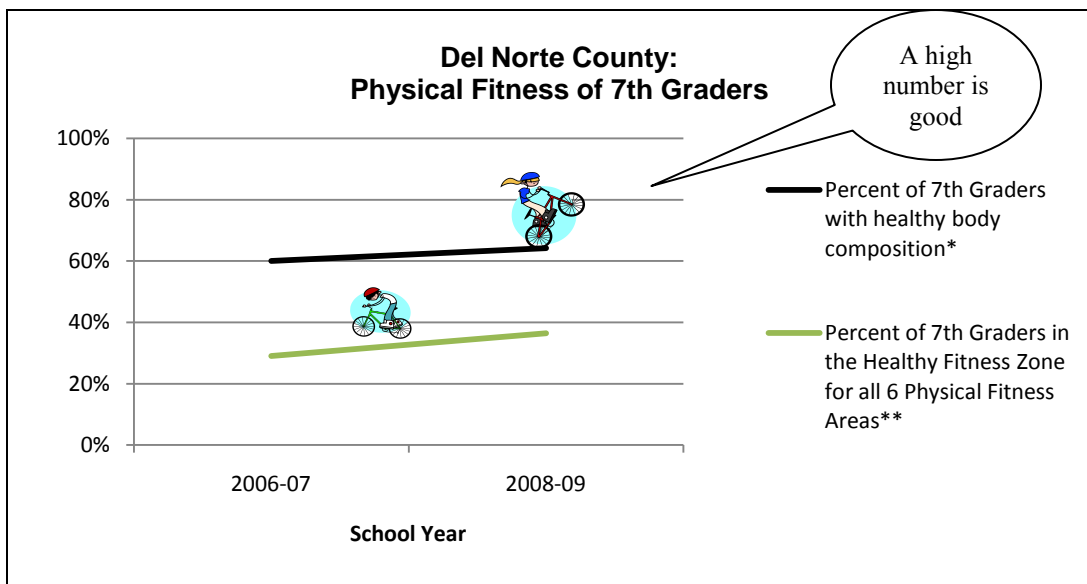
Notes:

\*\*Trinity and Del Norte data aggregated with 5 other counties

\*This question was asked of all children and adolescents who attended school last week or the last school year AND did not walk/bike/skate from school at least once a week. Responses were categorized as could walk/bike/skate to or from school in half hour or could not walk/bike/skate to or from school in half hour. This question was only asked in 2007.

## 21. Percent of 7<sup>th</sup> Graders with Healthy Body Composition and in Healthy Fitness Zone for all 6 Physical Fitness Areas

### Del Norte



Indicator Data Source: California Department of Education, California Physical Fitness Test  
<http://data1.cde.ca.gov/dataquest/page2.asp?Level=County&submit1=Submit&Subject=FitTest>

#### Notes:

\*Body Composition is a combination of body fat measured by skin fold testing and Body Mass Index. Body composition in the Healthy Fitness Zone is based on standards established by the Cooper Institute and account for age and gender.

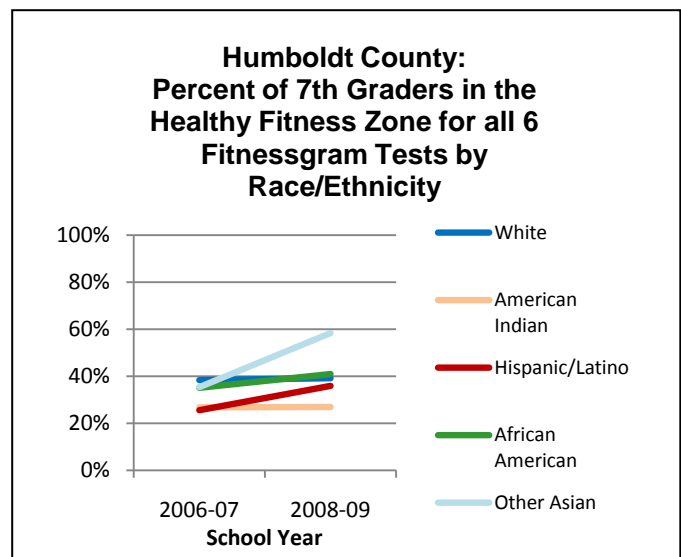
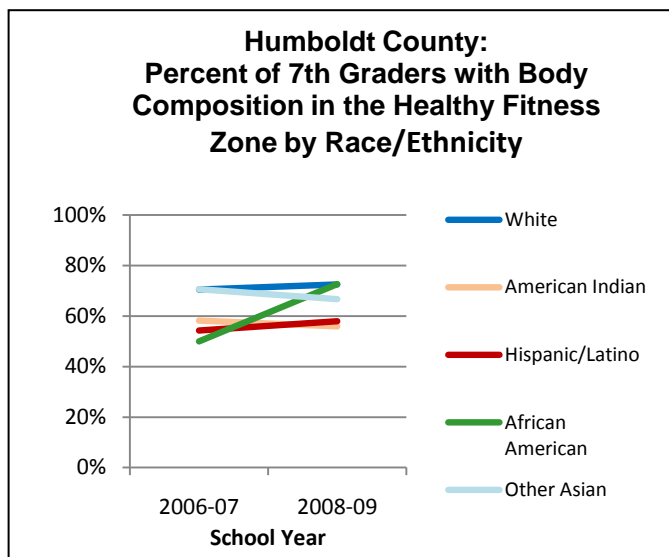
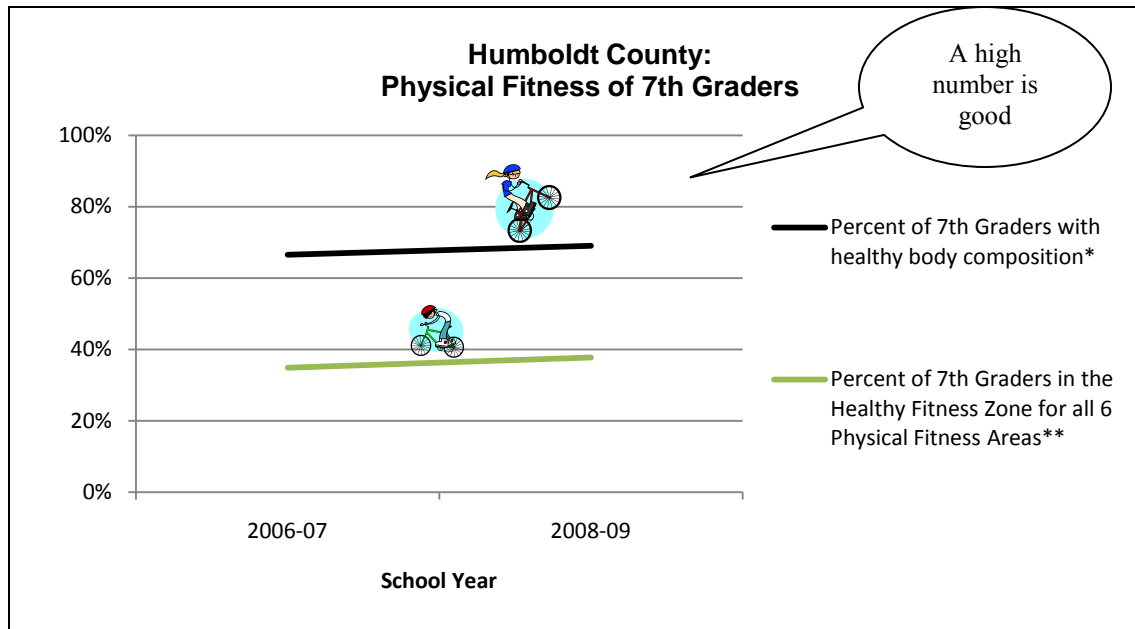
\*\* The 6 Physical Fitness Areas tested include Aerobic Capacity, Body Composition, Abdominal Strength, Trunk Extensor Strength, Upper Body Strength, and Flexibility. The Healthy Fitness Zone is based on standards established by the Cooper Institute and account for age and gender.

Data reported only for ethnic groups with more than 20 students tested each year.

Data is available for the 2007-2008 school year, but only two data points are shown to illustrate overall trends.

## Percent of 7<sup>th</sup> Graders with Healthy Body Composition and in Healthy Fitness Zone for all 6 Physical Fitness Areas (*continued*)

### Humboldt



Indicator Data Source: California Department of Education, California Physical Fitness Test  
<http://data1.cde.ca.gov/dataquest/page2.asp?Level=County&submit1=Submit&Subject=FitTest>

#### Notes:

\*Body Composition is a combination of body fat measured by skin fold testing and Body Mass Index. Body composition in the Healthy Fitness Zone is based on standards established by the Cooper Institute and account for age and gender.

\*\* The 6 Physical Fitness Areas tested include Aerobic Capacity, Body Composition, Abdominal Strength, Trunk Extensor Strength, Upper Body Strength, and Flexibility. The Healthy Fitness Zone is based on standards established by the Cooper Institute and account for age and gender.

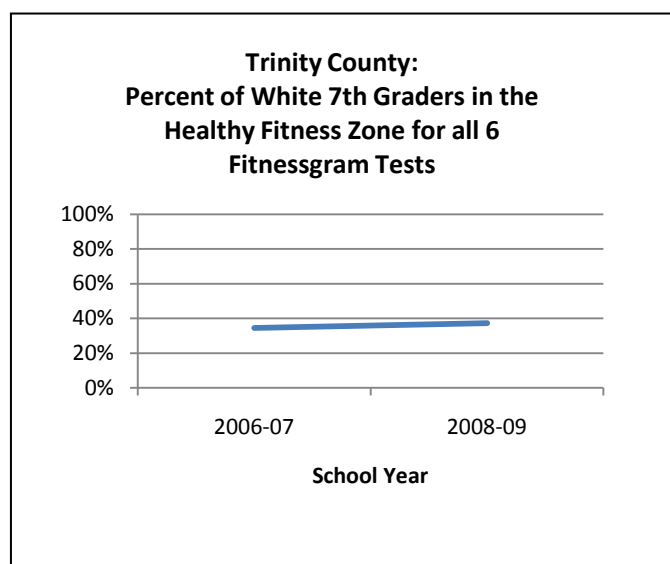
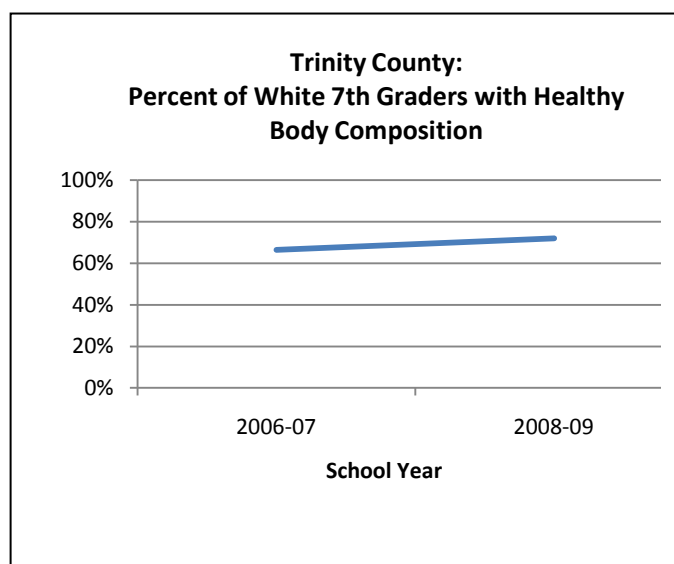
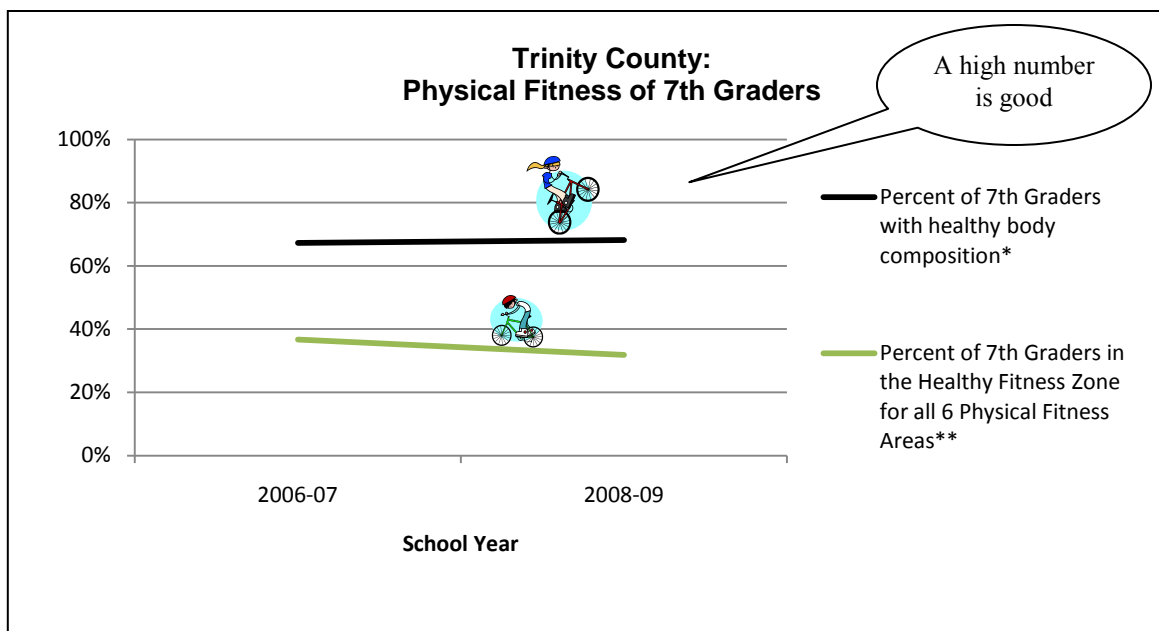
Data reported only for ethnic groups with more than 20 students tested each year.

Data is available for the 2007-2008 school year, but only two data points are shown to illustrate overall trends.



## Percent of 7<sup>th</sup> Graders with Healthy Body Composition and in Healthy Fitness Zone for all 6 Physical Fitness Areas (*continued*)

### Trinity



Indicator Data Source: California Department of Education, California Physical Fitness Test  
<http://data1.cde.ca.gov/dataquest/page2.asp?Level=County&submit1=Submit&Subject=FitTest>

#### Notes:

\*Body Composition is a combination of body fat measured by skin fold testing and Body Mass Index. Body composition in the Healthy Fitness Zone is based on standards established by the Cooper Institute and account for age and gender.

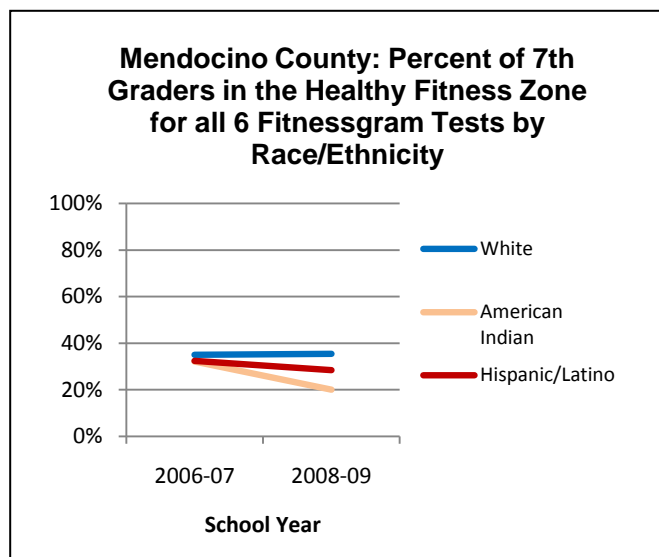
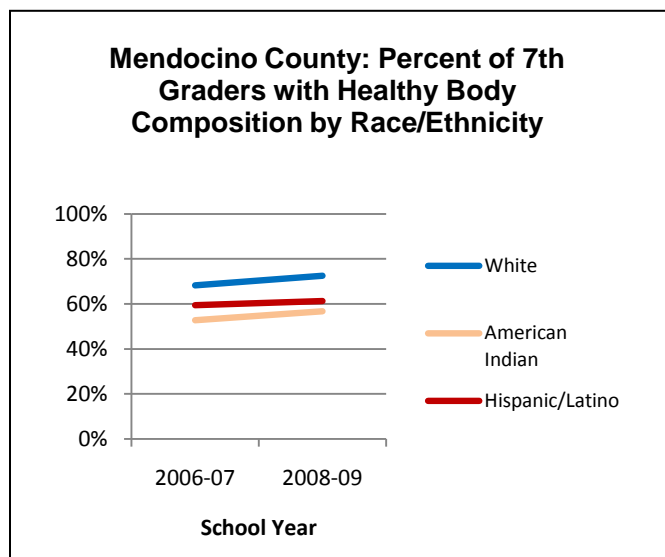
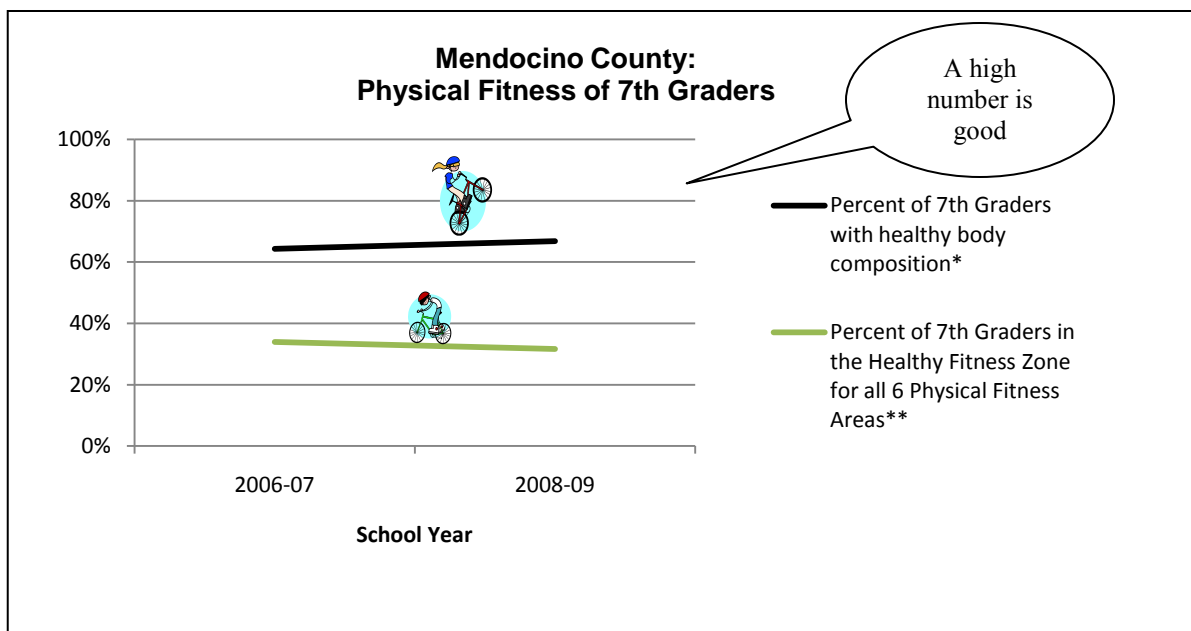
\*\* The 6 Physical Fitness Areas tested include Aerobic Capacity, Body Composition, Abdominal Strength, Trunk Extensor Strength, Upper Body Strength, and Flexibility. The Healthy Fitness Zone is based on standards established by the Cooper Institute and account for age and gender.

Data reported only for ethnic groups with more than 20 students tested each year.

Data is available for the 2007-2008 school year, but only two data points are shown to illustrate overall trends.

# Percent of 7<sup>th</sup> Graders with Healthy Body Composition and in Healthy Fitness Zone for all 6 Physical Fitness Areas (*continued*)

## Mendocino



Indicator Data Source: California Department of Education, California Physical Fitness Test  
<http://data1.cde.ca.gov/dataquest/page2.asp?Level=County&submit1=Submit&Subject=FitTest>

### Notes:

\*Body Composition is a combination of body fat measured by skin fold testing and Body Mass Index. Body composition in the Healthy Fitness Zone is based on standards established by the Cooper Institute and account for age and gender.

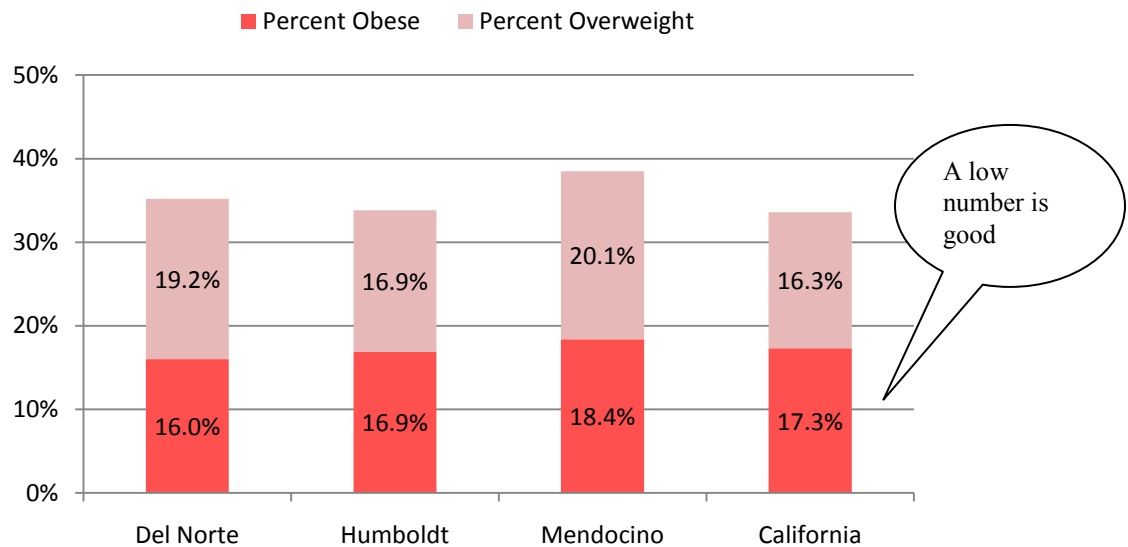
\*\* The 6 Physical Fitness Areas tested include Aerobic Capacity, Body Composition, Abdominal Strength, Trunk Extensor Strength, Upper Body Strength, and Flexibility. The Healthy Fitness Zone is based on standards established by the Cooper Institute and account for age and gender.

Data reported only for ethnic groups with more than 20 students tested each year.

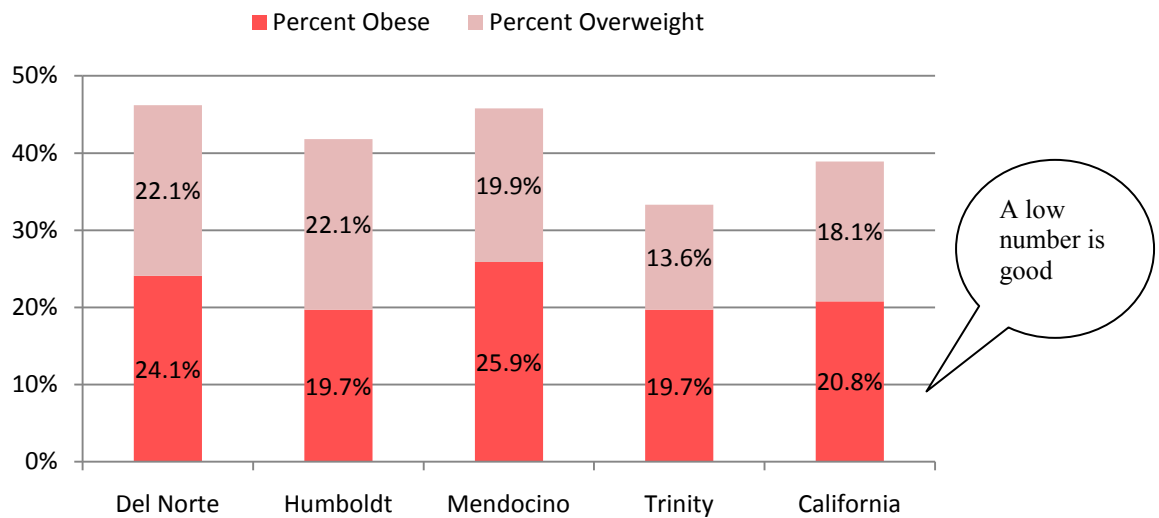
Data is available for the 2007-2008 school year, but only two data points are shown to illustrate overall trends.

## 22a. Percent of Low-Income Children who are Overweight or Obese (age 2-4 and 5-19)

**Prevalence of Obesity\* and Overweight\*\* among Low-Income Children Aged 2-4 Years, 2008**



**Prevalence of Obesity\* and Overweight\*\* among Low-income Children Aged 5-19 Years, 2008**



Indicator Data Source: Pediatric Nutrition Surveillance System

<http://www.dhcs.ca.gov/services/chdp/Pages/PedNSS2008.aspx>

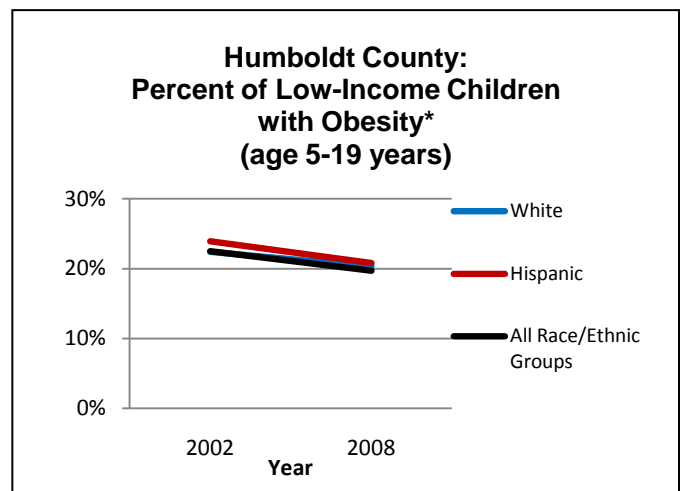
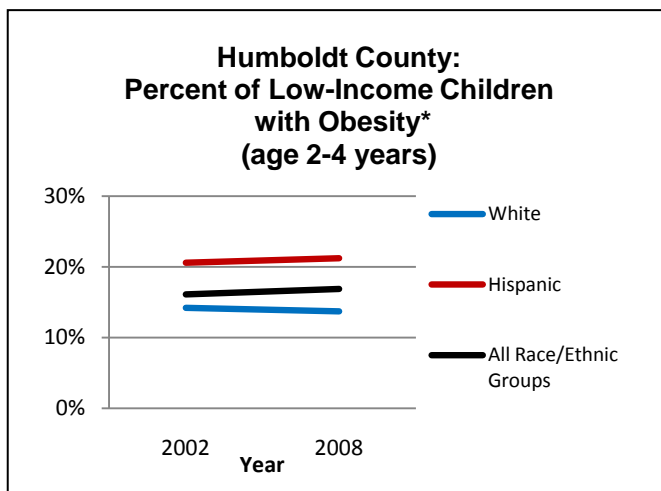
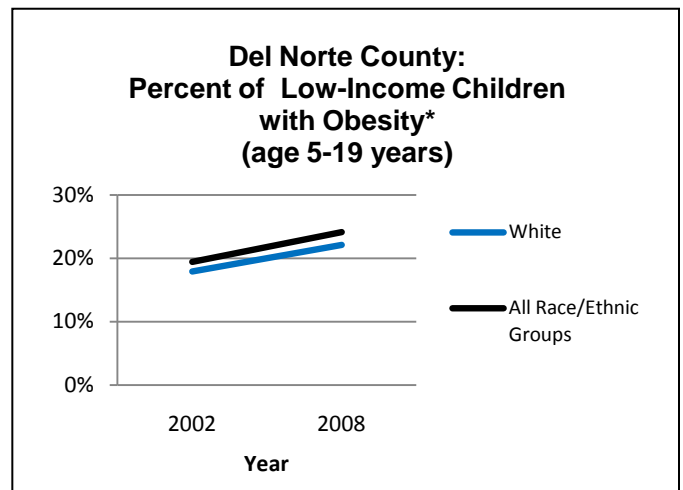
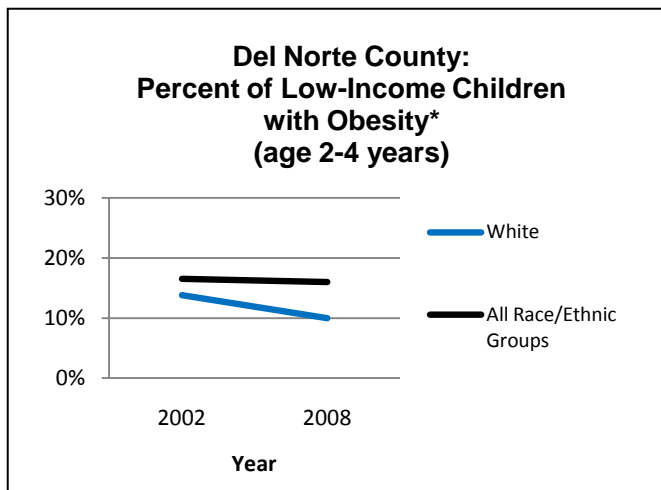
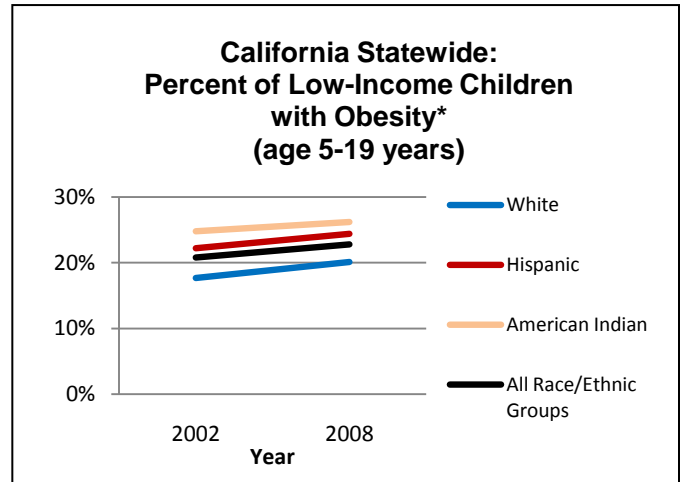
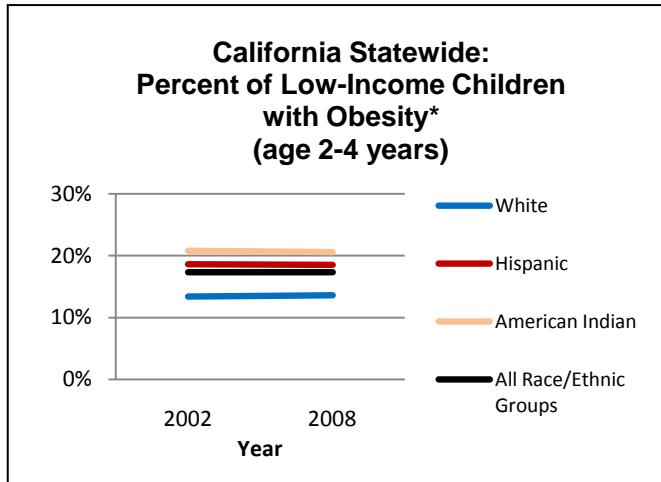
Notes: This is a national surveillance system. In California data comes from clinic data of individuals who participate in the Child Health and Disability Prevention (CHDP) Program. The target population is low-income children birth through 19 years of age. Prevalence reports are produced by the Centers for Disease Control and Prevention.

Trinity County had less than 100 children age 2-4 in the system in 2008, so data not shown.

\*Obesity is defined as a BMI-for-age at or above the 95<sup>th</sup> percentile.

\*\*Overweight is defined as a BMI-for-age between the 85<sup>th</sup> and 95<sup>th</sup> percentiles.

