

### List of Sources

Colorado Department of Public Health & Environment	U.S. Federal Government Agencies
<ul style="list-style-type: none"> <li>Colorado Behavioral Risk Factor Surveillance System</li> <li>Colorado Central Cancer Registry</li> <li>Colorado Child Health Survey</li> <li>Colorado Environmental Public Health Tracking</li> <li>Colorado Health Statistics and Vital Records</li> <li>Colorado Pregnancy Risk Assessment Monitoring System</li> <li>Community Health Survey Pilot Project</li> <li>Division of Disease Control and Environmental Epidemiology</li> <li>Hazardous Materials and Waste Management Division</li> <li>Safe Drinking Water Information System database</li> </ul>	<ul style="list-style-type: none"> <li>CDC My Water's Fluoride</li> <li>CDC National Center for Health Statistics</li> <li>Environmental Protection Agency Air Quality System</li> <li>Environmental Protection Agency EnviroFacts</li> <li>Environmental Protection Agency Superfund Site Information</li> <li>Health Resources &amp; Services Administration</li> <li>US Bureau of Labor Statistics</li> <li>US Census Bureau American Community Survey</li> <li>US Census Bureau County Business Patterns</li> <li>US Census Bureau Small Area Income and Poverty Estimates</li> <li>US Census Bureau State &amp; County Quickfacts</li> </ul>
Other Colorado State Government Agencies	Other Local and National Organizations
<ul style="list-style-type: none"> <li>Colorado Bureau of Investigation</li> <li>Colorado Department of Education</li> <li>Colorado Department of Human Services</li> <li>Colorado Department of Labor and Employment</li> <li>Colorado Secretary of State</li> <li>Colorado Youth Risk Behavior Survey</li> <li>State Demography Office</li> </ul>	<ul style="list-style-type: none"> <li>Association of Religion Data Archives</li> <li>Centennial Mental Health Centers</li> <li>Colorado Health and Hospital Association</li> <li>Colorado Health Institute</li> <li>Library Research Service</li> <li>National Center for Charitable Statistics</li> </ul>

### Types of Sources

- ▶ Survey Data
  - BRFSS
  - Community Health Survey Pilot
  - Child Health Survey
- ▶ Count Data
  - Hospitalization
  - Teen fertility

### Relevance of Confidence Intervals

- ▶ Description/measurement
  - Indication of "true" value
- ▶ 95% CI indicates that the "true" rate will be a value between the lower and upper limits of the interval 95% of the time.
  - 1007.2 (95% CI= 914 - 1100.5)
- ▶ Can help with determination of true differences
  - Important when values are extreme in comparison but not statistically different!

### Relevance of Confidence Intervals

- ▶ Narrow CI indicates more stable value
- ▶ Allows for comparison of like values
  - Ranges **DO NOT** overlap = **Significant**

Age-adjusted rate for congestive heart failure hospitalizations (per 100,000 population) 2007-2009				
Rate	Lower Confidence Limit	Upper Confidence Limit		
Alamosa County	914	1100.5	<b>Ranges do not overlap= SIGNIFICANT relationship</b>	
Region 8	776.9	862.9		
Colorado	810.8	820.5		

Ranges overlap= NOT significant

## Relevance of Confidence Intervals

- ▶ Take home message:
  - Use estimate/statistic to set baseline for own community
  - Use confidence intervals/limits to determine if there are true differences between groups
    - Avoid generalizations that describe severity without accounting for true differences
      - "Region 8 had a higher rate of congestive heart failure hospitalizations than the state"
      - It did but the difference was not statistically significant so we shouldn't make the generalization

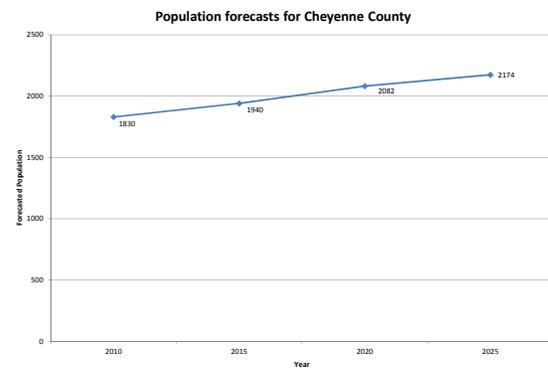
## Other Commonly Used Statistics

- ▶ Frequency
  - The number of times a given value of an observation occurs
- ▶ Proportion
  - The number of observations with the characteristic of interest divided by the total sum of observations. It is used to summarize frequencies.
- ▶ Percentage
  - A proportion multiplied by 100
- ▶ Rate
  - A proportion associated with a multiplier, called the base (eg 1000, 10,000) and computed over a specific period.
  - Crude rates, Age-specific rates, age-adjusted rates
    - Age-adjusted rates- A rate that has been standardized to the age distribution of a particular population so that it is, in effect, independent of the age distribution of the population it represents. Typically used to compare rates over time or among different geographical areas.

## Community Description

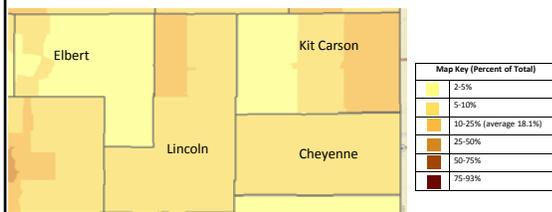
- ▶ Population Characteristics
- ▶ Community Characteristics

## Community Description



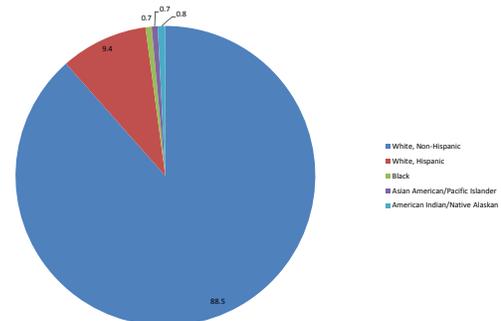
## Community Description

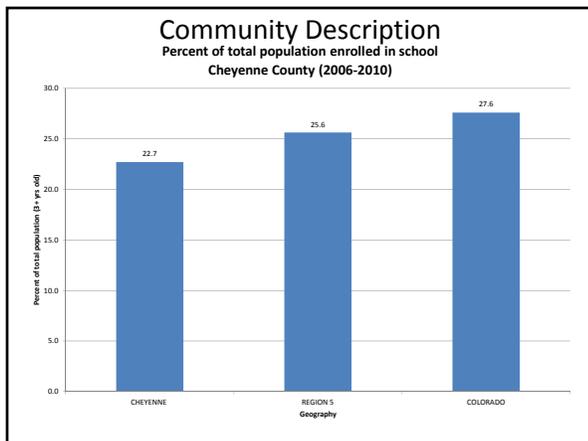
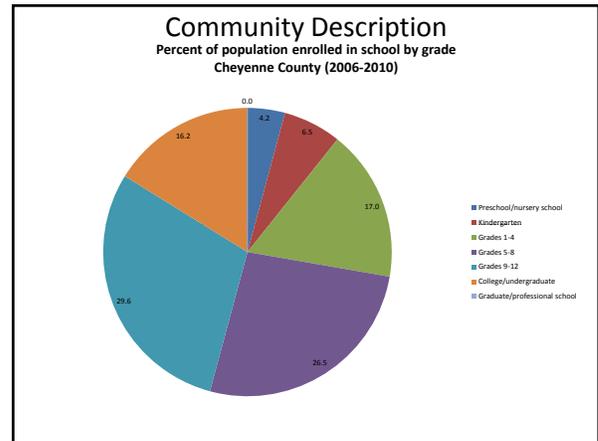
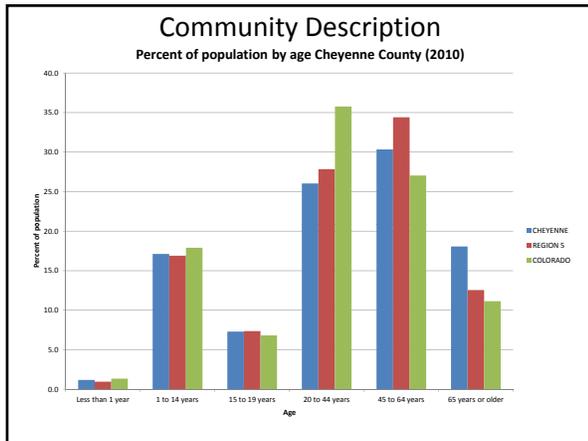
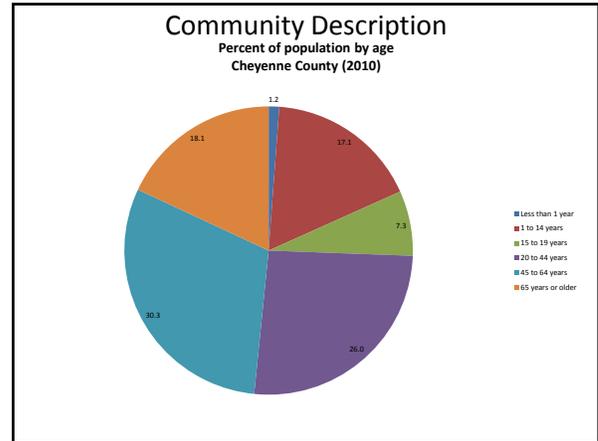
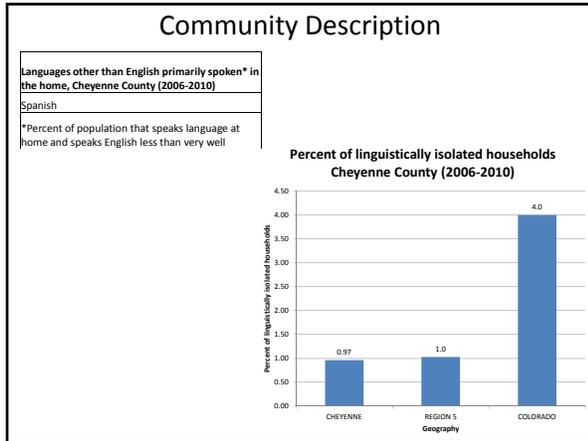
Percent of Non-White Population in Cheyenne County (2010)



## Community Description

Percent of population by race/ethnicity Cheyenne County (2010)





### Community Description

- Special Populations

Population living in Cheyenne County group quarters (2006-2010)	
Total population	109
Percent of Region 5 population group quarters	6.0%
Percent of State population group quarters	0.1%

### Summary Community Description

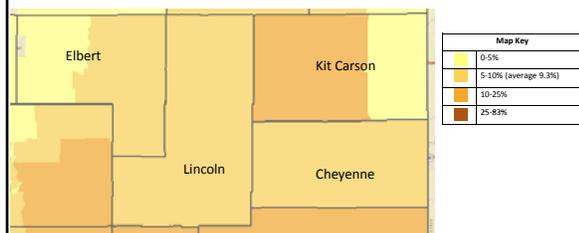
- ▶ Total population will slowly rise over next 15 years
- ▶ Hispanics make up the largest part of the minority population
- ▶ Higher percents of minority populations live in the northeastern part of the county
- ▶ Largest percent of population is aged 45-64 yrs
- ▶ 22.7% of population is enrolled in school
- ▶ 6% of the region's group living population resides in Cheyenne

### Economic Opportunity

- ▶ Income
- ▶ Education
- ▶ Housing
- ▶ Employment

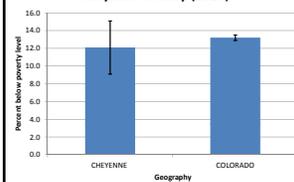
### Income

Percent of Families with Income below Poverty Level Cheyenne County (2006-2010)

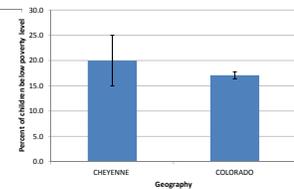


### Income

Percent of population below poverty level (all ages)  
Cheyenne County (2010)

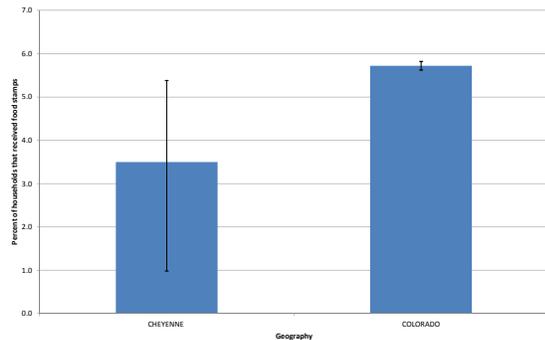


Percent of children (<18 yrs old) below poverty level  
Cheyenne County (2010)



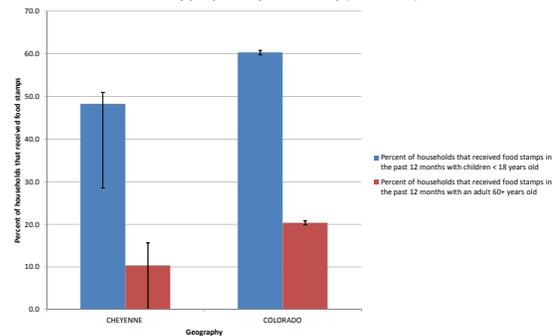
### Income

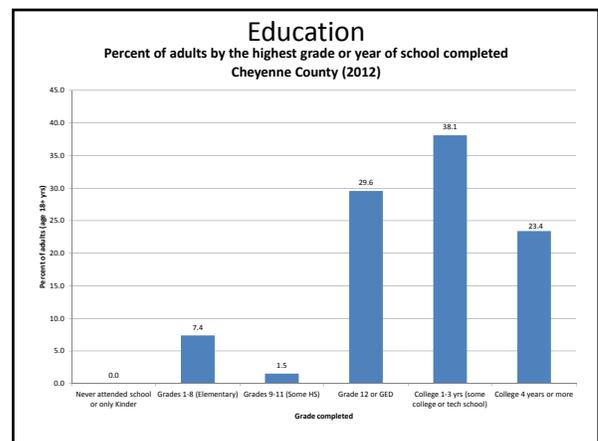
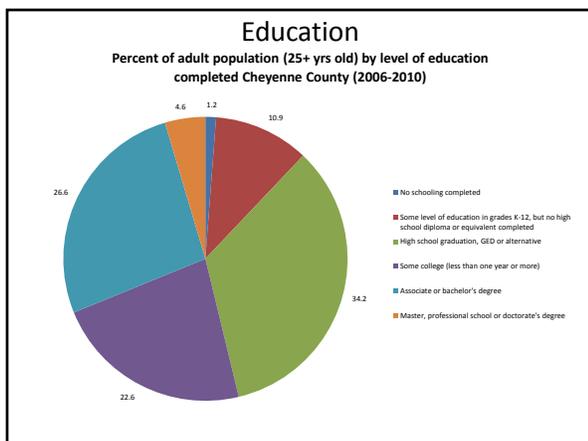
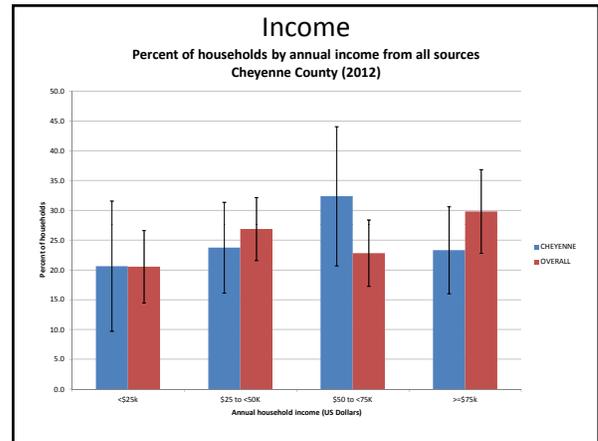
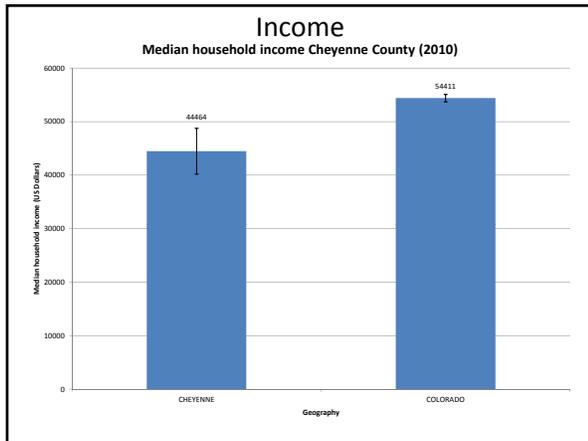
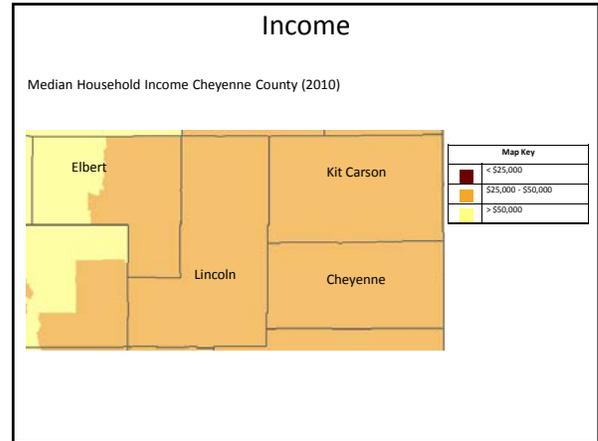
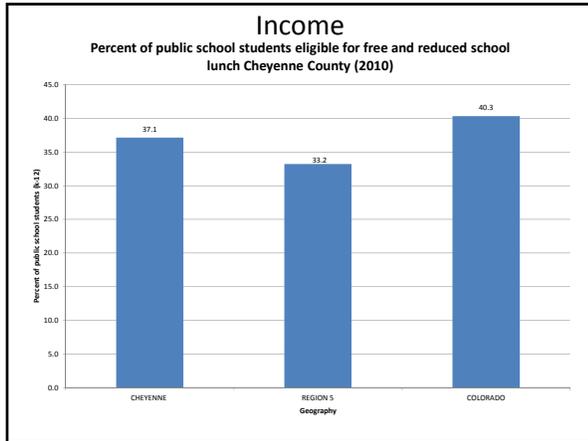
Percent of households that received food stamps  
Cheyenne County (2006-2010)

