

2018 Community Health Assessment

Tri-County Health Department

Adams | Arapahoe | Douglas
Colorado



updated: August 30 2018

Dear residents, partners, and staff:

The mission of Tri-County Health Department is to promote, protect and improve the lifelong health of individuals and communities in Adams, Arapahoe, and Douglas Counties through the effective use of data, evidence-based prevention strategies, leadership, advocacy, partnerships and the promotion of health equity. In line with our mission, the Centers for Disease Control and Prevention's Essential Public Health Services and Colorado's Public Health Improvement Act of 2008, every five years Tri-County completes a Community Health Assessment. The purpose of these assessments is to provide an overview of the current health status of our counties in order to strategically inform and prioritize the issues we tackle, with our partners, as your local public health department. While we have made great strides in some of our greatest health challenges in our counties, it is important to reflect on current and emerging health trends in order to maintain and promote the health of our residents. With that, I am pleased to present TCHD's 2018 Community Health Assessment.

As part of this Community Health Assessment, we carried out a survey among our community members, partners, and staff. They told us that health in their communities is most highly influenced by social connection, opportunity, health and wellness services, neighborhood conditions, and safety. Based on this input, we organized the report around these concepts, focusing on what influences our health and how a community supports an individual's health. In contrast to our previous assessments, this report aims to talk about health outcomes and behaviors in the context of the social, economic, and environmental factors in our counties and communities which are the foundations for establishing a healthy life.

As encouraged by the visionary document on public health in the 21st century, Public Health 3.0, TCHD increasingly strives to play an effective role as a Chief Health Strategist for our communities, mobilizing efforts to form and strengthen strategic partnerships. We hope that the information contained in our new Community Health Assessment will provide a useful synopsis of the health status of our counties and increase the understanding of a healthy community and the role we all play in supporting health. Knowing that this assessment will be only as useful as the actions it stimulates, we look forward to working with community members, TCHD staff, and our great range of partners to address the health issues outlined here and create our new, collaborative Public Health Improvement Plan. After all, "Public Health is what we do together as a society to ensure the conditions in which everyone can be healthy."ⁱ Happy reading!

Sincerely,



John M. Douglas, Jr., MD

Executive Director

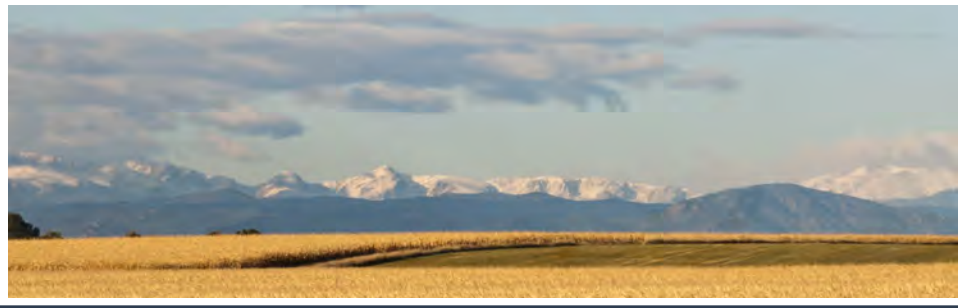
ⁱ Public Health 3.0: A Call to Action to Create a 21st Century Public Health Infrastructure. (2016) Office of the Assistant Secretary for Health, U.S. Department of Health and Human Services. Accessed November 16, 2016 at <https://www.healthypeople.gov/sites/default/files/Public-Health-3.0-White-Paper.pdf>

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Promote, protect and improve the lifelong health of individuals and communities in Adams, Arapahoe and Douglas Counties through the effective use of data, evidence-based prevention strategies, leadership, advocacy, partnerships and the promotion of health equity.

Adams | Arapahoe | Douglas



Optimal health across the lifespan for the populations we serve.

Tri-County Health Department Vision Statement

Purpose

The purpose of this community health assessment (CHA) is to learn about the community: the health of the population, contributing factors to higher health risks or poorer health outcomes of identified populations, and community assets and resources that can be mobilized to improve population health.

Process

This assessment is a component of the Colorado Health Assessment and Planning System (CHAPS) which provides step-by-step guidance on how to carry out an 8-phased collaborative community health assessment and a public health improvement planning process on a 5-year cycle. The process hinges on engaging the community to increase the availability and quality of public health services and ultimately improve health outcomes.

Community Engagement

Input from the community for this CHA was sought through several mechanisms. The Tri-County Health Department requested initial input from stakeholders, partners, and community members at large through a survey which asked respondents to 1) describe the characteristics of a healthy community, and 2) identify the three most important health issues facing the communities in which they live, work and play. These data were used to develop our image of a Healthy Community and guided the content of this assessment. Youth residents of Adams, Arapahoe and Douglas Counties participated in a photo voice project to illustrate their concept of a healthy community.