## Percent of Low-Income Children who are Obese by Race/Ethnicity (age 2-4 and 5-19)



Indicator Data Source: Source: Pediatric Nutrition Surveillance System <http://www.dhcs.ca.gov/services/chdp/Pages/PedNSS2008.aspx>

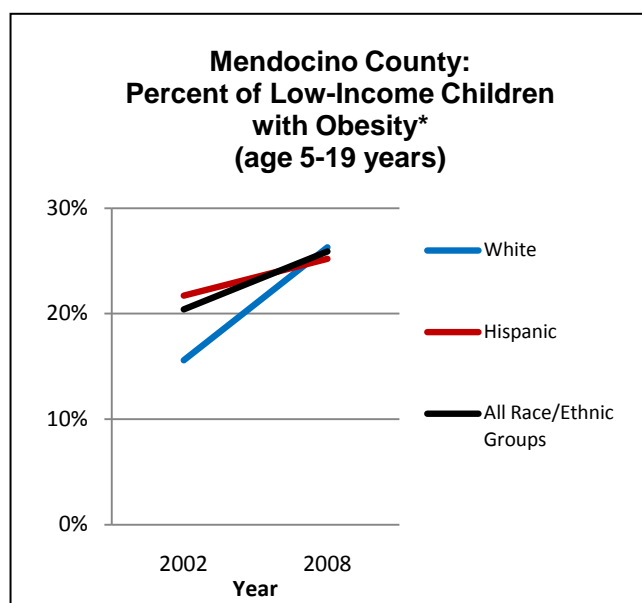
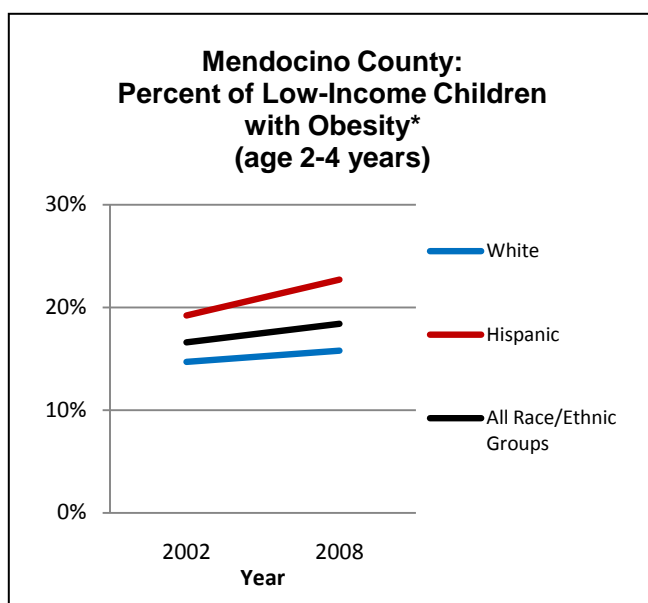
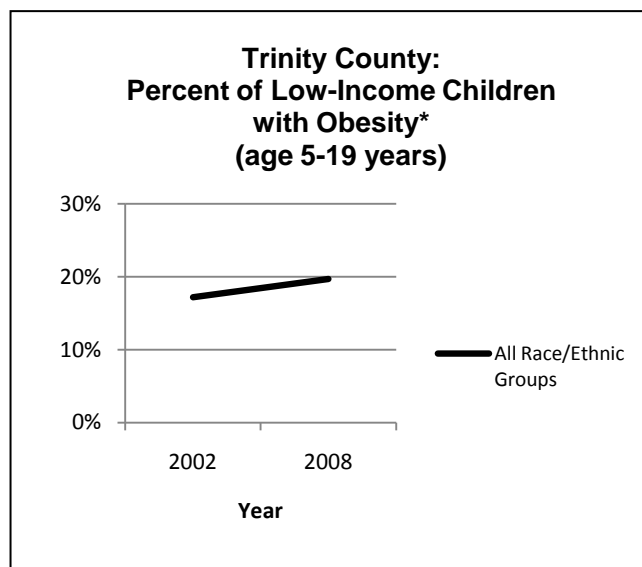
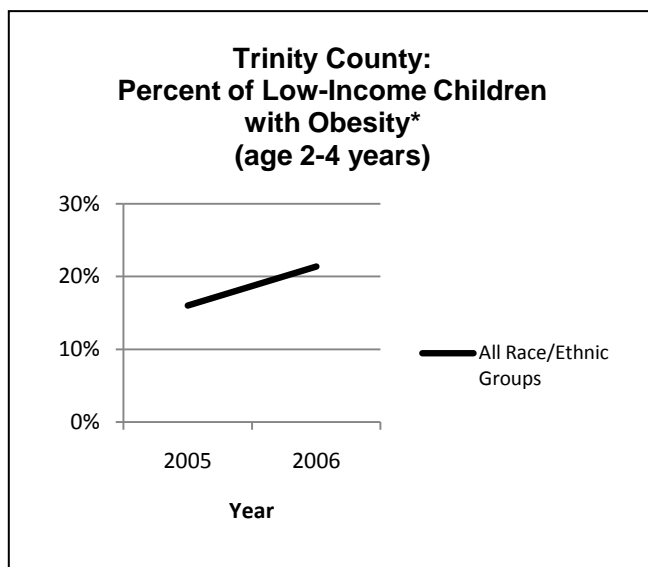
Notes: This is a national surveillance system. In California data comes from clinic data of individuals who participate in the Child Health and Disability Prevention (CHDP) Program. The target population is low-income children birth through 19 years of age. Prevalence reports are produced by the Centers for Disease Control and Prevention.

County data reported for ethnic groups with more than 100 children. California data reported for corresponding ethnic groups.

Data is available annually between 2002 and 2008, but only two data points are shown to illustrate overall trends.

\*Obesity is defined as a BMI-for-age at or above the 95<sup>th</sup> percentile.

## Percent of Low-Income Children who are Obese by Race/Ethnicity (age 2-4 and 5-19)



Indicator Data Source: Source: Pediatric Nutrition Surveillance System  
<http://www.dhcs.ca.gov/services/chdp/Pages/PedNSS2008.aspx>

Notes: This is a national surveillance system. In California data comes from clinic data of individuals who participate in the Child Health and Disability Prevention (CHDP) Program. The target population is low-income children birth through 19 years of age. Prevalence reports are produced by the Centers for Disease Control and Prevention.

County data reported for ethnic groups with more than 100 children. California data reported for corresponding ethnic groups.

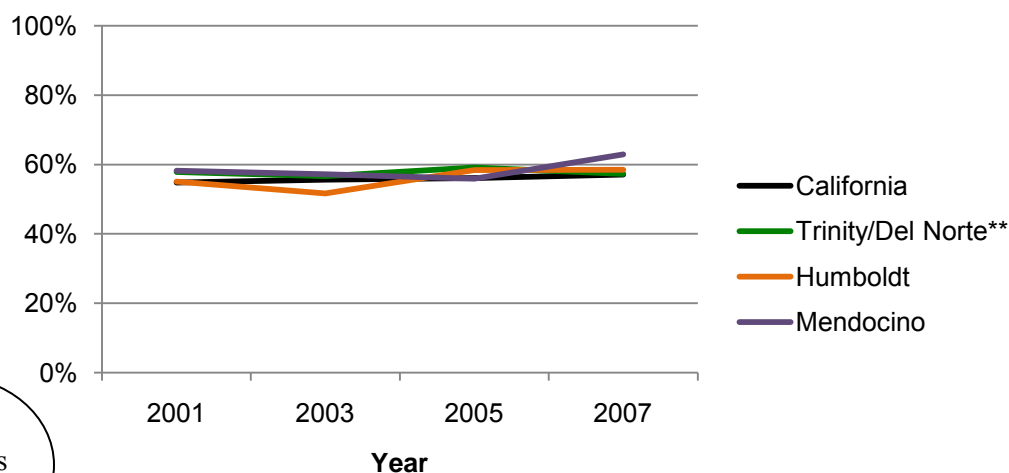
Data is available annually between 2002 and 2008, but only two data points are shown to illustrate overall trends.

Trinity County only had more than 100 children age 2-4 in the system in 2005 and 2006, so only these years are presented.

\*Obesity is defined as a BMI-for-age at or above the 95<sup>th</sup> percentile.

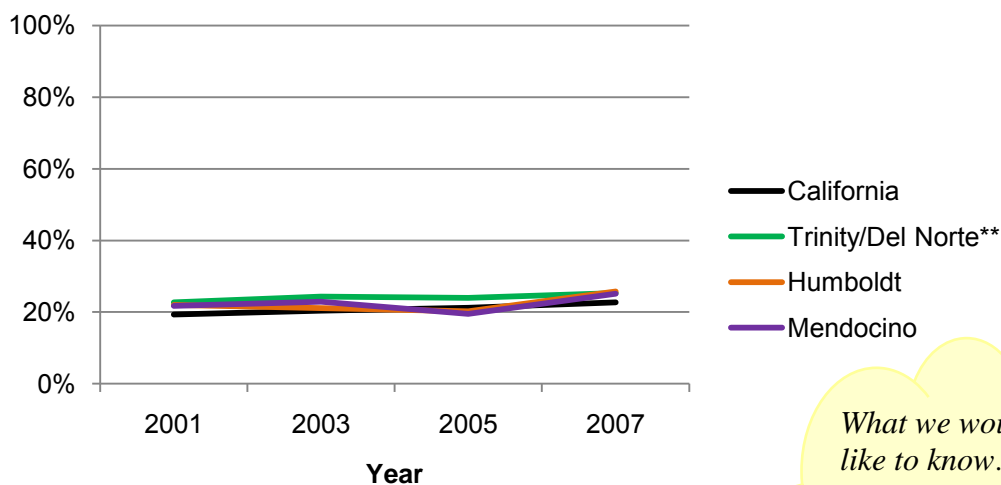
## 22b. Percent of Adults who are Overweight or Obese

Percent of Adults who are Overweight \*or Obese\*\*\*



A low number is good

Percent of Adults who are Obese\*\*\*



What we would really like to know...

◆ Body Mass Index for all licensed drivers.

Indicator Data Source: California Health Interview Survey

<http://www.chis.ucla.edu>

Notes:

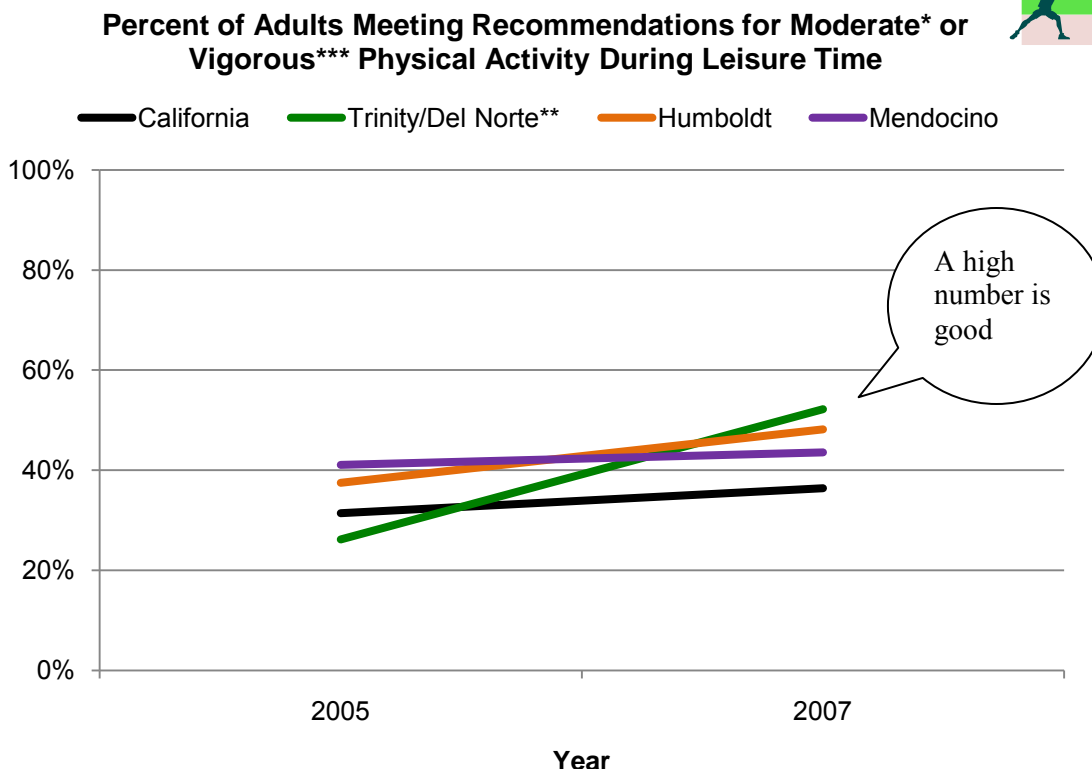
\*\*Trinity and Del Norte data aggregated with 5 other counties

\*Overweight is defined as a Body Mass Index of 25.0 - 29.99

\*\*\*Obesity is defined as a Body Mass Index of 30 or higher



## 23. Percent of Adults Meeting Recommendations for Moderate or Vigorous Physical Activity



Indicator Data Source: California Health Interview Survey <http://www.chis.ucla.edu>

Notes:

\*\*Trinity and Del Norte data aggregated with 5 other counties

\*Moderate physical activity defined as moderate physical effort (walking, bicycling, etc) at least 5 days per week and at least 30 minutes per day.

\*\*\*Vigorous physical activity defined as hard physical effort (aerobics, running, etc) at least 3 days per week and at least 20 minutes per day.

### ***Visions for the Future***

#### ***Desired Newspaper Headlines***

*Contributed by various Working Group members, 2010*

“75% of all licensed drivers have healthy weight.”

“4 in 5 students are physically fit.”

“Humboldt has highest overall student fitness.”

“North Coast region children decrease the obesity rate by 75%”

“Bike pedestrian master plan fully adopted.”

“Redwood region receives Platinum Award as Bicycle friendly area.”

“Redwood Coast a leader in per capita consumption of local produce.”

“Citizens flourish on healthy locally grown foods.”

## Fruit & Vegetable Consumption



Fruits and vegetables contain important vitamins, minerals, antioxidants, and fiber and a diet high in fruits and vegetables has been associated with numerous health benefits.<sup>1-4</sup>

Compared with people who eat a minimal amount of fruits and vegetables, those who include them as a large portion of their daily food intake are less prone to chronic health problems such as diabetes, obesity, cardiovascular disease, stroke, and multiple types of cancer.<sup>1-3</sup> There is also recent evidence suggesting that eating an adequate amount of fruits and vegetables decreases the risk of hypertension, cataracts, diverticulosis, and chronic obstructive pulmonary disease.<sup>2</sup> Fruit and vegetable consumption is also important for optimal child development.<sup>4</sup>

**In the Redwood Coast Region**, overall, children, teens and adults report eating more fruits and vegetables than in California as a whole. For children under the age of 12 years, reported consumption of fruits and vegetables between 2003 and 2007 has decreased in Mendocino County, increased in Humboldt County and remained about the same in Del Norte and Trinity counties. For teens, reported consumption of fruits and vegetables between 2001 and 2007 decreased in Mendocino and Humboldt counties and remained about the same in Del Norte and Trinity counties. For adults, reported consumption of fruits and vegetables has remained stable in all four counties between 2001 and 2005 (Indicator 24).



All schools in Mendocino County have a vegetable garden and serve fresh fruits & vegetables in school meals.

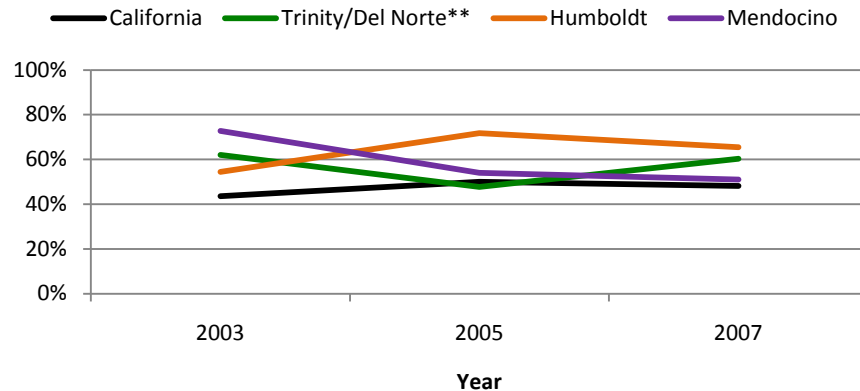
Nearly all schools in Del Norte County have a vegetable garden.

Nearly all schools in Trinity County have a vegetable garden and serve fresh fruits & vegetables in school meals.



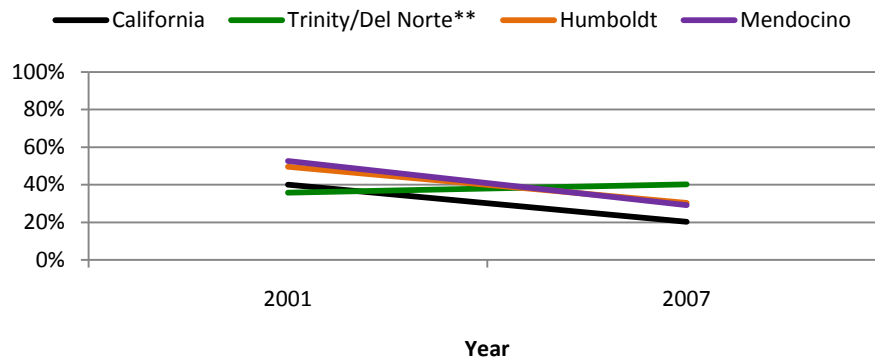
## 24. Percent of Children, Teens, and Adults Eating 5+ Servings of Fruits & Vegetables Daily

**Percent of Children Eating 5+ Servings of Fruits & Vegetables Daily (age <12 yrs)**

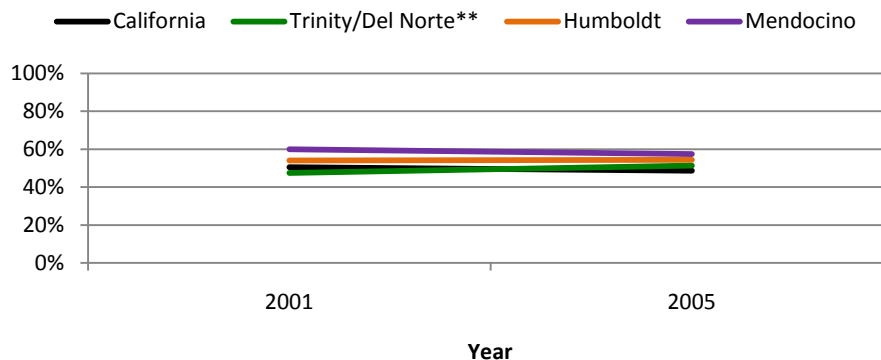


A high number is good

**Percent of Teens Eating 5+ Servings of Fruits and Vegetables Daily (age 12-17 yrs)**



**Percent of Adults Eating 5+ Servings of Fruits or Vegetables Daily**



Indicator Data Source: California Health Interview Survey <http://www.chis.ucla.edu>

Notes:

\*\*Trinity and Del Norte data aggregated with 5 other counties

No data available for children in 2001, and adults in 2003 & 2007. For teens, data for 2003 & 2005 is available, but not presented due to statistical instability for several counties.

## Alcohol and Other Drug Use

Drug and alcohol use has been shown to be an important indicator of community health due to the immense effects it can have on both social interactions and mental and physical well-being. People who are directly and indirectly involved in drug and alcohol abuse pose an economic burden because the local, state and federal governments must support those who are incarcerated, hospitalized, or unable to support themselves. The cost for drug and alcohol abuse for rural communities nationwide is believed to be in the tens of billions of dollars per year.<sup>1</sup> Drug and alcohol abuse among teenagers has many of the same consequences it does with adults, however they are more likely to engage in risky behaviors. For example, teens are more likely to use alcohol and drugs while driving than adults, and car accidents are the leading cause of death among people ages 15-24 years.<sup>2,3</sup> This trend increases for teenagers in rural communities, where half of the teens interviewed reported drinking while driving compared to only a quarter of their urban peers.<sup>1,4</sup> Teens who live in rural areas are also more likely to binge drink than their urban and suburban peers.<sup>5</sup>

Alcohol abuse is associated with chronic maladies such as liver disease, diabetes, and brain damage as well as dangerous behaviors such as driving under the influence, spousal and child abuse, and risky sexual choices.<sup>1,6</sup> Alcohol (and drug use) has been shown to have a high co-morbidity with other mental disorders such as bipolar disorder and schizophrenia.<sup>7</sup>

Marijuana is the most commonly used and abused illicit drug in the United States, which is most likely due to the controversial and varying opinions surrounding its legal status.<sup>8</sup> The negative health effects of smoking marijuana include a decrease in lung function with symptoms such as coughing, wheezing, and shortness of breath.<sup>8</sup> THC, the primary psychoactive ingredient in marijuana, has been shown to have negative cardiovascular effects such as increased heart rate, low blood pressure and decreased platelet aggregation.<sup>10</sup> Some studies have found that heavy marijuana use can cause impairments in learning, attention, and working memory even after use is discontinued.<sup>11,12</sup> This effect has been found to last longer in adolescents with impairment found up to six weeks after cessation, however it is believed that in adults and adolescents the effects will wear off if abstinence is maintained.<sup>12</sup> Smoking and oral consumption of marijuana has also been shown to produce a “moderate degree of impairment” in operating motor vehicles.<sup>10</sup>

The abuse of stimulants such as amphetamines and cocaine can have various effects on physical and cognitive capabilities depending on the quantity used and the method of administration. The negative health effects of methamphetamine use, particularly for chronic users, include extreme weight loss, severe dental problems, insomnia, as well as permanent alterations in the brain’s structure and memory and emotion processing systems.<sup>13</sup> Some health effects of cocaine use include exhaustion, anorexia, sleep problems (insomnia while “high” and over-sleeping post binge), nasal sores/bleeding, headaches, persistent cough and/or sore throat, nausea, and seizures.<sup>14,15</sup> Mood disturbances such as paranoia, anxiety, and depression are also common side effects of amphetamine and cocaine abuse.<sup>13-15</sup>

The health effects of inhalants depend on which type of substance is being used, the most common of which are glues, paints, and aerosol propellants. The effects of abuse can be severe or mild depending on the amount used as well as other variables, and can include coma, dementia, temporary or permanent tinnitus, hypotension, renal failure, loss of consciousness, and sudden death. Inhalants are used as a method of intoxication by adolescents much more frequently than older populations, probably because they are easily accessible (at supermarkets and hardware stores), inexpensive, and the short duration of the “high” allows them to be done frequently without parents or teachers noticing. Birth defects such as oral clefts, microcephaly, and developmental delays are also common when inhalants are used by pregnant women.<sup>16</sup>

## Alcohol and Other Drug Use (*continued*)

Use of drugs such as ecstasy, LSD, and other psychedelics has not been shown to have as many devastating health problems as other illicit drugs; however some potential effects are severe.<sup>17</sup> For instance, neurotoxicity and hyperthermia are both potential effects of ecstasy use, which can lead to significant brain damage or death.<sup>18</sup> Common acute effects of LSD include an increase heart rate and blood pressure, insomnia, tremors, inability to formulate coherent speech, and decreased acuity to pain, which can result in self-inflicted injuries. Convulsions, coma, brain damage, and death are potential risks when high doses of LSD are taken.<sup>19</sup> Changes in personality, attitudes, and creativity have been reported by people who regularly ingest psychedelic drugs, although the degree to which this is true is controversial.<sup>18</sup> As with most other drugs of abuse, the health effects of psychedelic drugs depends greatly on the quantity used, the method of intoxication, as well the individual who is taking them.

**In the Redwood Coast Region**, students reporting marijuana and alcohol use is high among middle and high school students, **especially in the non-traditional schools. Overall, marijuana and alcohol use among middle and high school students in the region is higher than among students in California as a whole. As with national and state-wide trends, drug and other alcohol use is on the rise, and the percentage of youth using increases between the 7<sup>th</sup> to 11<sup>th</sup> grades.** Methamphetamine/amphetamine use reported by 9<sup>th</sup>, 11<sup>th</sup>, and non-traditional students in the region is fairly low, except among non-traditional students in Mendocino County, where 12-16% reported use over the previous month (non-traditional schools include continuation, community day, and alternative schools). Among the other substances used, inhalants are fairly common as well as ecstasy, LSD and psychedelics (Indicator 25).

Information on alcohol and drug use among adults in the region is not as readily available. Admissions to alcohol and other drug treatment services for which methamphetamine was the primary drug of abuse has increased dramatically in all four counties and is highest in Humboldt and Mendocino. This could indicate increased methamphetamine use or increased desire for quitting methamphetamine and it is likely a combination of these factors (Indicator 26). Prescriptions for narcotics and other controlled substances (Schedule II) dispensed in each county has increased in Del Norte, Humboldt and Mendocino and decreased in Trinity from 2007-2009 (indicator 27). **Humboldt County has the highest drug-induced death rate of all California counties and it has increased between 2000 and 2008** (Indicator 28).

### ***Visions for the Future***

#### ***Desired Newspaper Headlines***

*Contributed by various Working Group members, 2010*

“Drug death rate below the state average rate.”

“Redwood Region decreases substance abuse by 50% in 2020.”

“Meth usage rate cut in half!”

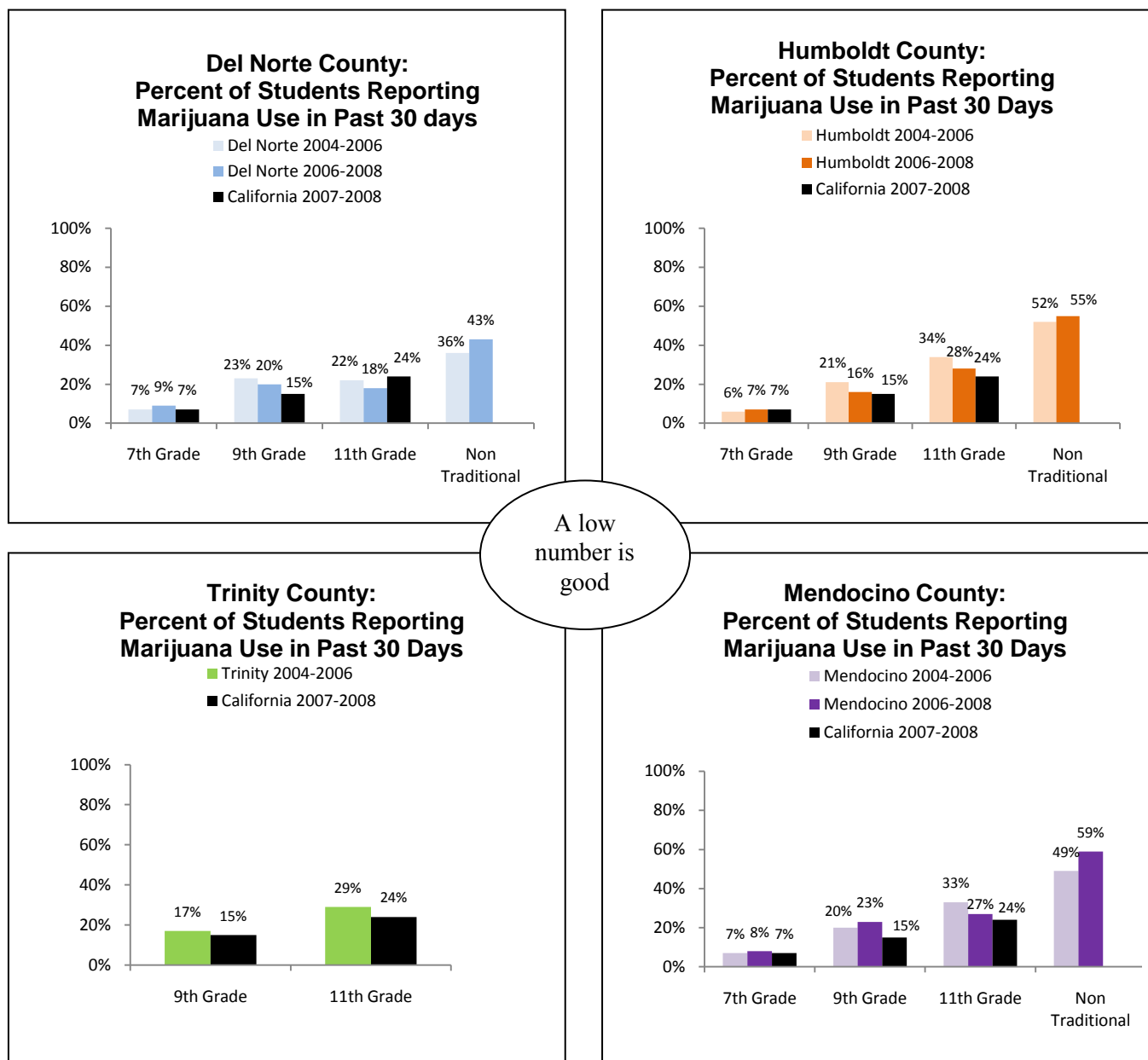
“Meth use in Humboldt and Del Norte Counties on the North Coast of California is among the lowest in the nation.”

“Trinity County Methamphetamine use drops to all time low. More people participating in low to no cost treatment programs.”

“Substance abuse at a 40 year low.”

## 25. Drug Use among Middle and High School Students

### 25a. Percent of Students Reporting Marijuana Use in Past 30 Days



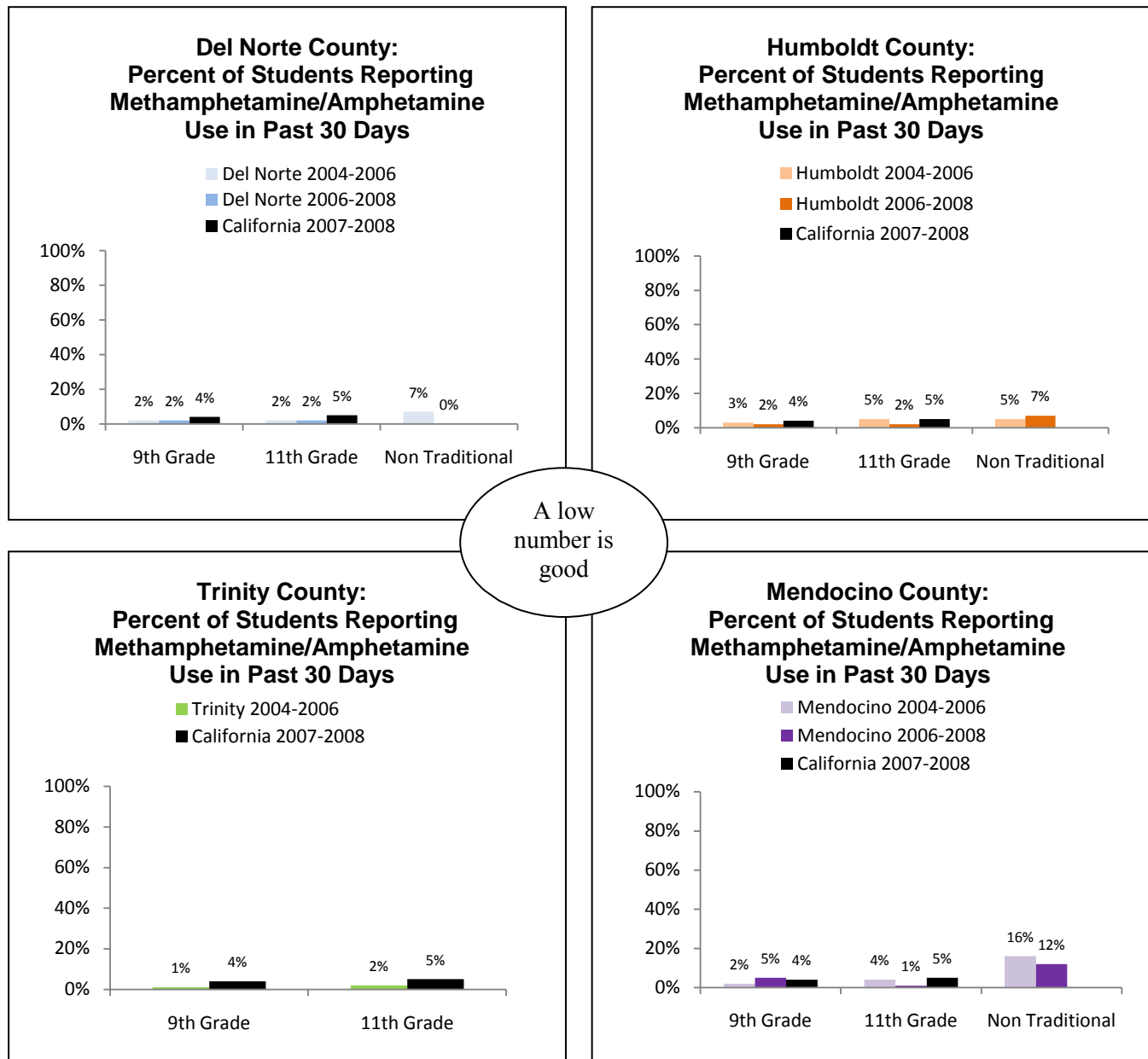
Indicator Data Source: California Healthy Kids Survey, California Department of Education (Safe and Healthy Kids Program)

<http://dq.cde.ca.gov/dataquest/>

Statewide data: [http://www.wested.org/online\\_pubs/hhdp/css\\_12th\\_highlights.pdf](http://www.wested.org/online_pubs/hhdp/css_12th_highlights.pdf)

Notes: Trinity County only has data for 9th and 11th grades 2004-2006. Non-Traditional schools include continuation, community day and alternative schools. Charter schools are included with the Traditional schools.