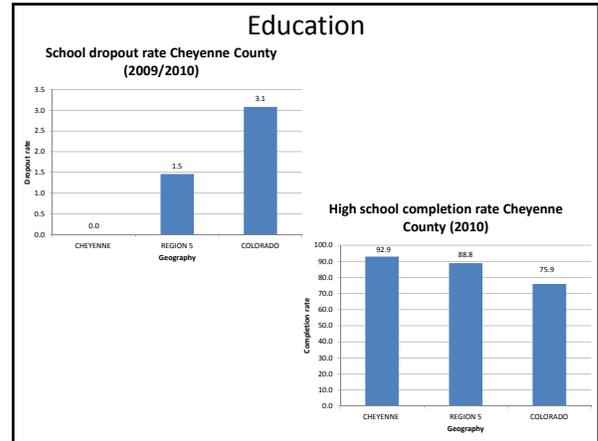
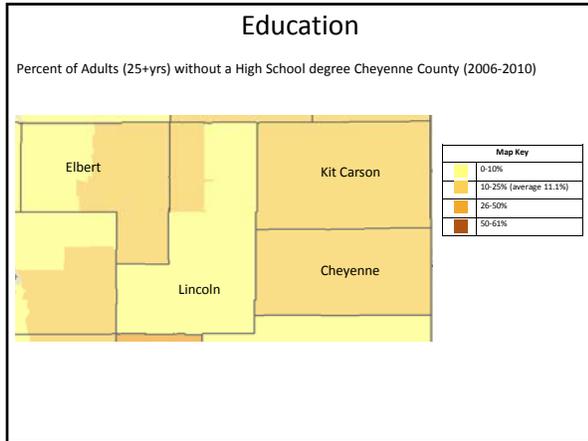


### Income

Percent of households that received food stamps with children or elderly people  
Cheyenne County (2006-2010)



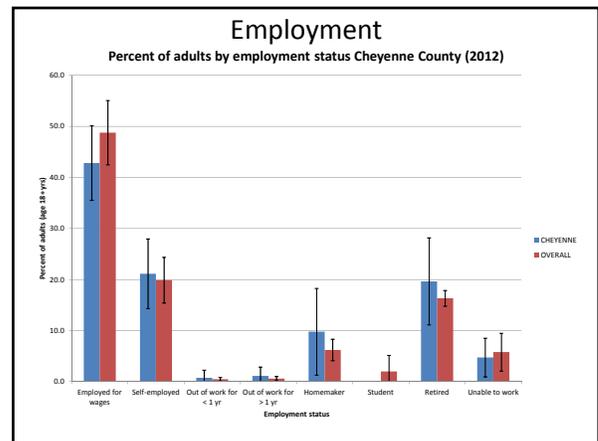
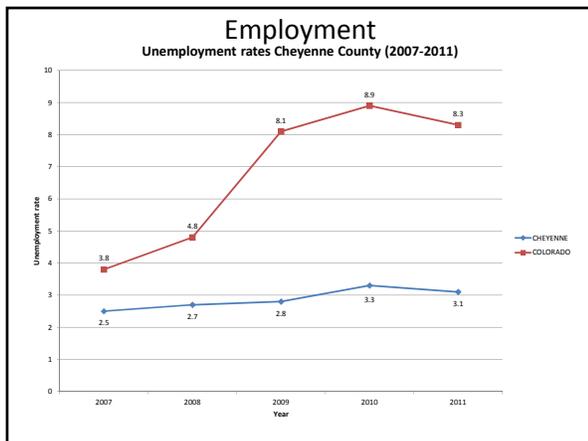
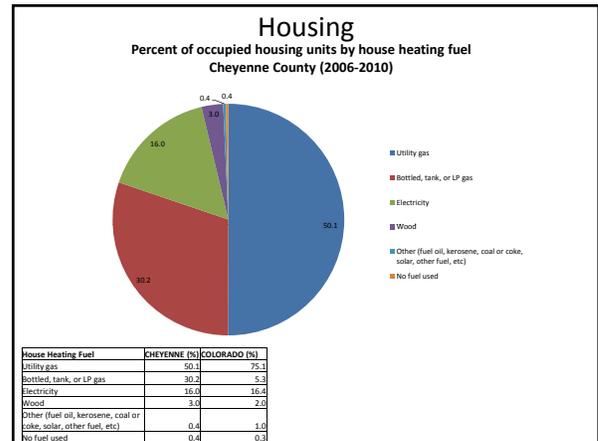


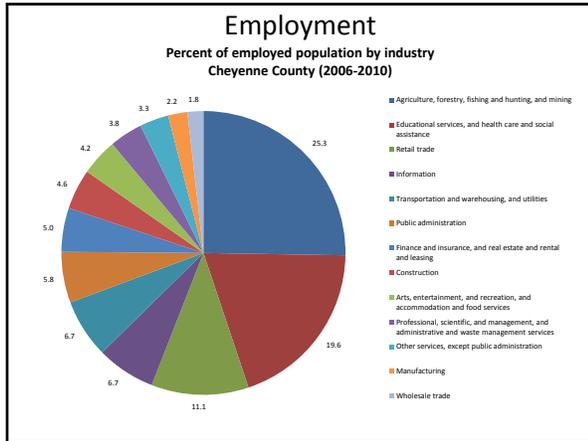


### Housing

Cheyenne County Housing (2006-2010)	CHEYENNE	COLORADO
Percent of housing units that are Renter-Occupied	17.7	30.2
Percent of housing units that are Owner-Occupied	82.3	69.8
Percent of occupied housing units with housing costs* ≥ 30% of household income	9.2	34.6
Percent of Renter-Occupied housing units with gross rent ≥ 30% of household income	11.1	48.0
Percent of Owner-Occupied housing units with mortgage status ≥ 30% of household income	8.7	28.2
Median home value in US dollars for owner-occupied housing units	\$80,700	\$236,600

\*Housing costs include gross rent or mortgage status





### Employment

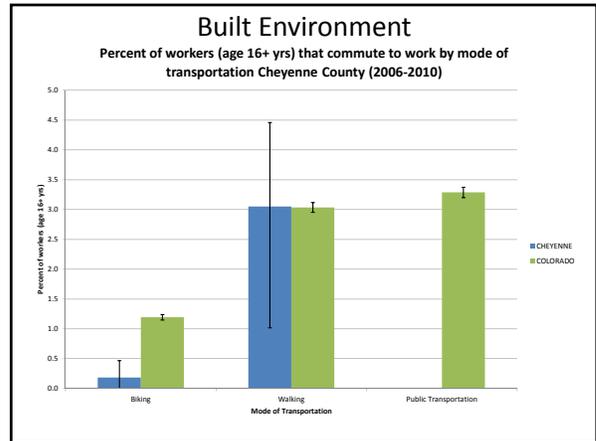
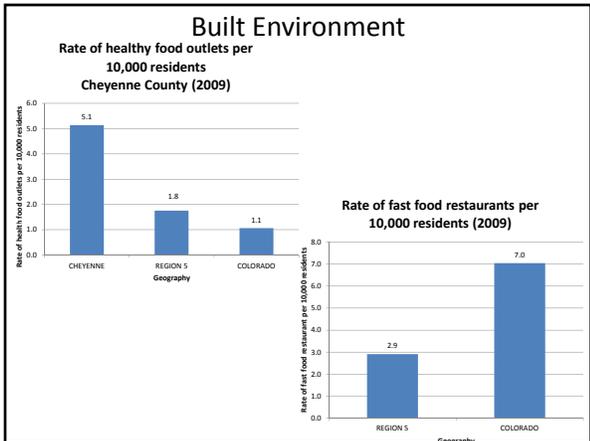
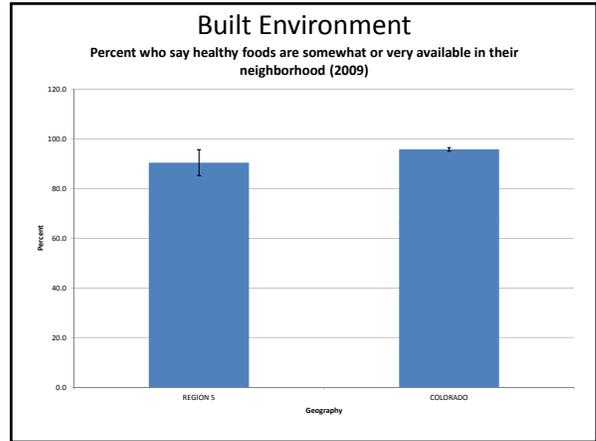
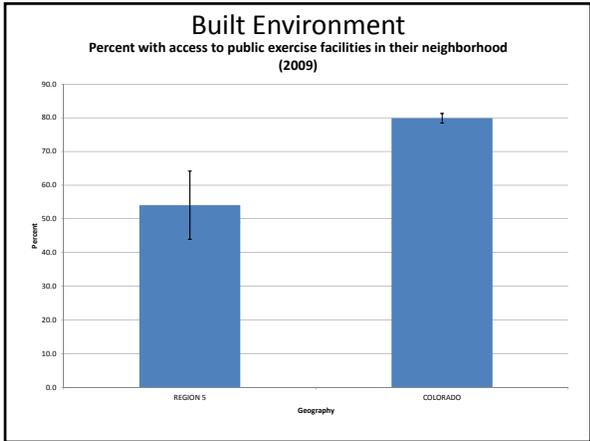
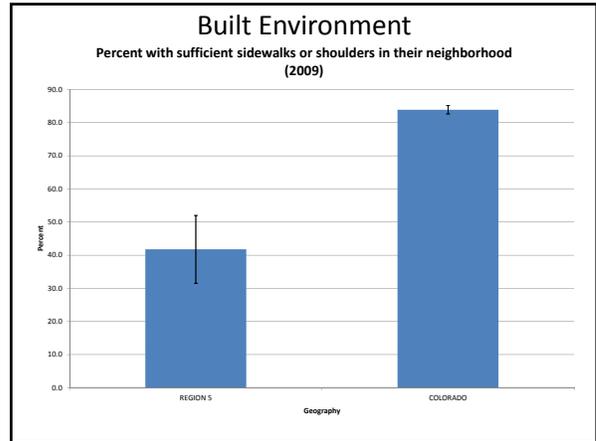
Number of establishments by enterprise employment size for Cheyenne County (2009)

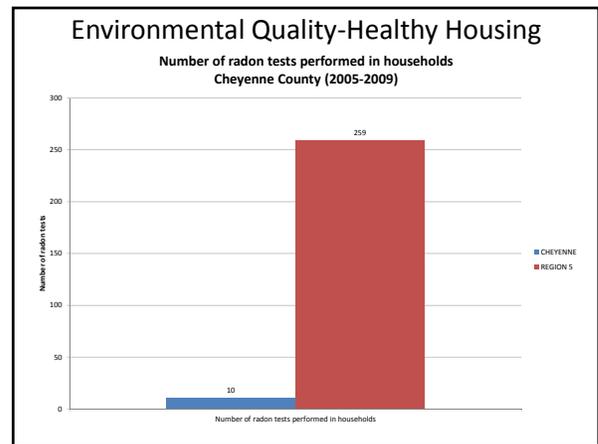
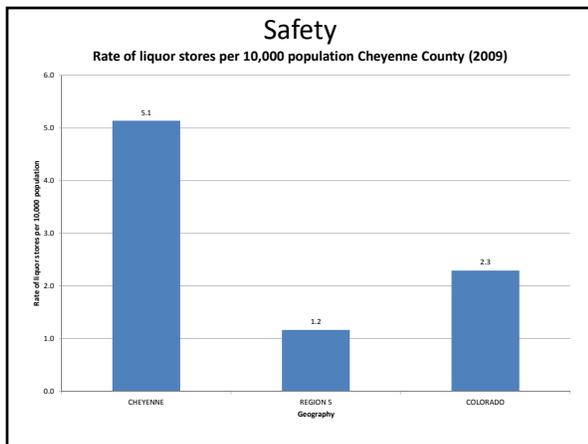
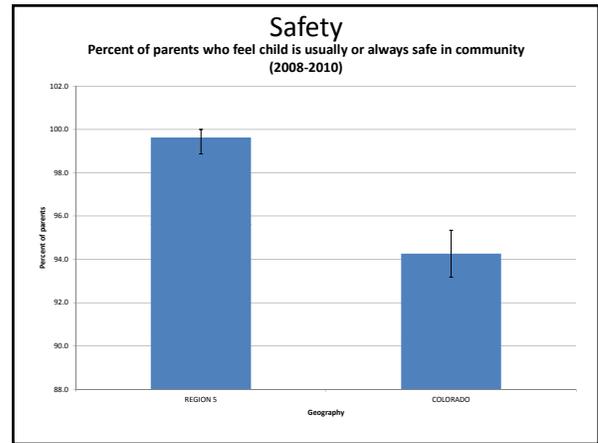
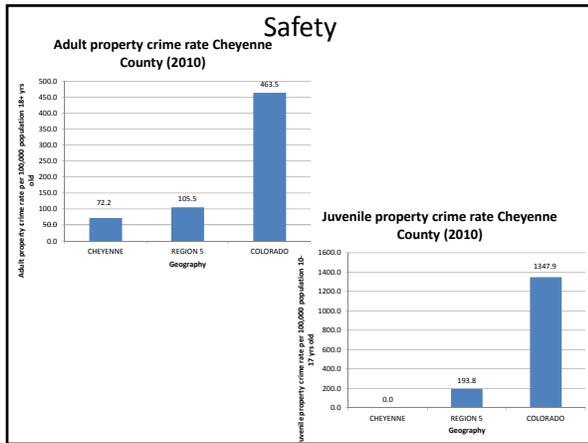
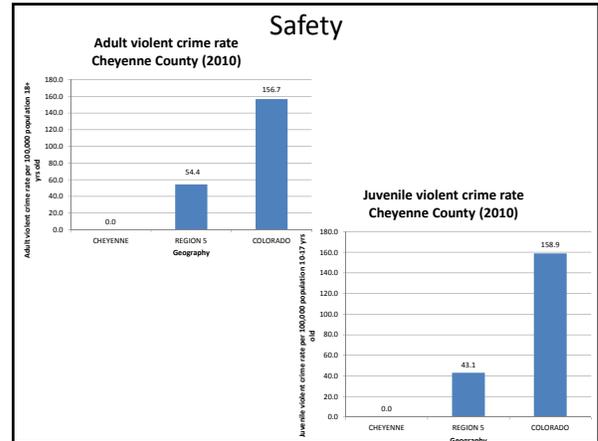
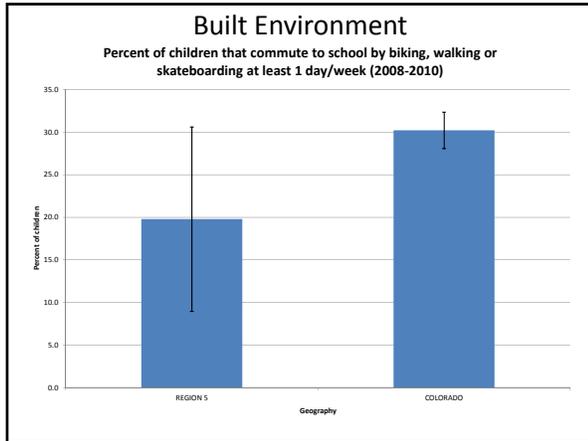
COUNTY DESCRIPTION	NUMBER OF ESTABLISHMENTS	NUMBER OF ESTABLISHMENTS with <500 employees	NUMBER OF ESTABLISHMENTS with 500+ employees
CHEYENNE	61	57	4
REGION 5	957	914	43

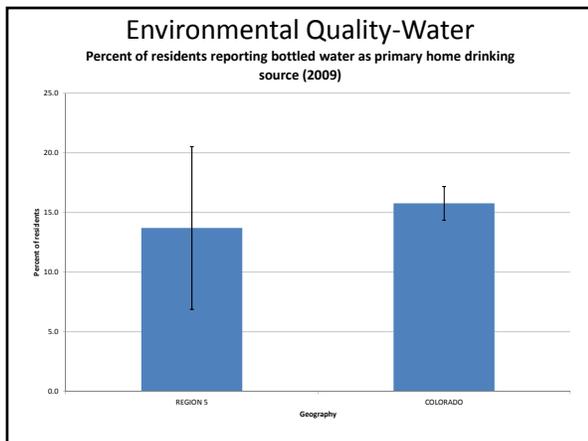
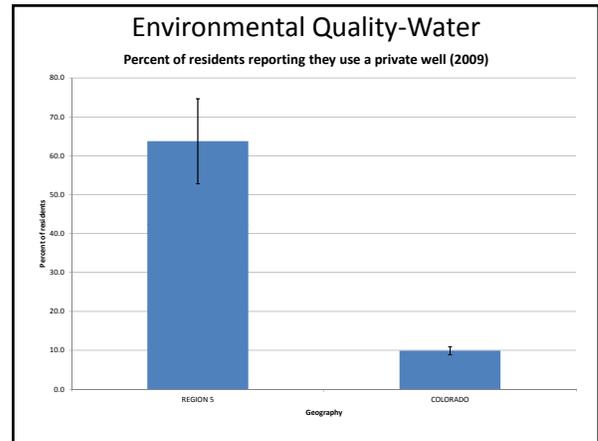
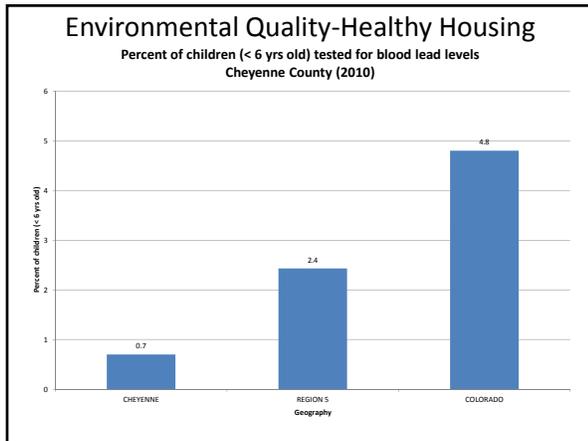
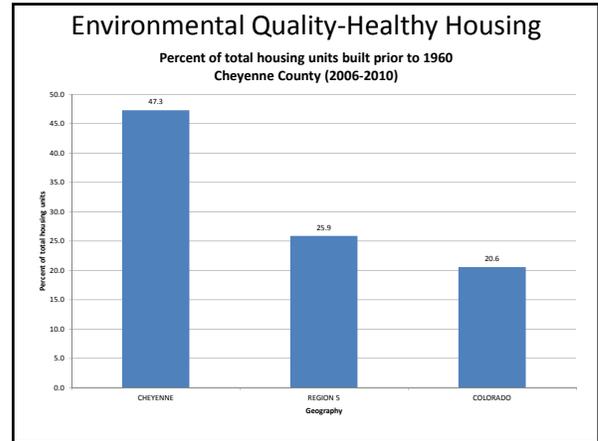
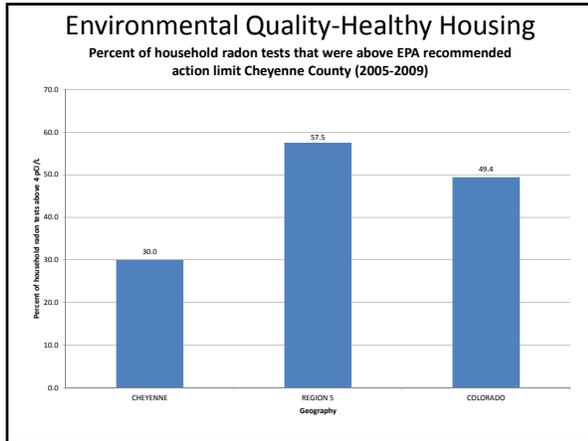
- ### Summary Economic Opportunity
- ▶ Lower percent of households receiving foodstamps
  - ▶ Lower median household income
  - ▶ Higher percent of adults without high school degree compared to neighboring Lincoln and Kiowa counties, similar to Kit Carson
  - ▶ No dropouts and high high school completion rates
  - ▶ Low unemployment rates
  - ▶ The industry that employs the highest percent of population is agriculture, forestry, fishing/hunting, and mining industry