Following development of the CHA, community members and partners are being asked to provide input into the preliminary findings and to suggest priority focus areas for the Public Health Improvement Plan. A broad-based community group is being assembled to help oversee the planning process and to select final priorities and conduct an in-depth community asset assessment for these priority issues.



Promote, protect and improve the lifelong health of individuals and communities in Adams, Arapahoe and Douglas Counties through the effective use of data, evidence-based prevention strategies, leadership, advocacy, partnerships, and the promotion of health equity.

Tri-County Health Department Mission Statement

Selecting Indicators For This Assessment

The health behaviors and outcomes in this report reflect community priorities as stated in the input survey. In addition, a wide range of indicators were considered from a variety of sources including:

- *Healthy People 2020 Leading Health Indicators*
- *The Center for Disease Control and Prevention's Winnable Battles*
- *America's Health Rankings*
- *County Health Rankings and Roadmaps*
- *Indicators of Health Inequalities*
- *Colorado Health and Environmental Assessment 2013*
- *Colorado Health Indicator Set*
- *Community Health Assessments by other Local Public Health Departments*
- *Other Local and State Assessments*
- *Citizen's Surveys from Adams, Arapahoe, and Douglas Counties*

Tri-County Health Department's (TCHD) epidemiologists routinely track and monitor over 200 indicators derived from a list developed through an extensive stakeholder process at the state level in which multidisciplinary partners utilized established criteria (i.e., feasible, understandable, relevant, valid, reliable, and comparable) to select core indicators. This list was further vetted and refined by TCHD staff.

Community priorities, repeated key national, state and local indicators, and TCHD's epidemiologic analysis of key health problems facing our communities resulted in the final list of indicators included in this report.

Data Used in this Report

The data presented in this report were compiled from a variety of sources and include both primary (collected for local health assessment purposes) and secondary data sources (collected for another purpose, usually by another organization/institution). Portions of the data used in this assessment were **quantitative** (information is described in terms of quantity of an item, e.g., the percent of people who graduate from high school), while the data from community, staff and partner input surveys and the youth photo voice project were **qualitative** (information is described in terms of attributes, characteristics, properties, such as perceptions about what makes up a healthy community).



Communities that Care Student Youth Leaders. Arapahoe County.



Primary Data Sources

Input Surveys

In February 2018, 70 community members and 139 partners and stakeholders provided input into this assessment by responding to a survey which asked them to name the three most important characteristics of a happy, healthy and thriving community (Figure 1) and the three most important health problems in their communities (Figure 2). Nearly 200 TCHD staff also gave input by responding to the survey and also giving feedback regarding the image used here to describe a healthy community. Community members were invited to participate in the survey through an advertisement on the TCHD website, Facebook Site, and through links disseminated by the Public Information Officers at Adams, Arapahoe and Douglas Counties.

Figure 1: What are the three most important characteristics of a happy, healthy, and thriving community? (N=399)

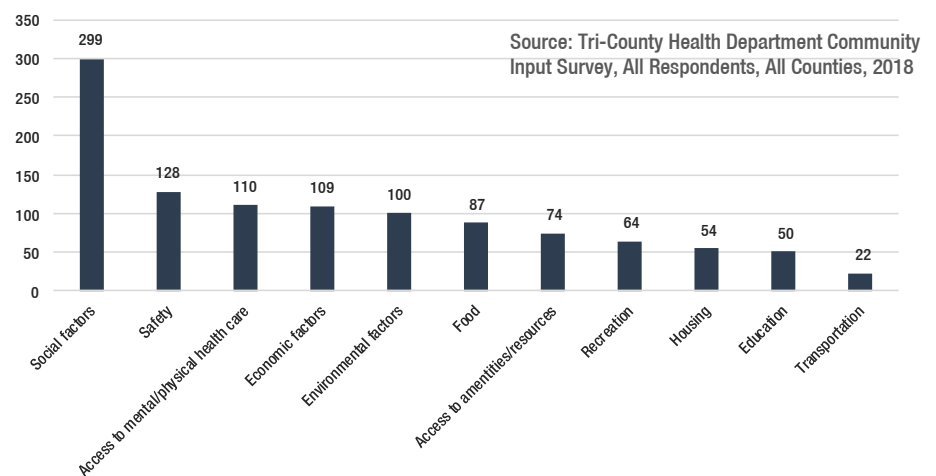
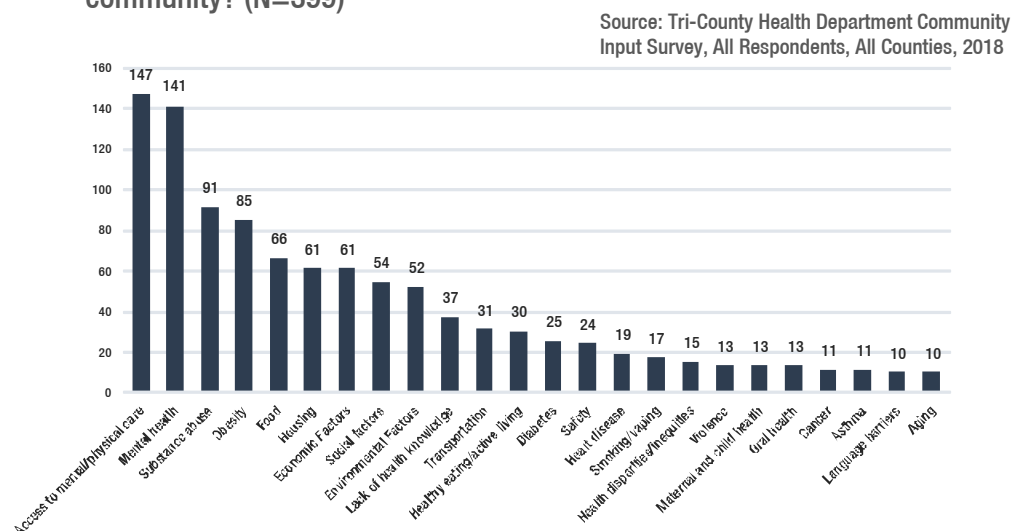