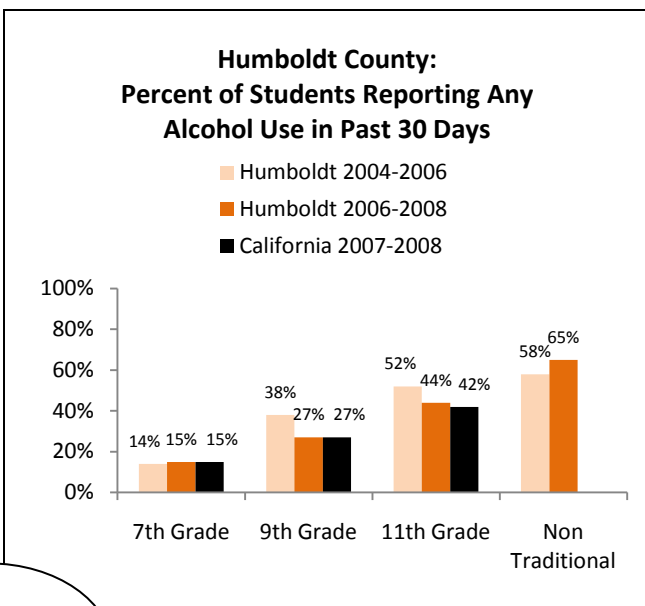
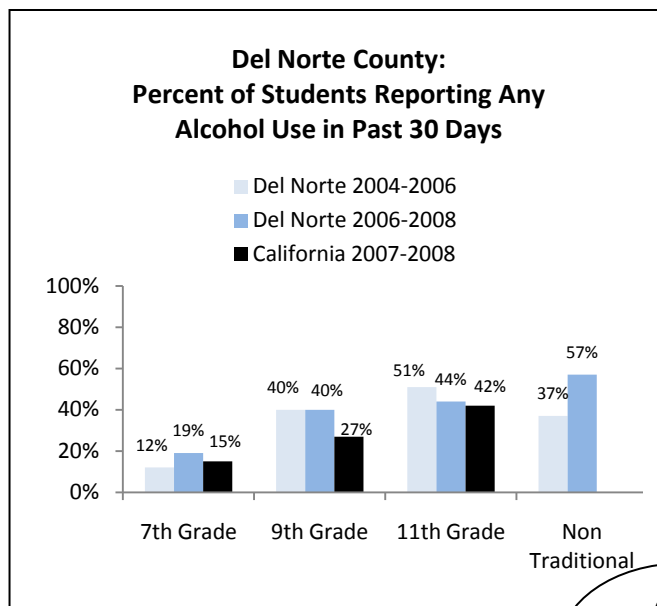
## 25b. Percent of Students Reporting Methamphetamine/Amphetamine Use in Past 30 Days



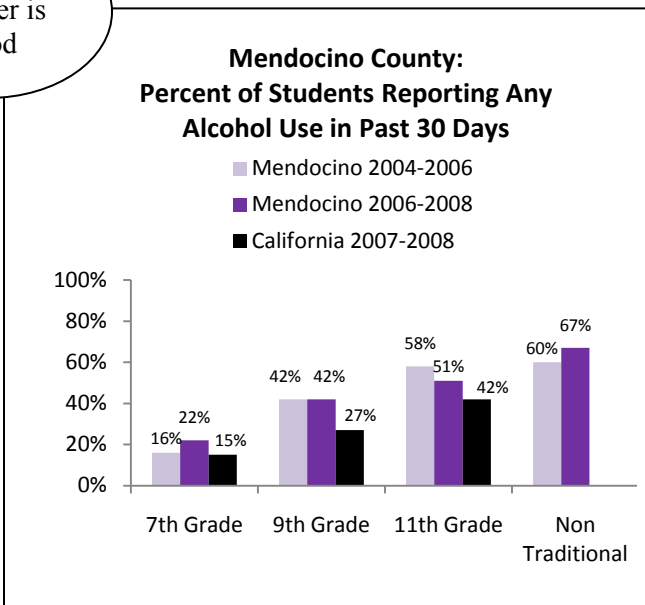
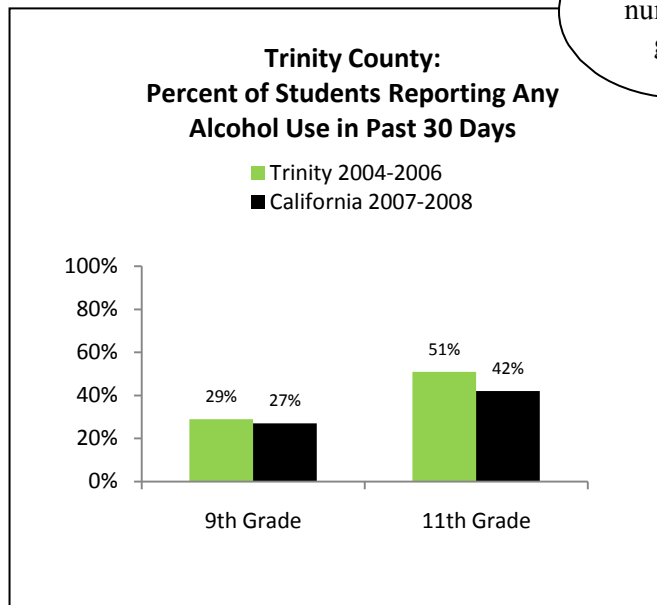
Indicator Data Source: California Healthy Kids Survey, California Department of Education (Safe and Healthy Kids Program)  
<http://dq.cde.ca.gov/dataquest/>  
 Statewide data: [http://www.wested.org/online\\_pubs/hhdp/css\\_12th\\_highlights.pdf](http://www.wested.org/online_pubs/hhdp/css_12th_highlights.pdf)

Notes: Trinity County only has data for 9th and 11th grades 2004-2006. Non-Traditional schools include continuation, community day and alternative schools. Charter schools are included with the Traditional schools. Methamphetamine use was only asked of students in 9<sup>th</sup> grade or higher.

## 25c. Percent of Students Reporting Any Alcohol Use in Past 30 Days



A low  
number is  
good



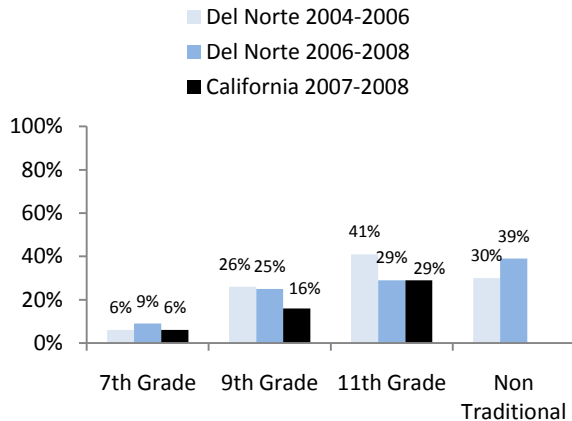
Indicator Data Source: California Healthy Kids Survey, California Department of Education (Safe and Healthy Kids Program)  
<http://dq.cde.ca.gov/dataquest/>

Notes: Trinity County only has data for 9th and 11th grades 2004-2006. Any alcohol use is at least 1 full drink. Non-Traditional schools include continuation, community day and alternative schools. Charter schools are included with the Traditional schools.

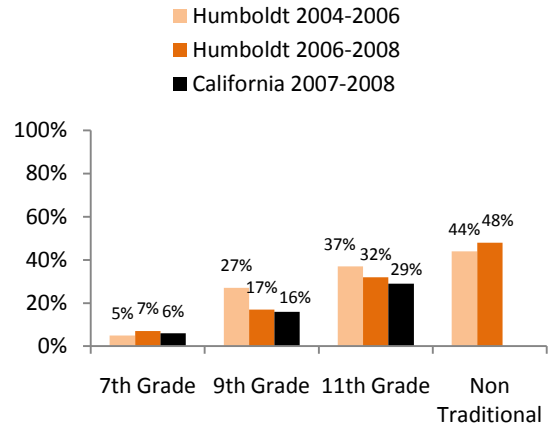
## 25d. Percent of Students Reporting Binge Drinking in Past 30 Days



**Del Norte County:  
Percent of Students Reporting  
Binge Drinking in Past 30 Days**

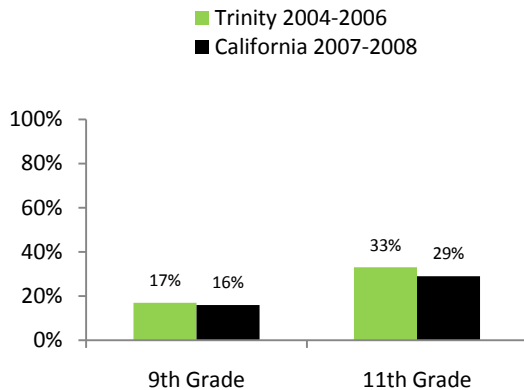


**Humboldt County:  
Percent of Students Reporting  
Binge Drinking in Past 30 Days**

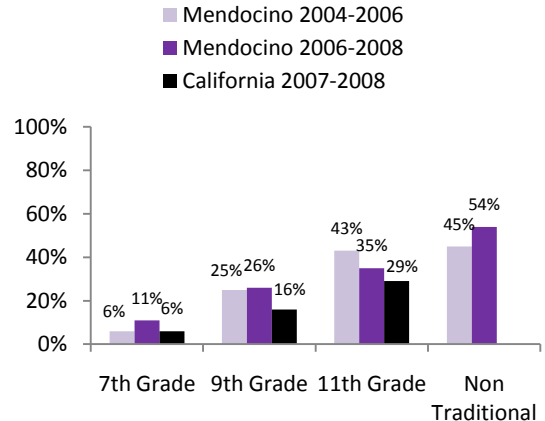


A low  
number is  
good

**Trinity County:  
Percent of Students Reporting  
Binge Drinking in Past 30 Days**



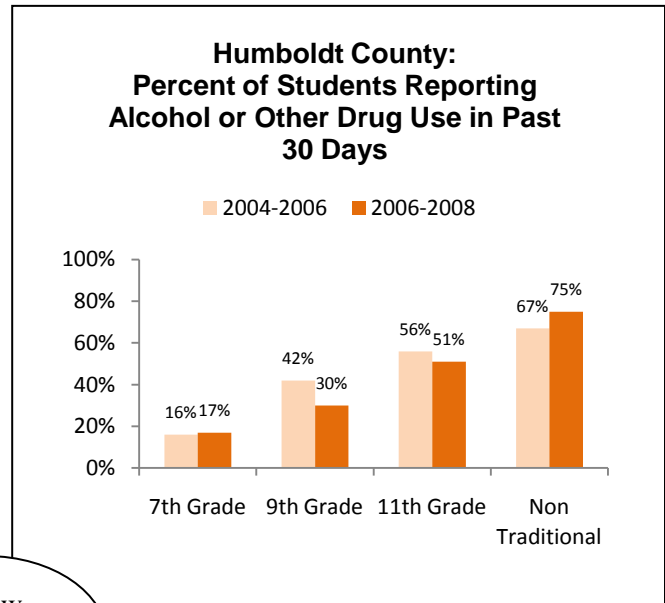
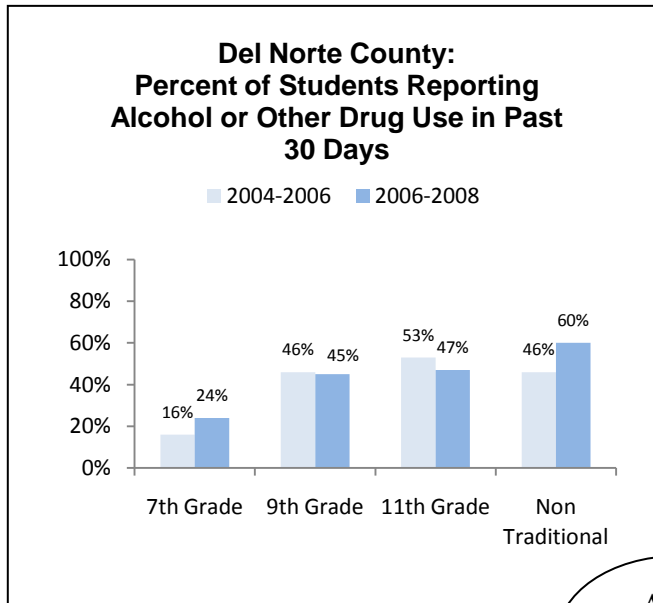
**Mendocino County:  
Percent of Students Reporting  
Binge Drinking in Past 30 days**



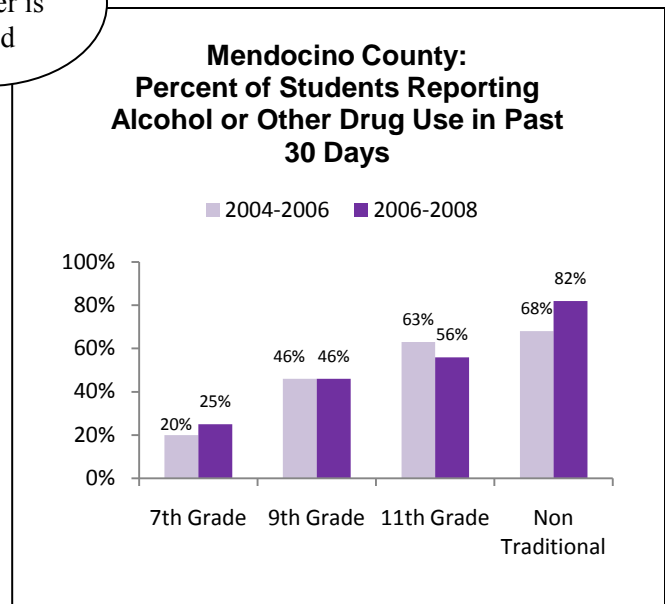
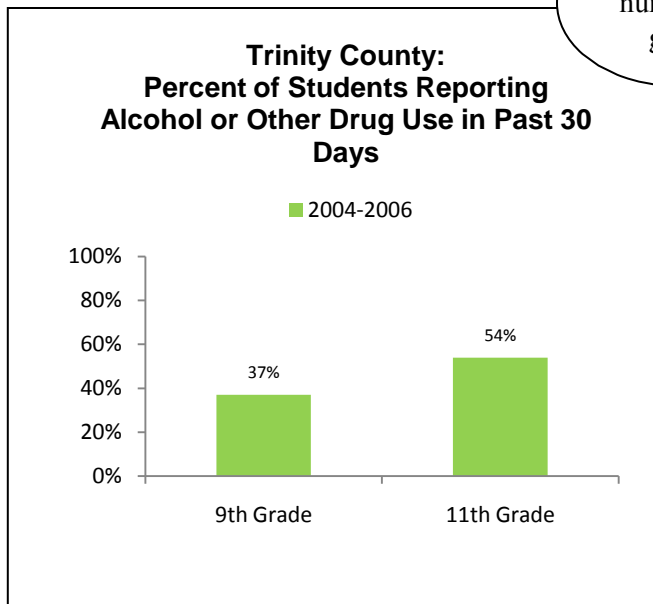
Indicator Data Source: California Healthy Kids Survey, California Department of Education (Safe and Healthy Kids Program)  
<http://dq.cde.ca.gov/dataquest/>

Notes: Trinity County only has data for 9th and 11th grades 2004-2006. "Binge Drinking" is defined as 5 or more drinks within a couple of hours on 1 or more days. Non-Traditional schools include continuation, community day and alternative schools. Charter schools are included with the Traditional schools.

## 25e. Percent of Students Reporting Any Alcohol or Drug Use in Past 30 Days



A low number is good



Indicator Data Source: California Healthy Kids Survey, California Department of Education (Safe and Healthy Kids Program)  
<http://dq.cde.ca.gov/dataquest/>

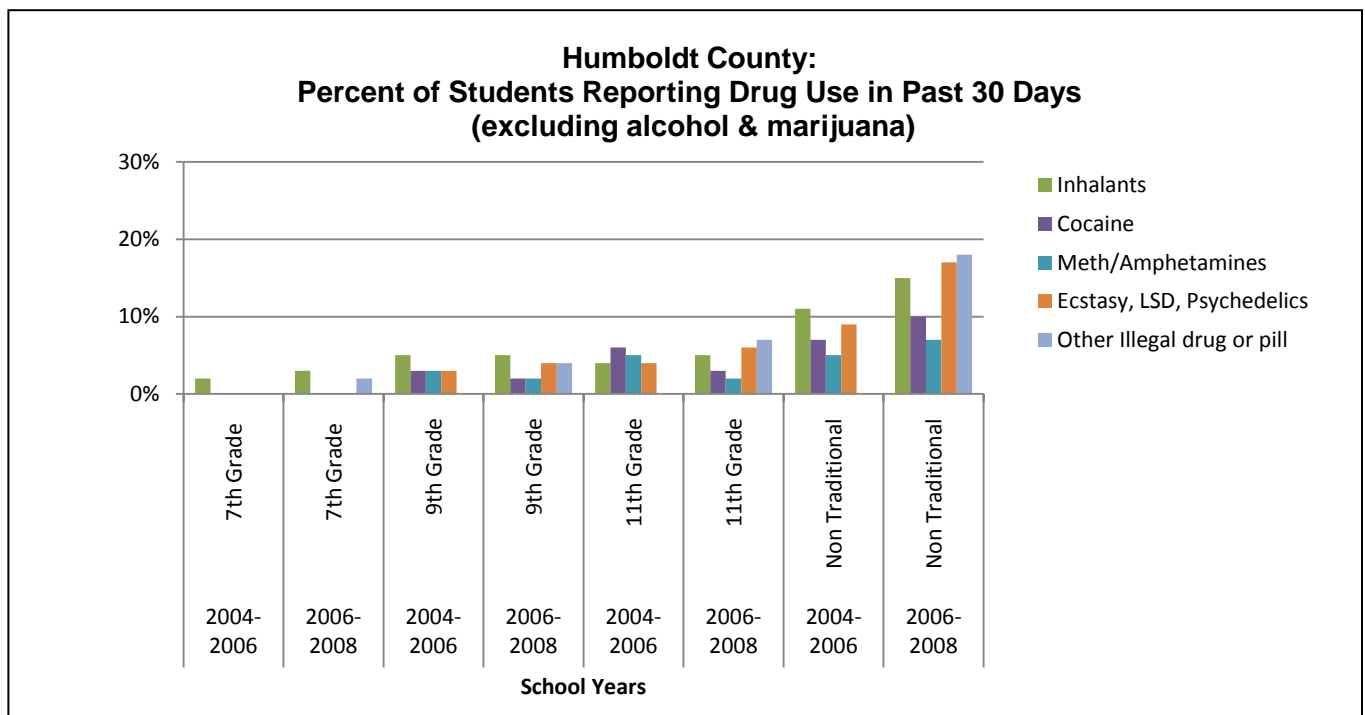
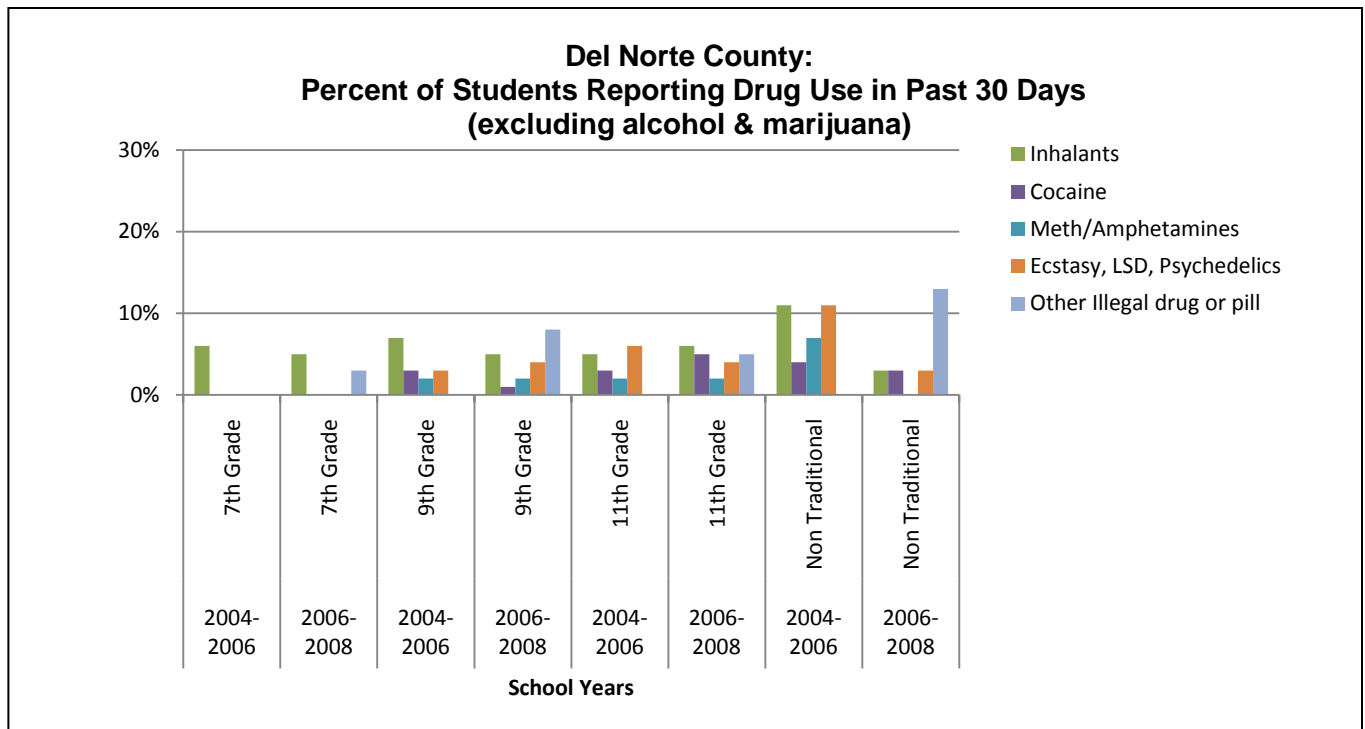
Notes: Trinity County only has data for 9th and 11th grades 2004-2006

Any Alcohol or Other Drug Use in Past 30 days is defined as at least 1 alcoholic beverage, marijuana, inhalants, cocaine, meth or other amphetamines, ecstasy, LSD or other psychedelic, other illegal drug or pill. Statewide data not shown as data not available in same format. Non-Traditional schools include continuation, community day and alternative schools.

Charter schools are included with the Traditional schools.



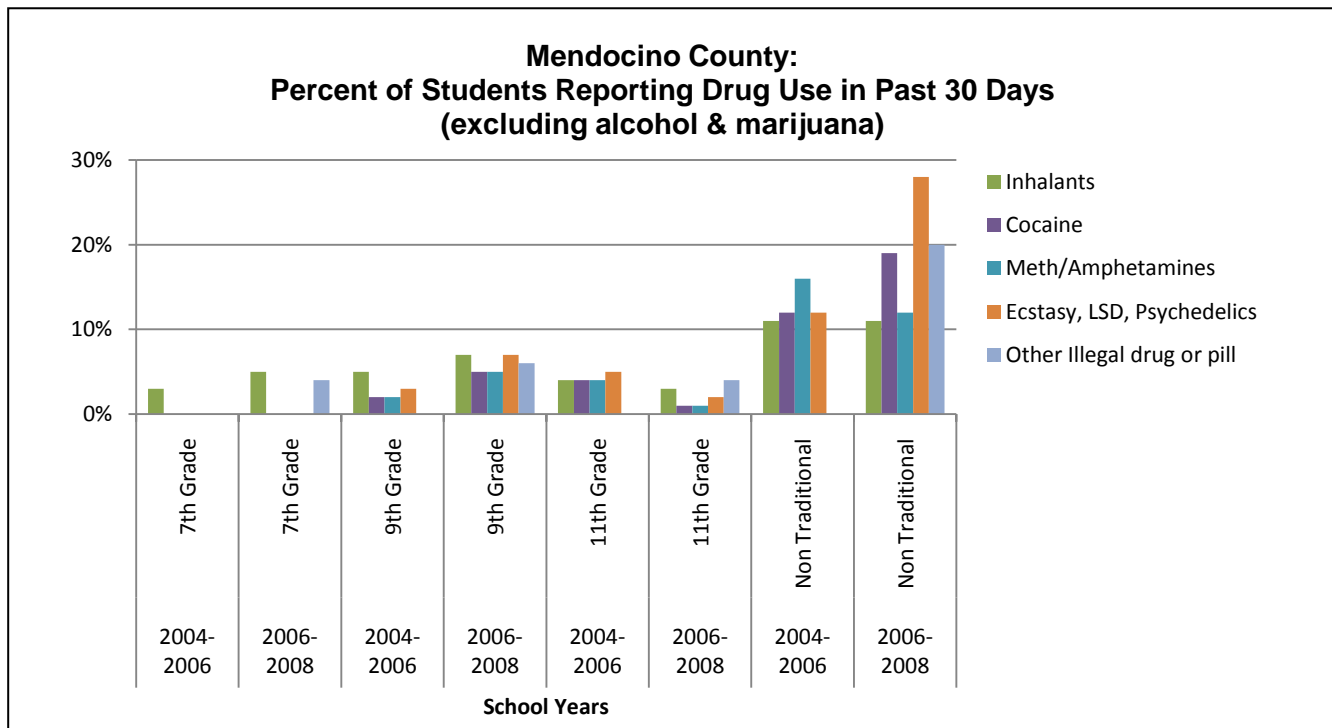
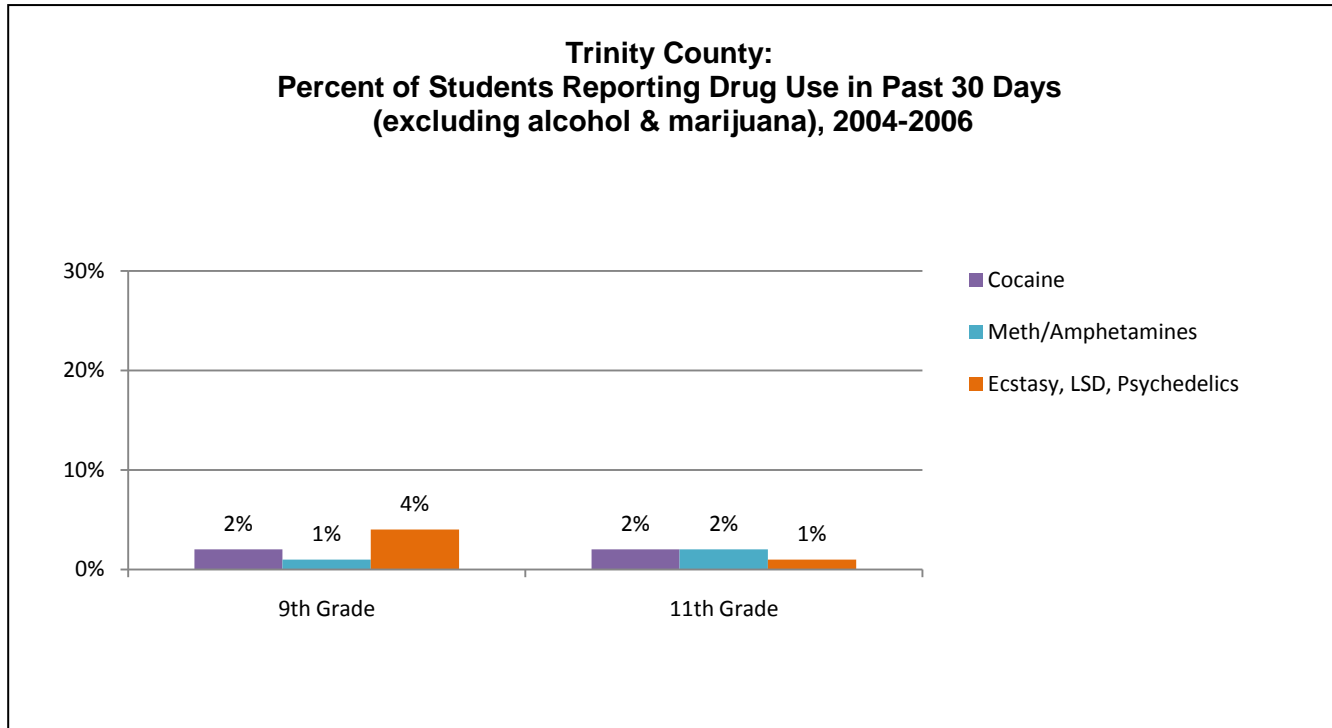
## 25f. Percent of Students Reporting Drug Use in Past 30 Days by Drug Type



Indicator Data Source: California Healthy Kids Survey, California Department of Education (Safe and Healthy Kids Program)  
<http://dq.cde.ca.gov/dataquest/>

Notes: 7<sup>th</sup> Grade students were not asked about cocaine, meth/amphetamines, ecstasy/LSD/psychedelics. Non-Traditional schools include continuation, community day and alternative schools. Charter schools are included with the Traditional schools.

## Percent of Students Reporting Drug Use in Past 30 Days by Drug Type (cont.)

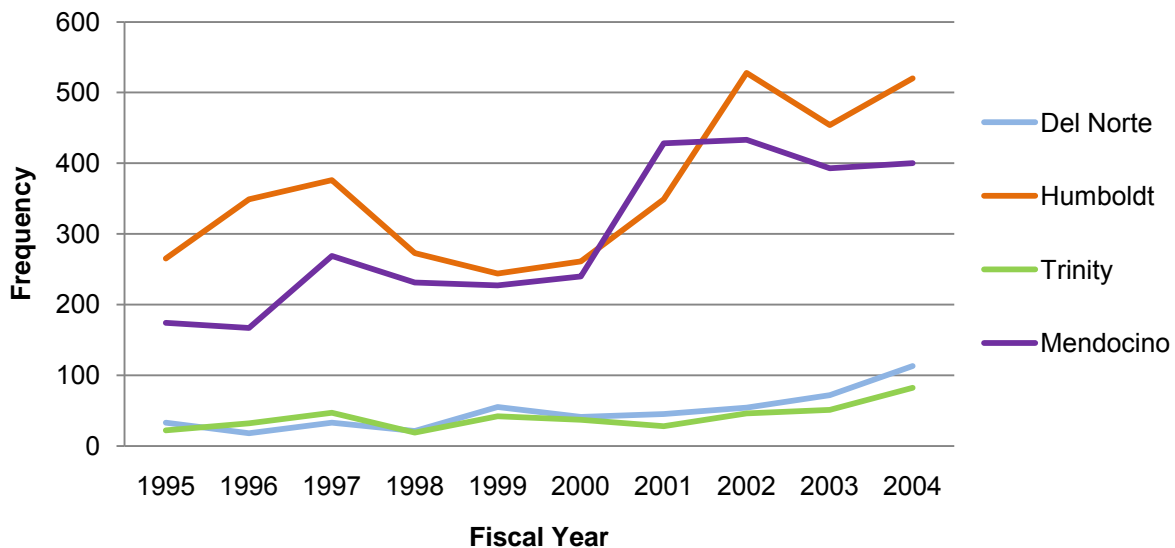


Indicator Data Source: California Healthy Kids Survey, California Department of Education (Safe and Healthy Kids Program)  
<http://dq.cde.ca.gov/dataquest/>

Notes: 7<sup>th</sup> Grade students were not asked about cocaine, meth/amphetamines, ecstasy/LSD/psychedelics. Trinity County only has data for 9th and 11th grades 2004-2006. Non-Traditional schools include continuation, community day and alternative schools. Charter schools are included with the Traditional schools.