## Physical Environment

- ▶ Built Environment
- ▶ Safety
- ▶ Environmental Quality

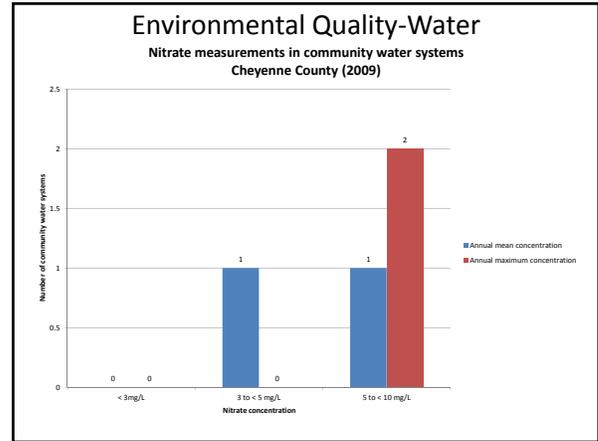
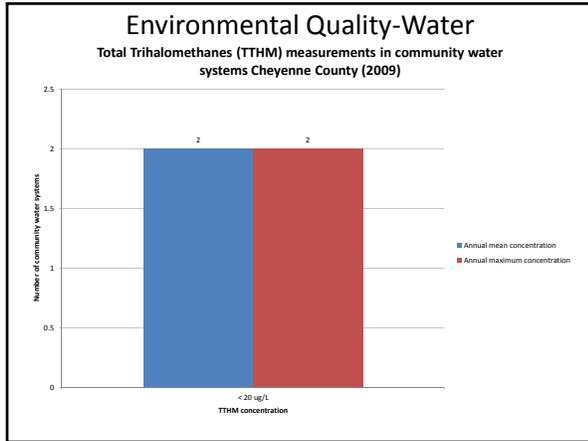
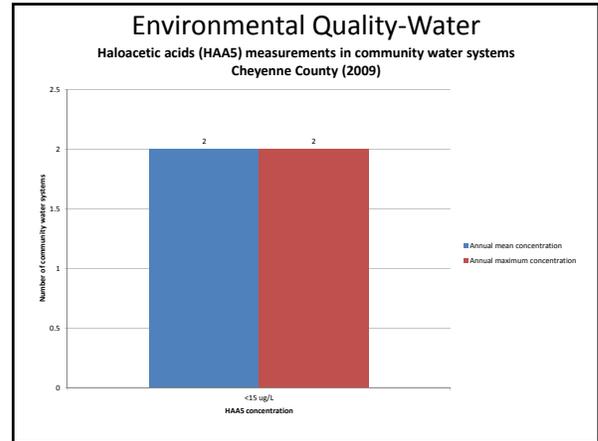
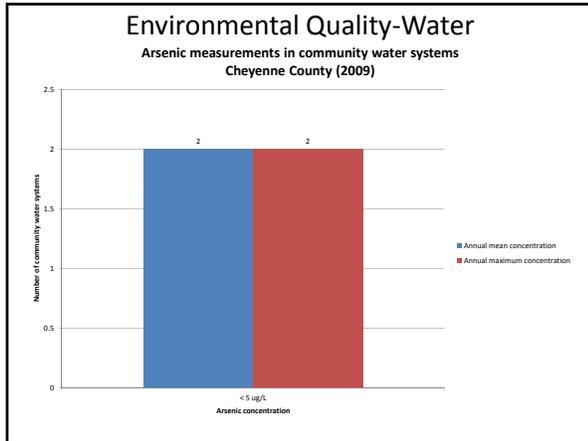






### Environmental Quality-Water

Water System Name	County(s) Served	Population Served	Primary Water Source Type	System Status	Water System ID	Health-Based Violations	Achieved Compliance	Contaminant(s)	Year of Violation(s)
ARAPAHOE WC	CHEYENNE	95	Groundwater	Active	CO0109001	0	0		
CHEYENNE WELLS TOWN OF	CHEYENNE	1010	Groundwater	Active	CO0109006	4	4	Coliform (3), Nitrate (1)	2003, 2004, 2005, 2010
KIT CARSON TOWN OF	CHEYENNE	326	Groundwater	Active	CO0109011	0	0		



### Environmental Quality-Water

Contaminant	ug/L	Mg/L	Potential Health Effects from Long-Term Exposure Above MCL	Sources of Contaminant in Drinking Water
<b>Disinfection Byproducts</b>				
Haloacetic acids (HAAS)	60	0.06	increased risk of cancer	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHMs)	80	0.08	Liver, kidney or central nervous system problems; increased risk of cancer	Byproduct of drinking water disinfection
<b>Inorganic Chemicals</b>				
Arsenic	10	0.01	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer	Erosion of natural deposits; runoff from orchards, runoff from glass & electronics production wastes
Nitrate (measured as nitrogen)	10	1	Infants below the age of months who drink water containin nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits

### Environmental Quality

#### Superfund Sites in Cheyenne County

EPA ID	Site Name	City	County	Non-NPL Status Code	Non-NPL Status Date	NPL Status Code
<b>ACTIVE</b>						
CDN000801795	CHEYENNE WELLS CARBON TETRACHLORIDE	CHEYENNE WELLS	CHEYENNE	NFRAP-Site does not qualify for the NPL based on existing information	10/18/2007	Not on the NPL
<b>ARCHIVED</b>						
NONE						

### Environmental Quality

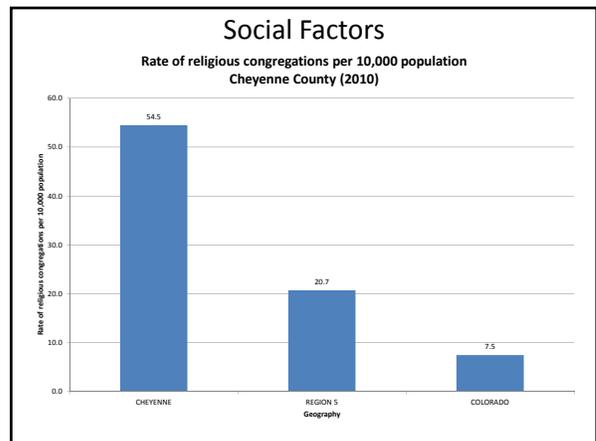
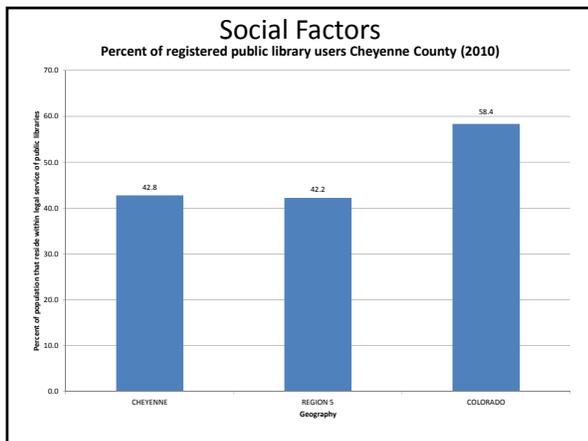
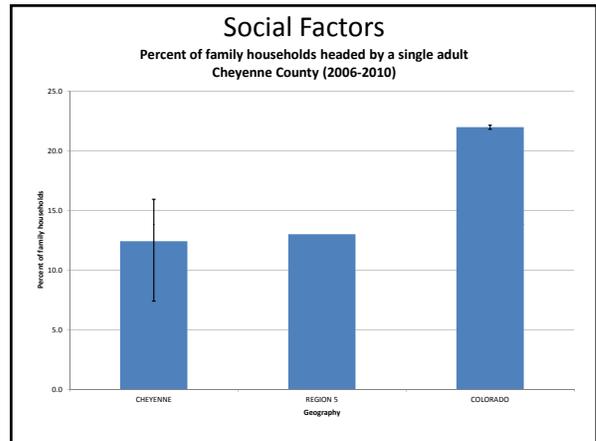
Environmental Inventory	Cheyenne
Number of EPA-regulated facilities listed in Envirofacts	197
Facilities that produce and release air pollutants	114
Facilities that have reported toxic releases	0
Facilities that have reported hazardous waste activities	4
Potential hazardous waste sites that are part of Superfund that exist	0
Facilities regulated by EPA regulations for radiation and radioactivity	0
Facilities with permits and discharges to waters of the US	2

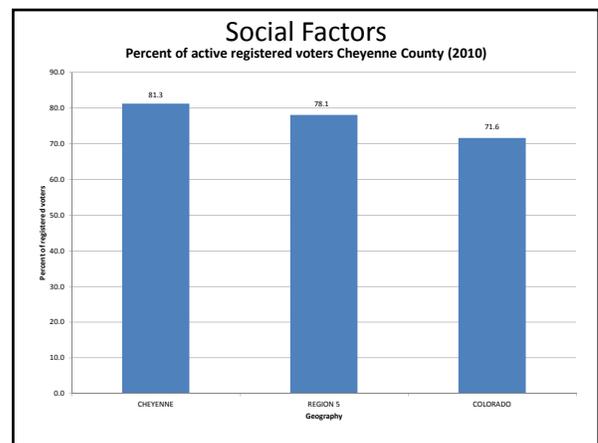
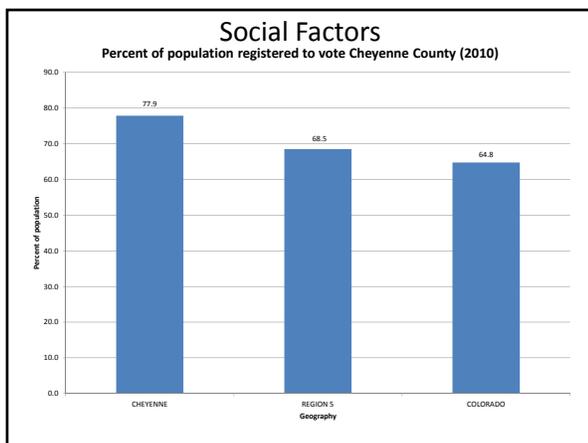
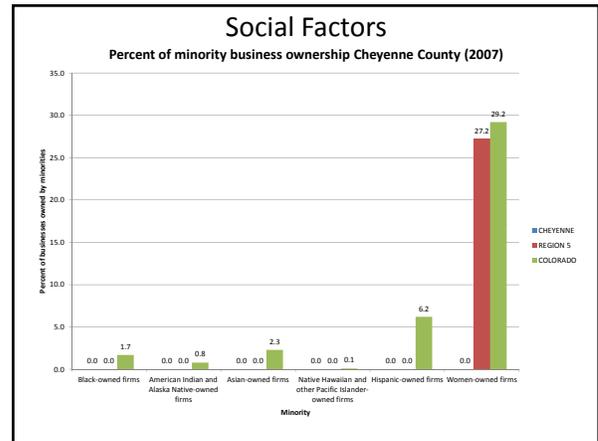
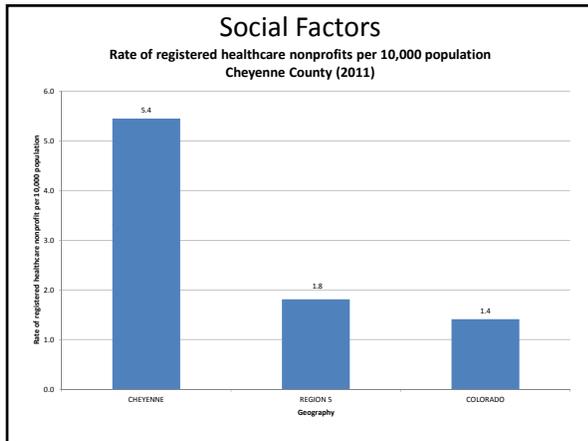
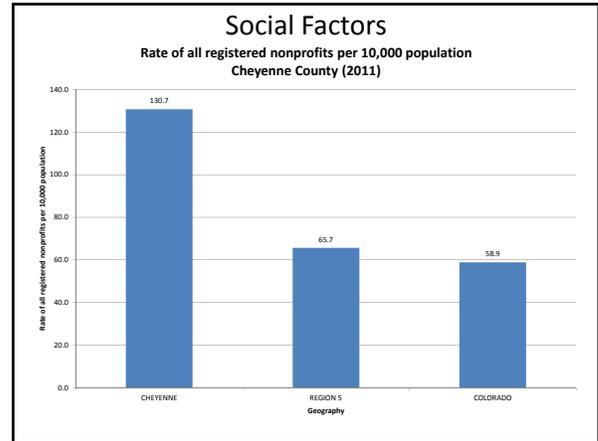
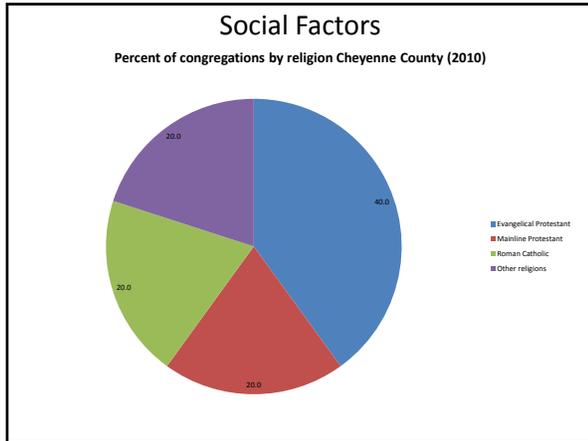
### Summary Physical Environment

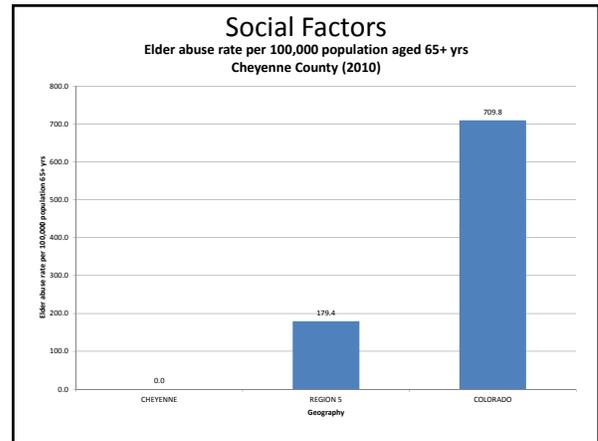
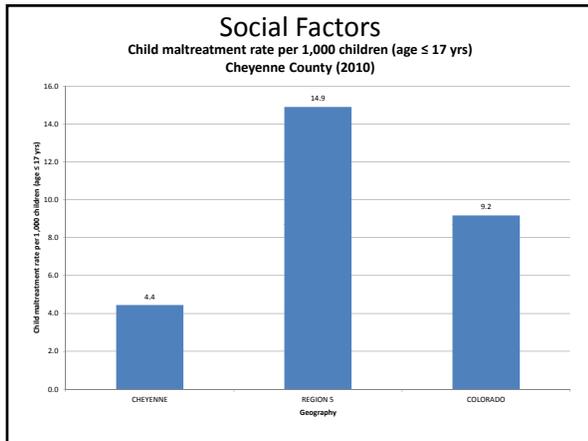
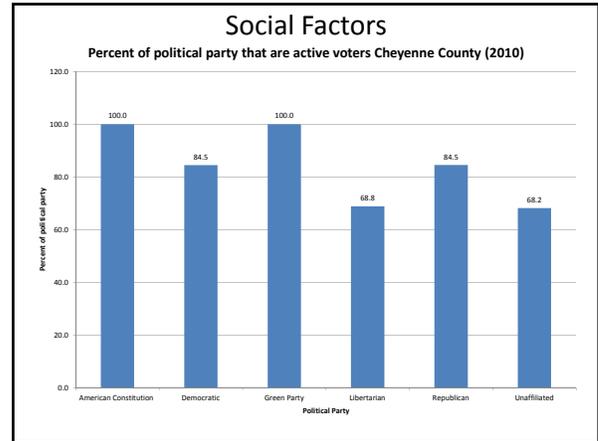
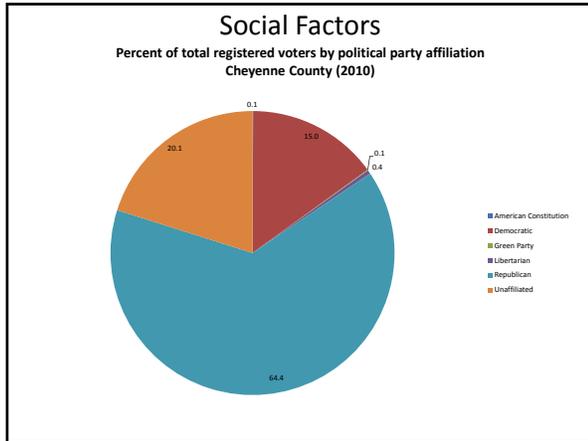
- ▶ **Strengths**
  - Higher rate of healthy food outlets per population (no statistical difference)
  - Low crime rates (no statistical difference)
  - High percent of parents who feel children are safe in neighborhood (Region 5)
- ▶ **Challenges**
  - Low percent with sufficient sidewalks in neighborhoods (Region 5)
  - Low percent with access to public exercise facilities in neighborhood (Region 5)
  - Low percent of workers commuting by biking
  - Higher rate of liquor stores per population (no statistical difference)
  - High percent of housing units built before 1960 (no statistical difference)
  - High percent of residents using private wells (Region 5)
- ▶ **Progress toward HP2020 Goals**
  - Goal already achieved:
    - Percent of workers commuting by walking
  - Improvement needed to achieve goal:
    - Percent of workers commuting by biking or public transportation

### Social Factors

- ▶ Social Network/Support
- ▶ Participation
- ▶ Organizational Networks
- ▶ Leadership
- ▶ Political Influence
- ▶ Violence







## Summary Social Factors

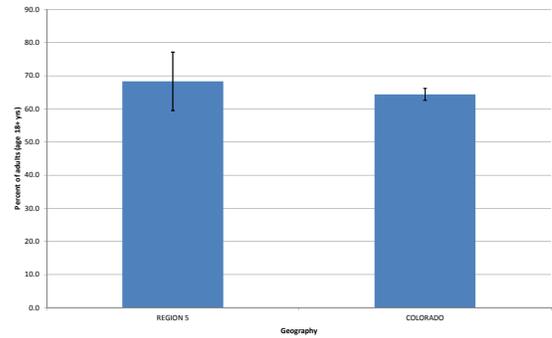
- ▶ **Strengths**
  - Low percent of households headed by single parent
  - High rate of registered healthcare nonprofits (no statistical difference)
  - Higher percentages of registered and actively registered voters (no statistical difference)
  - Low child maltreatment rate (no statistical difference)
- ▶ **Challenges**
  - Low percent of registered library users (no statistical difference)
- ▶ **Progress toward HP2020 Goals**
  - Goal already achieved:
    - Child maltreatment rate