Figure 2: What are the three most important health problems in your community? (N=399)





Youth Art Project

Middle and high school youth participating in Substance Abuse Prevention Coalitions in each of our three counties were encouraged to consider their own health and the health of their families and contributing factors, and their school, home, and community environments, and to express those thoughts through photos, original art work, poems or quotes. We are thankful for their contributions and interest. Their voices are used to illustrate this assessment.

Secondary Data Sources

In addition to primary data sources, secondary sources were also used. The most recent data available from each source at the time of this writing were used. Secondary data sources included:

- American Community Survey (ACS), U.S. Census Bureau
- Colorado Department of Public Health and Environment (CDPHE)
 - * Colorado Behavioral Risk Factor Surveillance System
 - * Colorado Child Health Survey
 - * Colorado Vital Records
 - * Healthy Kids Colorado Survey
 - * Pregnancy Risk Assessment Monitoring System
 - * STI/HIV/Viral Hepatitis Branch
 - * Tuberculosis and Refugee Health Program
 - * Colorado Electronic Disease Reporting System
- Colorado Discharge Data Set, Colorado Hospital Association
- Colorado Department of Education
- State Demography Office, Colorado Department of Local Affairs
- Colorado Health Observation Regional Data Service
- Colorado Bureau of Investigations
- Colorado Department of Human Services
 - * Human Services Gap Map (gapmap.org)
- Metro Denver Homeless Initiative
- Centers for Disease Control and Prevention



Communities that Care Student Youth Leaders. Arapahoe County.





Data Limitations

There are limitations to all data. Although we have made every effort to ensure the quality of the data used in this report, some limitations and weaknesses do still exist.

Timeliness.

There can be a lag between when data are collected and released. For instance, data collected in one calendar year may not be available for six months, or longer, after the close of that year. By combining years of data together, we can often create stable estimates or protect confidentiality; however, this can hide recent trends.

Completeness.

Data can be incomplete for various reasons related to data collection, such as specific question or question wording changing year-by-year, specific populations not counted consistently or at all, or missing data elements due to errors in data entry.

Accuracy.

Data can be inaccurate due to measurement errors, coding errors, or analytic errors. Response bias and recall bias can also affect accuracy. We do not know that people who respond to surveys are similar to those who do not respond; people who decide to respond may do so because of a motivation that someone else may not have. The error that may occur due to the people who respond – and their unknown motivations – is called response bias. Similarly, recall bias can occur when people are asked about things that may have occurred in the past.

Small numbers.

Most of the data used in this report are based on samples of the population. If a sample is very small, it can create unstable estimates; caution must be used in their interpretation. Small samples or events that occur to a small portion of the population need to be displayed carefully so as not to identify an individual.

Geographic relevance.

Most data are collected at particular geographic scales and therefore may be hard to apply to smaller or larger areas of interest. For example, most of the large, national surveillance systems in this country only collect data at the state level; therefore, data at the county, city, or neighborhood level may be limited or even unavailable.

Misrepresentation or underrepresentation.