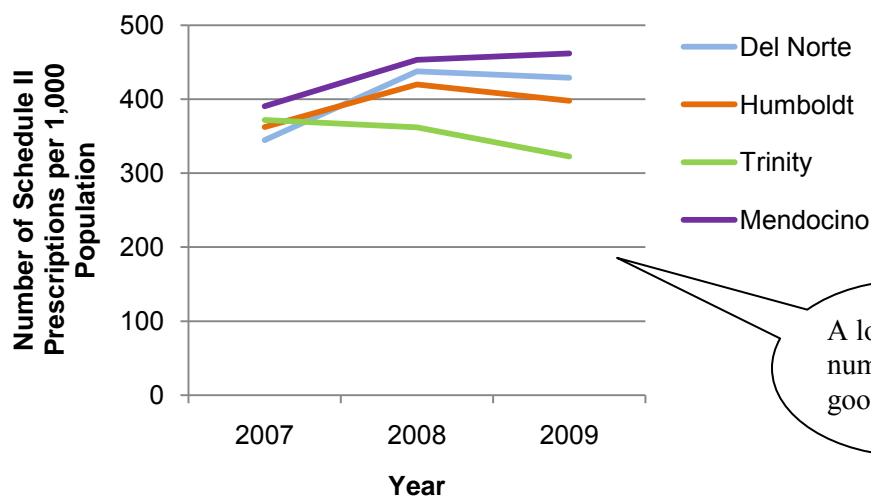
## Drug Use Among the General Population

### 26. Annual Number of Admissions to Alcohol & Other Drug Treatment Services for Which Methamphetamine was the Primary Drug of Abuse



Indicator Data Source: Department of Alcohol and Drug Programs  
<http://www.adp.ca.gov/oara/index.shtml>

### 27. Prescriptions for Narcotics & Other Controlled Substances Dispensed per 1,000 Population



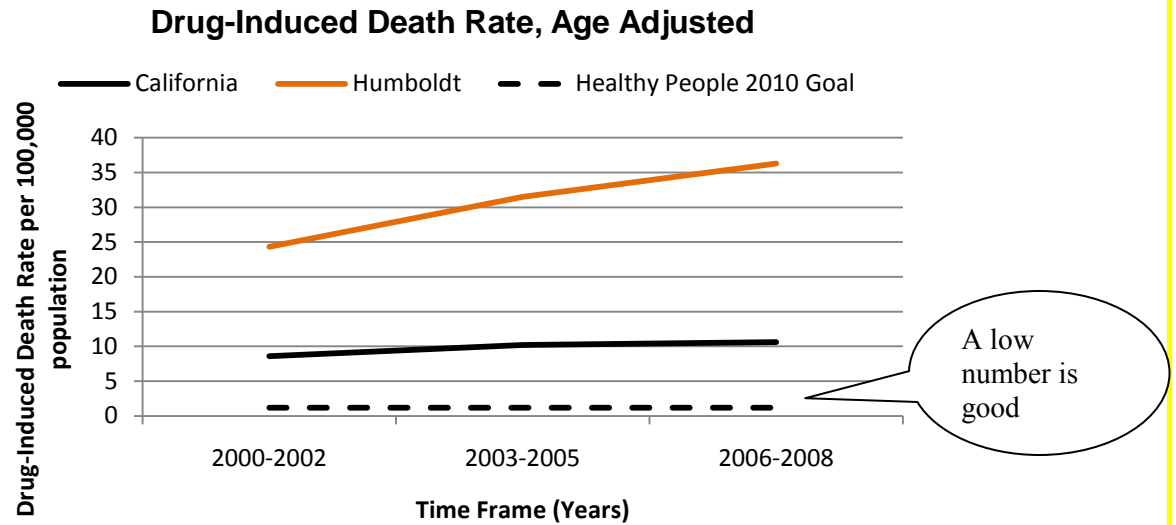
A low number is good

Indicator Data Source: California Department of Justice- Bureau of Narcotic Enforcement

Population data is from the Ca Dept of Finance <http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

Notes: Schedule II prescriptions includes narcotic pain medications (i.e. Codeine, Hydrocodone, Morphine, Methadone, etc.) and stimulants (Ritalin, Adderall, Dexedrine, etc.). County is determined by patient's address. Number of schedule II prescriptions represents the number of prescriptions dispensed- not the number of pills. Mail order prescriptions are included in these numbers.

## 28. Drug Induced Death Rate



Indicator Data Source: California Department of Public Health  
County Health Status Profiles, 2004, 2007, 2010  
<http://www.cdph.ca.gov/programs/ohir/Pages/CHSP.aspx>

Notes: Del Norte, Trinity, and Mendocino counties are not shown as the drug-induced death rates were unreliable- relative standard error greater than or equal to 23 percent.

*What we would really like to know...*

- ◆ The percent of adults/teens that use illicit drugs and prescription pain medication for non-medical reasons.
- ◆ Meth or other drug related ER/Urgent Care visits.
- ◆ Annual number of alcohol-related hospitalizations.



## Social and Economic Factors

Community Safety  
Early Care & Education  
Family & Social Support  
Cultural & Spiritual Well-Being  
Senior Ready

Workforce/Economic Development  
Family Economic Success  
Internet Access  
Food Security

Vision for a Healthy Redwood Coast Region:

**The region has a nurturing, inclusive social environment, which promotes cultural enrichment and education across all life stages.**

**Community health improvements are linked to economic development.**

### Community Safety

Rural populations face unique challenges around community safety, particularly when it comes to rural roadways. More people die each year in rural roadway crashes than in urban settings. While only 23% of the U.S. population lived in a rural area in 2008, 56% of all traffic fatalities occurred in a rural area.<sup>1</sup> A combination of environmental and behavioral factors contribute to this concerning trend. Rural roads tend to be narrower, with more curves and obstacles. People driving on rural roads are less likely to wear seat belts and more likely to speed and drive while under the influence of alcohol or other drugs compared to people driving in urban areas. The remoteness of rural roads leads to longer response times for Emergency Medical Services to arrive at the scene of a crash, which can delay care and increase the chance of death.<sup>2</sup>

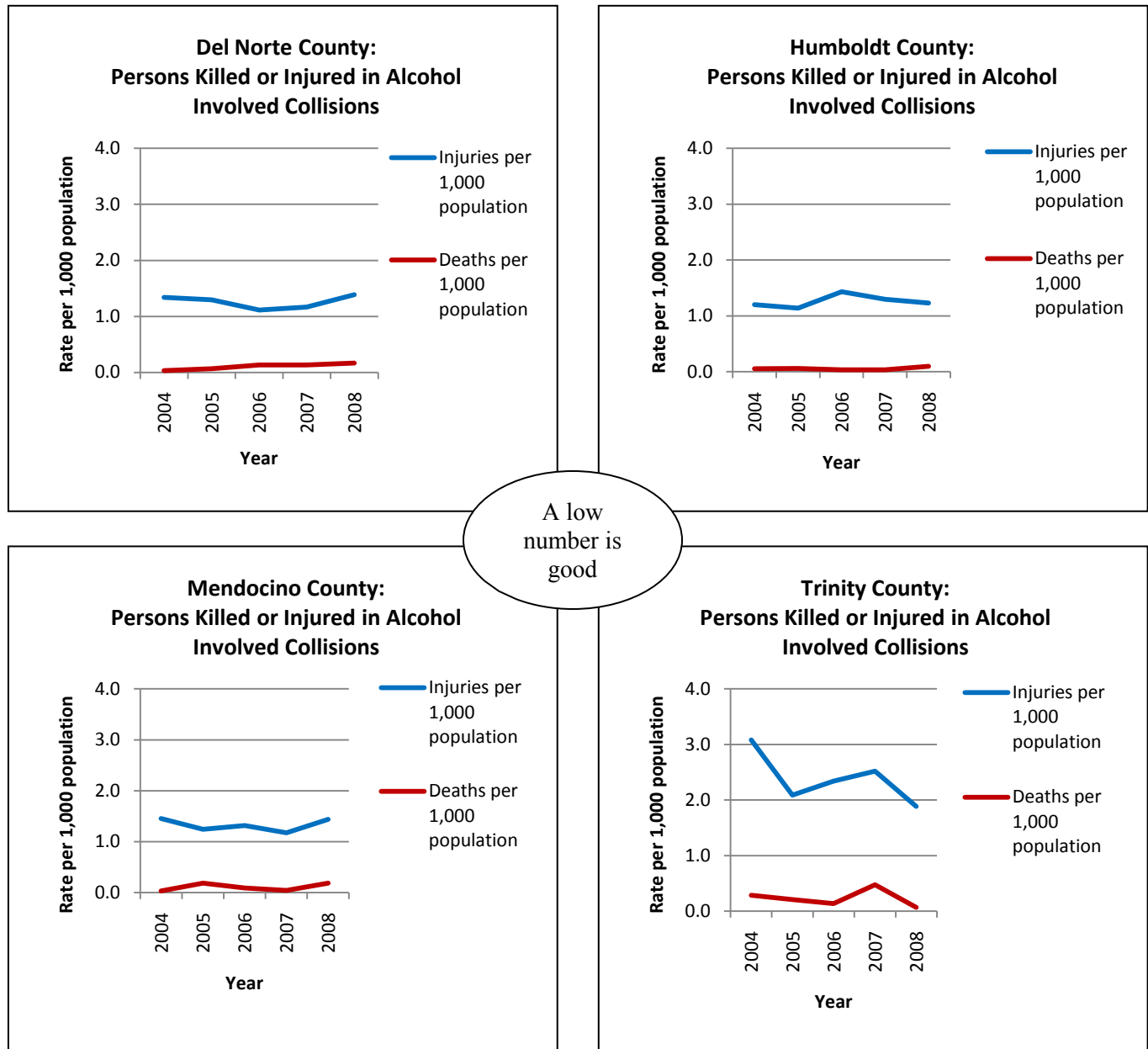
Some studies have found that rural drivers participate in riskier driving behavior in general, as they are less aware of the consequences associated with these risks and do not put the same emphasis on the importance of government-enforced traffic laws as their urban counterparts.<sup>3</sup>

Driving while under the influence of alcohol or other drugs is a major public health concern as it poses significant threats to communities and individuals. In 32% of fatal car accidents, the driver was alcohol-impaired.<sup>5</sup> Moderate to high blood alcohol content (BAC) can lead to impaired vision and hand-eye coordination, reduced reaction time, and increased risk of collisions.<sup>4</sup> Some environmental factors that differ between rural and urban communities can effect whether alcohol-impaired driving leads to accidents or injuries. These include road quality, distance usually driven, proximity of emergency medical services, and the regulation of traffic laws by law enforcement.<sup>3,5</sup>

**In the Redwood Coast Region, Humboldt County has the highest absolute number and Trinity County has the highest rate of injuries and deaths due to alcohol involved collisions** (Indicator 29). This is due to the fact that the rate is calculated using the total population in the county and Trinity has a low population. Similarly, **Humboldt County has the highest absolute number of DUI arrests, but Trinity County has the highest rate of DUI arrests per 100 licensed drivers** (Indicator 30). It is important to note that deaths and injuries due to alcohol involved collisions and DUI arrests are categorized by where the collision or arrest occurred, which is not necessarily in the county where the person lives. Furthermore, DUI arrests may be affected by an increase or decrease of law enforcement presence within a given county.



## 29. Annual Number of Persons Killed or Injured in Alcohol Involved Collisions

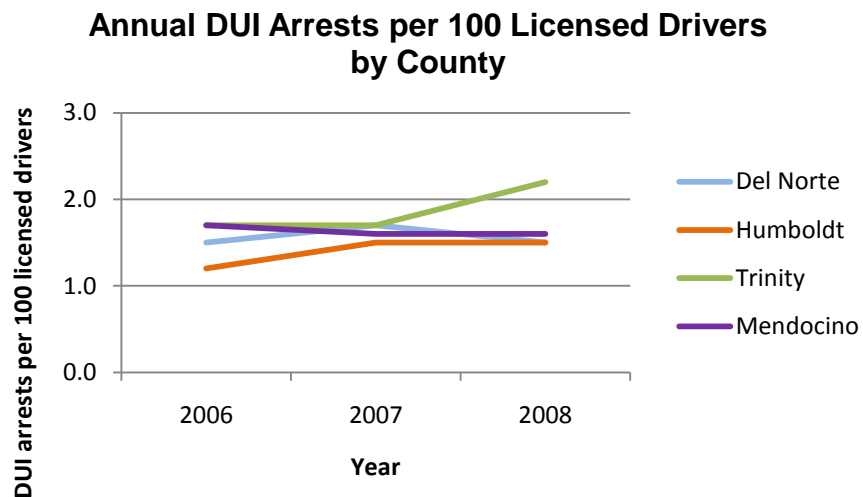
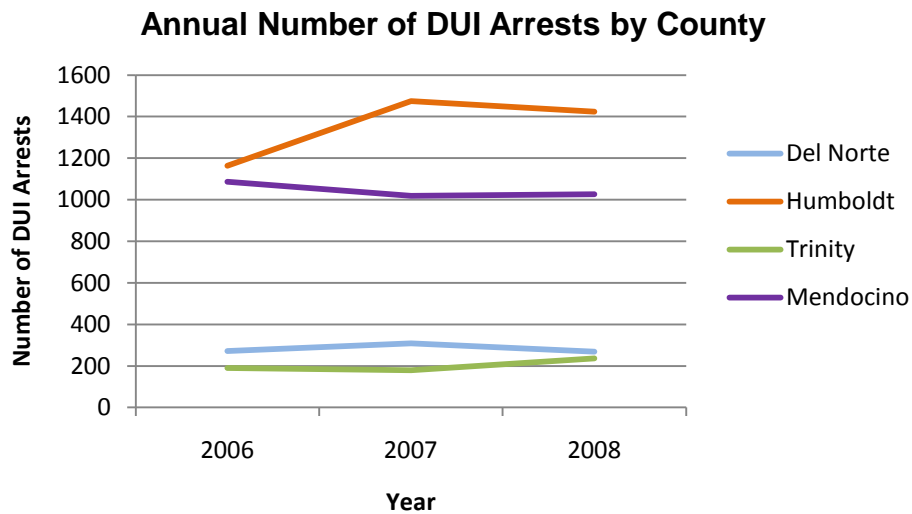


County	2004		2005		2006		2007		2008	
	Injuries	Deaths	Injuries	Deaths	Injuries	Deaths	Injuries	Deaths	Injuries	Deaths
Del Norte	39	1	38	2	33	4	35	4	42	5
Humboldt	157	7	150	8	189	5	172	5	164	13
Trinity	43	4	30	3	34	2	37	7	28	1
Mendocino	131	3	112	17	119	8	107	4	132	17

Indicator Data Source: California Highway Patrol  
<http://www.chp.ca.gov/switrs/index.html>

Notes: Alcohol involved collision is any motor vehicle traffic collision where a driver, pedestrian, or bicyclist had been drinking. County is defined as where the collision occurred.

### 30. DUI Arrests



Indicator Data Source: Department of Motor Vehicles, Research and Development Branch  
 Annual Report of the California DUI Management Information System, 2010, 2009, 2008  
<http://www.dmv.ca.gov/about/profile/rd/toc.htm>

Notes: County is defined as the county where the arrest occurred.

***Vision for the Future***  
*Desired Newspaper Headline*

“DUI rate drops for 5<sup>th</sup> consecutive year.”

Working Group member, 2010

## Early Care and Education

Studies have shown a positive association between education level and overall health.<sup>1-3</sup> Indeed, education level may be the strongest and most consistent predictor of good health, rather than income or occupation.<sup>1</sup> Lower levels of education have been associated with high blood pressure, smoking, high cholesterol, and shorter life expectancy.<sup>1,4</sup> Compared to less educated individuals, those with more education are less likely to report fair/poor health and more likely to engage in healthy behaviors such as exercise, healthy eating, maintaining a healthy body weight, and abstaining from tobacco use.<sup>3,5</sup>

There is an increasing body of literature showing that early childhood is an important period for influencing future health and development.<sup>6</sup> Reading to young children is important for cognitive development.<sup>7,8</sup> Children who are read to tend to have higher scores in vocabulary and listening comprehension. Researchers found that mothers from low and middle-class households who read to their infants or toddlers resulted in literacy skills above the national average at three years of age.<sup>8</sup> Adolescents with low literacy skills are more likely to be a victim or perpetrator of violence than adolescents with age appropriate reading levels.<sup>9</sup>

Attendance in preschool has been associated with positive health outcomes including, less risk of overweight/obesity, improved mental health and social competence, and decreased crime later in life.<sup>6,10</sup> Children who attend Head Start or preschool are more likely to complete high school and less likely to require special education classes. Attendance in Head Start has been shown to improve cognitive, verbal and social ability among socially disadvantaged children.<sup>11</sup> Children who attend preschool are better able to develop a sense of autonomy. Being around other children, allows them to differentiate themselves from their peers and become aware of their own likes and dislikes.<sup>12</sup> Additionally, children in preschool learn to express emotion and suppress emotion at socially acceptable times, which promotes successful social interactions between peers and authority figures.<sup>10</sup>

Researchers have found a relationship between school failure and health among adolescents.<sup>13</sup> One study found that mental health issues in childhood predict school failure during adolescence. In addition, school failure during adolescence predicted clinical depression in later life among girls.<sup>13</sup> Another study found that students attending alternative high schools were more likely to engage in unhealthy behaviors (smoking, unprotected sex, lack of physical activity, etc.) compared to students attending traditional high schools.<sup>14</sup> Not surprisingly, students with a greater motivation for academic achievement were less likely to drop out of high school and less likely to participate in unhealthy behaviors (drugs, alcohol use, etc.) than those students without academic motivation.<sup>15</sup>

**In the Redwood Coast Region, participation rates in preschool, nursery school or Head Start is low** with a high percent of children *not* attending preschool, nursery school or head start for at least 10 hours a week (Indicator 31). The percent of parents reading to their young children is higher in each county than California, but it has decreased slightly from 2005 to 2007 (Indicator 32). **Average high school graduation rates have decreased** in each county from 2000 to 2008 (Indicator 33). **High School graduates with all courses required for UC or CSU entrance is low** (Indicator 34). Overall high School drop-out rates have decreased in Del Norte, Humboldt and Trinity and remained stable in Mendocino between 2006 and 2008. By race/ethnicity, high school drop-out rates tend to be higher among American Indians, except in Mendocino where African Americans have alarmingly high drop-out rates (Indicator 35).

### *Visions for the Future*

#### *Desired Newspaper Headlines*

*Contributed by various Working Group members, 2010*

“Northwest California has free early education opportunities for all children.”

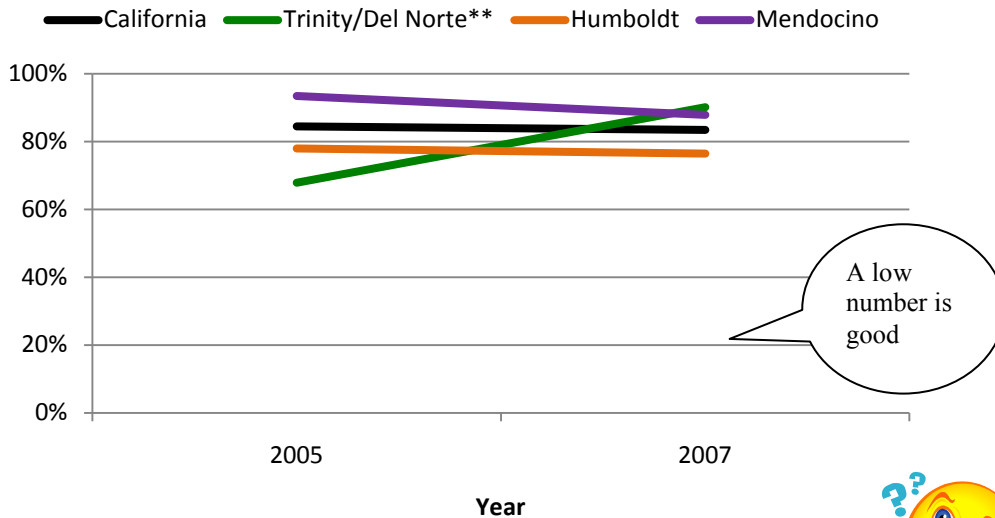
“Lowest rate of child welfare referrals.”

“All children in Northwest California live in homes with loving, nurturing caregivers.”



## Early Care

### 31. Percent of Children *Not* Attending Preschool, Nursery School or Head Start at Least 10 Hours per Week



*What we would really like to know.....*

- ◆ Child care slots available for parents in the work-force (both licensed and unlicensed child care).
- ◆ Percent of schools offering before/after school child care.



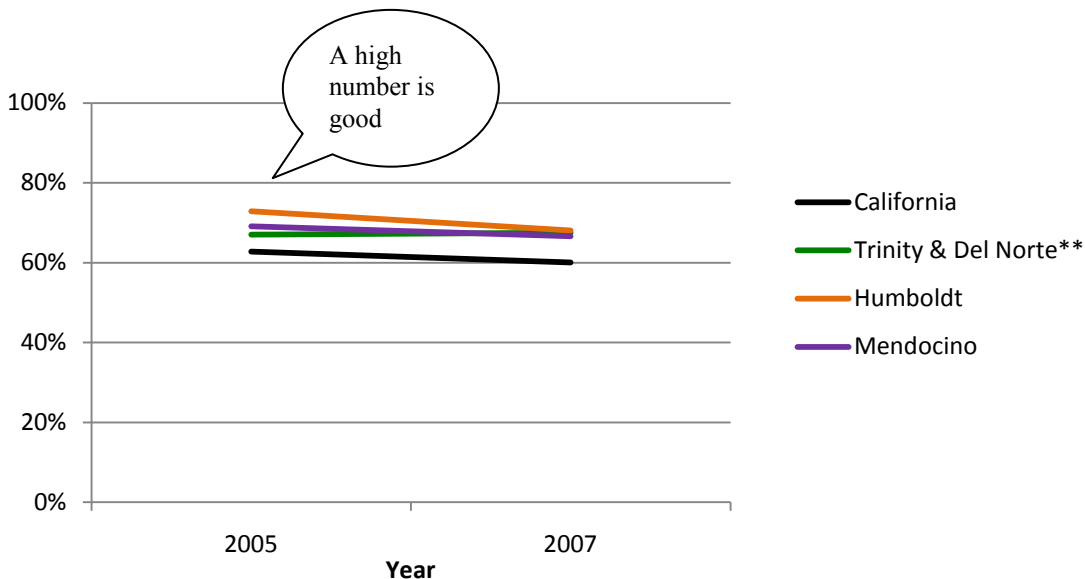
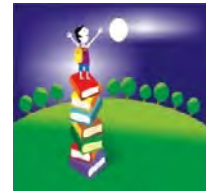
Indicator Data Source: California Health Interview Survey  
<http://www.chis.ucla.edu>

Notes:

\*\*Trinity and Del Norte data aggregated with 5 other counties

Data not presented as “Percent of Children Attending Preschool, Nursery School or Head Start at least 10 hours per week” as small numbers for Mendocino, Del Norte/Trinity caused unstable/unreliable data.

### 32. Percent of Parents Reading to their Children (0-5) Daily

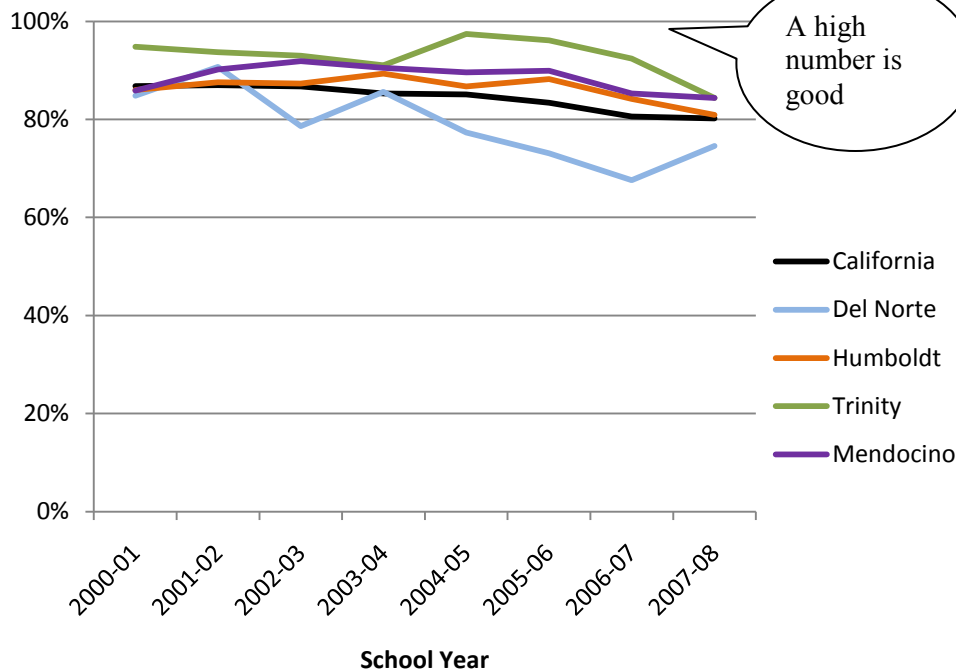


Indicator Data Source: California Health Interview Survey <http://www.chis.ucla.edu>

Notes: \*\*Trinity and Del Norte data aggregated with 5 other counties

## Education

### 33. Average High School Graduation Rates



We would also like to know...

- ◆ Percent of students (including those who drop out) who attend any college or post graduate training.
- ◆ Amount of money spent per student per school district.
- ◆ Electives offered at public schools.



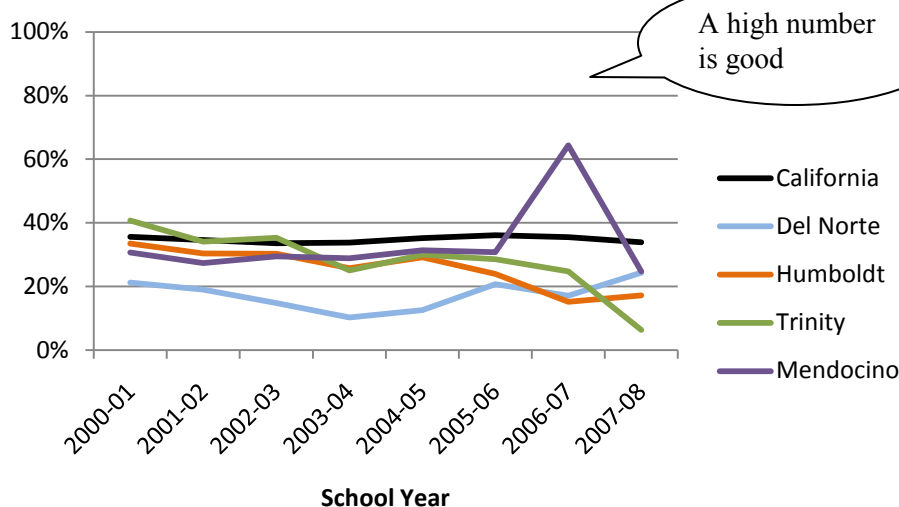
Indicator Data Source: California Department of Education Educational Demographics Office

<http://dq.cde.ca.gov/dataquest>

Notes: NCES definition of graduation rate was used: # of graduates (year 4) / [# of graduates (year 4) + grade 9 dropouts (year 1) + grade 10 dropouts (year 2) + grade 11 dropouts (year 3) + grade 12 dropouts (Year 4)]

Dropout and graduate counts are derived from student-level data.

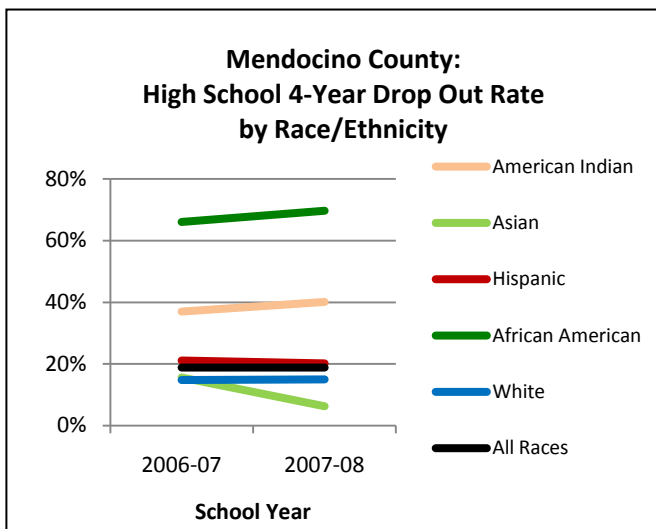
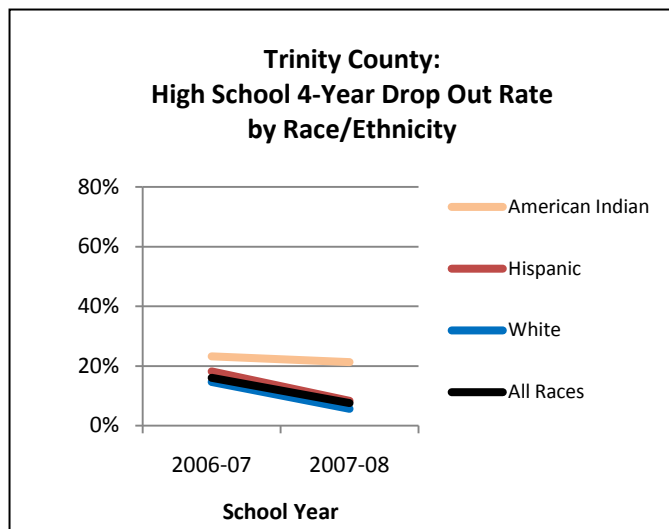
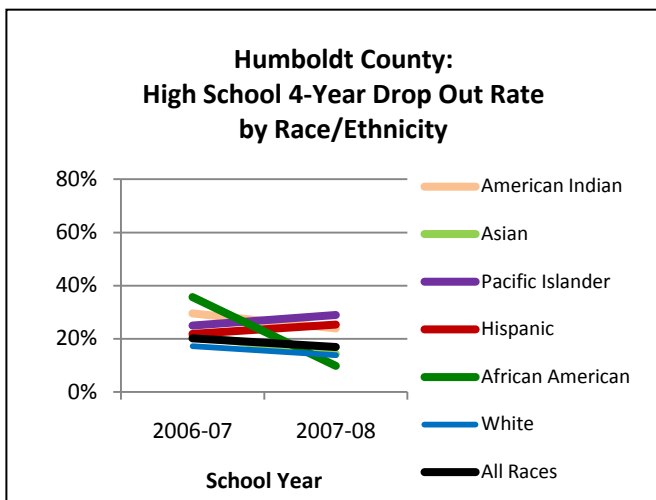
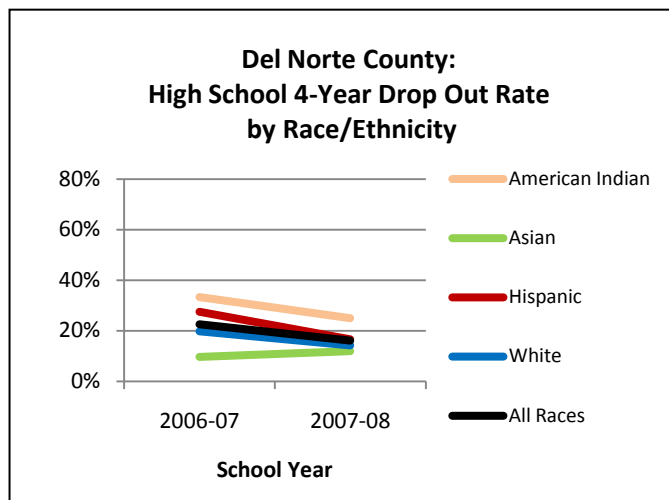
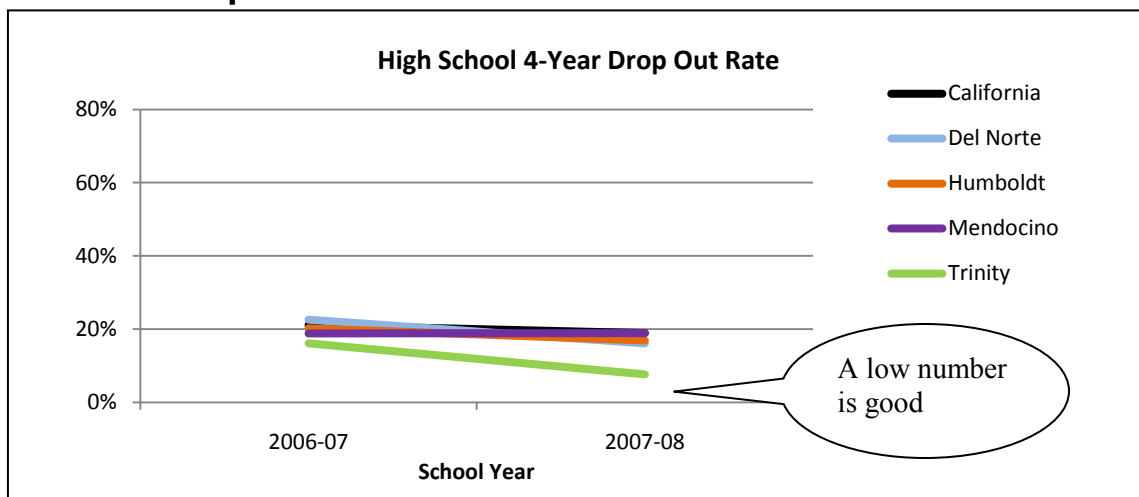
### 34. Percent of High School Graduates with all Courses Required for UC or CSU Entrance



Indicator Data Source: California Department of Education Educational Demographics Office <http://dq.cde.ca.gov/dataquest>

Notes: This is a measure of 12th Grade graduates completing all courses required for U.C. &/or CSU Entrance.