## Health Behaviors and Conditions

- ▶ Nutrition
- ▶ Physical Activity
- ▶ Tobacco Use
- ▶ Skin Cancer
- ▶ Injury
- ▶ Sexual Health
- ▶ Health Conditions

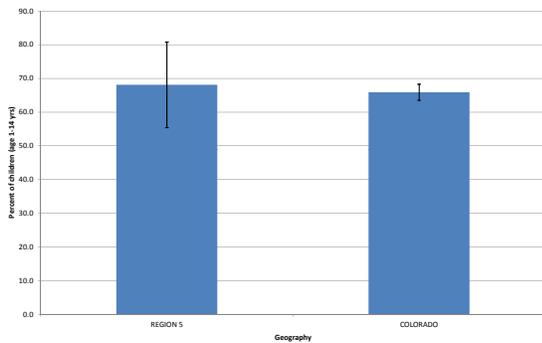
### Nutrition

Percent of adults who reported eating fast food 1+ times per week (2009)



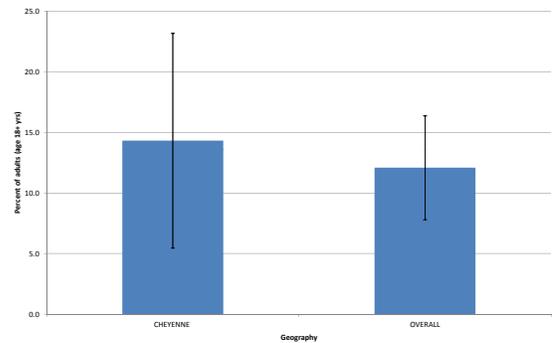
### Nutrition

Percent of children who ate fast food 1+ times in the past week (2009-2010)



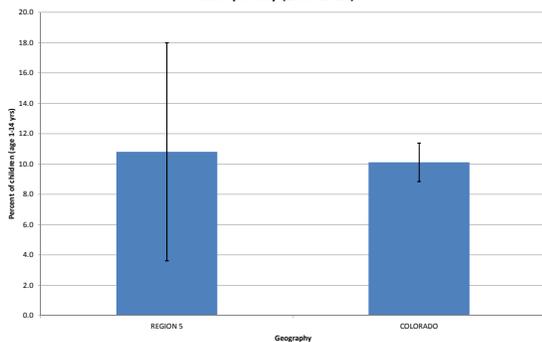
### Nutrition

Percent of adults who consumed 5+ servings of fruits or vegetables per day Cheyenne County (2012)



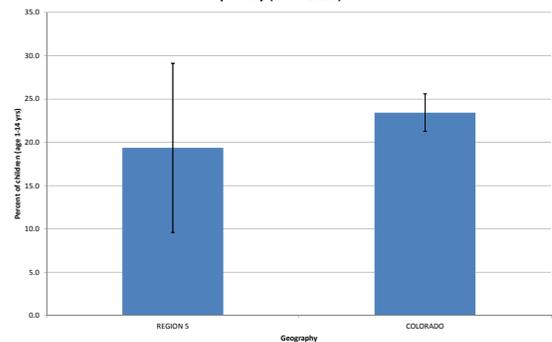
### Nutrition

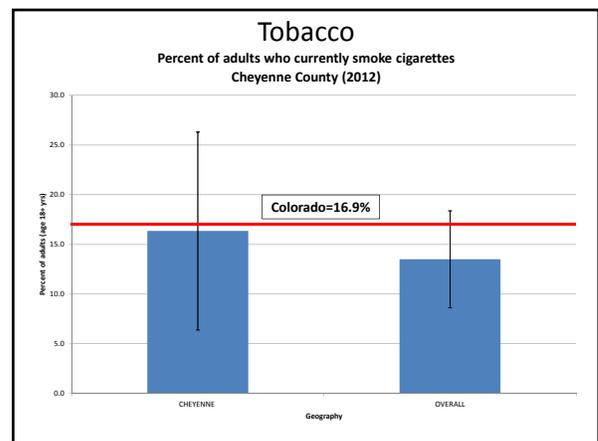
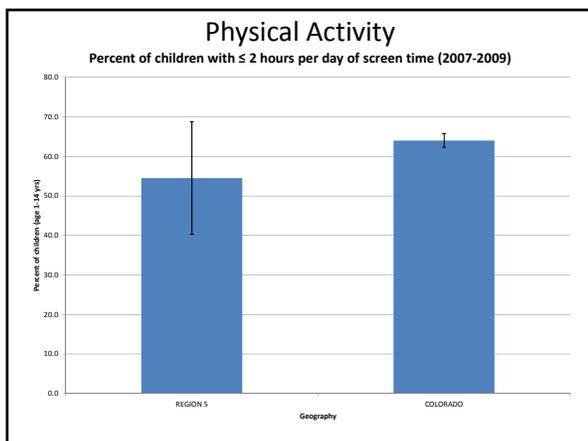
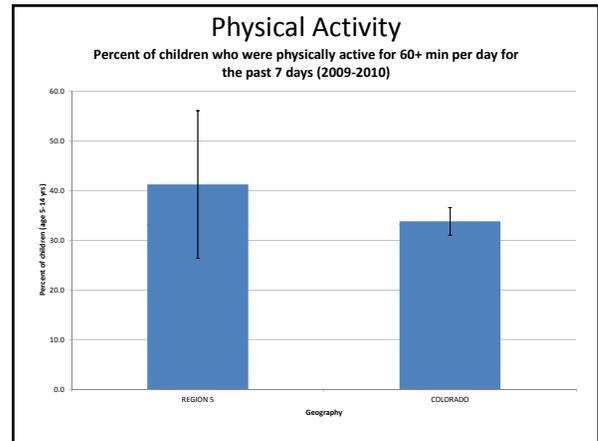
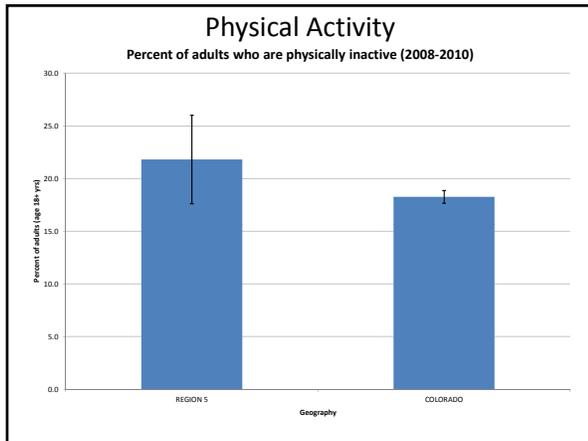
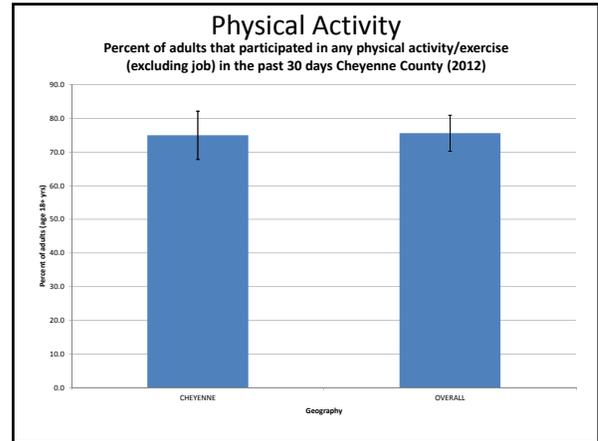
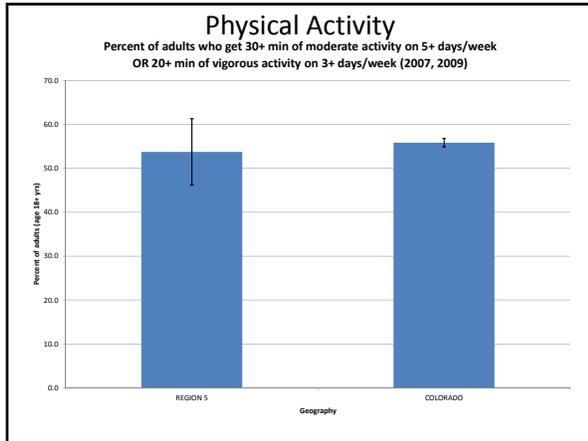
Percent of children who ate fruit 2+ times per day and vegetables 3+ times per day (2008-2010)

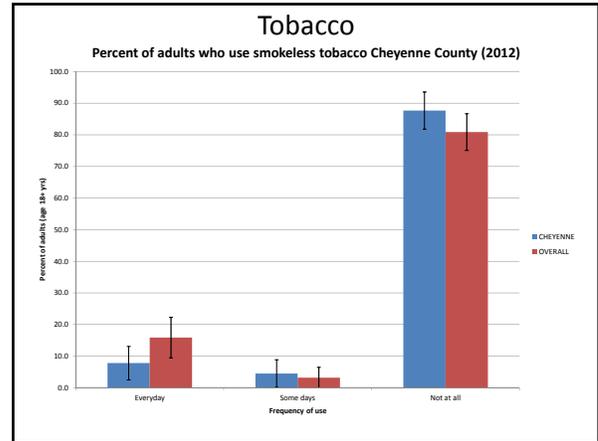
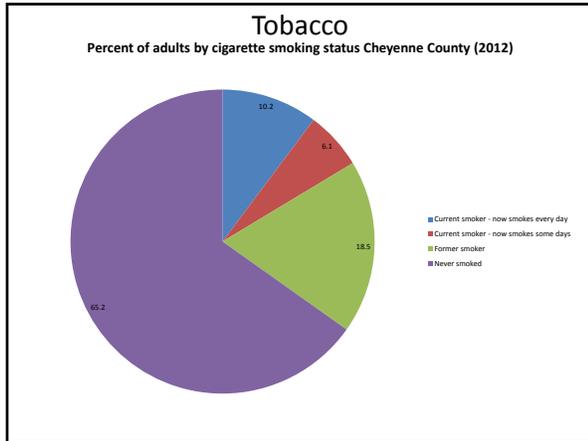


### Nutrition

Percent of children who consumed sugar-sweetened beverages 1+ times per day (2009-2010)



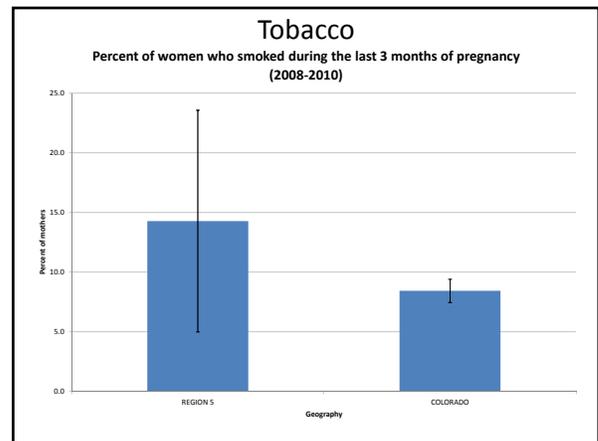
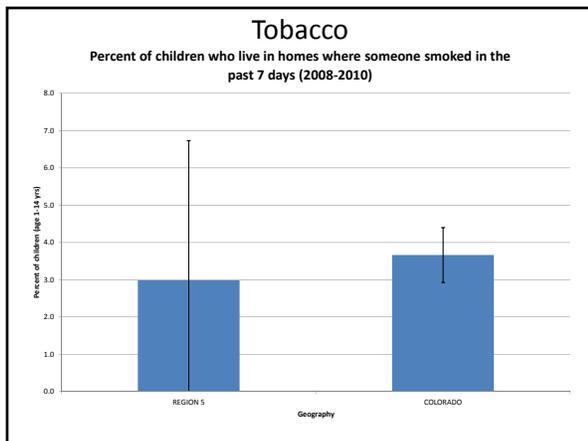
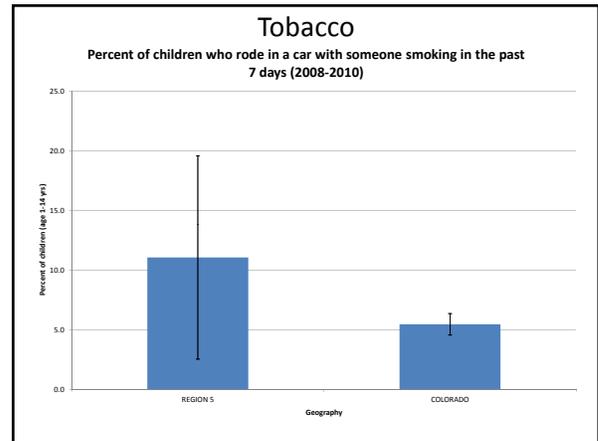


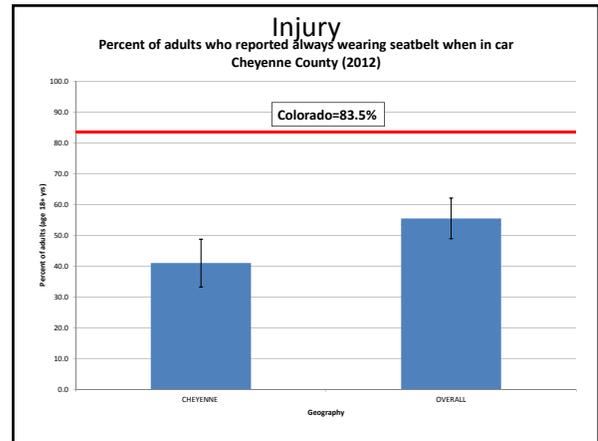
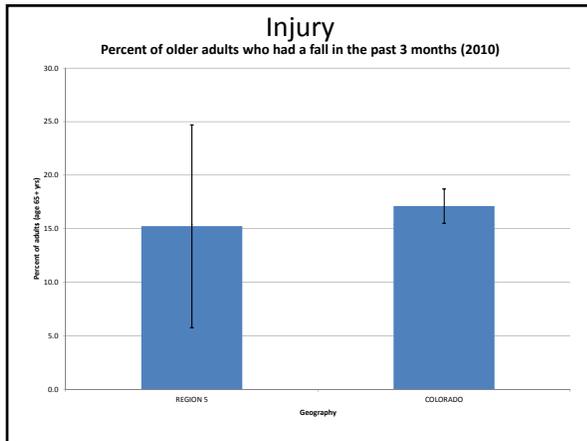
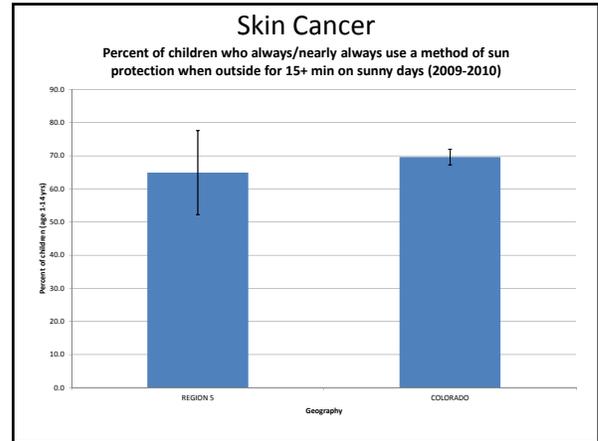
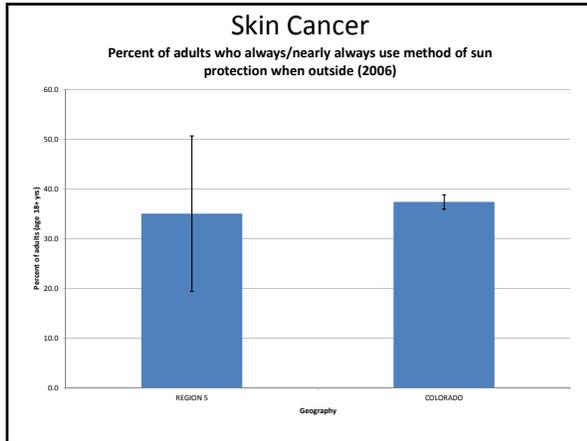


### Tobacco

- Mean age reported by respondents\* when they first began to use smokeless tobacco regularly
  - 18.5 yrs old

\*Estimate does not reflect the mean age for all relevant population in the county. Only representative of the people who took the survey and had the qualified responses for this question.