## 35. High School Drop-Out Rate



Indicator Data Source: California Department of Education Educational Demographics Office <http://dq.cde.ca.gov/dataquest>

Notes: These graphs display the adjusted grade 9-12, 4-year derived drop-out rates. Dropout counts are derived from student-level data starting in 2006-07, so earlier years are not shown. The 4-year derived dropout rate is an estimate of the percent of students who would drop out in a four year period based on data collected for a single year. Data only shown for ethnicities when more than 20 students enrolled in grades 9-12. 4-year Derived Rate Formula:  $(1 - ((1 - (\text{Reported or Adjusted Gr. 9 Dropouts} / \text{Gr. 9 Enrollment})) * (1 - (\text{Reported or Adjusted Gr. 10 Dropouts} / \text{Gr. 10 Enrollment}))) * (1 - (\text{Reported or Adjusted Gr. 11 Dropouts} / \text{Gr. 11 Enrollment})) * (1 - (\text{Reported or Adjusted Gr. 12 Dropouts} / \text{Gr. 12 Enrollment})))) * 100$ .

Adjusted Dropouts = Reported Grade 9-12 Dropout Total minus Reenrolled Grade 9-12 Dropouts plus Grade 9-12 Lost Transfers.

## **Family & Social Support**

### **Cultural & Spiritual Well-Being**

*What we would like to know....*

- ◆ Percent of teens and adults with social/emotional support (someone who loves them, makes them feel wanted and understands their problems).
- ◆ Percent of people participating in cultural activities that increase their sense of well-being.
- ◆ Number of organizations providing cultural/spiritual services in the community.
- ◆ The percent of people experiencing domestic violence.
- ◆ Percent of teens & adults who feel safe in their neighborhood by zip code.
- ◆ Availability of behavioral health prevention services for suicide and domestic violence.

### **Senior Ready**

*What we would like to know.....*

- ◆ Percent of older adults who feel isolated or lonely.
- ◆ Availability of in-home support services for seniors.
- ◆ Availability of nutrition services for seniors.
- ◆ Availability of wellness programs for older adults.
- ◆ Availability of transportation for seniors.



### ***Visions for the Future***

#### ***Desired Newspaper Headlines***

*Contributed by various Working Group members, 2010*

“Redwood Region opens Center for Cultural Excellence.”

“Jump dance attendance sets new record.”

“North Coast recognized as ideal environment for seniors and retirees: combination of accessible and affordable housing, reliable transportation, health care, nutrition and exercise programs enhances lives of seniors.”

## Workforce/Economic Development & Family Economic Success

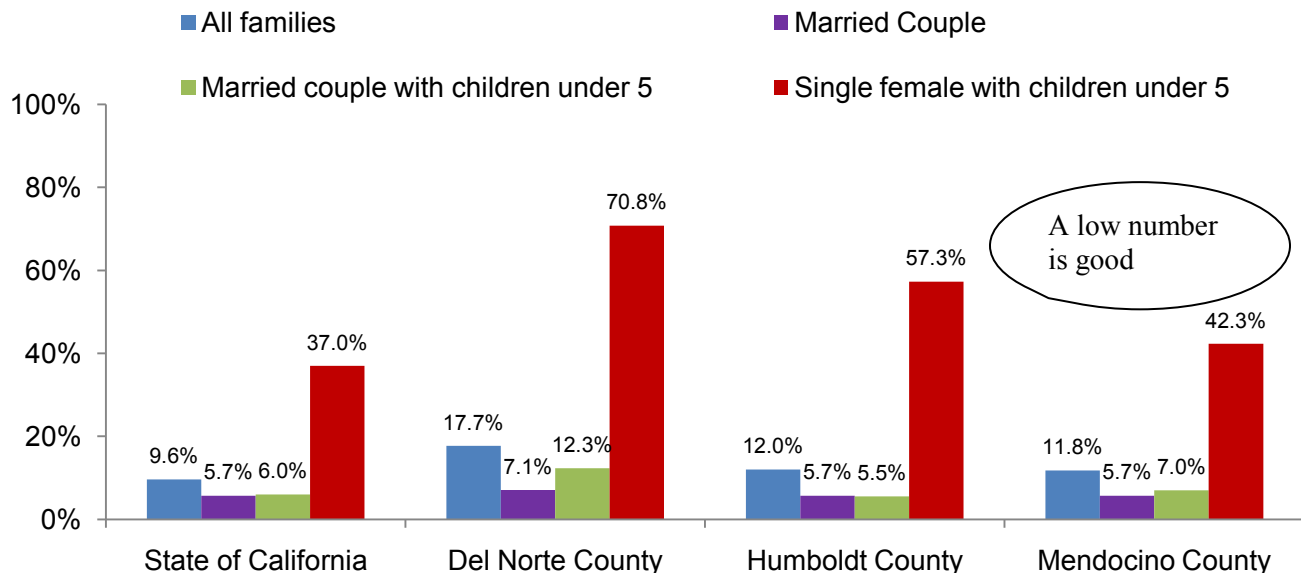
Poverty and low socioeconomic status (often defined by income level, employment status, and highest level of education) have increasingly been shown to be associated with poor health. It has been suggested that the relationship between poverty and health is on a gradient; that is, people living at or below the poverty level are suffering from the poorest health, and as one's socioeconomic status (SES) improves their health also improves.<sup>1</sup> Poverty has been associated with a variety of adverse health outcomes including, but not limited to, heart disease, occupation related health ailments, disability, and psychological distress.<sup>2-5</sup> Living in poverty has also been associated with increased risk for dental disease.<sup>6</sup>

Children tend to be at higher risk for poverty-related poor health outcomes than adults, with preschool and early school age children experiencing the highest risk.<sup>7</sup> Comprehensive reviews of the effects of poverty on the health and development of children provide evidence for a relationship between poverty and low birth weight, increased neonatal and postnatal mortality rates, higher risk of accidental injury, physical abuse or neglect, increased risk for asthma, lower cognitive development, more behavioral problems, and elevated blood lead levels.<sup>7,8</sup>

**In the Redwood Coast Region poverty rates are higher than in California as a whole. Rates are highest among single women with young children** (Indicator 36a). From 2000 to 2006-08 poverty rates have remained fairly stable overall, except for a slight increase in Del Norte among children under age 18 and a slight decrease in Humboldt for all ages (Indicator 36b). Unfortunately, **unemployment rates continue to rise** and are the highest in Trinity and Del Norte (Indicator 37). The proportion of jobs paying a wage sufficient for meeting minimal basic needs is known as the Self-Sufficiency Standard. **For single adults with children, jobs paying wages above the Self-Sufficiency Standard are limited in the region** (Indicator 38). **For the elderly in each county, the maximum SSI payment is far below the income needed to meet basic needs** (Indicator 39). **The percent of renters paying more than 30% of their household income has increased and is highest in Humboldt County** (Indicator 40).

### 36. Percent of Population in Poverty

#### 36a. Percent of Population in Poverty- by Family Type, 2006-2008

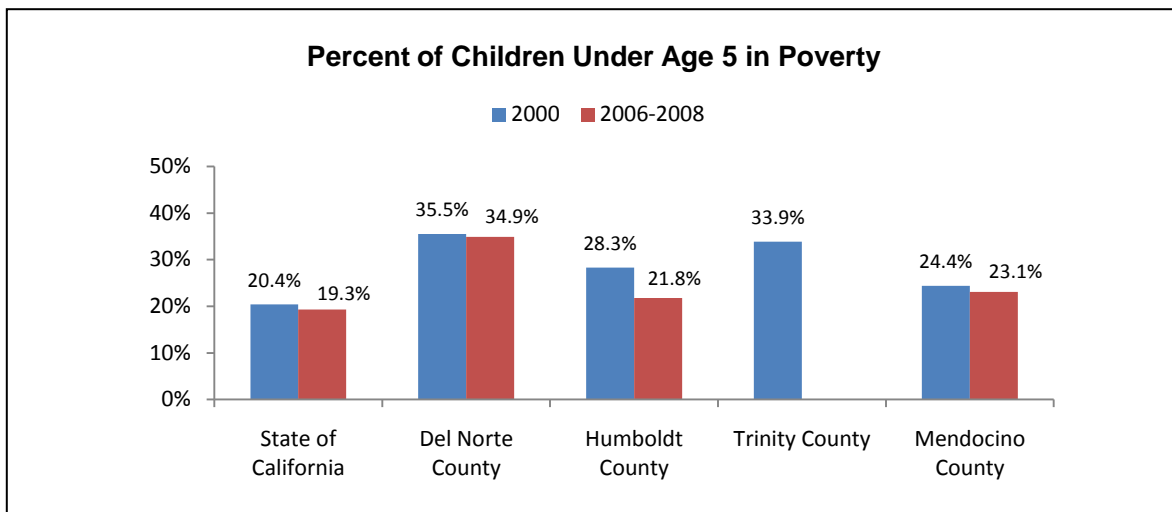
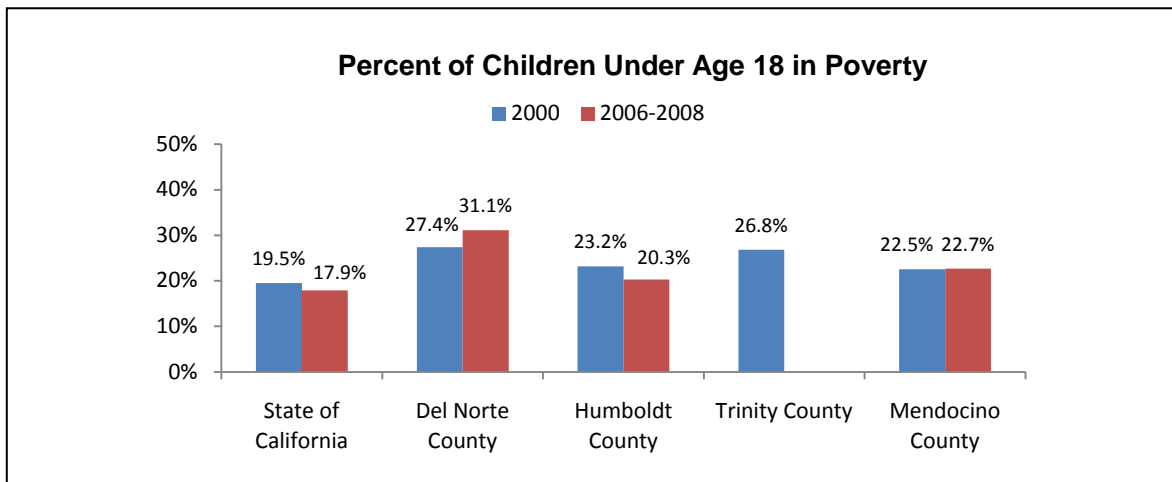
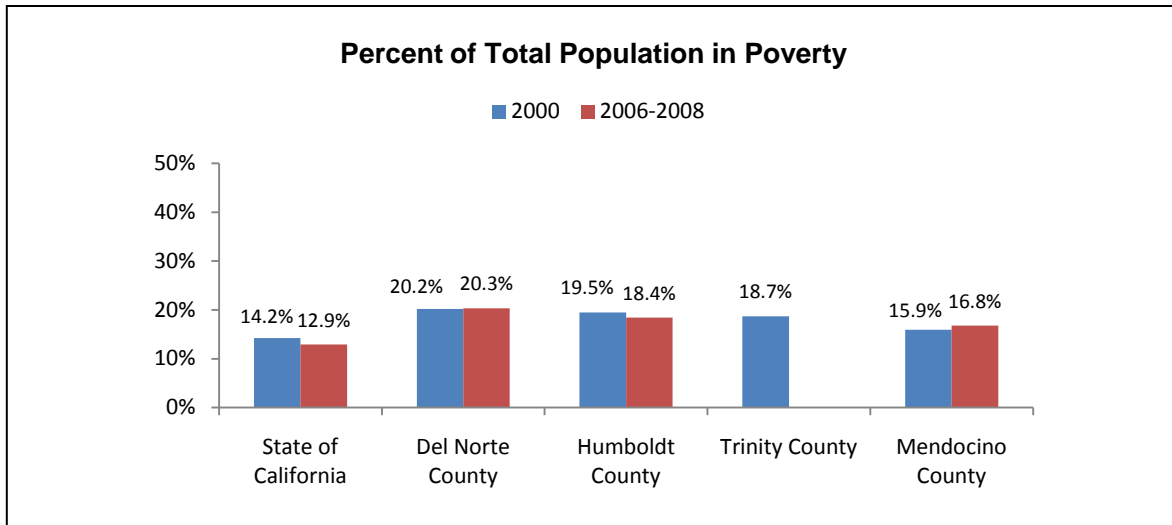


Indicator Data Source: U.S. Census, American Community Survey [http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en)

Notes: Estimates for 2006-2008 are from the American Community Survey and represent a 3 year average.

Trinity County only has data points for 2000, so it is not shown here.

### 36b. Percent of Population in Poverty (Total, Under 18, Under 5)

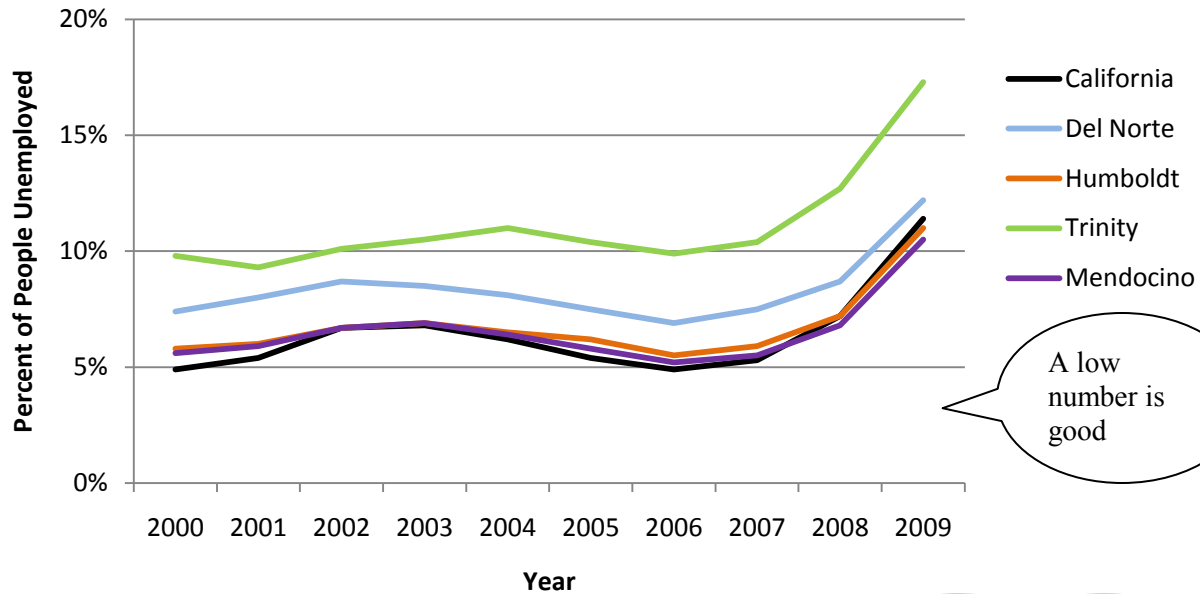


Indicator Data Source: U.S. Census

[http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en)

Notes: Poverty estimates for 2000 are from the Decennial Census. Estimates for 2006-2008 are from the American Community Survey and represent a 3 year average. Trinity County only has data points for 2000.

## 37. Unemployment Rates



Data Source: Employment Development Department  
<http://www.labormarketinfo.edd.ca.gov>



What we would really like to know.....

- ◆ “True” unemployment rates that take into account the marijuana industry.
- ◆ “True” median family income that takes into account the marijuana industry.

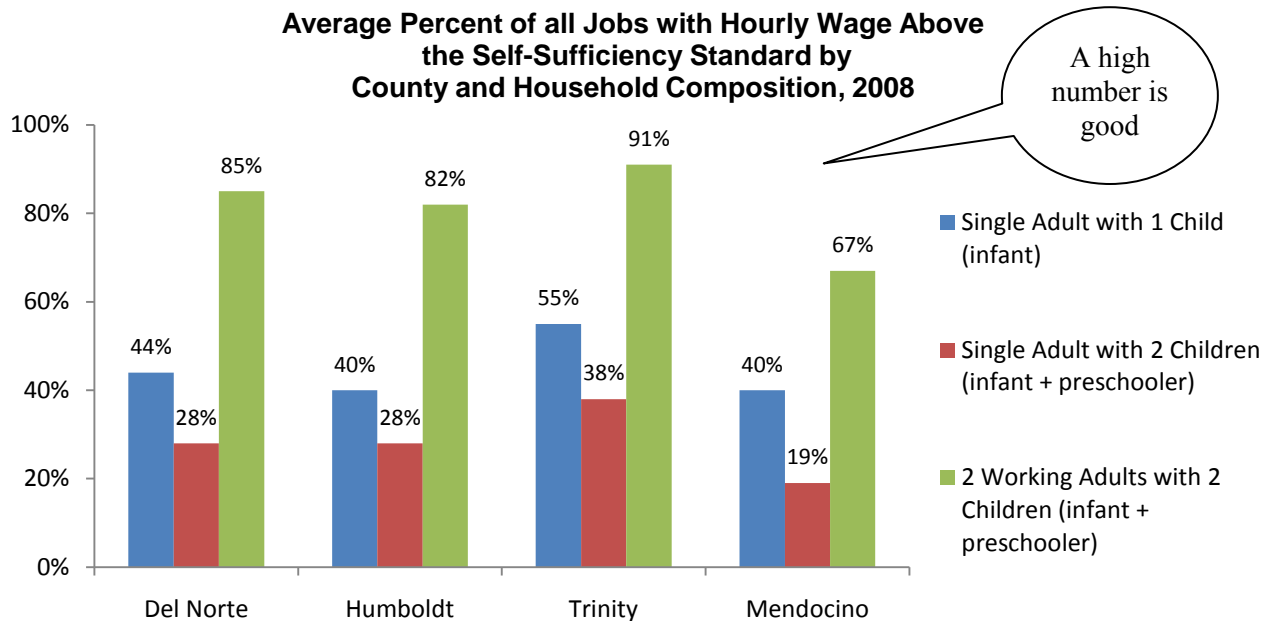
### *Visions for the Future*

#### *Desired Newspaper Headlines*

*Contributed by various Working Group members, 2010*

- “Job opportunities in the Redwood Region enhance Community Health.”
- “Preschool teachers in northwest California make more money than business executives.”
- “Region is economically self sufficient.”
- “Community has full employment at living wages.”
- “Redwood Region has the lowest unemployment in the State.”
- “Northwest California has 0% unemployment and all jobs provide a living wage with affordable health coverage (single payer and free!).”
- “North Coast boasts lowest rate of poverty in 20 years- Families indicate confidence in community to provide the necessary resources for their children to be healthy.”
- “The Redwood Coast Region has the lowest poverty rate in the State.”
- “Lowest rate of childhood poverty.”

## 38. Proportion of Jobs Paying a Wage above the Self-Sufficiency Standard



County		Household 1: Single Adult with 1 Child (infant)	Household 2: Single Adult with 2 Children (infant + preschooler)	Household 3: 2 Adults, both working with 2 children (infant + preschooler)
Del Norte	Self-Sufficiency Hourly Wage	\$16.00	\$21.02	\$12.26 each
	Percentage of all jobs paying this wage	44%	28%	85%
Humboldt	Self-Sufficiency Hourly Wage	\$17.14	\$22.48	\$13.00 each
	Percentage of all jobs paying this wage	40%	28%	82%
Trinity	Self-Sufficiency Hourly Wage	\$15.92	\$20.94	\$12.22 each
	Percentage of all jobs paying this wage	55%	38%	91%
Mendocino	Self-Sufficiency Hourly Wage	\$18.19	\$23.41	\$13.45 each
	Percentage of all jobs paying this wage	40%	19%	67%

Indicator Data Sources: California Department of Labor <http://www.labormarketinfo.edd.ca.gov>.

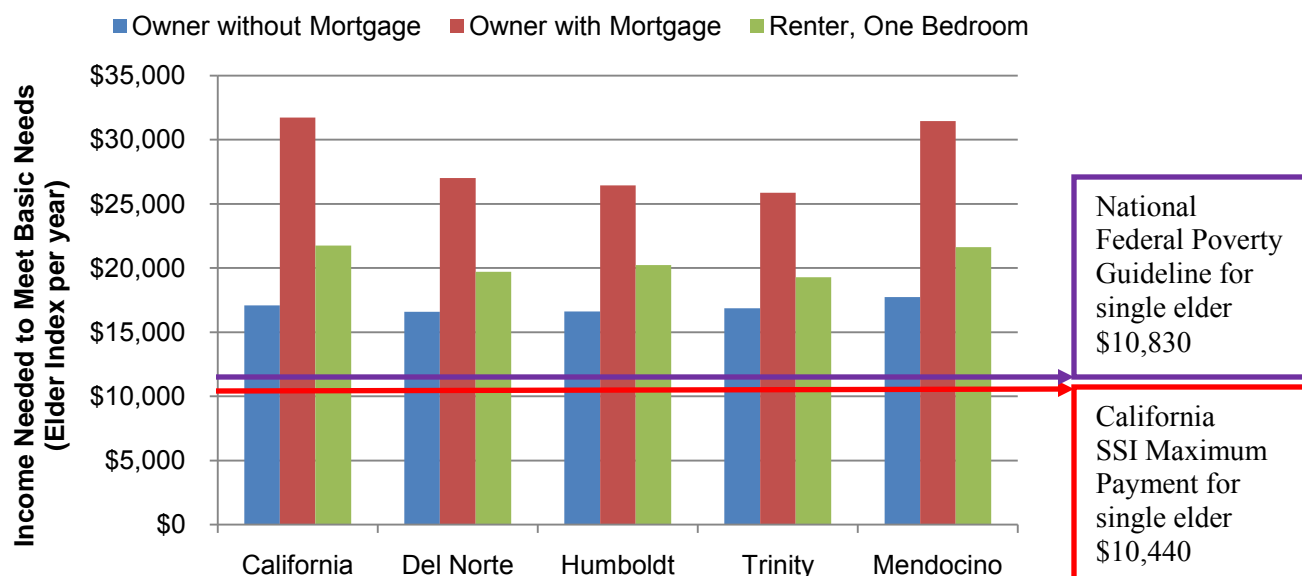
Insight Center for Community Economic Development <http://www.insightced.org/index.php?page=ca-sss>

Notes: The Self-Sufficiency Standard (SSS) measures how much income is needed for a family of a certain composition living in a particular county to adequately meet its minimal basic needs.

Calculations of average percent of all jobs with hourly wage above the SSS used survey data from the 2007 Occupational Employment Statistics (OES) survey with wages updated to the first quarter of 2008. The SSS for 2008 was used for each county.



### 39. Annual Income Needed to Meet Basic Needs for the Elderly (Elder Index), 2009



County		Elder Person Home Owner without Mortgage	Elder Person Home Owner with Mortgage	Elder Person Renter, One Bedroom
Del Norte	Annual Income Needed to Meet Basic Needs (Elder Index)	\$16,601	\$27,006	\$19,712
	SSI Income Gap (SSI payment maximum- Elder Index)	-\$6,161	-\$16,566	-\$9,272
Humboldt	Annual Income Needed to Meet Basic Needs (Elder Index)	\$16,615	\$26,451	\$20,224
	SSI Income Gap (SSI payment maximum- Elder Index)	-\$6,175	-\$16,011	-\$9,784
Trinity	Annual Income Needed to Meet Basic Needs (Elder Index)	\$16,855	\$25,874	\$19,278
	SSI Income Gap (SSI payment maximum- Elder Index)	-\$6,415	-\$15,434	-\$8,838
Mendocino	Annual Income Needed to Meet Basic Needs (Elder Index)	\$17,739	\$31,449	\$21,632
	SSI Income Gap (SSI payment maximum- Elder Index)	-\$7,299	-\$21,009	-\$11,192

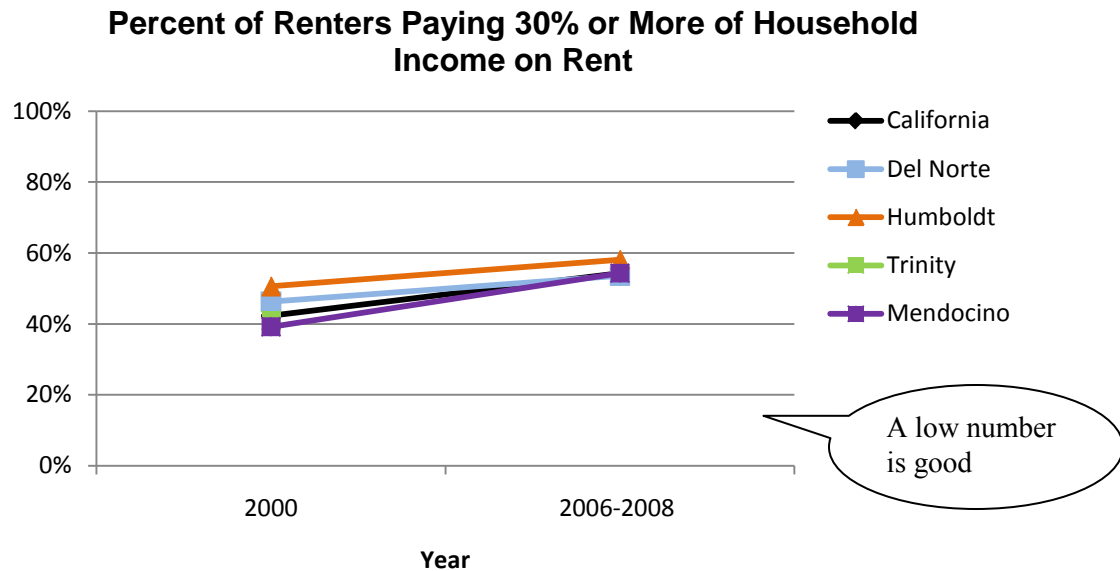
Indicator Data Source:

Wallace SP, Padilla-Frausto DI, Smith SE. *Older Adults Need Twice the Federal Poverty Level to Make Ends Meet in California*. Los Angeles, CA: UCLA Center for Health Policy Research, 2010. [http://www.healthpolicy.ucla.edu/pubs/files/elder\\_index-brief-0910.pdf](http://www.healthpolicy.ucla.edu/pubs/files/elder_index-brief-0910.pdf)

Notes: The elderly includes those age 65 or older.

The Elder Economic Security Standard™ Index (Elder Index) is a measure of the income needed to meet basic needs for the elderly population, which is based on monthly expenses including housing, food, transportation, health care (assuming good health) and miscellaneous expenses. The California Elder Economic Security Initiative™ is led by the Insight Center for Community Economic Development in Oakland, CA ([www.insightced.org](http://www.insightced.org)). The California Elder Index was calculated by the UCLA Center for Health Policy Research (<http://www.healthpolicy.ucla.edu/>)

## 40. Percent of Renters Paying 30% or More of Household Income on Rent



Indicator Data Source: U.S. Census Bureau, 2000 Census and American Community Survey 2006-2008

Notes: Trinity County only has data for 2000.

*We would also like to know.....*

- ◆ Proportion of housing available to housing need by income category.
- ◆ Single parent families living in motels due to lack of affordable housing.

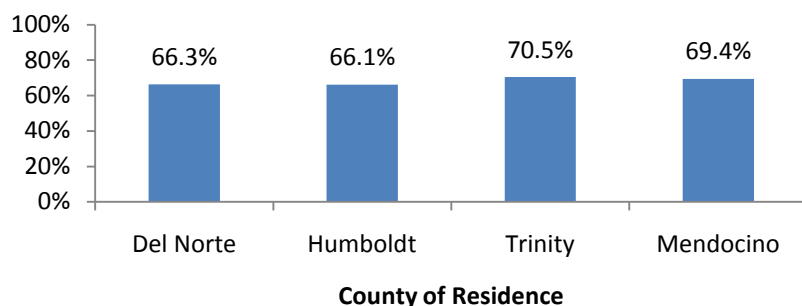


## 41. Percent of Households with Internet Access

Computers and the Internet are becoming increasingly important health-related tools. Studies have estimated that 40 to 80% of adults in the United States use the Internet to obtain advice or information about health, health care, and medical insurance.<sup>1,2</sup> The Internet can be an important tool for rural people by providing access to health information, connecting to others with similar health problems, and sharing strategies for self-management of chronic disease.<sup>3</sup> The Internet has been shown to be an effective tool in improving knowledge, attitudes and symptoms of depression, helping people quit smoking, increasing physical activity, improving diet, lowering cholesterol levels, improving outcomes for prevention and management of diabetes, osteoarthritis and other conditions as well as providing support for women with breast cancer and patients with AIDS.<sup>4,5</sup> Broadband Internet access at home also has the potential to improve health care delivery by connecting patients to their providers and allowing for exchange of information such as blood pressure and blood sugar measurements that can be transmitted electronically, providing chronic disease management that may otherwise be difficult for some due to transportation problems.

**In the Redwood Coast Region**, less than 75% of homes have any type of Internet access and low-income homes are significantly less likely to have Internet access (Indicator 41).

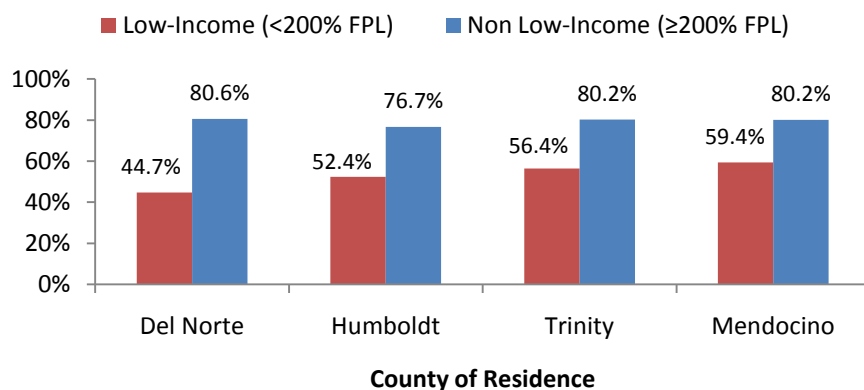
**Internet Access in the Home, 2006**



*What we would really like to know.....*

◆ Percent of households with broadband.

**Internet Access in the Home by County and Income Level, 2006**



### ***Vision for the Future***

#### *Desired Newspaper Headline*

“President applauds community telecommunications utility for building broadband network to better serve its rural citizens.”

Working Group member, 2010

Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy

<http://www.humboldt.edu/ccrp/rural-health-information-survey>

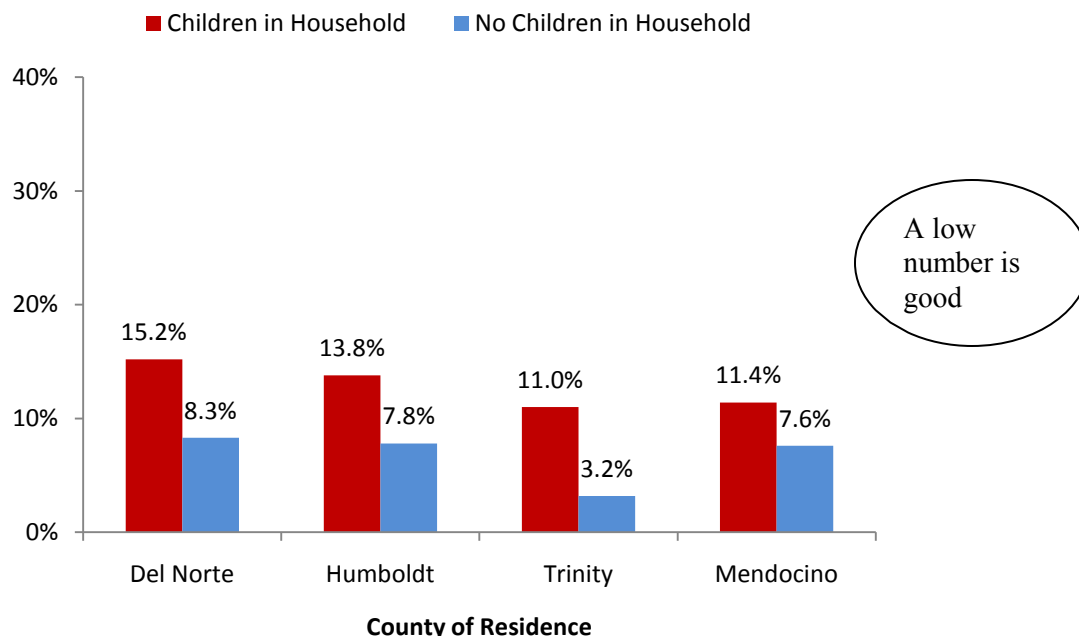
Notes: Respondents were asked if they had internet access in their home, but did not differentiate between broadband or dial-up.

## Food Security

Food security refers to access by all people at all times to enough food for an active, healthy life. If an individual or household has limited or uncertain access to adequate food they are considered to be food insecure. Very low food security is a measure of severe food insecurity resulting in reduced food intake, disrupted eating patterns or hunger.<sup>1</sup> A consistent relationship between food insecurity and poor health status has been demonstrated across a wide range of literature. Numerous studies have shown that individuals living in food insecure households are more likely to report poor physical and mental health than those living in food secure households.<sup>2</sup> Research suggests that food insecurity is related to increased risk for health problems such as overweight/obesity, diabetes, heart disease, and high blood pressure.<sup>2-5</sup> Children appear to be particularly vulnerable to the negative effects of food insecurity. Children living in food insecure households tend to have poor cognitive, academic and psychosocial outcomes.<sup>6</sup> Food insecure children are more likely to have “fair or poor” health and are more likely to require hospitalization early in life compared to food-secure children.<sup>7</sup>

**In the Redwood Coast Region, households with children are significantly more likely to report episodes of hunger compared to households without children (Indicator 42).** Increasing utilization of public assistance programs among those who are eligible is an important component of increasing access to food. The Program Access Index (PAI) estimates Food Stamp Program (FSP) utilization among low-income individuals. A PAI that is close to 1.0 indicates a high percentage of those who are eligible are utilizing the program. Among the four counties, Del Norte has the best PAI, followed by Mendocino, Humboldt, and Trinity, however **in each county the PAI has decreased from 2007 to 2008 (Indicator 43).** Another measure of program utilization is percent of students who are eligible for free/reduced price lunch, but are not participating in the program. Among the four counties, Trinity is doing the best, followed by Mendocino, Humboldt, and Del Norte. From 2002-03 to 2008-09, Humboldt has worsened, whereas the other counties have remained fairly stable (Indicator 44).

### 42. Percent of Households with Hunger (Very Low Food Security)

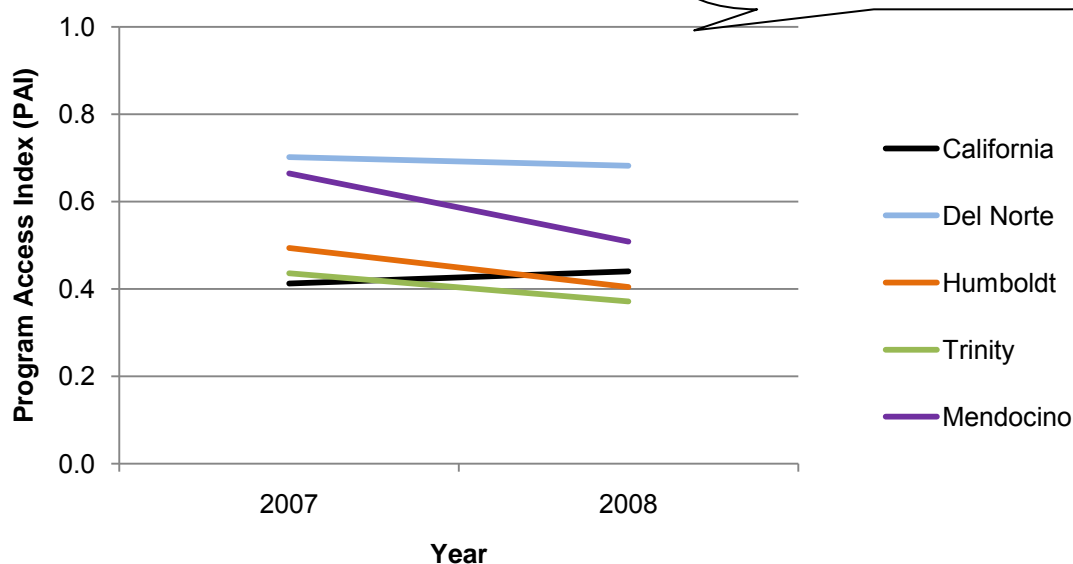


Indicator Data Source: Rural Health Information Survey, 2006, California Center for Rural Policy

<http://www.humboldt.edu/ccrp/rural-health-information-survey>

Notes: This analysis was for the question, “In the last 12 months were you or people living in your household ever hungry because you couldn’t afford enough food?” Analysis was restricted to respondents who answered yes or no to the question and provided information on children living in the household.

### 43. Food Stamp Program Access Index (PAI)



#### Eligibility and Participation in Food Stamp Program, 2008

County	# Income Eligible Individuals	# Income Eligible Non-Participants	County Rank (1=best; 58= worst)	Loss of Federal \$ due to Underutilization
Del Norte	6,022	1,912	6	\$4,244,399
Humboldt	25,222	15,020	32	\$28,233,265
Trinity	2,950	1,855	40	\$3,229,711
Mendocino	16,360	8,045	22	\$10,800,872

Indicator Data Source: California Food Policy Advocates <http://www.cfpa.net/2010CountyProfiles/Main.html>

Notes:

\*The Program Access Index (PAI) estimates Food Stamp Program (FSP) utilization among low-income individuals.

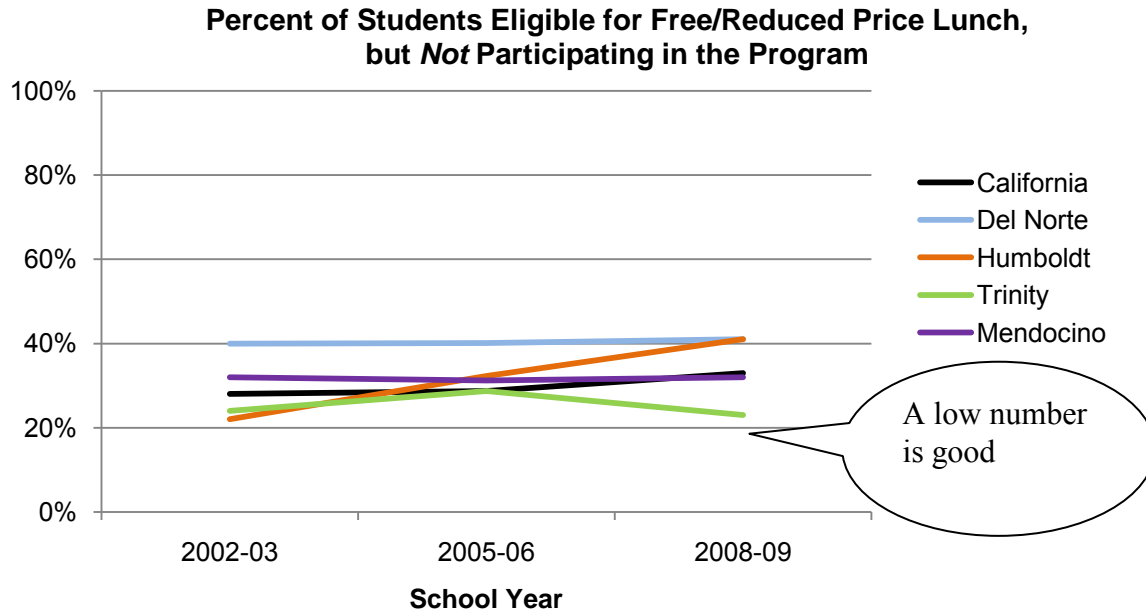
PAI= (FSP Participants- Emergency Food Stamp recipients)/ [(individuals with income <125% Federal Poverty Guidelines)- (Food Distribution Program on Indian Reservations participants)-(SSI recipients)]

The USDA produces annual state-level PAI as well as food stamp program participation rates. The participation rates involve multiple criteria, whereas the PAI involves 3 criteria.

The PAI produced by the California Food Policy Advocates is a county-level indicator of food stamp utilization and administration and is comparable between counties and between counties and the state.

According to the USDA, every federal dollar spent on FSP expenditures generates \$1.84 in economic activity by “shifting cash income previously spent on food to nonfood spending.” California Food Policy Advocates have used this to estimate additional economic activity if there were full participation in food stamp programs.

#### 44. Percent of Students Eligible for Free/Reduced Price Lunch, but *Not* Participating in the Program



**Eligibility and Participation in National School Lunch Program, 2008-09 School Year**

County	# Students Eligible but Not Participating	% Eligible but Not Participating	County Rank (1=best; 58= worst)	Loss of Federal \$ due to Underutilization
Del Norte	954	41%	55	\$434,477
Humboldt	3,854	41%	56	\$1,726,972
Trinity	236	23%	13	\$106,092
Mendocino	2,593	32%	42	\$1,170,546

Indicator Data Source: California Food Policy Advocates  
<http://www.cfpa.net/2010CountyProfiles/Main.html>

Notes: The data includes students in grades K-12. Data not available for 2007-08 school year.

## Physical Environment

Vehicle Miles Traveled  
Residential Electricity Consumption

Pounds of Pesticides Used Annually  
Acres of Land in Farms

Vision for a Healthy Redwood Coast Region:

**Residents live in communities with health-promoting land-use, transportation and community development.**

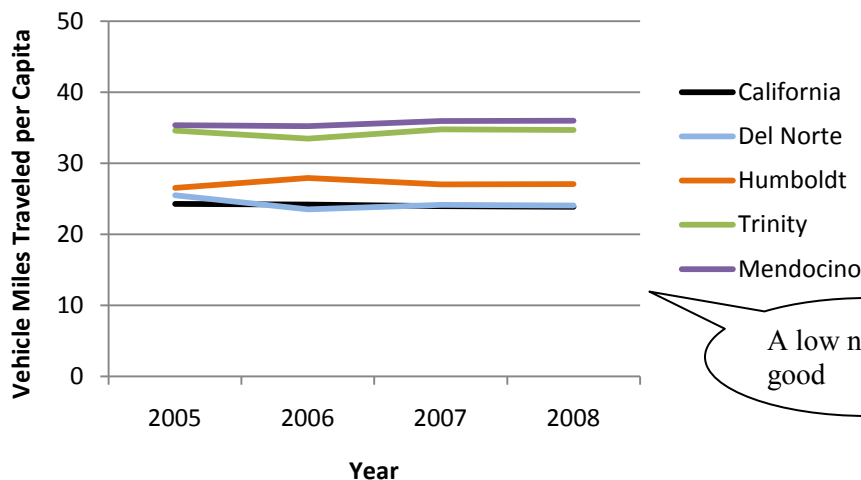
### Vehicle Miles Traveled

Vehicle miles traveled (VMT) is an estimated measure of the average number of miles people drive each day. A high average VMT can adversely affect the health of a community through many mechanisms. Driving further and spending more time driving increases the risk of being killed or injured in a vehicle accident.<sup>1</sup> Increased VMT is associated with increased inactivity and obesity, which in turn increases risk of developing chronic diseases such as hypertension, heart disease, diabetes, and cancer.<sup>2</sup> One study found that each additional hour spent driving or riding in a car was associated with a 6% increase in the likelihood of being obese.<sup>3</sup>

Air pollution is increased as more vehicles populate the roadways, which can negatively affect environmental and personal health.<sup>4</sup> Exposure to air pollutants can cause cardiovascular and respiratory diseases, heart attacks, changes in lung function, and in some cases premature death.<sup>5</sup> In California, it has been reported that transportation contributes 50% of the greenhouse gas emissions.<sup>5,6</sup> For people living in rural areas of California, their average VMT is 2.7 times higher than those living in urban areas.<sup>7</sup>

**In the Redwood Coast Region**, the daily vehicle miles traveled per person is higher in Humboldt, Trinity and Mendocino compared to California. In Del Norte it is about the same as California (Indicator 45).

### 45. Daily Vehicle Miles Traveled per Person



***Vision for the Future**  
Desired Newspaper  
Headline*

**“Vehicle miles  
traveled down 20%”**

Working Group member, 2010

A low number is  
good

Indicator Data Source: Caltrans <http://www.dot.ca.gov/hq/tsip/smb/documents/mvstaff/mvstaff08.pdf>

Population data from California Dept. of Finance <http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

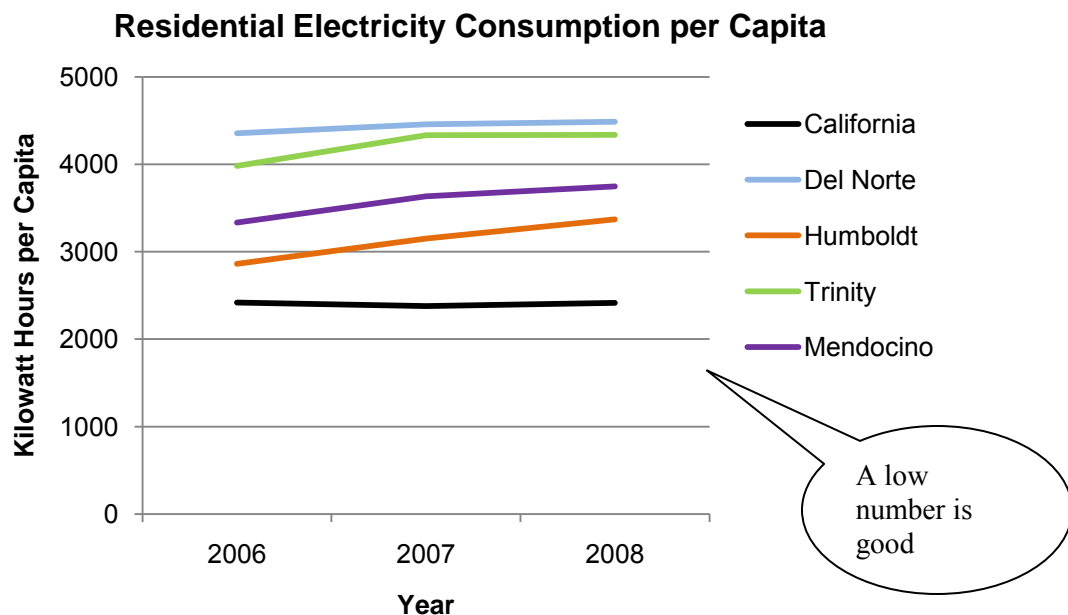
Notes: Total vehicle miles traveled for each county is estimated by Caltrans using on-road fuel consumption estimates from the Board of Equalization's sales data and on-road vehicle fleet fuel economy data. Per capita daily vehicles miles traveled was calculated by dividing the daily miles by the county population.

## 46. Residential Electricity Consumption

Global warming from the increase in greenhouse gases, toxic air pollutants and ground-level ozone can impact public health and the environment.<sup>1-3</sup> The United States is the largest emitter of greenhouse gases in the world, accounting for approximately a quarter of global CO<sub>2</sub> emissions.<sup>4</sup> Electricity generation, which is mainly from combustion of coal, accounts for the largest portion of U.S. greenhouse gas emissions. Residential consumption of fossil fuels accounts for 20% of the CO<sub>2</sub> emissions, the majority of which is due to electricity consumption.<sup>5</sup>

Electricity produced from fossil fuels produces significant air pollution that can cause health problems such as respiratory problems, chronic bronchitis, asthma, lung cancer, cardiovascular disease, and premature deaths.<sup>1</sup> Trees and crops can be damaged and lakes and other bodies of water have shown to absorb some of the pollutants, causing harm to wildlife and making the water less safe for human use.<sup>2,3</sup> Additionally, coal fired power plants are the largest sources of mercury emissions in the country. The mercury released into the atmosphere ends up in bodies of water where it can be transformed into methylmercury and build up in the tissue of fish. Human consumption of methylmercury can have numerous toxic effects.<sup>6</sup>

**In the Redwood Coast Region, residential electricity consumption per capita is considerably higher than in California and is the highest in Del Norte (Indicator 46).** Some data has shown that residential electricity consumption in the region mirrored the trends seen in California, until shortly after the medical marijuana 215 proposition passed in 1996. In the last decade, electricity consumption has spiked at a much faster rate than the rest of California, which has been attributed to the increase in residential marijuana grow rooms.<sup>7</sup>



Indicator Data Sources:

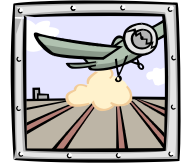
The California Energy Commission <http://www.ecdms.energy.ca.gov/elecbycounty.aspx>

Population Data is from the California Department of Finance <http://www.dof.ca.gov/research/demographic/data/race-ethnic/2000-50/>

Notes: To obtain per capita residential electricity consumption the total residential kWh per county was divided by the total population per county.



## 47. Total Pounds of Pesticides Used Annually

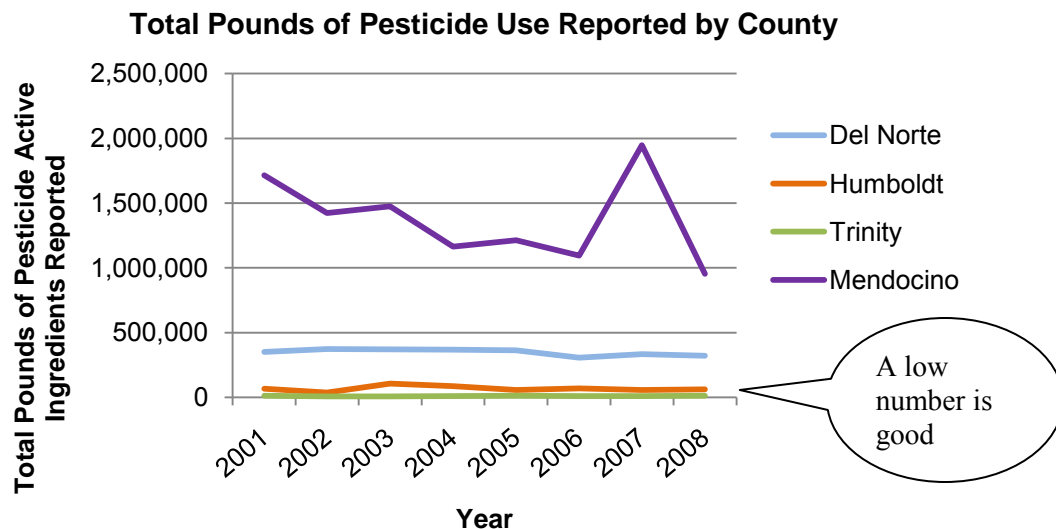


The use of pesticides has grown continually over the last fifty years.

In the U.S., approximately 5 billion pounds of pesticides are used annually.<sup>1</sup> Although different pesticides can have varying effects on health, some acute and chronic effects include neurotoxicity, lung damage, chemical burns, immunologic abnormalities, adverse reproductive and developmental effects, as well as many cancers.<sup>2</sup> Exposure to pesticides can be particularly deleterious during critical periods of development- from conception to puberty.<sup>3</sup>

Due to chemical drift, pesticides can reach far beyond the land being sprayed and can enter the food chain in many different ways. Pesticide use can have broad-reaching effects on many organisms besides humans. Pesticides have been shown to cause damage to bird reproduction, insect survival, and many plant species.<sup>4</sup>

**In the Redwood Coast Region,** pesticide use is highest in Mendocino County with grapes receiving the majority of the pounds of pesticides applied. Del Norte County has the next highest amount of pesticide use with outdoor transplants receiving the majority. Trinity and Humboldt have low amounts of pesticide use reported. It is important to keep in mind that this only includes data that is reported to the California Department of Regulation and does not include pesticide use in and around the home or other non-reported sources.



Indicator Data Source: California Department of Pesticide Regulation

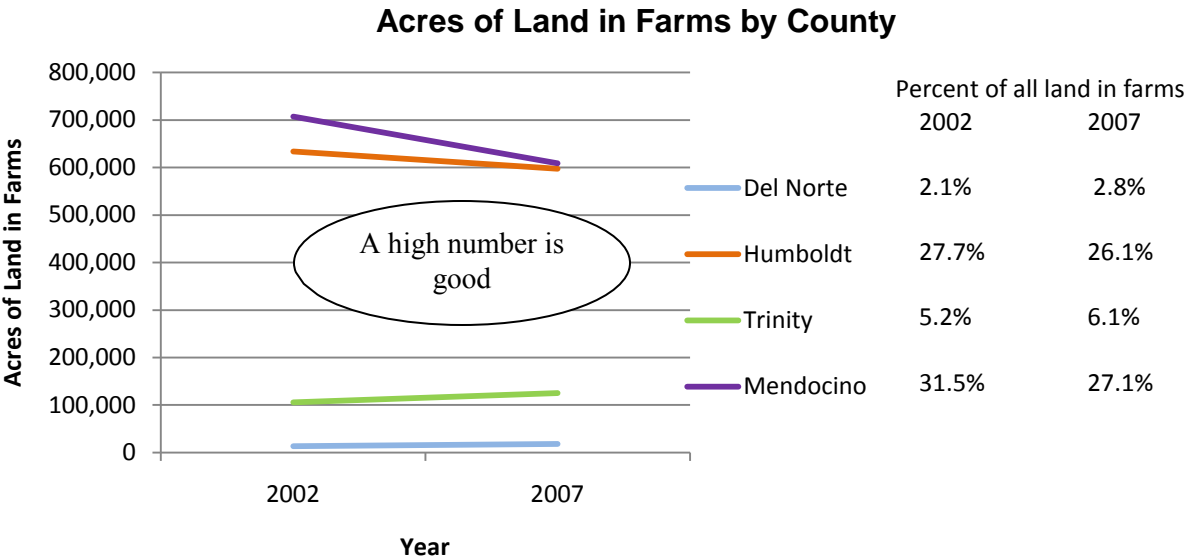
<http://www.cdpr.ca.gov/>

# 48. Acres of Land in Farms



Land use is important for community planning and community health. The amount of farmland in the United States has decreased as cities and suburban areas have grown.<sup>1</sup> However, there has been a resurgence of interest in locally produced food items. The presence of farms can help indicate the sustainability and vitality of a community due to the impact on local economies.<sup>2,3</sup> Because the environmental impact of food production is so widespread (from the chemicals used to grow crops, energy used to refrigerate and keep food fresh, and the vehicles used to transport food around the world) locally produced foods are appealing due to the reduction of such effects.<sup>4</sup> Monitoring the amount of land used for farming may help communities assess their capacity to produce food locally. A decrease in farm land may reflect an increase in development.

**In the Redwood Coast Region,** the acres of land in farms has decreased in Mendocino and Humboldt counties and increased in Trinity and Del Norte counties (Indicator 48).



Indicator Data Source: U.S. Department of Agriculture

[http://www.agcensus.usda.gov/Publications/2007/Online\\_Highlights/County\\_Profiles/index.asp](http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/index.asp)

Notes: The USDA conducts the Census of Agriculture every five years by a mail survey to farmers and ranchers. Land in farms consists primarily of agricultural land used for crops, pasture, or grazing. It also includes woodland (natural or planted woodlots or timber tracts, cutover and deforested land with young growth which has or will have value for wood products, and woodland pastured).

*What we would really like to know, .....*

- ◆ The health of the salmon.
- ◆ Number of returning salmon.
- ◆ Salmon allocation (length of fishing season & number of fish allowed to be caught in streams and ocean).
- ◆ Acres of food producing land in each county- currently being used for this purpose and potential for use.
- ◆ Miles of bike lanes and safe pedestrian routes.
- ◆ Walkability Index that is appropriate for rural communities.



### ***Visions for the Future***

#### ***Desired Newspaper Headlines***

*Contributed by various Working Group members, 2010*

“Redwood Region supports a healthy built environment in their 10 year regional general plan for 2020.”

“Successful rural land use policies to increase public health implemented in Redwood Region.”

“Seamless active transportation system created.”

“Region leads the Nation in re-designing transportation system  
(to make it more mobile, livable & walkable).”

“Communities using Health Impact Assessment for projects large and small.”

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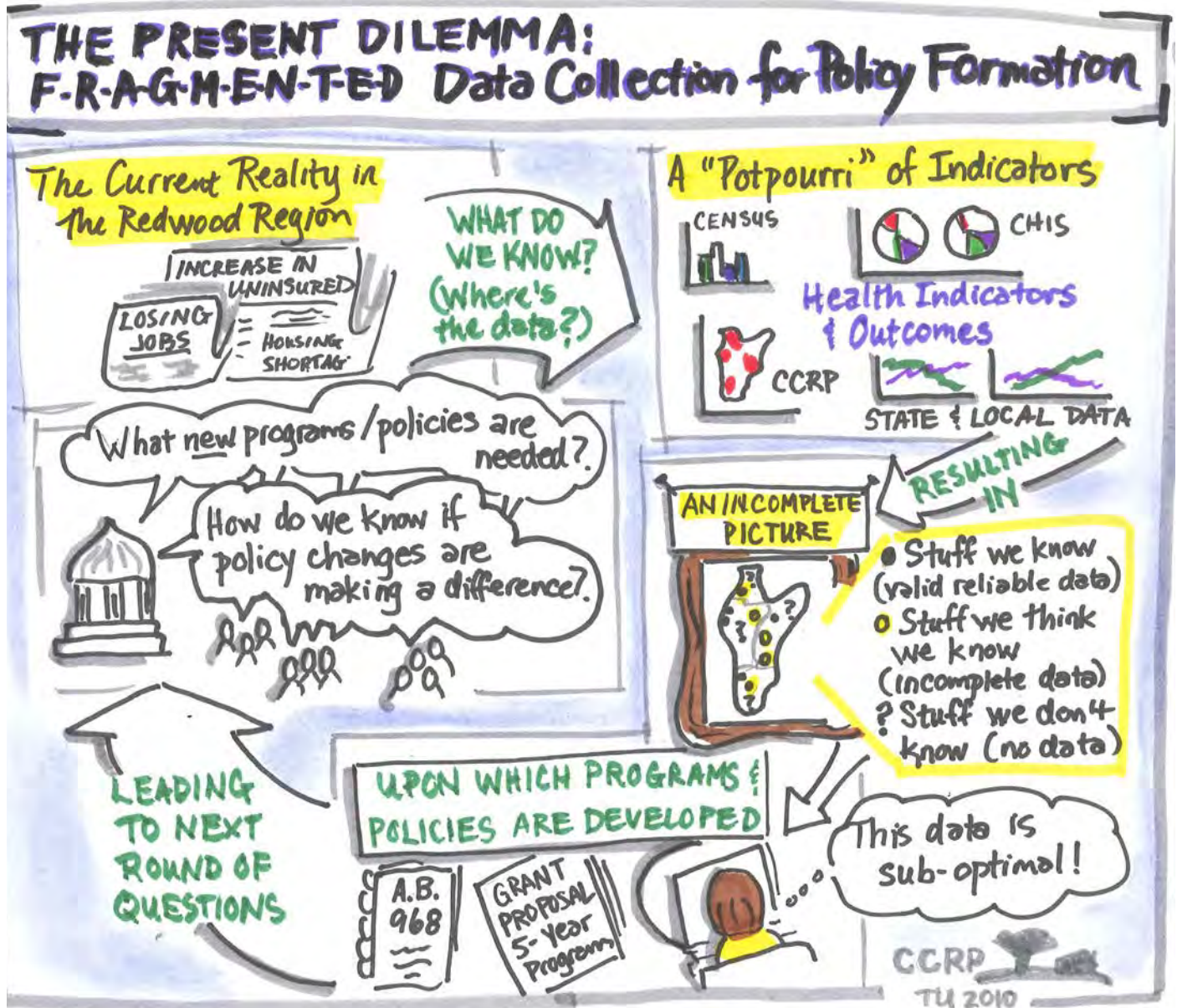
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## Appendix A

Graphic Representation of Using Community Vital Signs  
as a Strategy towards Effective Policy Formation:  
The Present Dilemma, Map for a Healthy Redwood Region, and Vision for the Future  
by Terry Uyeki





# MAP FOR A HEALTHY REDWOOD REGION

## A. Programs & Policies



## B. Health Determinants



## C. Quality of Life - Health Outcomes



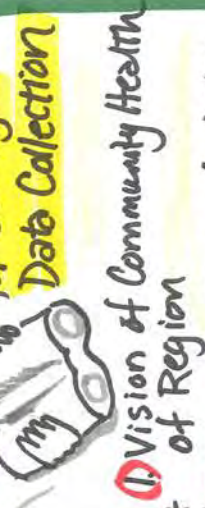
## The "Street View"



## Measured & Communicated "Data Lens"



## Using Policy Scanning Lens for Strategic Data Collection



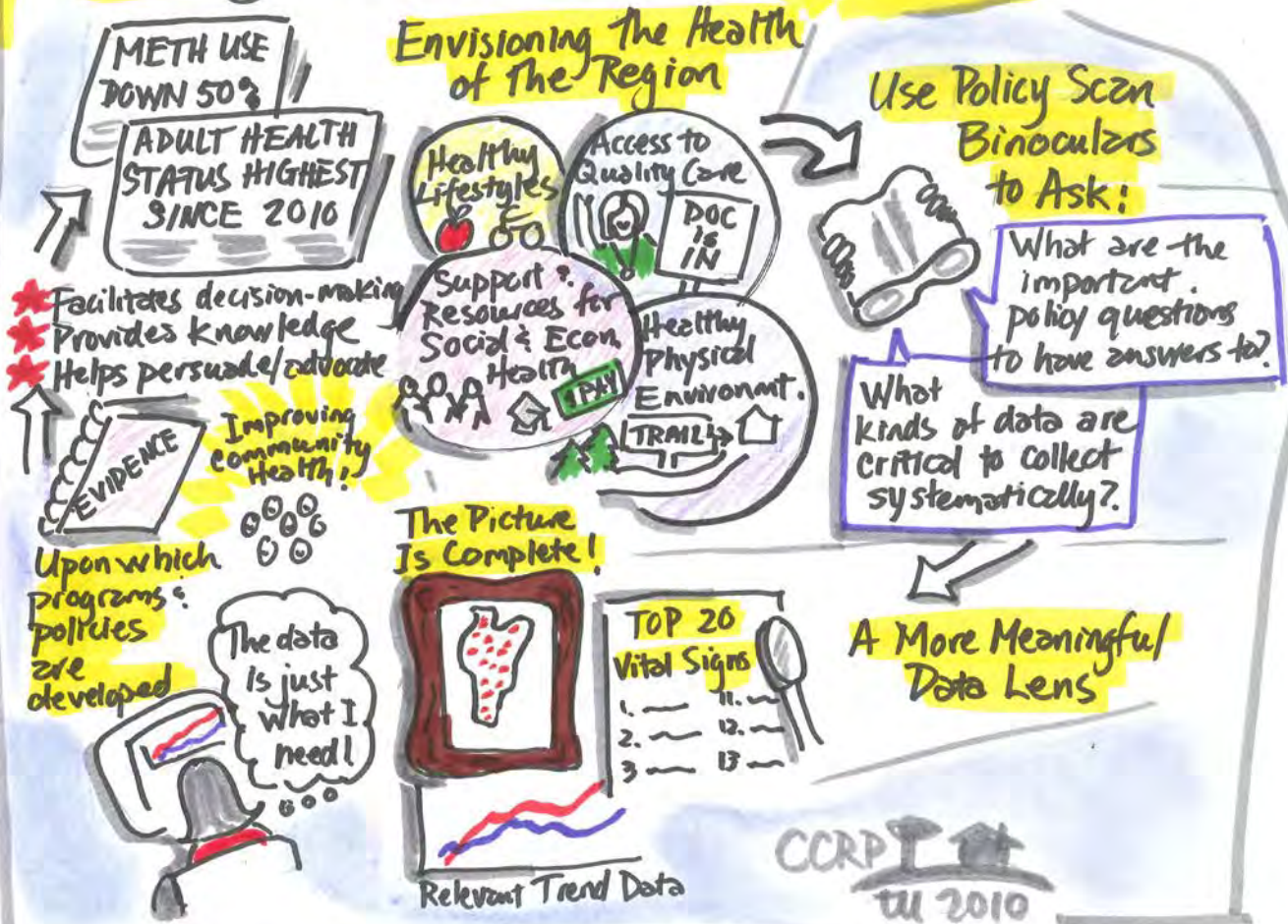
1. Prioritize issues/policies for which data is needed
2. Determine key Vital Signs indicators

## The Marriage between RESEARCH & POLICY

CCRP I  
2010



# VISION FOR THE FUTURE: Strategic Data Collection to Address Targeted Community Health Issues



## Appendix B

### Rural Community Vital Signs Working Group

#### Del Norte County

##### Elk Valley Rancheria

Reweti Wiki, Tribal Administrator

##### First 5 Del Norte

Patti Vernelson, Executive Director

##### Health and Human Services

Gary Blatnick, Director

Melody Cannon, Public Health Manager

Dorothy Provencio, Assistant Director

##### Unified School District & Office of Ed

Jan Moorehouse, Superintendent

Don Olson, Assistant Superintendent

Rodney Jahn, Deputy Superintendent

#### Humboldt County

##### Bonnie Neely, Supervisor

##### First 5 Humboldt

Wendy Rowan, Executive Director

Kim Puckett

##### Health & Human Services

Susan Buckley, PH Branch Director

Barbara Howe, PH Deputy Director

Ann Lindsay, MD, Health Officer

Lara Weiss, Health Program Manager

Ron Largusa, Epidemiologist

##### Humboldt Partnership for Active Living

Noelle Melchizedek, Senior Planner

##### McLean Foundation

Leigh Oetker, Executive Director

##### Southern Humboldt Community Healthcare District

Harry Jasper, Administrator

Anita Soulis

##### St. Joseph Health System

Kathy Hayes, Regional Director Community Benefits

##### Humboldt Area Foundation

Peter Pennekamp, Executive Director

##### Humboldt Co. Office of Education

Garry Eagles, Superintendent

*Continued on next page*

## Rural Community Vital Signs Working Group (*cont.*)

### Trinity County

#### First 5 Trinity

Debra Chapman, Executive Director

#### Trinity Hospital

Jane Trott, RN

Rhonda Karas, BSN

#### Mountain Communities Healthcare District

Jerry Cousins

### Mendocino County

#### Assemblyman Wesley Chesbro

Ruth Valenzuela, Field Representative

#### Mendocino County

#### Department of Public Health

Phyllis Webb

### Other- Multiple Counties

#### Area 1 Agency on Aging

Cindy Denbo, Executive Director

#### North Coast Clinics Network

Tim Rine, Executive Director

#### The California Center for Rural Policy

Connie Stewart, Executive Director

Jessica Van Arsdale, Director of Health Research

Terry Uyeki, Director of Evaluation & Community Services

Melissa Jones, Policy Analyst

#### Open Door Community Health Centers

Herrmann Spetzler, Chief Executive Officer

Frank Anderson, Telehealth Development Director

#### California Rural Indian Health Board,

#### California Tribal Epidemiology Center

Richelle Harklerode, Associate Epidemiologist

Virginia Myers, Epidemiology Program Coordinator

#### United Indian Health Services, Inc.

Jerome Simone, Chief Executive Officer

## Appendix C

### The Process for Developing the Rural Community Vital Signs





## Appendix D

### Indicator Selection Criteria Worksheet

This worksheet was developed and used with the Working Group to score and narrow-down a large list of potential indicators. Scores for each category were weighted so that each category contributed equally to the final indicator score.