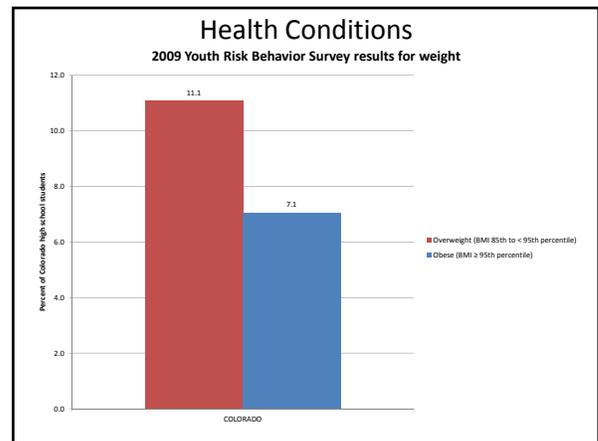
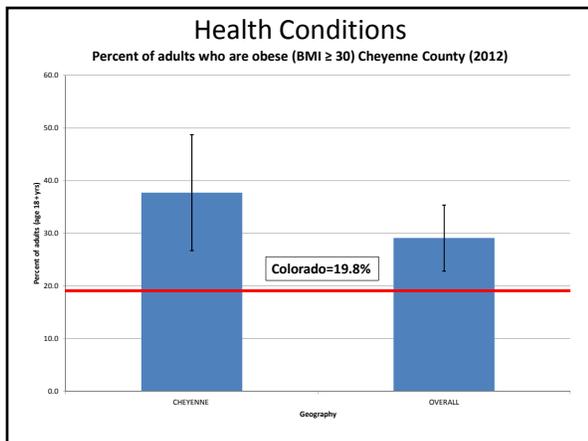
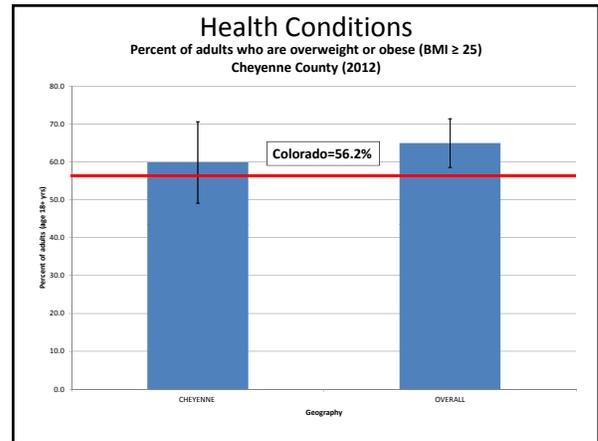
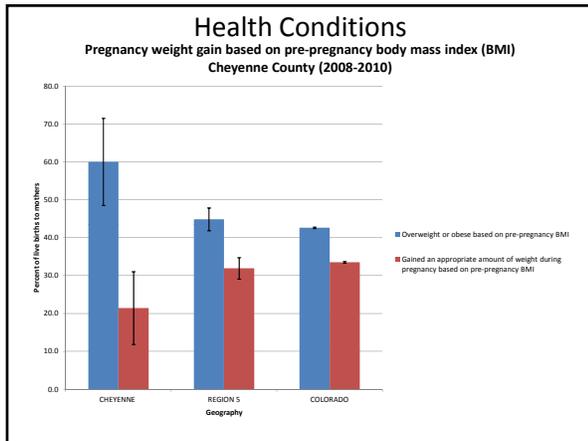
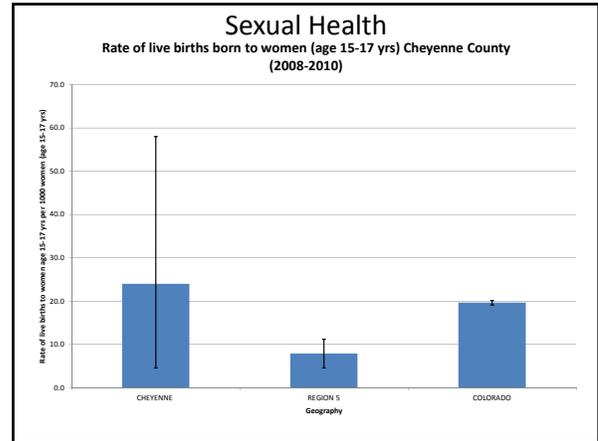
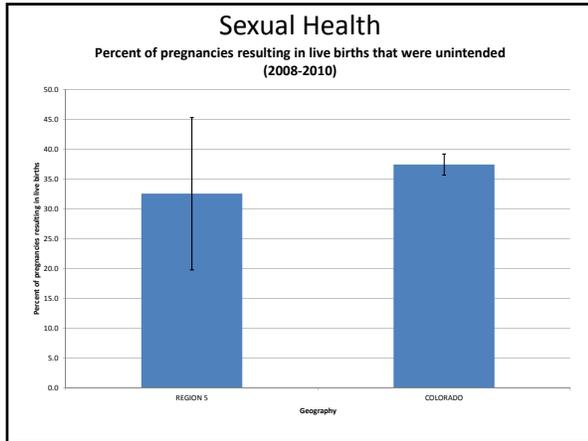


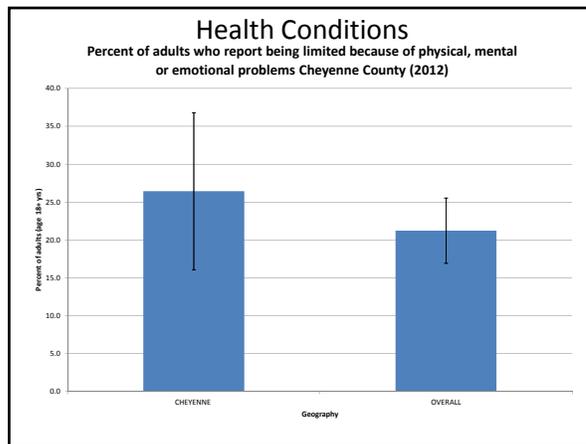
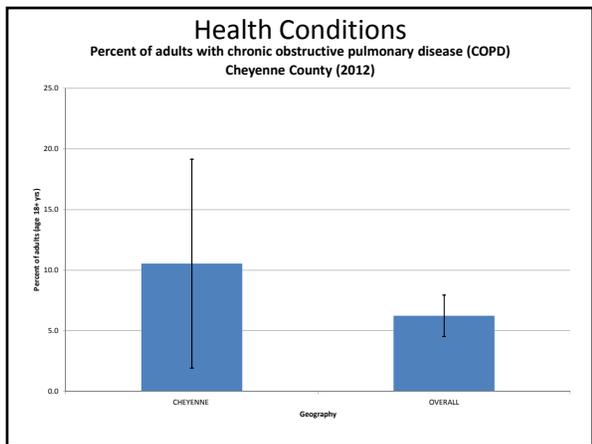
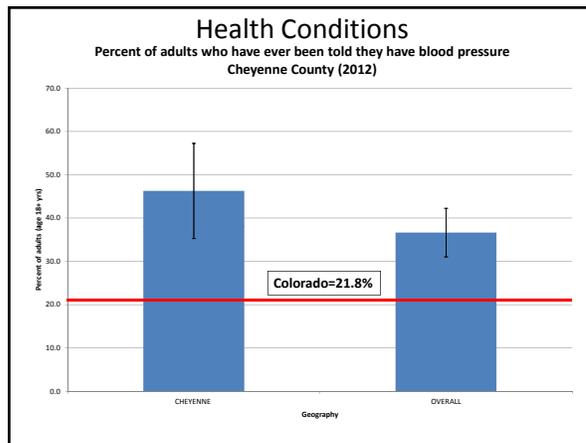
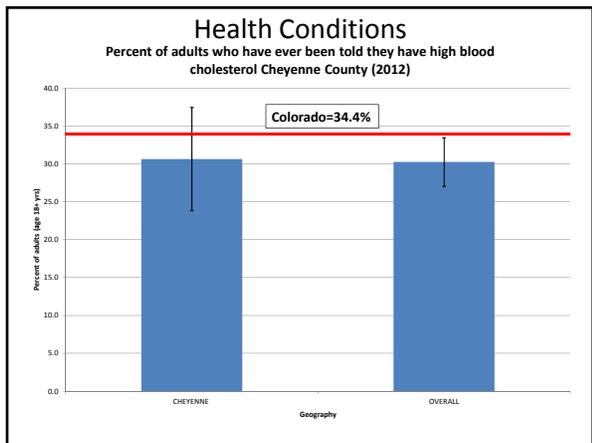
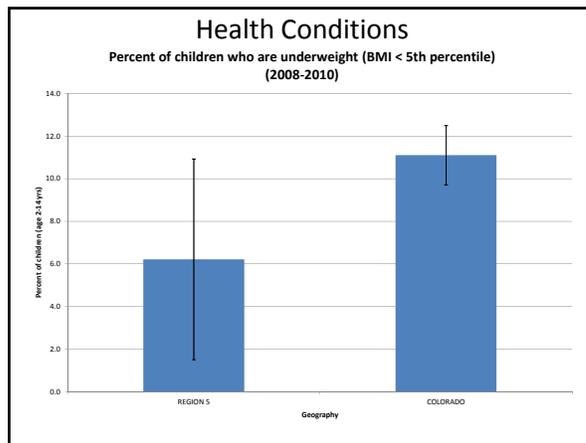
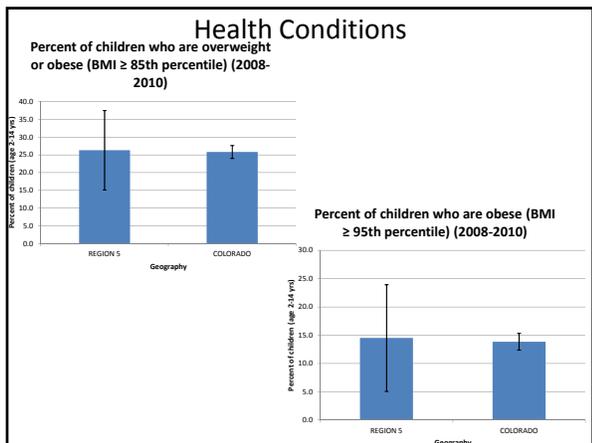
### Sexual Health

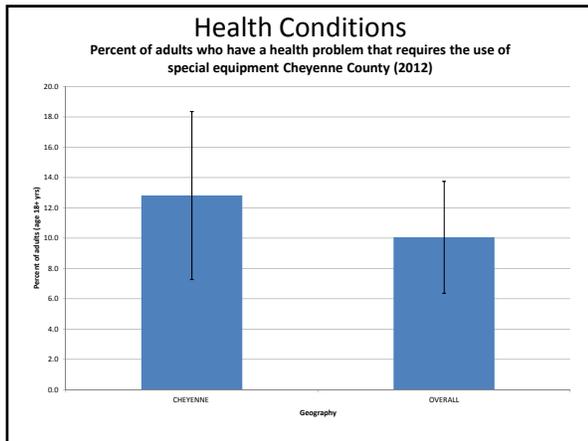
Sexual health behaviors among Colorado Adolescents and Adults

Health Behavior	Year of Data	Percent	95% Confidence Interval
High school students who have ever had sexual intercourse	2009	40.0	(32.4 - 47.5)
Sexually active high school students using an effective method of birth control to prevent pregnancy	2009	74.4	(70.3 - 78.6)
Sexually active adults (aged 18-44 years) using an effective method of birth control to prevent pregnancy	2010	77.8	(74.8 - 80.8)

- ### Sexual Health
- Sexual health among adults in survey region (Cheyenne, Kit Carson & Lincoln counties) (2012)
    - Percent of sexually active adults (aged 18-44yrs): **67.4%** (53.9-80.8 95% CI)
    - Percent of sexually active adults (aged 18-44 yrs) using an effective method of birth control to prevent pregnancy: **97.4%** (95.1-99.7 95% CI)





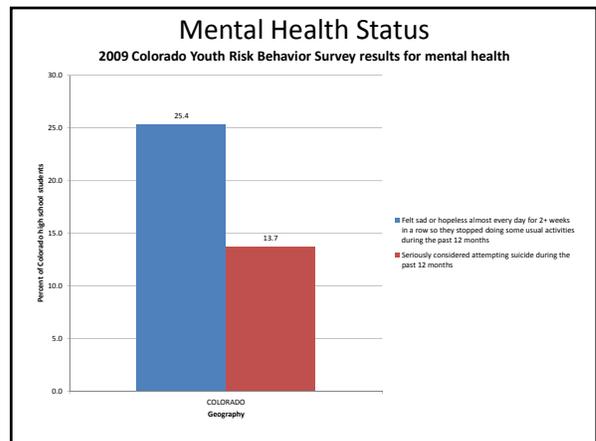
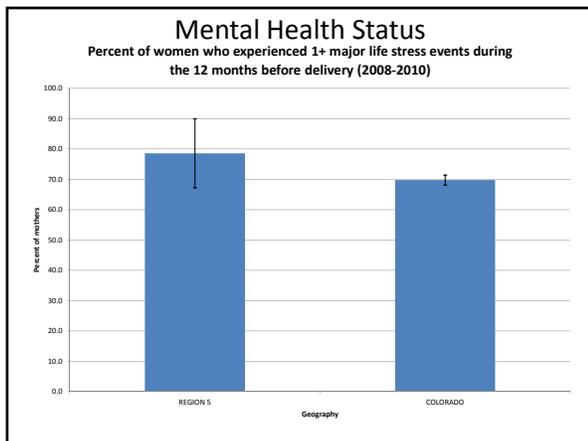
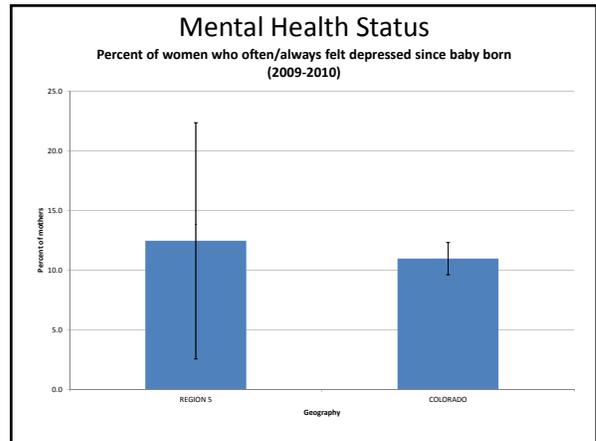


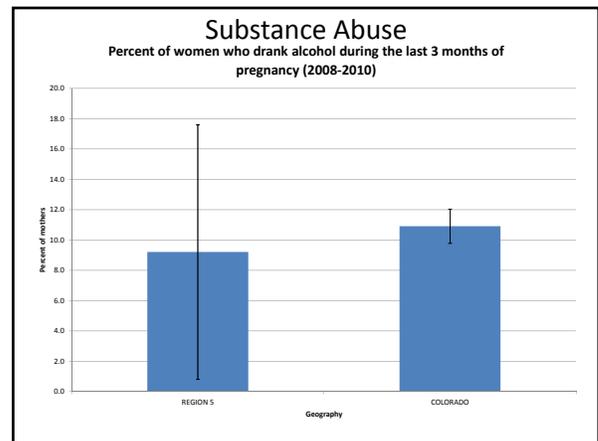
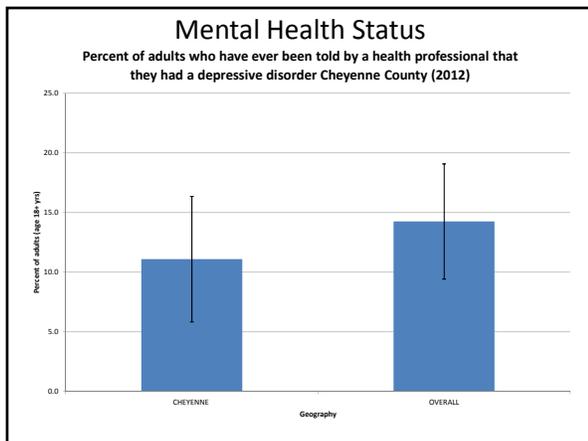
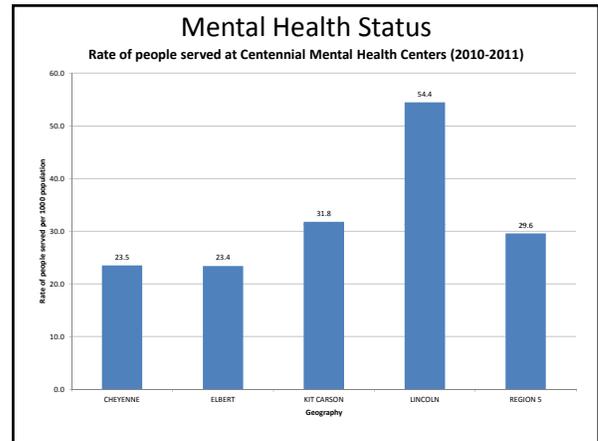
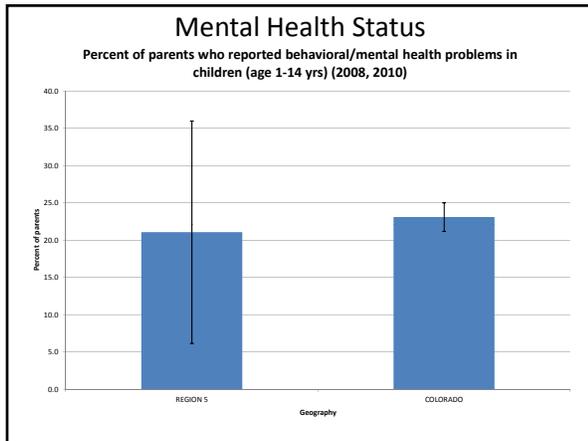
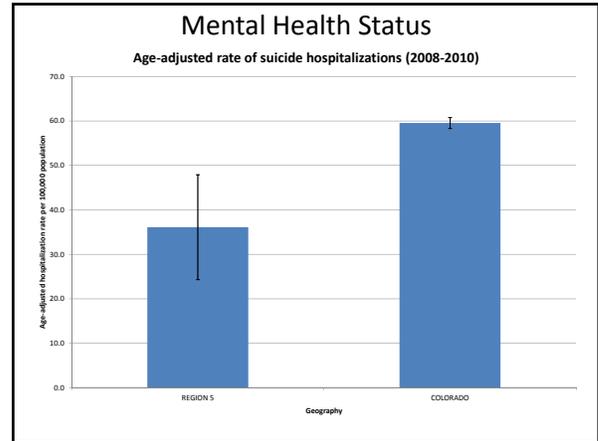
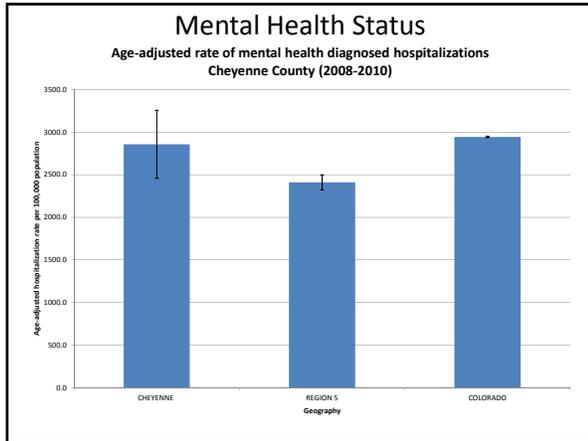
### Summary Health Behaviors and Conditions

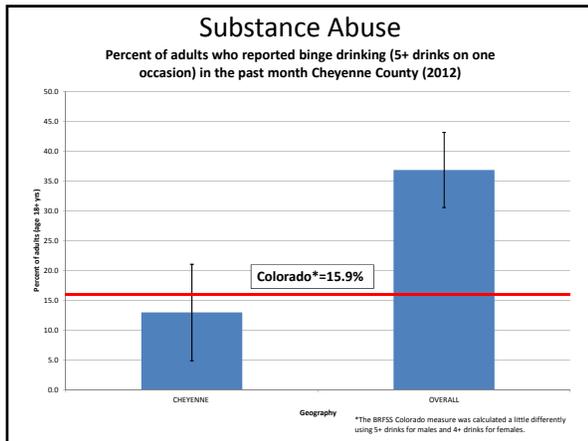
- ▶ **Strengths**
  - Of the sexually active adults in the overall survey region (Cheyenne, Kit Carson & Lincoln counties) 97.4% are using an effective method of birth control to prevent pregnancy (no statistical difference)
- ▶ **Challenges**
  - Only 14.3% of adults consumed 5+ servings of fruits or vegetables (no statistical difference)
  - Lower seatbelt usage among adults
  - Higher percent of live births to women who were overweight or obese based on pre-pregnancy BMI
  - Lower percent of live births to women who gained appropriate weight during pregnancy
  - More adults who are obese
  - More adults with high blood pressure
- ▶ **Progress toward HP2020 Goals**
  - Goal already achieved:
    - Adult physical activity (Region 5) and inactivity (Region 5)
    - Adult current smokers
    - Child obesity
  - Improvement needed to achieve goal:
    - Children's screentime (Region 5)
    - Adult current smokers
    - Adult smokeless tobacco use
    - Adult sun protection (Region 5)
    - Adult seatbelt use
    - Adult obesity

### Mental Health

- ▶ Mental Health Status
- ▶ Substance Abuse
- ▶ Functional Status and Quality of Life



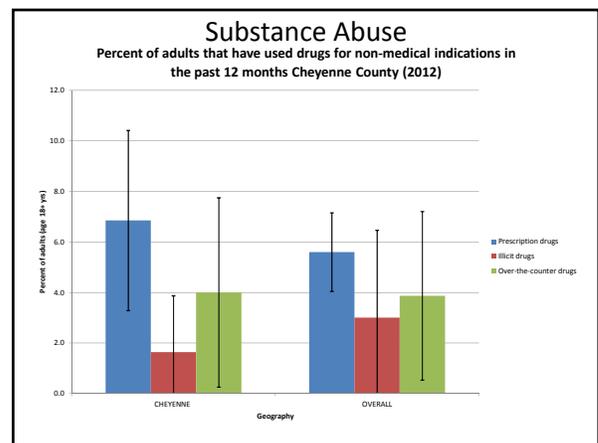
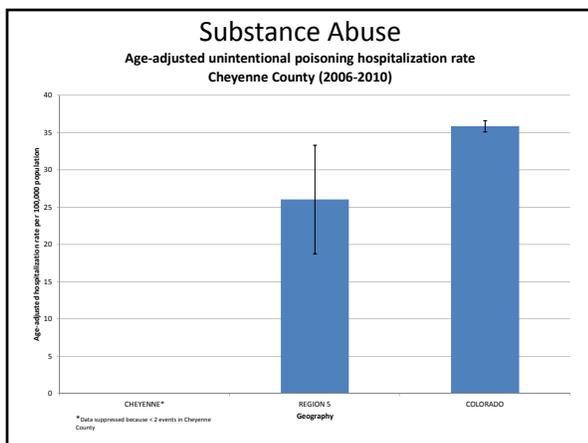
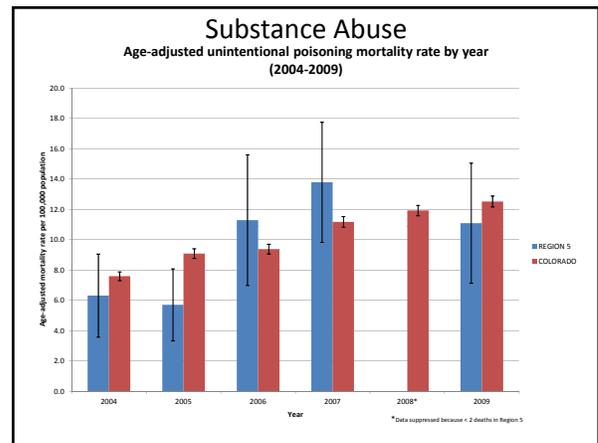
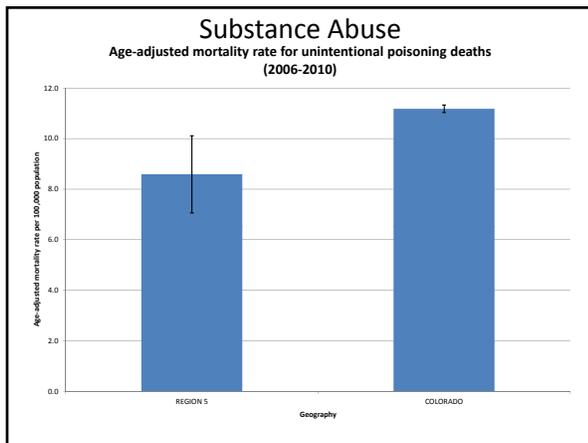


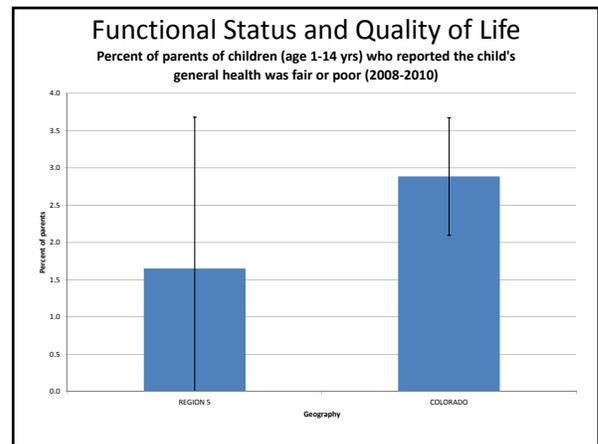
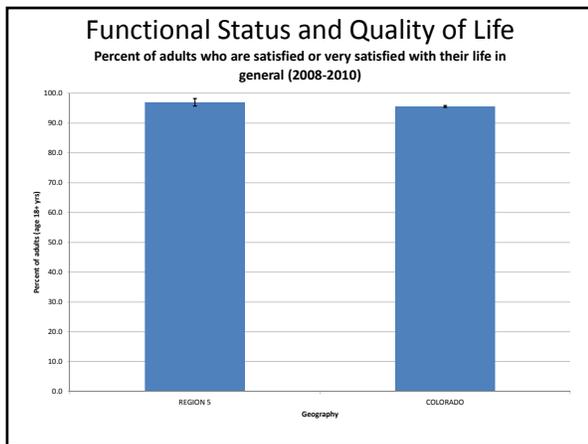
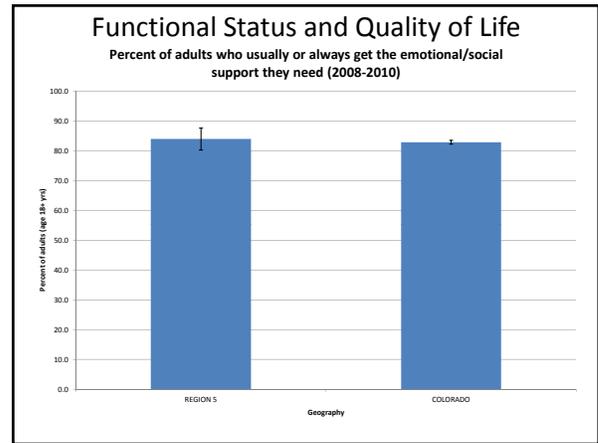
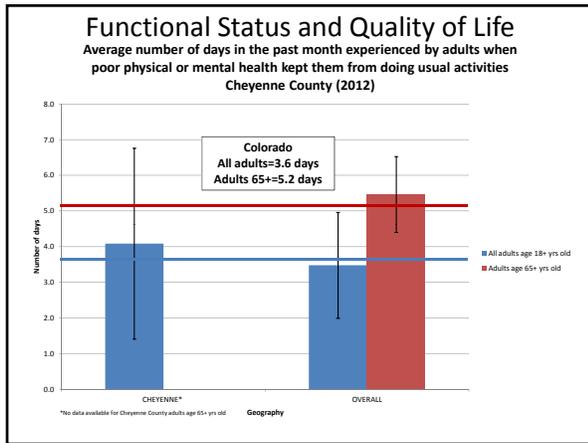
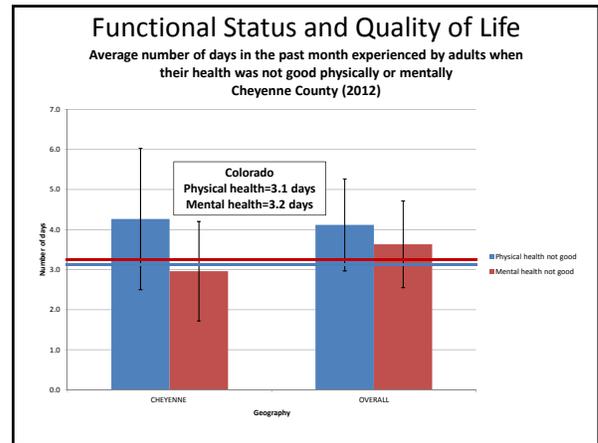
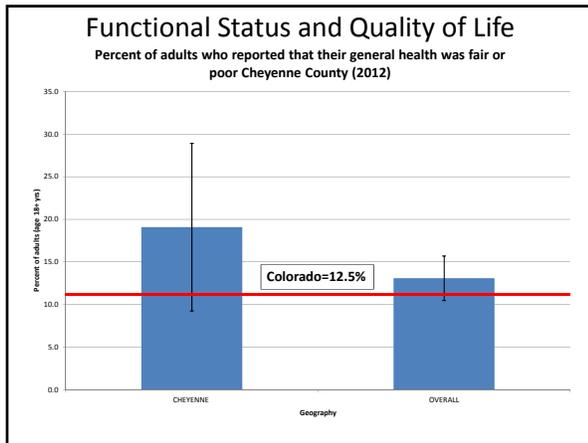


### Substance Abuse

2009 Colorado Youth Risk Behavior Survey results on substance abuse

Substance abuse reported by high school students	Percent	95% Confidence Interval	Healthy People 2020 Goal
Consumed 5+ drinks of alcohols within a couple of hours on at least one day during the past 30 days	25.1	(20.4 - 29.8)	8.5
Used marijuana 1+ times during the past 30 days	24.8	(20.1 - 29.5)	6.0
Driving a car or other vehicle when they had been drinking alcohol 1+ times during the past 30 days	7.4	(5.8 - 9.0)	N/A





## Summary Mental Health

### ▶ Strengths

- Lower suicide hospitalization rate (Region 5)
- Lower adult binge drinking
- Lower mortality rate for unintentional poisoning deaths (Region 5)

### ▶ Challenges

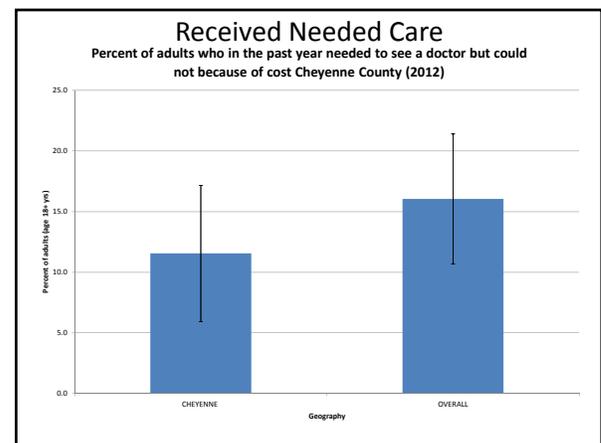
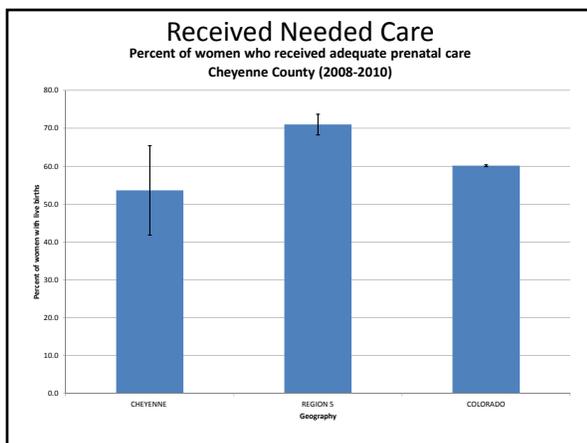
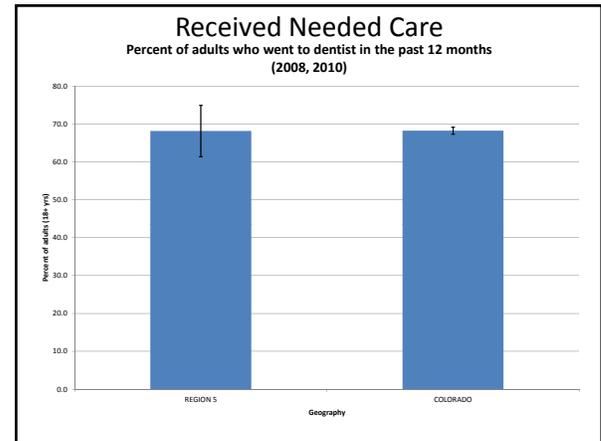
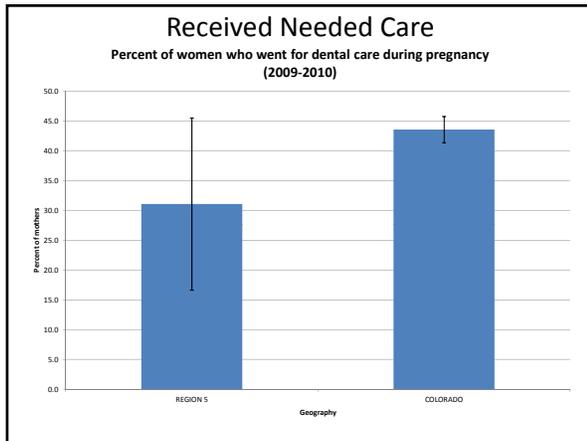
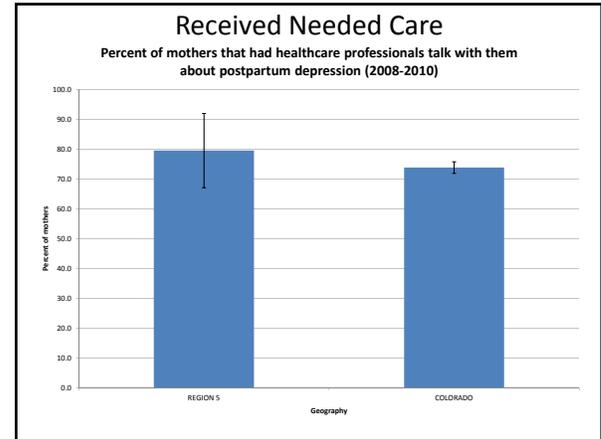
- Adults experienced poor physical health an average of 4.3 days of the month (no statistical difference)

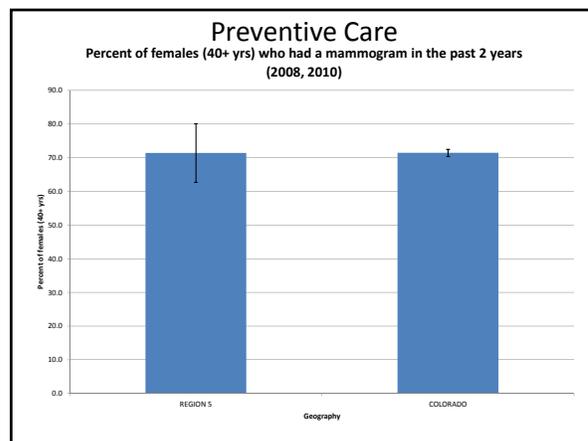
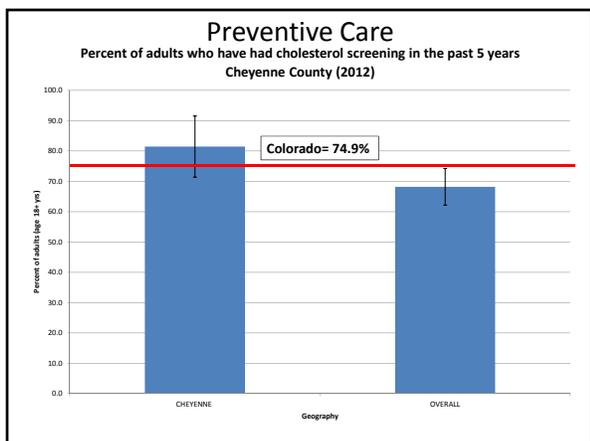
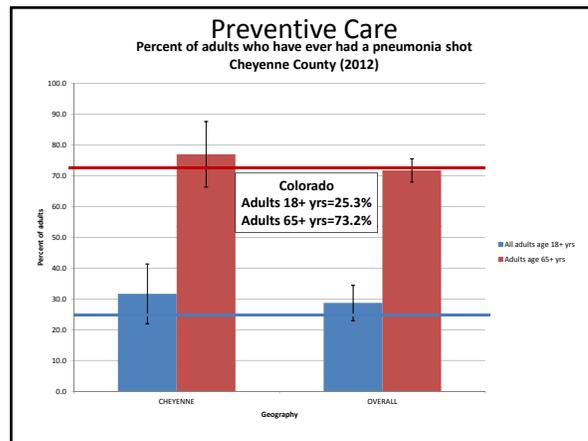
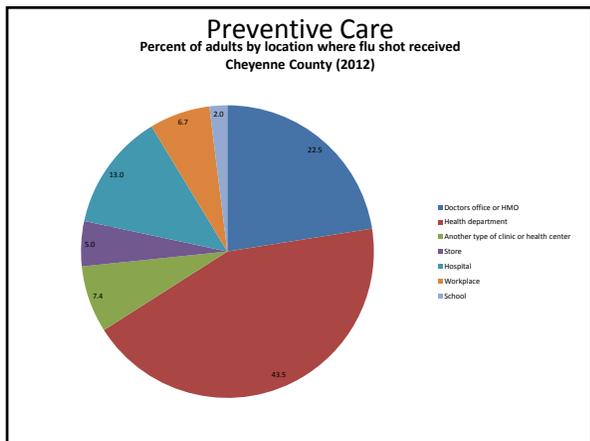
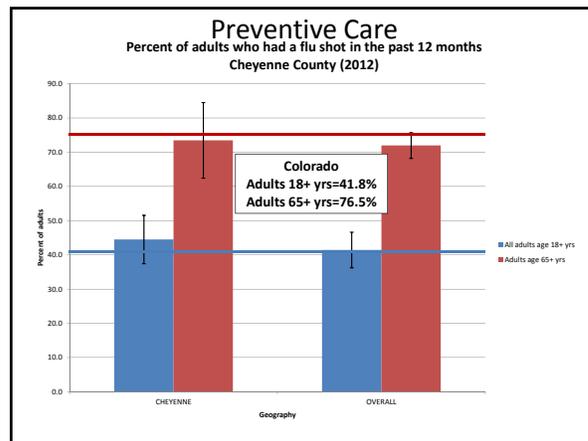
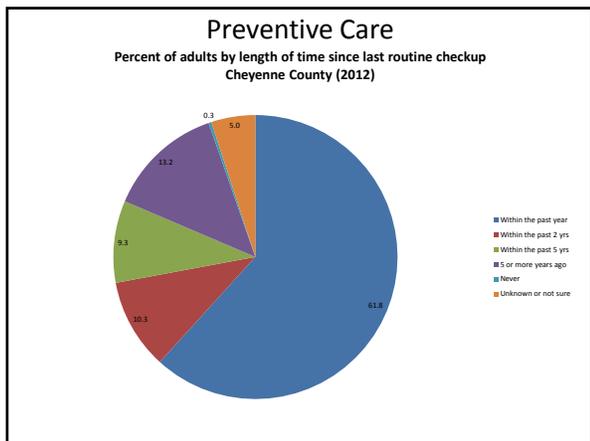
### ▶ Progress toward HP2020 Goals