Data Power	Communication Power	Policy Power	Prevention Power
<b>Availability</b> Does the data currently exist and is it readily available? If no, go to “wish list” worksheet	<b>Important/Relevant-</b> Does it measure an aspect of the community’s quality of life which a diverse group of people in the community would agree is important? Does it get to the heart of the matter?	<b>Policy relevance-</b> can the indicator be used to achieve positive change through policies? Is there a champion who will take leadership in linking research to policy change?	<b>Focus on causes, not symptoms-</b> Does it give advance notice of a problem? A “leading” indicator (e.g. cigarettes sold) is more useful than a “lagging” indicator (e.g lung cancer deaths).
<b>Timeliness, Stability &amp; Reliability</b> Data consistently collected, compiled & calculated in same way?			
<b>Measurable-</b> Is the indicator framed in a way that it can be measured (numbers, percentage, proportions)?	<b>Understandable-</b> Simple enough to be understood by general public?	<b>Regional Significance-</b> Does it address an issue that is relevant to/ and will benefit the entire Redwood Coast Region?	<b>Reveal linkages and systematic relationships-</b> Does it link to numerous issues? (e.g. social, environmental, economic)
<b>Comparable-</b> similar indicators in other communities?	<b>Compelling, Interesting, Exciting-</b> Resonates with diverse audiences (e.g. policy makers, funders, general public)? Attractive to local media?	<b>Rural Significance-</b> Does it address an issue that is relevant to/ and will benefit other rural areas in California or beyond?	<b>Asset orientation-</b> Is the indicator framed in a positive way? (e.g. high school grad rate vs. high school drop-out rate).
<b>Valid-</b> Does it measure what it is intended to measure?			Does it identify strengths that can contribute to prevention solutions?
<b>Herd-</b> Does the indicator bring along the data herd? (if one indicator is going in the right direction often others are as well)	<b>Relate to the whole community-</b> Affect the community as a whole? Help communicate to an outsider what is most important to the community?		<b>Vulnerable Populations-</b> Does it have the ability to identify and reflect trends for vulnerable populations (e.g. young, elderly, poor)?

Adapted from: Community Indicators Handbook, Redefining Progress, 2006; Baltimore Neighborhood Indicators Alliance, 2002; Jacksonville Community Council Inc, 2000; [www.raguide.org](http://www.raguide.org)

## Appendix E

### Wish List Indicators



These 44 indicators have been identified by the Working Group as important indicators for measuring community health, but they are currently lacking a good data source or data is not readily available for all four counties.

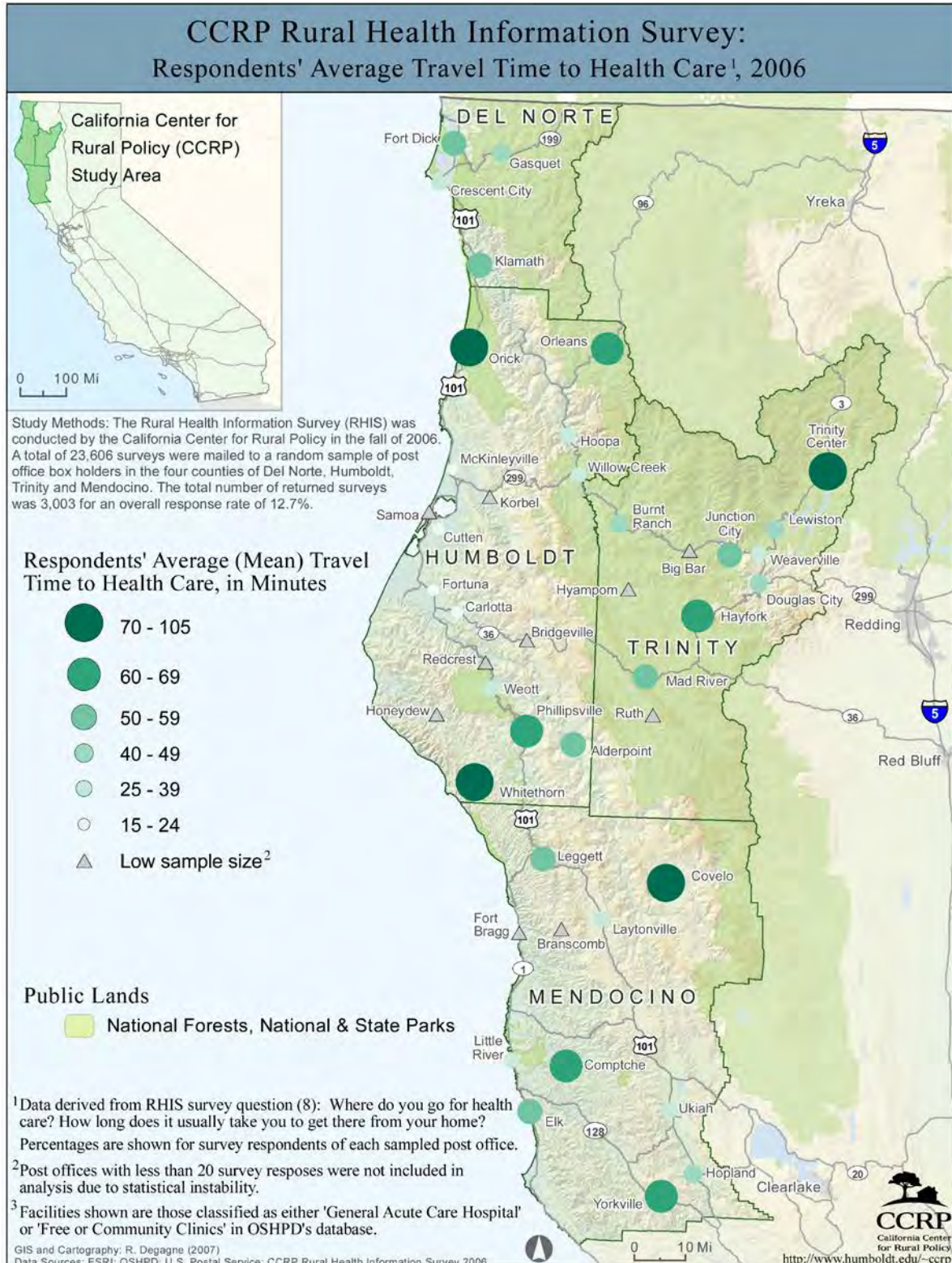
1. Average length of time to get an appointment with a primary care provider.
2. Number of individuals without insurance accessing care through the Emergency Dept.
3. Percent of adults/teens who have participated in a health education prevention class in the past 2 years.
4. Percent of adults with access to culturally appropriate health services.
5. Number of health care practices that are linguistically competent.
6. The level of health literacy in the community.
7. Number of clinics assessing health literacy of their clients.
8. The stages at which cancer diagnoses are made.
9. More information about health professionals: average retention as a measure of turnover; rate of pay vs. cost of living, etc.
10. Percent of pregnant women that receive dental care during pregnancy.
11. True rate of postpartum depression.
12. The percent of women who breastfeed for at least 6 months.
13. Of the kids who live within a reasonable and safe walking, biking, or skating distance to school, how many are doing it? If they are not doing it, what are the barriers? Are they physically active in other ways in their daily routines?
14. Body Mass Index for all licensed drivers.
15. The percent of adults/teens that use illicit drugs and prescription pain medication for non-medical reasons.
16. Meth or other drug related ER/Urgent care visits.
17. Annual number of alcohol-related hospitalizations (data available through Office of Statewide Health Planning & Development, but was not accessible in time to be included).
18. Child care slots available for parents in the work-force (both licensed and unlicensed child care).
19. Percent of schools that offer before/after school child care.
20. Percent of students (including those who drop out) who attend any college or post graduate training.
21. Amount of money spent per student per school district.
22. Electives being offered at public schools.
23. Percent of teens and adults with social/emotional support (someone who loves them, makes them feel wanted and understands their problems).
24. Percent of people participating in cultural activities that increase their sense of well-being.
25. Number of organizations providing cultural/spiritual services in the community.
26. The percent of people experiencing domestic violence.
27. Percent of teens & adults who feel safe in their neighborhood by zip code.
28. Availability of behavioral health prevention services for suicide and domestic violence.
29. Percent of older adults who feel isolated or lonely.
30. Availability of in-home support services for seniors.

31. Availability of nutrition services for seniors.
32. Availability of wellness programs for older adults.
33. Availability of transportation for seniors.
34. “True” unemployment rates that take into account the marijuana industry.
35. “True” median family income that takes into account the marijuana industry.
36. Proportion of housing available to housing need by income category.
37. Single parent families living in motels due to lack of affordable housing.
38. Percent of households with broadband.
39. The health of the salmon.
40. Number of returning salmon.
41. Salmon allocation (length of fishing season & number of fish allowed to be caught in streams and ocean).
42. Acres of food producing land in each county- currently being used for this purpose and potential for use.
43. Miles of bike lanes and safe pedestrian routes.
44. Walkability Index that is appropriate for rural communities.

Note: These are not presented in any particular order of importance.

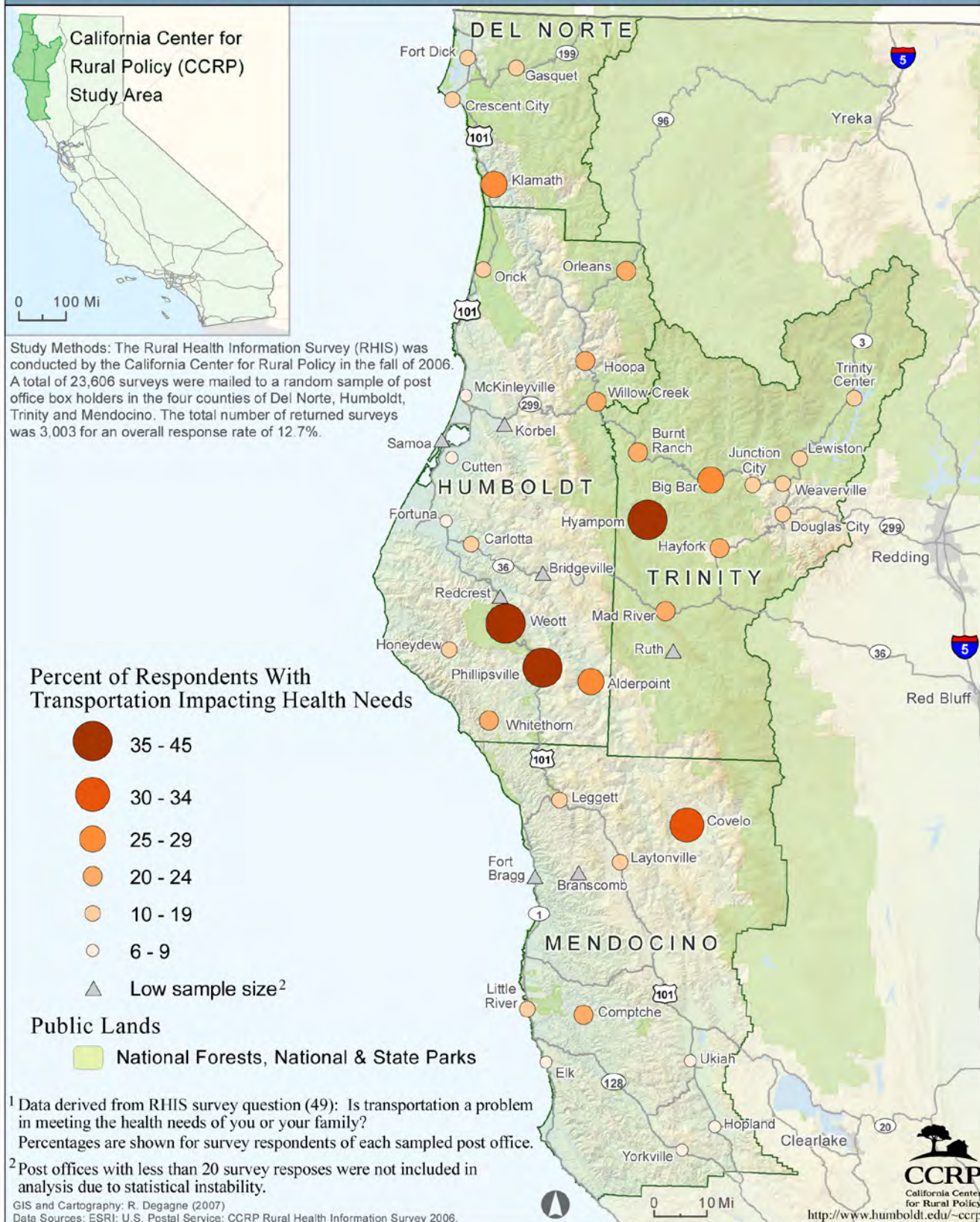
# Appendix F

## GIS Maps Related to Indicators





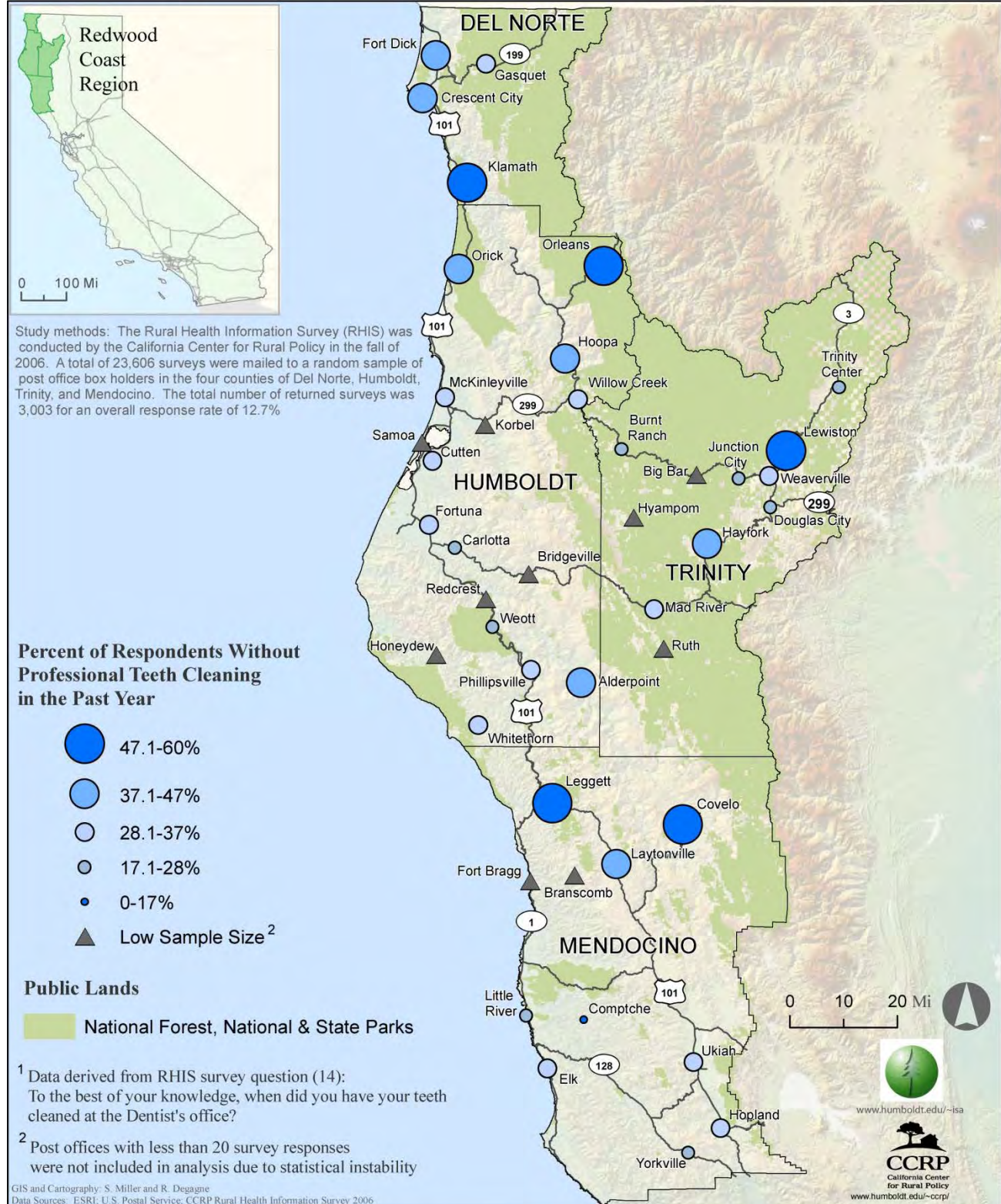
# CCRP Rural Health Information Survey: Percent of Respondents With Transportation Impacting Health Needs<sup>1</sup>, 2006





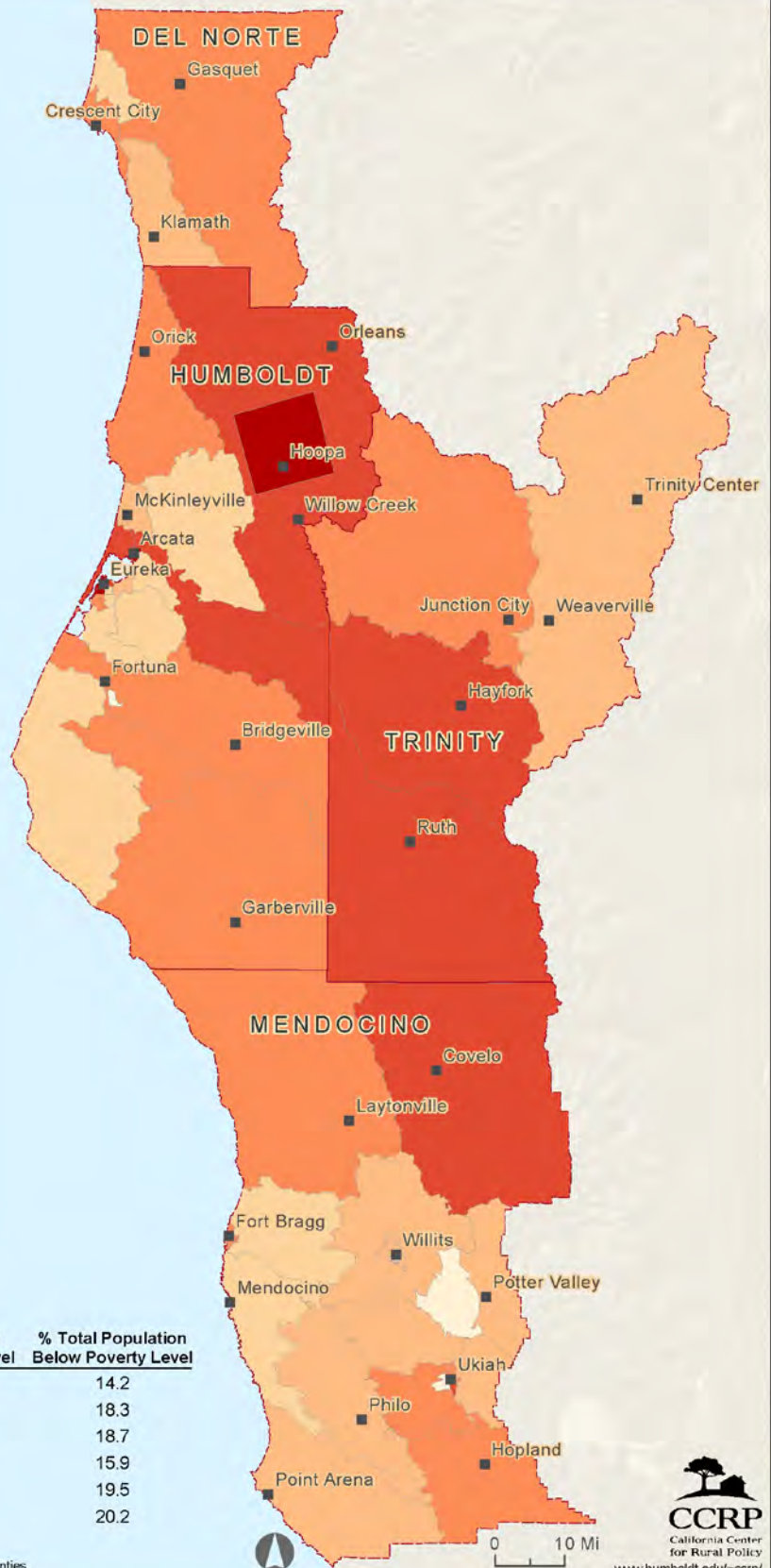
# CCRP Rural Health Information Survey:

Percent of Respondents Without Professional Teeth Cleaning in Past Year <sup>1</sup>, 2006

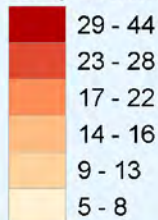




# Total Population in Poverty, 2000: Redwood Coast Region



## Total Population Below Poverty Level Percent by Census Tract



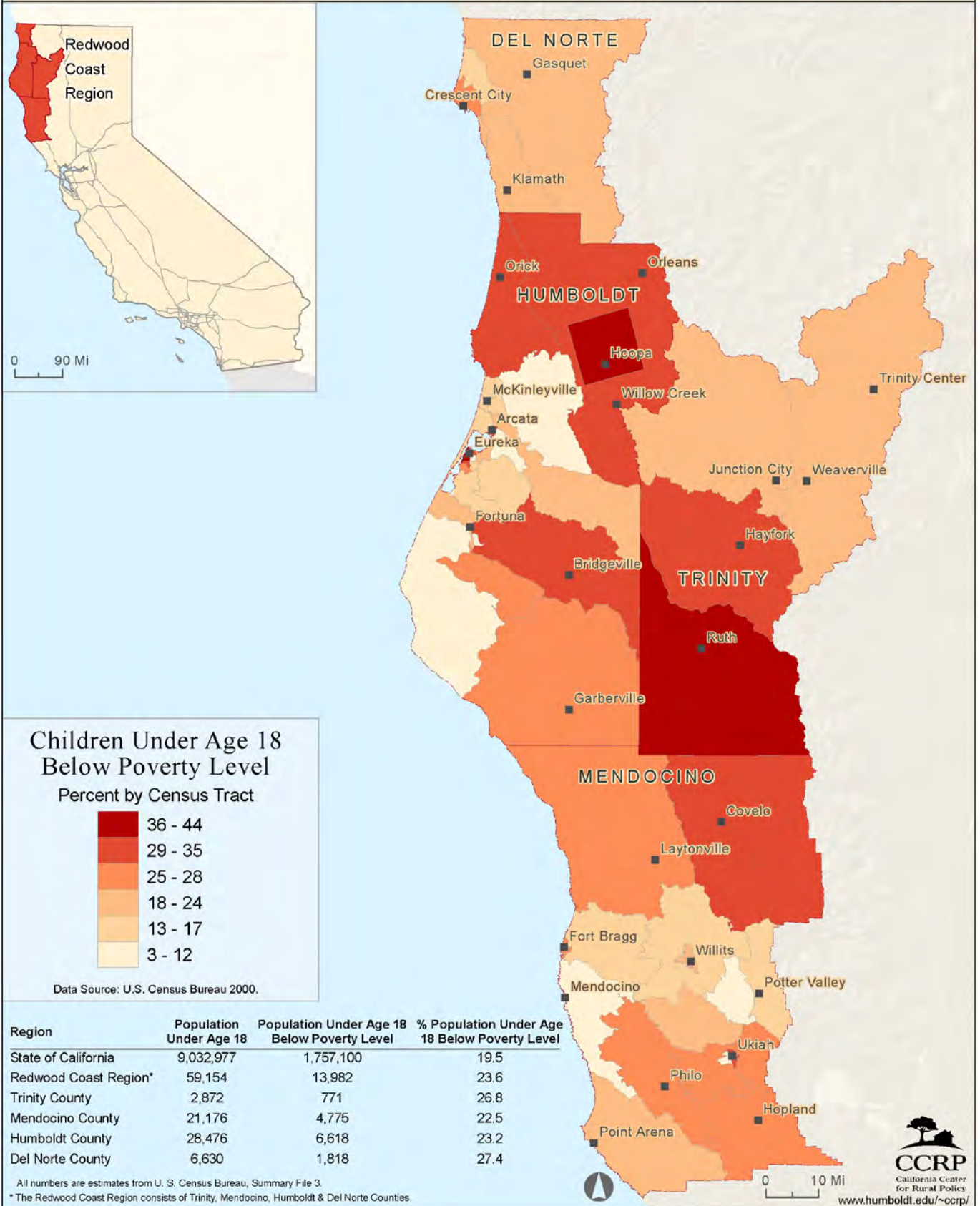
Data Source: U.S. Census Bureau 2000.

Region	Total Population	Total Population Below Poverty Level	% Total Population Below Poverty Level
State of California	33,100,044	4,706,130	14.2
Redwood Coast Region*	244,236	44,701	18.3
Trinity County	12,716	2,372	18.7
Mendocino County	84,736	13,505	15.9
Humboldt County	123,167	24,059	19.5
Del Norte County	23,626	4,765	20.2

All numbers are estimates from U. S. Census Bureau, Summary File 3.

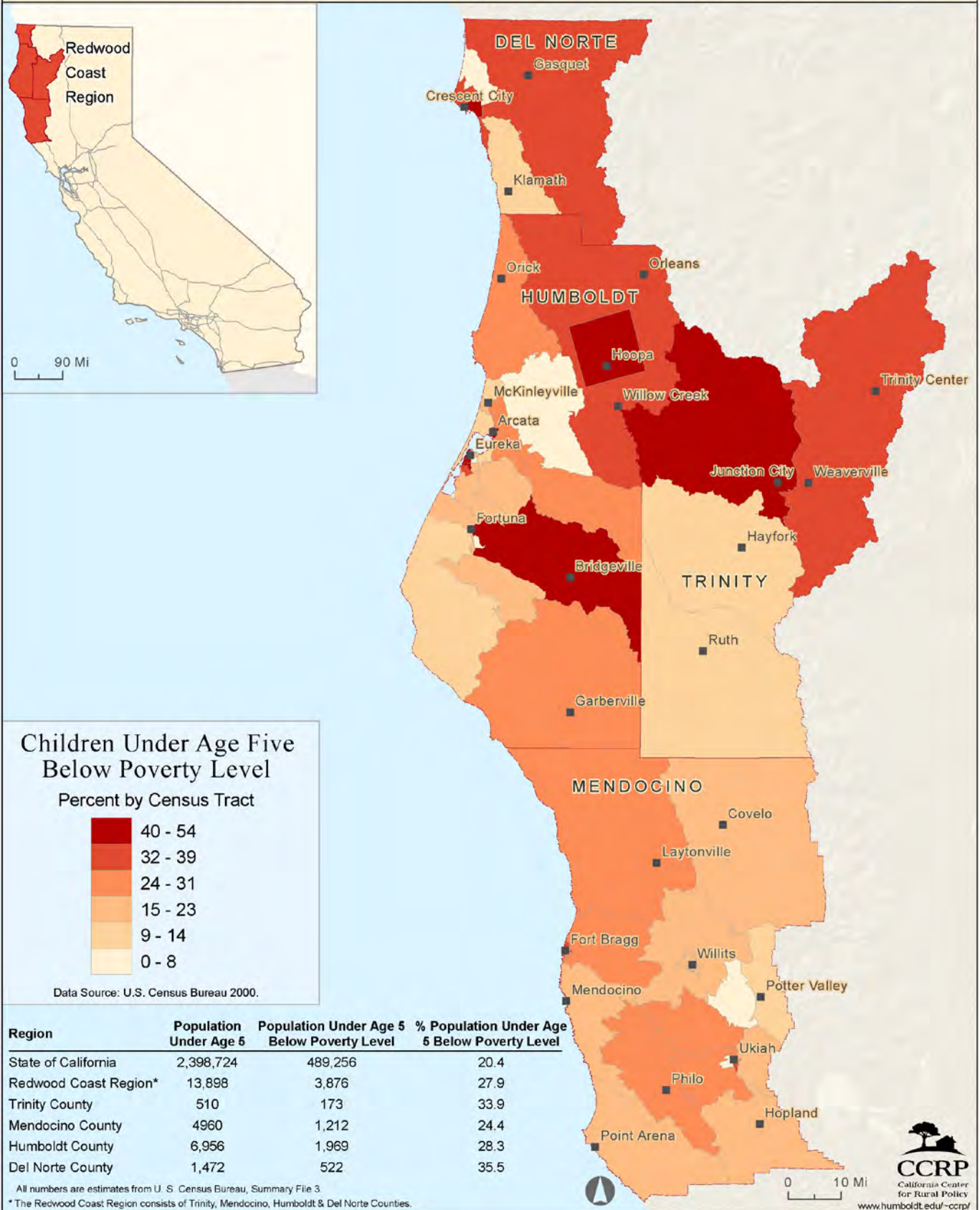
\* The Redwood Coast Region consists of Trinity, Mendocino, Humboldt & Del Norte Counties.