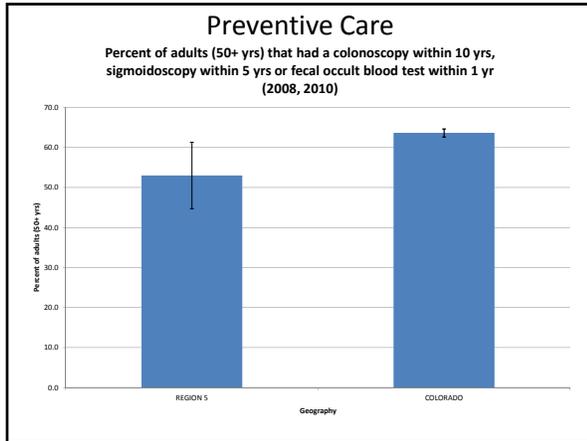
- Goal already achieved:
  - Adult binge drinking
- Improvement needed to achieve goal:
  - Adults with depressive disorder

## Access, Utilization & Quality Care

- ▶ Received Needed Care
- ▶ Preventive Care
- ▶ Health Insurance Coverage
- ▶ Provider Availability

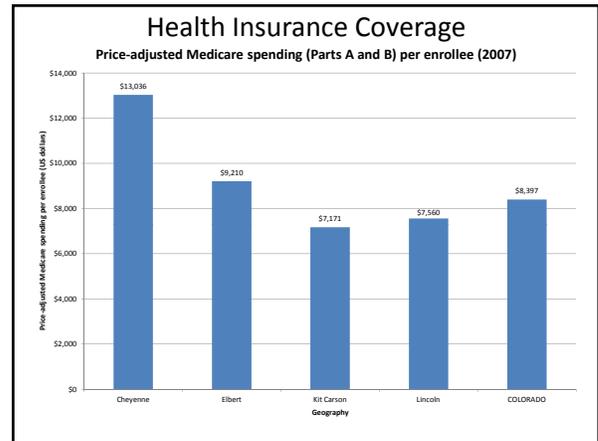
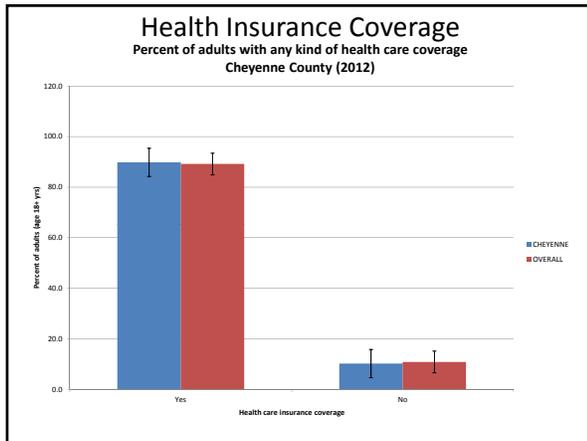






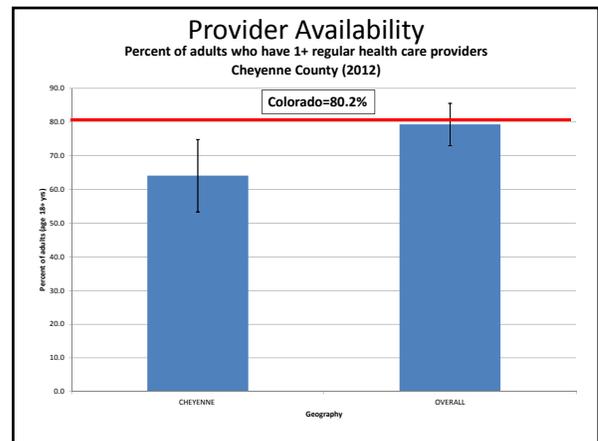
### Health Insurance Coverage

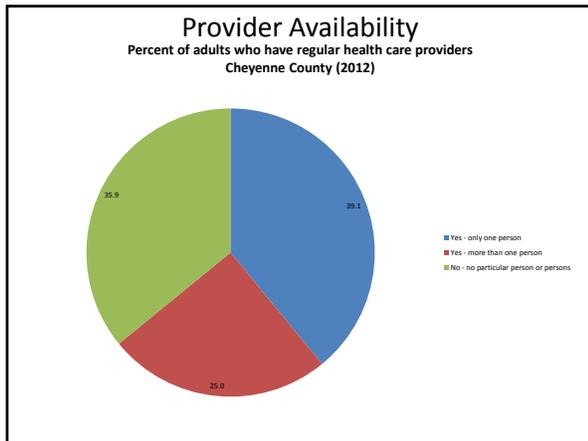
Health Insurance Coverage (2009)	CHEYENNE	REGION 5	COLORADO
The number of children (aged 0-18 years) eligible but not enrolled in Medicaid	21	338	39550
The percent of children (aged 0-18 years) eligible but not enrolled in Medicaid	20.8	19.7	13.3
The number of children (aged 0-18 years) eligible but not enrolled in CHP+	31	475	38887
The percent of children (aged 0-18 years) eligible but not enrolled in CHP+		46.0	37.2
The number of working-age adults (19-64 years) eligible but not enrolled in Medicaid	12	181	26906
The percent of working-age adults (19-64 years) eligible but not enrolled in Medicaid		30.9	28.0
The number of children (less than 19 years old) without health insurance coverage	85	1133	132676
The number of adults (aged 18-64 years) without health insurance coverage	257	5047	637357
The number of uninsured adults without dependent children newly eligible for Medicaid at 0-10% of Federal Poverty Level (2008-2010)	26	415	45698



### Provider Availability

Number of safety net providers Cheyenne County (2011)	Number
Community Health Centers	0
Community Mental Health Centers	1
Community-funded Safety Net Clinics	0
Community-based Dental Health Clinics	1
Emergency Departments	1
Local Public Health Departments and Public Nursing Services	1
Rural Health Clinics	2
School-based Health Centers	0





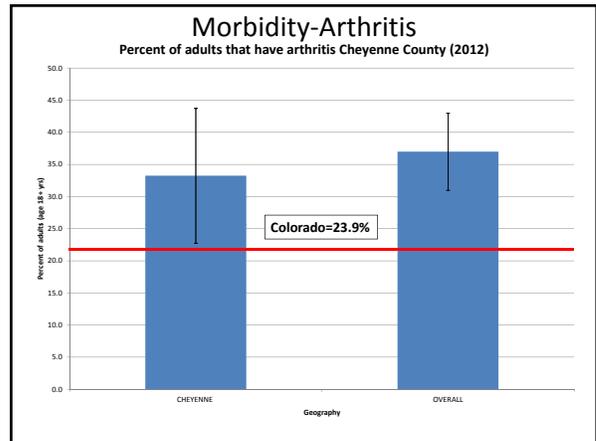
### Summary

#### Access, Utilization & Quality Care

- ▶ **Strengths**
  - 62% of adults have had a routine check-up in the past year
- ▶ **Challenges**
  - Significantly less women received adequate prenatal care (Compared to Region 5)
  - 1 in 5 children are EBNE in Medicaid
  - Medicare spending per enrollee is the most expensive in Region 5 and higher than the state
- ▶ **Progress toward HP2020 Goals**
  - Improvement needed to achieve goal:
    - Influenza and pneumococcal vaccinations in adults 65+ yrs
    - Adult cholesterol screening
    - Adult (50+ yrs) colonoscopy, sigmoidoscopy and FOBT screening (Region 5)
    - Adult health insurance coverage

### Population Health Outcomes

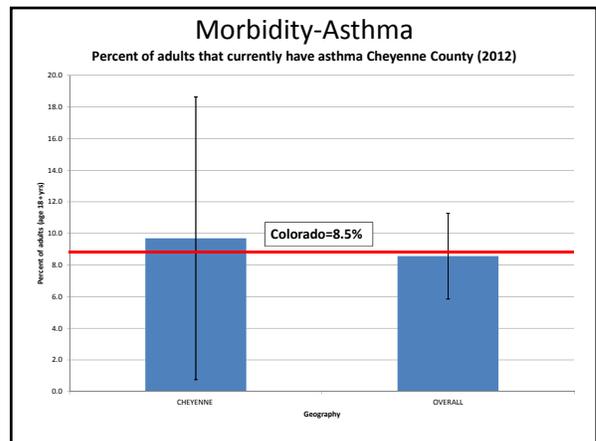
- ▶ **Morbidity**
  - Arthritis
  - Asthma
  - Cancer
  - Diabetes
  - Heart Disease and Stroke
  - Oral Health
  - Communicable Disease
  - Occupational Health
  - Birth Defects
  - Injury
- ▶ **Mortality**
  - Infants
  - All

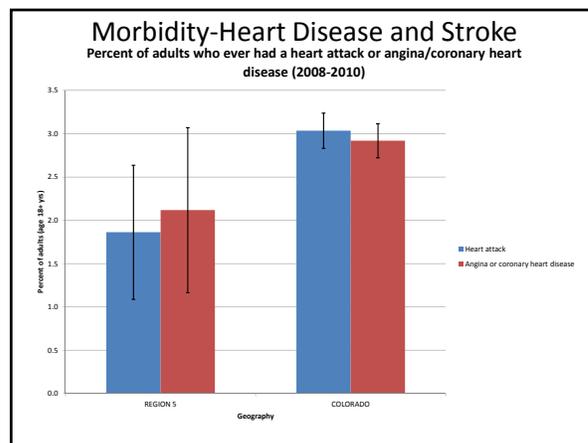
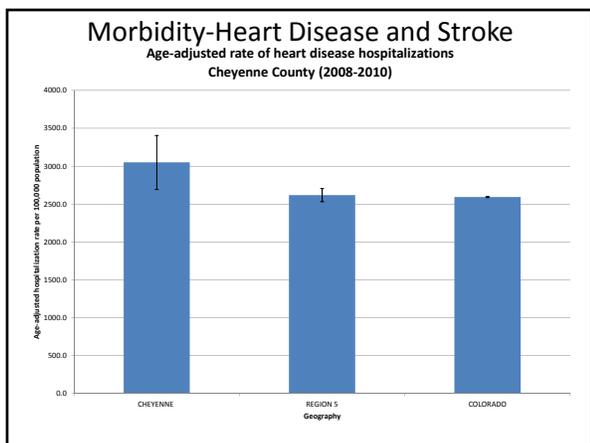
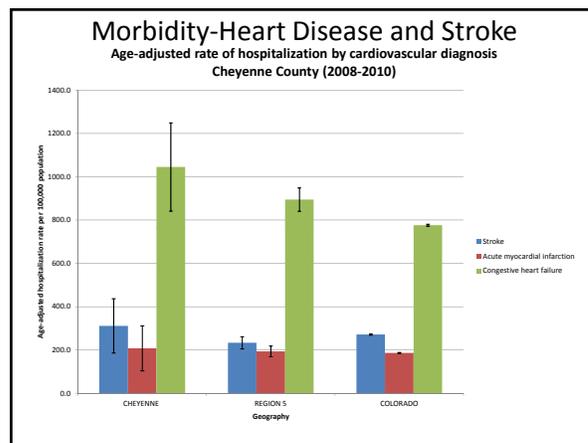
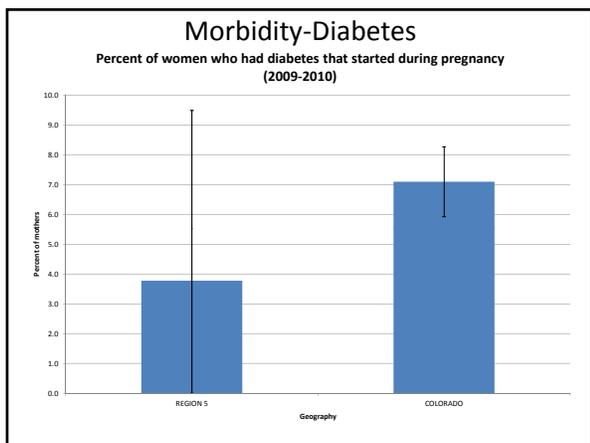
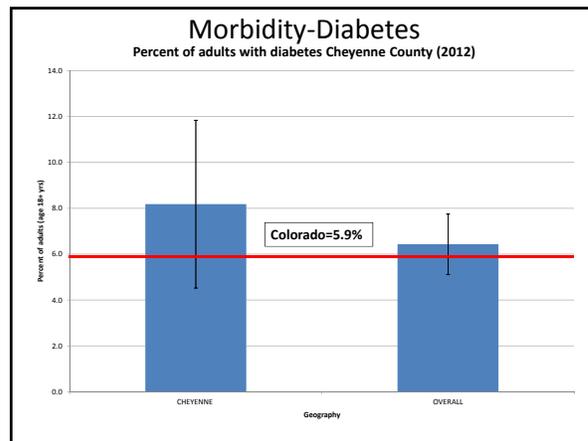
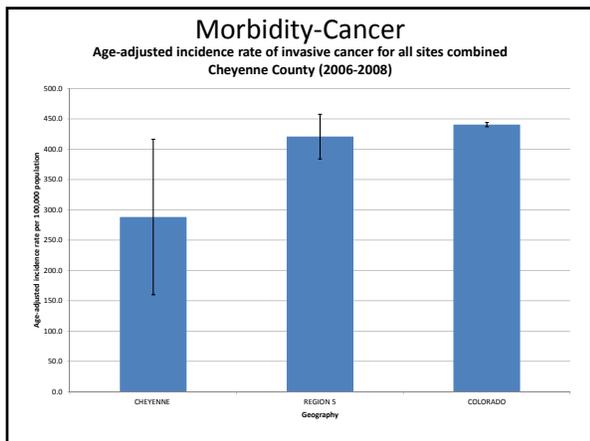


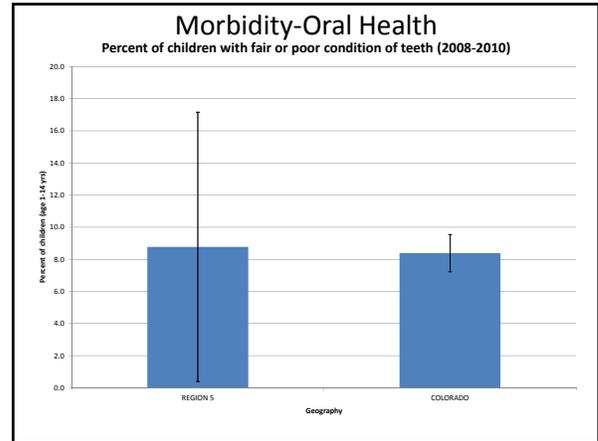
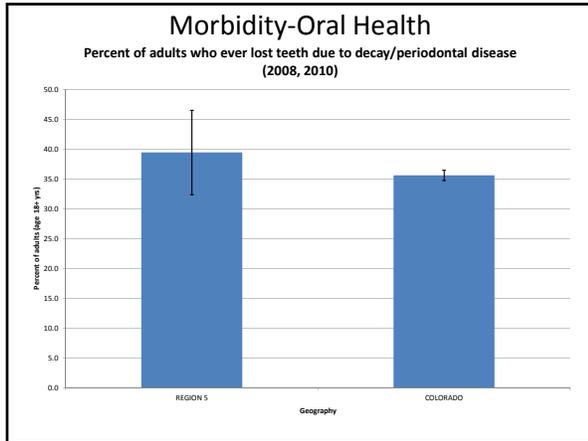
### Morbidity-Asthma

Percent of population with asthma by age

Age Group (95% Confidence Interval)	Data Year(s)	CHEYENNE	REGION 5	COLORADO
Children aged 1-14 years	2008-2010	NA	14.2 (5.0 - 23.4)	8.2 (7.1 - 9.3)
High school students	2009	NA	NA	12.2 (9.9 - 14.6)



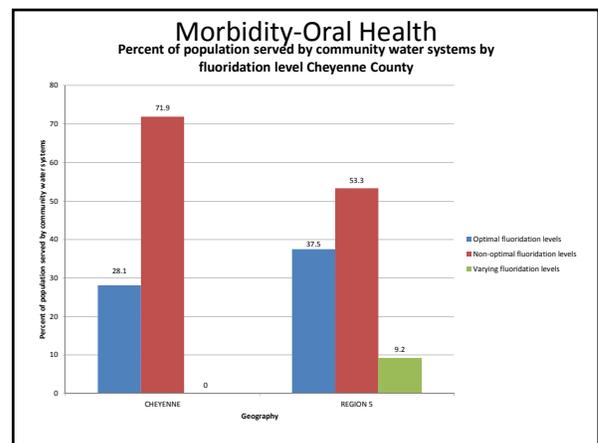
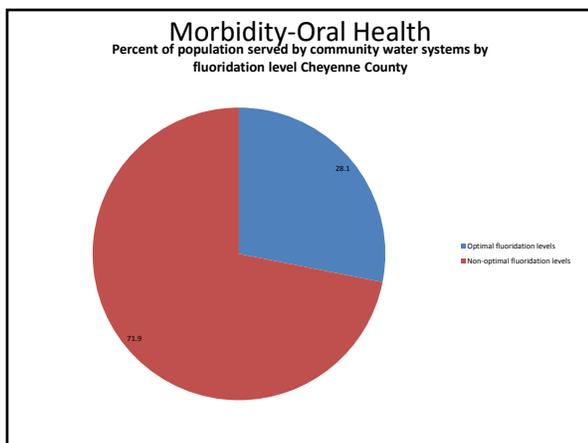
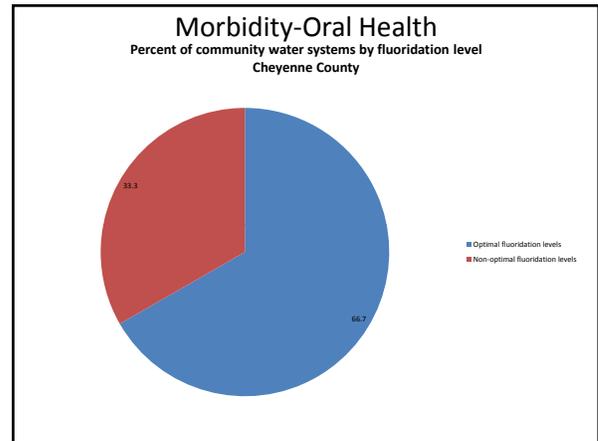