# Children Under Age 18 in Poverty, 2000: Redwood Coast Region



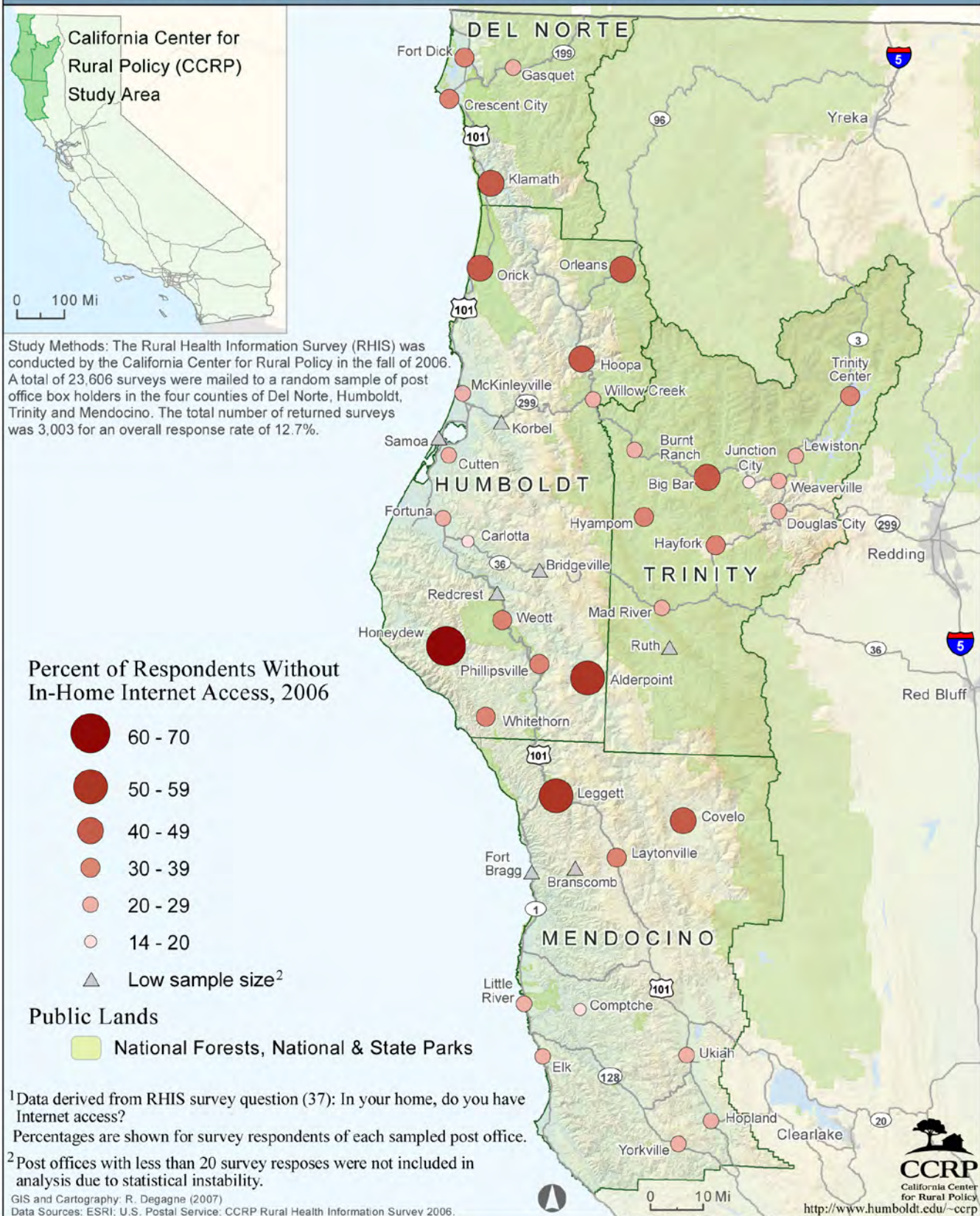


# Children Under Age 5 in Poverty, 2000: Redwood Coast Region



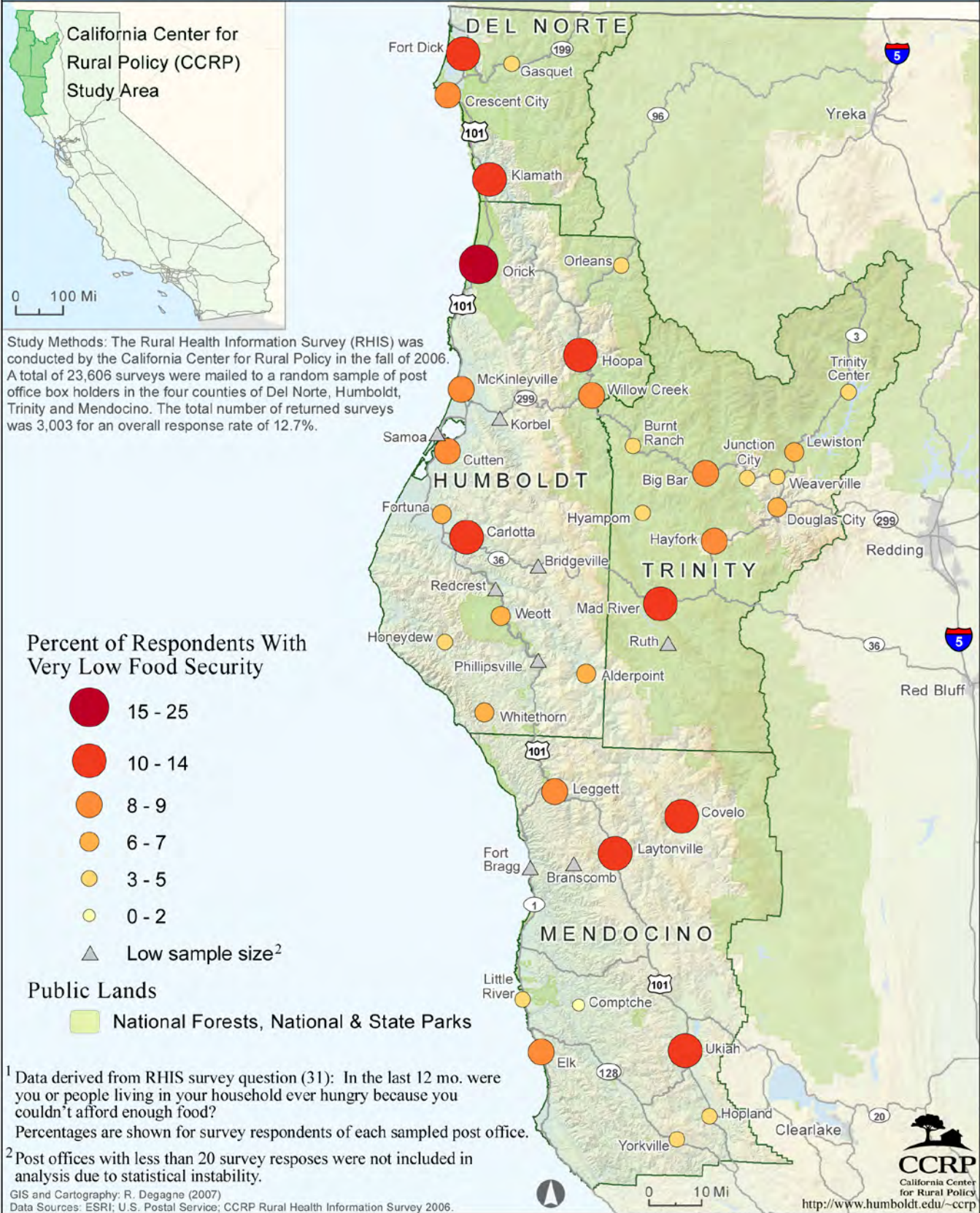


# CCRP Rural Health Information Survey: Percent of Respondents Without In-Home Internet Access<sup>1</sup>, 2006





CCRP Rural Health Information Survey:  
Percent of Respondents With Very Low Food Security<sup>1</sup>, 2006



## Appendix G

### Visions for the Future: Newspaper with Desired Headlines

Would That It Were True

The participants, as part of their brainstorming sessions did some 'envisioning' about what stories they would love to see in the newspaper 20 years from now. We at CCRP turned some of the most wished-for outcome into fictitious headlines, then imaginary stories and finally an eight-page 'newspaper' dated Election Day, 2030.



Life Is Good: Official

Weather:  
Yes!



## The Redwood Bark

The Redwood Region's  
weekly newspaper  
since 2010

[www.humboldt.edu/~ccrp](http://www.humboldt.edu/~ccrp)

Tuesday, November 5, 2030

€2

### Regional Poverty Lowest In 20 Years

Poverty as defined by the federal government has declined in the Redwood Region to its lowest level in 20 years, thanks largely to recent diversification of the economy in a four-county area, according to statistics compiled by the California Center for Rural Policy (CCRP).

A report issued today showed that less than 10 percent of the population surveyed had income smaller than what is officially defined as the federal poverty level: \$77,265 for a family of four.

"This happy result stems mainly from a shift away from a resource-based economy to that of a value-added one," explained Dr. Hugh Better-Believeit, a Humboldt State University business professor and lead analyst of the study.

He cited the creation of a "mini-Silicon Valley" stretching along Highway 299 from Willow Creek to Redding, and another even-smaller one north of Fort Bragg, as major contributors to boosting local salaries while creating many jobs.

Computer chips have supplanted tortilla chips as major employers with the creation of three computer firms in the area. Also arriving in the region over the last five years has been a number of

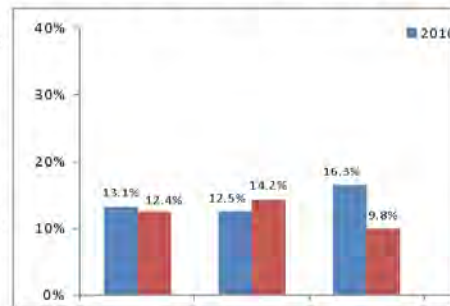
'start-up' natural resource based manufacturing companies.

#### Selling Ecotopia

Adding to the healthier regional economy was the proliferation of small 'boutique' businesses, offering value-added items such as fine wines, leather goods, hardwood furniture, and even organic exotic foods with unpronounceable names--all promoted under the theme: "Produced In Ecotopia."

The last time the region experience a dramatic drop in the poverty level was in 2012--during a job-creating boomlet because a new subspecies of marijuana was legalized. The boom only lasted a year before the U.S. Supreme Court outlawed the new form of pot.

Asked if this trend in escaping poverty would continue, a spokesperson for the Employment Development Department said it all depended on private industry and entrepreneurship. She added that government-funded jobs were probably at maximum in the region, with 48 percent of the adult population working in federal, state, county or local government.



While the poverty rate is stable across the US and is going up in the state of California, the poverty rate is actually decreasing in the Redwood Coast Region.  
Data: United States Census



The California Center for Rural Policy at Humboldt State University is a research center committed to informing policy, building community, and promoting the health and well-being of rural people and environments.

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## Local Broadband Wins White House Praise

The "Band of Brothers" partnership that provides high-speed Internet access to rural areas in a four-county area of northwestern California was singled out today by the White House for providing broadband capability to the economically depressed region.

Federal telecommunications czar Fox Murdoch said that by allowing more content to be carried through its subsidiary transmission pipelines, the Band of Brothers "has provided the Redwood Region with the technical capability to access a wide range of resources, services and products."

He told a news conference that the 15-year-old company was a perfect example of why broadband—which is always on—has become so vital for remote areas of the U.S. that need to overcome geographical and financial barriers.

Speaking from his wheelchair at the Happy Humboldt Home for the Aged, Peter Pennekamp,



former head of the Humboldt Area Foundation, said "My lifelong dream has been realized."

Aside from offering a gateway to educational, cultural and recreational opportunities and resources, the Brothers network has facilitated medical care to underserved populations through remote diagnosis, treatment and consultations with specialists.

Murdoch noted that it also has promoted economic development through electronic commerce, thus creating new jobs, attracting new industries and providing access to regional and worldwide markets.

"Furthermore, it has streamlined the interactions of the region's inhabitants with government agencies, judging by the dozens of e-mail messages I've been getting from the area," Murdoch noted with a smile.

The Brothers network, started by a dozen undergraduates at Humboldt State University and the Mendocino campus of College of the Redwoods, offers 6G service for €7 a month—plus free wireless in every community.

The youngsters began operations by consolidating demand within the community to make link-up service profitable for the broadband providers Cox and SuddenLink. Its original participants included individual consumers, businesses and educational institutions. It has since signed up health care facilities and government agencies.

## Preventive Care Cuts Deaths—Costs, Too— On North Coast

The number of premature deaths in northwestern California is dropping thanks to preventive care that focuses on wellness and not sickness, according to a new study released today.

Such care also is saving money for hospitals and clinics, the study by the California Endeavor showed.

The shift in emphasis to preventive care—early testing for disease and a focus on patient education—was pioneered eight years ago by a consortium of medical societies in Mendocino, Humboldt, Trinity and Del Norte counties.

"We wanted to be proactive and not just reactive," said a consortium spokesperson, Dr. Susie Savior.

As a result, each county has showed a steady decline in hospital admissions, as shown by statistics compiled by California Endeavor researchers. A parallel decline also was noted in early mortality and deaths from preventable diseases.

"Fewer treatment visits translates into more dollars saved. More importantly, education and early detection can prevent needless deaths," Dr. Savior added.

Though it was difficult to calculate exactly, the study estimated that the wellness policy is saving each county at least \$1 million in health costs annually—and preventing or forestalling scores of deaths.

"That savings can be applied to all manner of county needs," said Harry Jasper, longtime administrator of the Southern Humboldt Healthcare District.



## North Coast Spotlight:

# Health Care In The Redwoods

## Heart Disease, Diabetes, Other Ailments Plummet On North Coast

Heart disease and other serious illnesses have plunged to record lows in the Redwood Region, thanks to concerted efforts by all four counties to improve community health "through exercise, diet and peace of mind in a tranquil atmosphere."

That's the motto government and health officials adopted a decade ago when they decided to do something about their consistently poor showing in annual federal statistics on serious illness and early mortality. The sprawling rural area was regularly rated in the bottom 25 percent in the U.S.

Enlisting schools, parents groups, nurses organizations, elected officials and service organizations, the four counties--Mendocino, Humboldt, Del Norte and Trinity--adopted a joint campaign to improve community health.

Schools instituted daily exercise programs and banned junk-food lunches, clinic nutritionists did outreach sessions on how to cook organically and healthfully and service groups underwrote free physical exams for all residents at high risk of serious disease.

### Keeping Calm

Most towns additionally offered weekly guided meditations, which one participant said "even mellowed the cops out."

The effort bore fruit with results this week that the entire region's ranking zoomed from the bottom 25 percent to the top 25 percent. The incidence of cardiopulmonary disease, cancer and hypertensive disorders has declined every year for the last eight years, according to the wide-ranging federal survey.

Commenting on the improvement, the chair of the Trinity County Board of Supervisors, Harold (Hack) Politico, said: "This was a partial lifestyle change. We already had clean air and water, and no rat race up here. But we had to learn to eat better, exercise more and enjoy the quiet."

Serious psychological illness, as opposed to neurological disease, was not studied in the survey. Nor was mental health. In fact, the percentage of Americans who describe themselves as "very happy" or "very unhappy" has not changed since the 1950s.

"If happiness was included in the rankings, we'd be in the top one or two percent," said Politico, who also owns a pharmacy and an ice-cream shop.

## Drug Deaths Hit New Low, Drop Below State Average

Deaths from the use of illegal drugs fell to a new low in 2029 in the four-county area of California known as the Redwood Region, according to statistics released yesterday by the National Institutes of Health (NIH).

A total of 127 people died of drug-related causes in the area, down from 249 last year and way below the average of 350 a year for the last decade.

The statewide statistic for a population sample equivalent to the Redwood Region's was 158.

While the results showed a continuing and steady decline locally in deaths from illegal drugs, health officials sounded a cautionary note because the statistics

did not include homicides, highway fatalities and other deaths from crimes where there was a drug connection. Deaths from legally prescribed drugs also were not taken into account.

The health officials emphasized that the numbers would be significantly higher if deaths related to alcohol were included.

"Alcohol kills 10 to 15 times more people than all drugs--licit or illicit--combined," according to Dr. R.U. Croaking, Mendocino County's official mortality watchdog.

More than half of the drug deaths were linked to heroin and morphine, as has been the case since statistics first were kept.

The rest were attributed largely to crack cocaine and the new highly habituating drug Ice, twin killers that are being targeted in a new campaign by regional law enforcement officials.

The Boards of Supervisors in all four counties issued a joint statement after the drug statistics were announced, claiming that the decline in deaths from drugs was directly connected to the general improvement in the local economy.

As Del Norte Supervisor Wilby E. Lected put it, "If you've got a good job, you don't need to obliterate your reality with drugs."



## Health Injustices Decline For Local American Indians



Native Americans in the Redwood Region are beginning to secure the same health-care advantages as other populations in California's four northwestern counties, the Seventh Generation Fund reported today.

Surveys conducted among various Tribes in Del Norte, Trinity, Humboldt and Mendocino counties all reported improvement in most aspects of health care, from access to services to reimbursements from the federal government for their own clinics and providers.

"More importantly, no Tribe reported a decline in any area," said Karuk Tribal Elder Terry Supahan, who oversaw the study by the Fund, which is named for the Iroquois idea that all decisions

should be considered for their impact on the seventh generation to come.

In the past, the report stated, Native populations suffered from inequity in health services because of such problems as distance to medical treatment, delays in federal reimbursements and lack of medical specialists in more-common Native maladies such as diabetes.

Tribal representatives told Fund investigators that significant progress has been made on these issues and others, approaching the goal of equal access.

The survey canvassed members of the Karuk, Hupa, Yurok, Wiyot, Shasta, Tolowa, Klamath, Pomo, Bear River and Miwok.

## Redwood Region Ranked First In State For Abundant Mental Health Resources

Troubled residents of the Redwood Region can look to a wide variety of assistance to help them with their mental problems, state health officials reported today.

The California Department of Mental Health released a survey that showed that the four-county area of northwestern California had such ample facilities and resources for the mentally ill that it ranked first in the state.

The survey looked at available categories of care ranging from locked facilities and group therapy opportunities to home health visitation and individual analysis.

Statistics showed that there was one qualified therapist--psychiatrist or psychologist--for every 11 residents in the region. Adding social workers and other certified mental health professionals into the mix, the ratio became one for every six residents.

"That's the highest in all of California, even better than the well-known 'head cases' in Hollywood," said Trinity County Mental Health Director Wright Braine with a chuckle.

Braine directs an innovative program that has a psychologist evaluate every adult arrested for a suspected felony before they go to court. This gives the district attorney's office flexibility in deciding what charges to bring.

That's just one example of the profusion of novel programs evident in the region. Others include a groundbreaking study of schizophrenia underway by the Humboldt State University Psychology Department and a continuing inquiry into dementia that is based at the Coast Hospital in Fort Bragg.

State officials also are enthusiastic about a proposed study

of the links between melancholia and crime among inmates at Pelican Bay State Prison.

Health officers in Del Norte, Humboldt, Mendocino and Trinity counties all concurred that the region's sparse population, rugged physical conditions and fluctuating employment patterns all contributed to a high incidence of mental illness. But they noted that higher-than-average salaries have made it easier to recruit qualified mental health practitioners.

The average salary of elementary school psychologists, for example, is \$122,000--about \$17,000 more than their counterparts elsewhere in the state.

"All in all, we're employing a wide gamut of rational approaches to the irrational," said a noted Humboldt County psychiatrist, Dr. Billy Batsinthebelfry.



## Kids & Seniors

# Look Ma, No Cavities: North Coast Features State's Lowest Rate of Child Tooth Disease

The Redwood Region is all smiles today following the announcement that the four-county area of northwest California has achieved the state's lowest rate of children's tooth diseases.

The result is all the more remarkable because the area has one of the worst dentist-to-patient ratios in the state: one pediatric dentist for every 1,000 children.

"This just proves we have caring and conscientious dental health professionals who practice preventive medicine," said Will Yankum, head of the North Coast Dental Society. "The tooth fairy must love our kids."

Area orthodontists, periodontists, dentists and technicians have teamed up for the last five years to offer free checkups to

all children--from preschool to high school--at the start of every school year. They also distribute free toothbrushes and toothpaste, and make sure every classroom in the area has videos about proper tooth care.

Their work has paid off, evidenced by the California Dental Society's release of statistics showing that more than 50 percent of the regions children are free of caries--tooth decay. Only a handful of children were found to have experienced more than three cavities this year.

No other area of the state was even close. The runner-up region was Marin County, where a third of the children are cavity-free. Dental officials said the percentage would be higher but for the wide consumption of flavored



bottled water in the county's largely middle-class homes.

Local dentists have been helped in their campaign by the area schools, which have launched a concerted effort to eliminate sugary foods, drinks and candy from school vending machines. Teeth-brushing is now an everyday activity in area preschools and kindergarten classes.



## Taking Off Pounds Pays Off: Child Obesity Plummets 75%

Reversing a national trend that has alarmed the White House and prominent pediatricians alike, California's Redwood Region has been able to produce an astonishing 75 percent reduction in childhood obesity since it began a concerted campaign a decade ago.

Disturbed that children in the four-county area --like elsewhere--were showing the combined effects of poor diet, little exercise and too much time in front of computers and game devices, area parent-teachers associations and medical societies began efforts to convert children to a healthier lifestyle.

Under such slogans as "You Gotta Pump Or You'll Stay

Plump," "Way Too Early To Be So Burly" and "It's Peachy-Keen To Be A Lean Clean Machine," they imposed mandatory exercise regimens in every area classroom--even in preschools, since that's often the time when bad eating habits begin.

They coupled that with insisting on healthier menus in school lunchrooms, and began an educational program about good nutrition aimed at low-income parents. Area food banks chipped in, too, and began avoiding fatty foods in their food-basket giveaways.

Circuit-riding nutritionists calling themselves the Mendocino Slims also went from town to

town touting the virtues of becoming slender.

The results were confirmed this week when physical exams showed that the average youngster had experienced a significant weight loss over the last three years, without any ill effects. Although statistics weren't compiled, it seems that the average parent had slimmed down, too.

One outgrowth has been a somewhat skinny pamphlet detailing how the campaign worked. Its producer said demand for the publication, entitled "Slender Is The Night," is already so great that a second printing has been ordered.



## ***Progress: 80% of Students Now Deemed Physically Fit***

A vast improvement has occurred as four of every five students living in California's Redwood Region have now been evaluated as 'physically fit,' based on standards developed by the American Medical Association and the President's Council on Physical Health.

Only five years ago, more than half of the youngsters in the four-county area were judged to be out of shape and possibly nutritionally deficient.

This triggered a rigorous campaign in schools throughout the area to improve the numbers.

Many schools immediately changed the menus in their lunch programs, focusing on locally grown and organic food, the addition of salads and the removal of candy and soft-drink vending machines. This was coupled with a greater emphasis on exercise, with many schools mandating daily phys-ed classes.

"The results have been amazing," said Trinity County School Superintendent Ed Yucation. "Our kids now take great pride in their appearance, their posture and their food choices. It has paid off."

Nationally, the percentage of youngsters deemed to be fit has hovered around 75%. In the latest study, California was at 78%.

## ***North Coast Ideal For Seniors: Officials Cite Housing, Health Care***

Mild climate, affordable housing and ample geriatric care make the California North Coast "a veritable paradise for senior citizens," state officials said in a report issued yesterday.

The report, "Retired or Rewired: How Seniors Can Make The Most Of Their Lives," noted that the over-65 population has tripled in the last 20 years in the four-county area of northwestern California.

It said they initially were drawn by the temperate climate that varies little during the year, and then settled down because rents, house prices and accommodations in retirement facilities all are less expensive than any other area of California.

The influx of seniors brought with it a growth in facilities for the aging, from physicians specializing in geriatrics to medical-supply businesses. Virtually every town in the area with a population of at least 5,000 now has at least one residence facility for seniors.



### **Activities Galore**

In addition, there are destination resorts in the Trinity Alps and the Marble Mountains that focus on activities for the fit-but-elderly such as river rafting, fishing, bird-watching and hiking. One riverside campground outside the town of Orleans even

offers outdoor classes in oil painting, ceramics and film-making.

The report noted the ample opportunities for recreation as one reason why the North Coast is attractive to seniors. It also cited the growth of farmers' markets, natural-food agricultural collectives and organic restaurants as a magnet for seniors.

"Older people remember what good, nutritious food was like, and they love the North Coast because there's so much of it," said Farm Bureau agronomist Lucille Locavore, who regularly delivers excess produce locally to what used to be called old-age homes. "Local farmers love seniors," she added.

Local government officials, commenting on the report, said that being a haven for senior citizens is cost-effective, too.

Arcata Mayor Mark Weakly said, "Quite frankly, they pose much less of a crime risk, don't overburden our schools or even compete for hard-to-find jobs."

## Redwood Economy

### Occupational Surprise:

### Redwood Region Has Lowest Unemployment Rate In State

Long considered an employment wasteland, northwest California has achieved the lowest jobless rate in the state, according to figures released today.

Fewer than four percent of the population is without steady work, in a region long renowned for only seasonal employment. The state average is 10 percent and the national figure is 12 percent.

The boost in employment was attributed to the rapid growth over the last decade of small labor-intensive businesses, a major increase in public jobs because the state government is under orders to decentralize and a skyrocketing local tourism industry owing to prohibitive fuel prices.

Local officials also credited the environmental attractions of clean air and water and a temperate coastal climate which has lured multinational businesses and mom-and-pop firms alike.

In decades past, the economy of the four-county area was irretrievably tied to logging and

fishing, industries which not only were seasonal but also became less labor-intensive over time. As a result, unemployment in Del Norte, Humboldt, Trinity and Mendocino counties often soared to one of the highest rates in the West.

The vacuum began to be filled when the Sacramento government came under court order to scatter state jobs all around California. With the opening of branches of such departments as consumer affairs, public utilities, energy, barbering and cosmetology and food and agriculture, high-paying jobs became available to local residents.

This, in turn, drew small business entrepreneurs, who often set up shop literally in abandoned mills and boat basins.

While this brought unemployment figures down, a bigger jolt to the economy came when fuel prices became so prohibitive that the slogan "vacation locally" came to mean visit such local attractions as the region's famed state

and national parks.

Now one of every four people in the region work in the hospitality business--and even unskilled laborers can find work in tourism-oriented businesses. Visitors also often avail themselves of the arts and crafts for which the region has long been noted.

All of this means more money is flowing into the region than out, and that also accounts for continued job creation, said Humboldt State University business professor Ern Moolah.

He predicted that even the four percent figure can be improved, citing the imminent opening of a University of California campus in Weaverville and the expected return of rail travel--the cheapest form of transportation possible--to various towns in the region.

"Four percent jobless is already considered full employment by government economists. They'll have to come up with a new term, perhaps complete employment, when we knock the current jobless rate in half," he predicted.

### "Equal Access For All" New Local Health Standard

The consortium representing all the health-care providers in the Redwood Region today proclaimed that its new guiding principle will be "Health Care For All" residents, without exception.

While that essentially has been standard policy for virtually all the providers in the region, the statement made it clear that private health insurers and government agencies will no longer dictate who has coverage and who doesn't.

"It's crazy that some poor folks still have to be brought to hospital emergency rooms to be treated for maladies that are handled better-

-both medically and economically--by mobile clinics or home-health providers," said M.I. Sickleigh, director of the HumDelMenTrin chain of community clinics.

#### It's Unanimous

Through a novel pooling of funds, all the consortium members--hospitals, clinics, joint medical practices, mental health professionals, local insurance firms and medical supply businesses--have agreed to treat any or all residents who come through their doors, no questions asked.

A large accounting firm with branches in all four county seats has been engaged to handle cen-

tralized billing, both to patients and the government.

That alone should reduce costs to providers by about 25 to 40 percent, according to actuarial projections.

"Not only will we save money and do things more efficiently, we'll all be able to sleep better knowing that this is what a democracy is all about," Sickleigh added.

"Equal Access For All" will be stenciled onto the front doors of every health facility and on all stationery, a consortium spokesperson said.



## More Jobs Mean Improved Community Health

A community's overall health is linked to how many of its inhabitants have employment, a novel study revealed today.

When the jobless rate in the Redwood Region hovered around 20 percent a few years ago, emergency room admissions and clinic visits were among the highest in the state. But when the advent of a few large manufacturing firms forced the unemployment rate below double figures, the number of medical encounters dropped by virtually the same percentage, researchers discovered.

"It's hard to pinpoint how exactly they're connected, but we know definitely, all other factors aside, that community health soars when unemployment declines," said lead researcher Jess Additup.

He said that it is probable that once workers have health insur-



ance, for example, they are likely to avail themselves of preventive health measures and consultations. They also eat more nutritiously and maintain a more healthful home environment.

The study entailed thorough interviews with newly employed workers as to lifestyle changes, as well as direct comparisons

between the number of region-wide medical visits and specific changes in job figures as provided by the Employment Development Department.

For purposes of the study, community health was defined by such factors as the number of both physical and mental health encounters, analysis of the numbers of drug prescriptions and even dental records. Respondents, mainly newly employed workers, were also asked directly if they felt healthier.

Additup said the parallels between employment and health were remarkable, both in number and in timing.

"Whenever there was a blip in joblessness, even for just a few months, there was almost an identical percentage change in health visits," he said.

### Weekly Horoscope

**Scorpio** Oct 23 - Nov 21 — Be willing to listen AND seek reasonable conclusions and solutions. Have patience with spouse/in-laws. Your popularity and acceptance level is high — you can do no wrong.

**Sagittarius** Nov 22 - Dec 21 — Travel or working over the weekend IS a possibility but outcomes appear VERY promising! Keeping your word to a love interest is critical this week!

**Capricorn** Dec 22 - Jan 19 — Invitations to travel and/or 'attend important family functions,' are likely; dress and act the part. There is excellent growth and expansion that will require investing heavily in your career related needs.

**Aquarius** Jan 20 - Feb 18 — You will be full of energy this week, and take on the work of Hercules. All difficulties, hurdles will disappear thanks to unexpected help.

**Pisces** Feb 19 - Mar 20 — You'll do almost anything for a pal. You are one big, soft, push over! You are always more comfortable being on the giving end of the stick. You may get news of a new birth in the family or may hear of engagements or weddings.

**Aries** Mar 21 - Apr 19 — Travel for business is likely this week. Bring your neck pillow everywhere you go! You will feel on top form, in good humor without really knowing why.

**Taurus** Apr 20 - May 20 — You may need to accompany a friend to the court house, funeral parlor or some other loathsome errand. Be there for your friend or risk missing a chance to show how much you care.

**Gemini** May 21 - Jun 20 — Problems will be resolved with no difficulty, everything will fit into place.

**Cancer** Jun 21 - Jul 22 — You are pouring tons of heart, soul and emotions into tending to needy family members or pets and your efforts will be appreciated. Show patience, especially with yourself, this week because success is coming.

**Leo** Jul 23 - Aug 22 — Long discussions with friends are likely this week. You will be in fine form to complete all your professional tasks. Financial backing is good and profit margins tend to run high.

**Virgo** Aug 23 - Sep 22 — Your faith in yourself and a lack of materialism is your strength. It's a good week to fall in love. You may face a financial burden, but fortunately you have been saving money for this occasion!

**Libra** Sep 23 - Oct 22 — Your advice will be sought because you are fierce defenders of your community and family.



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The California Center for Rural Policy at Humboldt State University is a research and policy center committed to informing policy, building community, and promoting the health and well-being of people and environments.