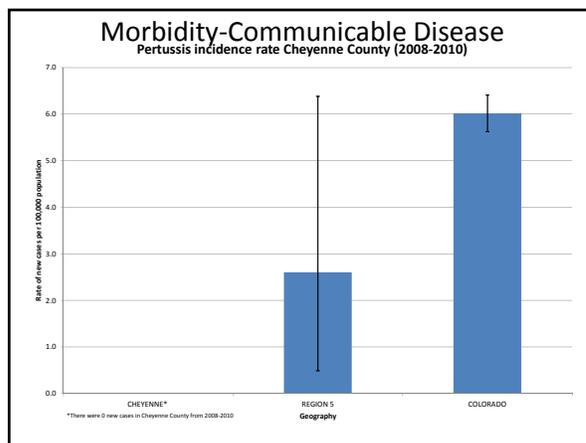
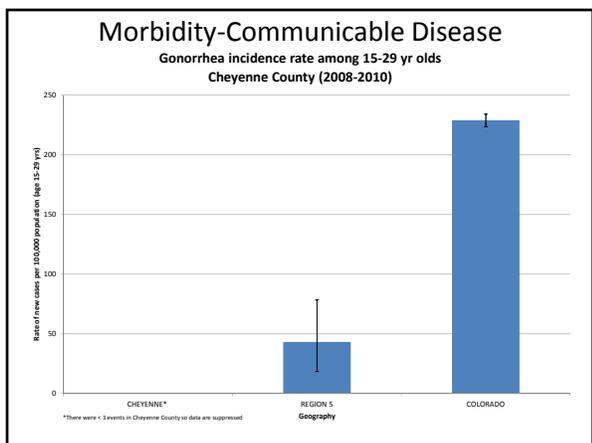
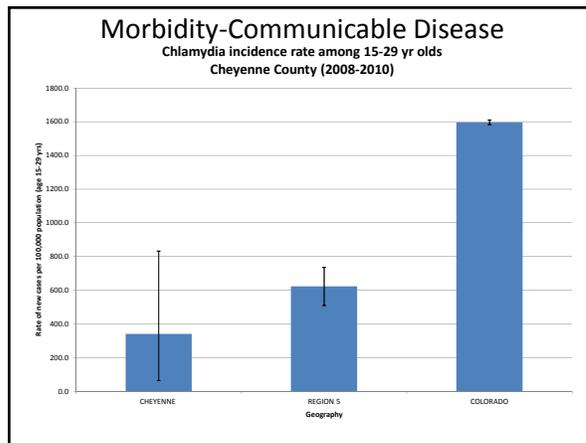
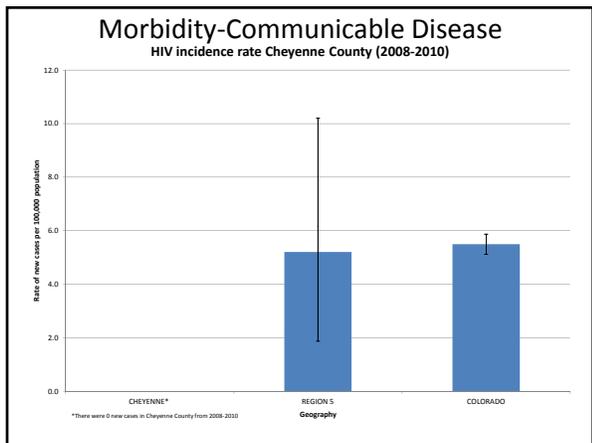
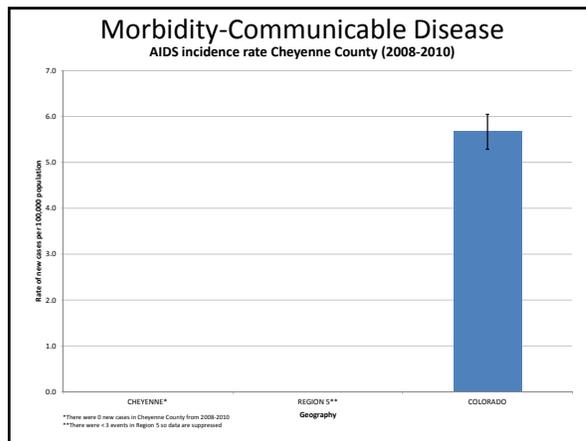
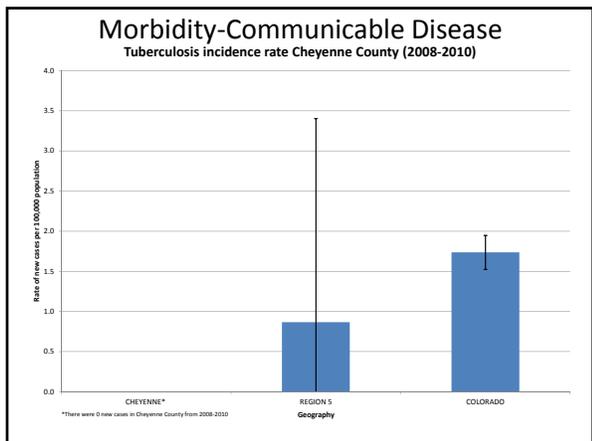


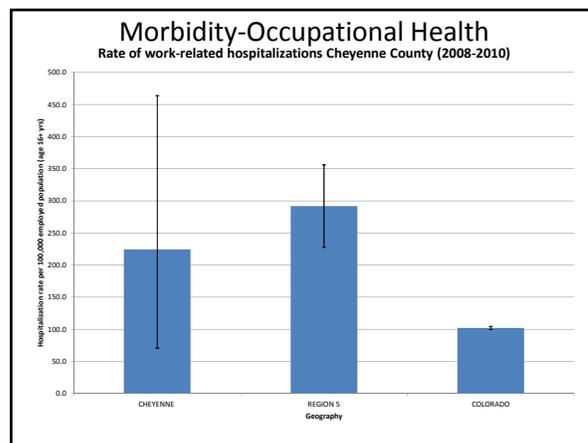
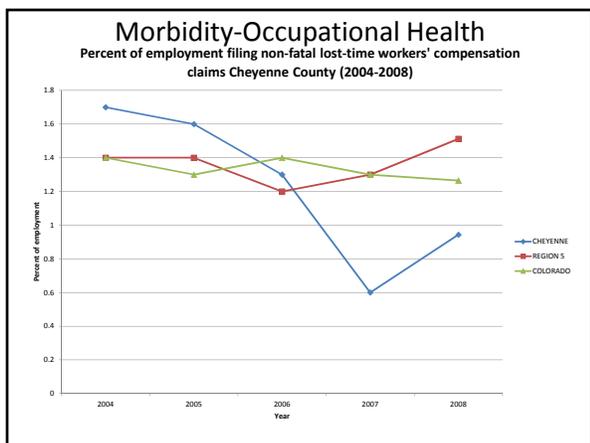
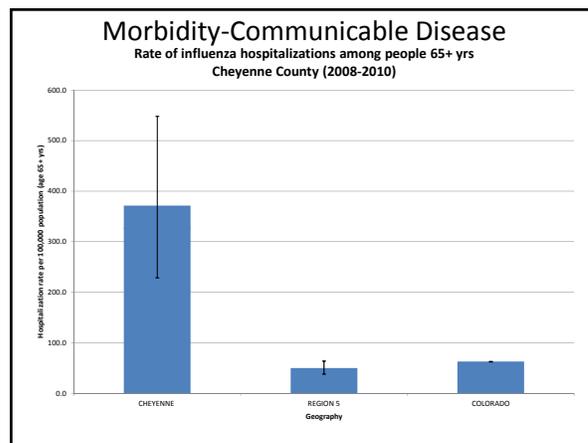
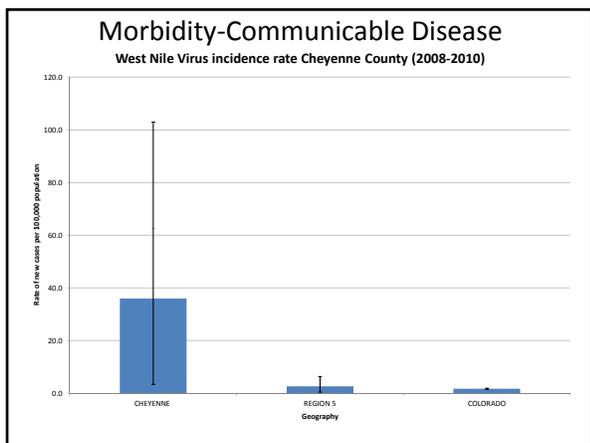
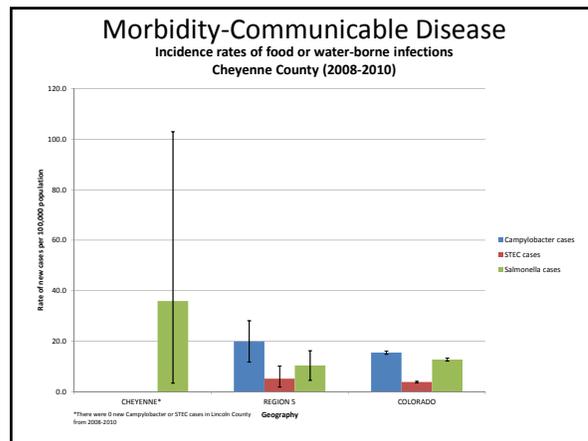
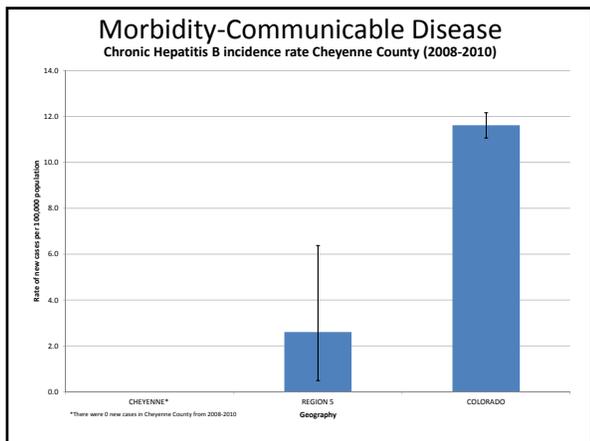
### Morbidity-Oral Health

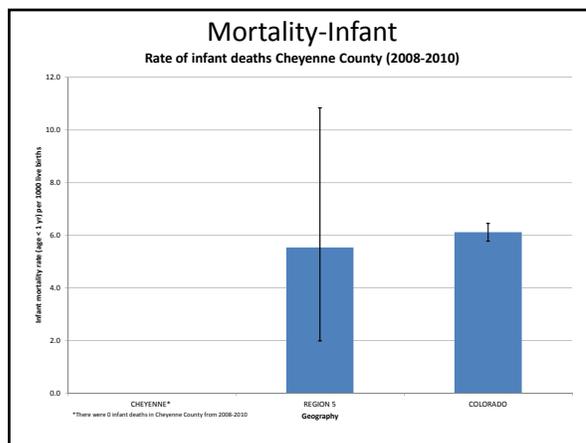
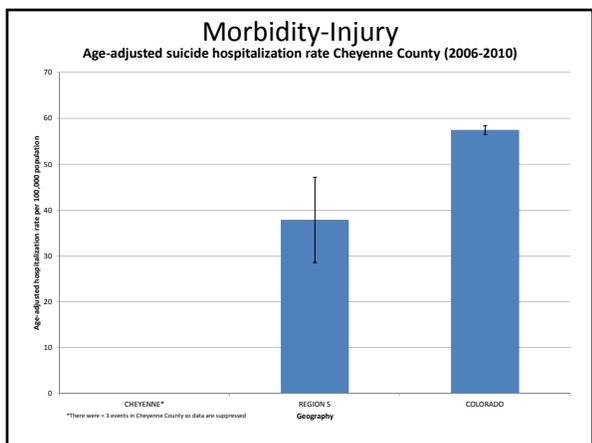
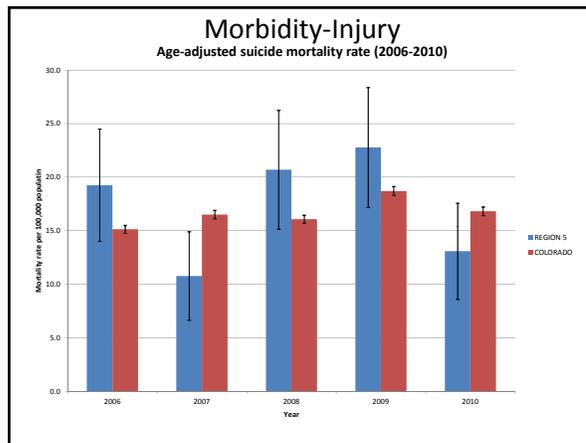
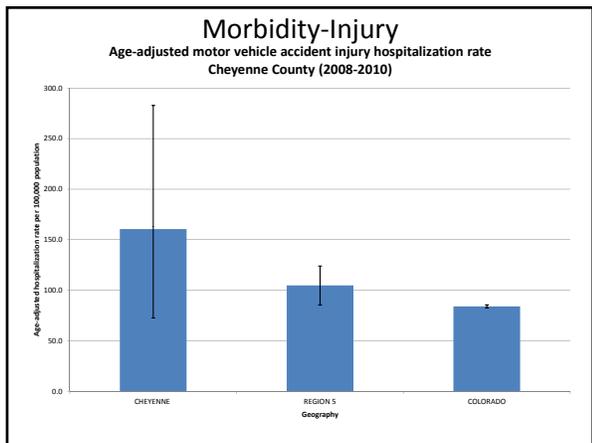
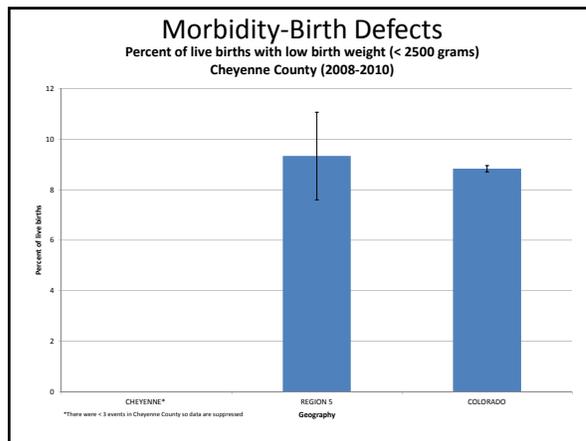
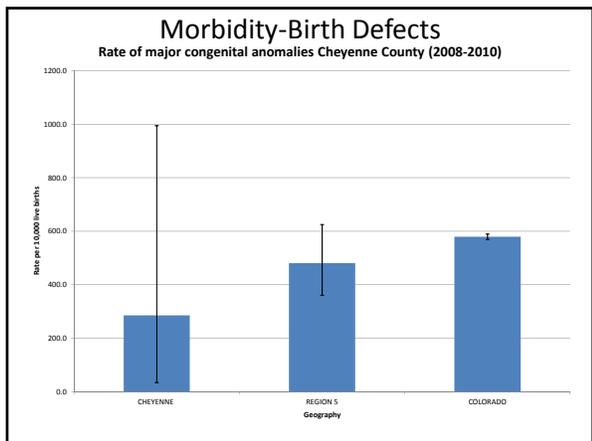
The ratio of the population to the number of practicing dentists (2007)

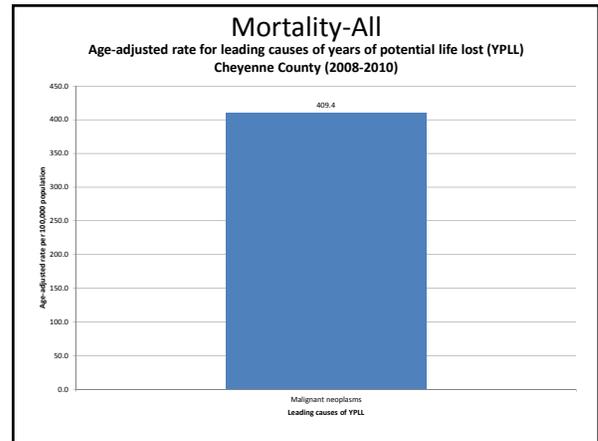
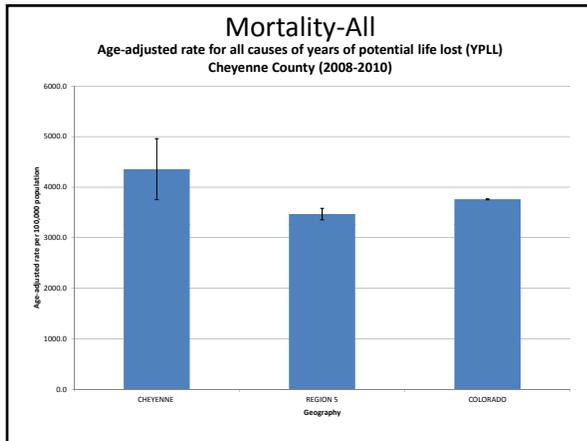
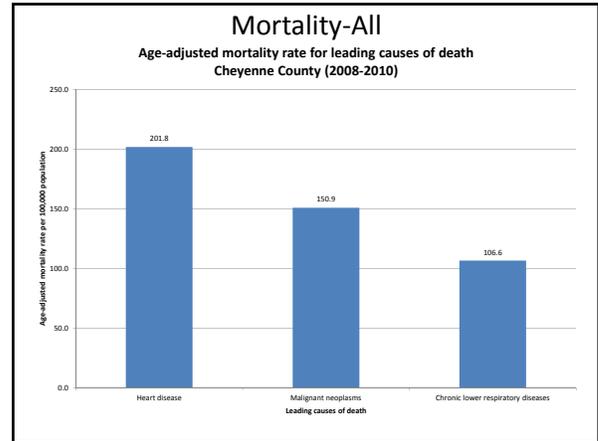
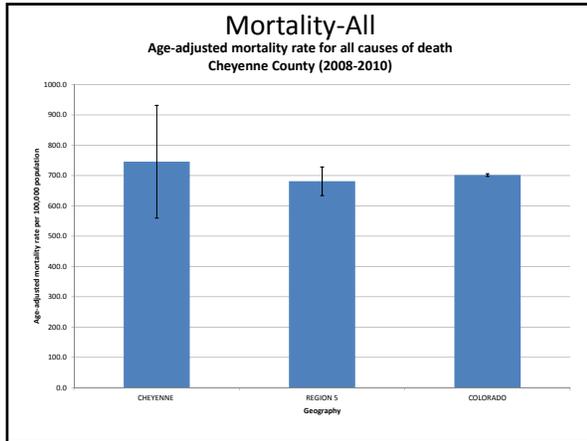
Geography	Ratio of population to practicing dentists
Cheyenne	1863:0
Elbert	4480:1
Kit Carson	2651:1
Lincoln	5484:1
Colorado	1835:1











## Summary Population Health Outcomes

- ▶ **Strengths**
  - Lower incidence rate of invasive cancer for all sites combined
  - Lower incidence rate of chlamydia among young adults
- ▶ **Challenges**
  - High rate of congestive heart failure hospitalizations
  - High rate of heart disease hospitalizations
  - More than 70% of population served on community water systems have non-optimal fluoridation levels
  - High rate of influenza hospitalizations among people aged 65+ yrs
  - High rate of YPLL (Compared to Region 5)
- ▶ **Progress towards HP2020 Goals**
  - Improvement needed to achieve goal:
    - Percent of population served by community water systems receiving optimal fluoridation levels
    - Communicable disease incidence rate for salmonella