It is important to measure patterns of health among subgroups of the population. Years of research have established critical health differences among various populations. For instance, health conditions and risks can vary depending on age. Other characteristics that are important to measure are race and ethnicity, and sex and gender. Race and ethnicity are usually measured because they are important determinants of access to societal resources. There are also important social and symbolic meanings conveyed by the concepts of race and ethnicity which can impact health.¹ The categories of race and ethnicity used in this report do not reflect biological characteristics but rather self-perceived membership in a particular group, or assigned race/ethnicity in the case of birth and death data. Self-reporting is limited by the choices given the respondent; this has the potential to misrepresent one's true identity. In the case of sex and gender, sex is assigned at birth (typically by the appearance of external genitalia and recorded on the birth certificate as male or female) and people who self-identify with their assigned sex are "cisgender." "Transgender" individuals are those who do not self-identify with their assigned sex at birth. The term gender, or gender expression, refers to psychological dimensions of sexual identity, social beliefs, and behavior, such as identifying as heterosexual, lesbian, gay, or bisexual.² Most of the data systems used in this report only collect sex data by self-report, visual inspection, or voice sound in the case of telephone surveys. Gender identity is infrequently measured; therefore, misidentification and/or underrepresentation may be weaknesses of these data.

¹Hahn, R. A., & Stroup, D. F. (1994). Race and ethnicity in public health surveillance: criteria for the scientific use of social categories. *Public Health Reports*, 109(1), 7–15.

²Conron, K. J., Landers, S. J., Reisner, S. L., & Sell, R. L. (2014). Sex and Gender in the US Health Surveillance System: A Call to Action. *American Journal of Public Health*, 104(6), 970–976. <http://doi.org/10.2105/AJPH.2013.301831>



What is a Healthy Community?

Based on community input, the image below depicts the components of a healthy community. This assessment is designed to reflect the status of our communities in light of this image of a healthy community.

What influences my health?

How can a community support health?





A Healthy Community is:



These statements were drawn from various materials found on the World Wide Web and modified to reflect findings from TCHD's Community Input Survey.



Community Characteristics

The demographic characteristics of the population are important in understanding the health risks and challenges, strengths and opportunities of the community. Characteristics such as age, gender, and genetic makeup are closely linked to health outcomes. Socio-economic factors such as education, socio-economic status, and household composition are likewise associated with health risk and protective factors and outcomes. The following section displays key demographics for Adams, Arapahoe, and Douglas County, as well as for Colorado as a whole, for comparison purposes.

Community Characteristics: Colorado

	2016	2030
	Population Estimates	Population Estimates
Population		
Population*	5,538,180	6,892,192
Population Change*	+2% 2010 to 2016	+24% 2016 to 2030



Race/Ethnicity

White Non-Hispanic*	69%	62%
Hispanic*	23%	28%
African-American*	4%	4%
Asian*	4%	5%

Income

Median Household Income**	\$65,685
Individuals Living at or Below Poverty**	11%
Children Living at or Below Poverty**	13%
Unemployment***	3%

Age

0-17	23%	20%
18-64*	64%	62%
65+*	14%	18%

Households

Single Parent Households**	27%
Residents Age 65 or Older Living Alone**	37%
<small>(of households with one member 65+)</small>	

Linguistically Isolated Households** **3%**

(households where all adults speak a language other than English and none speaks English "very well")

Other Characteristics

Disability**	11%
<small>Includes hearing, vision, cognitive, ambulatory, self-care, and independent living difficulty</small>	
Born Outside US**	10%

Educational Attainment

Less than High School**	9%
High School (Diploma or Equivalent)**	22%
Bachelor's Degree or Higher**	40%

*Source: Colorado Department of Local Affairs, July 2016 Estimates, 2030 Population Forecast

**Source: American Community Survey 1-Year Estimate 2016

***Source: Bureau of Labor Statistics, March 2018



Community Characteristics: Adams County

Population

2016
Population Estimates



2030
Population Estimates

Adams



Population*	497,673	658,864
Population Change*	+2% 2010 to 2016	+32% 2016 to 2030

Race/Ethnicity

White Non-Hispanic*	51%	43%
Hispanic*	41%	48%
African-American*	3%	3%
Asian*	4%	4%

Income

Median Household Income**	\$66,033
Individuals Living at or Below Poverty**	12%
Children Living at or Below Poverty**	16%
Unemployment***	4%

Age

0-17	27%	22%
18-64*	63%	64%
65+*	10%	14%

Households

Single Parent Households**	37%
Residents Age 65 or Older Living Alone**	34%
<small>(of households with one member 65+)</small>	
Linguistically Isolated Households**	6%
<small>(households where all adults speak a language other than English and none speaks English "very well")</small>	

Other Characteristics

Disability 10%**
Includes hearing, vision, cognitive, ambulatory, self-care, and independent living difficulty

Born Outside US 16%**

Refugees** 524**
Total for Adams County (2016)

Countries of Birth for Primary Arrivals from Adams, Arapahoe, and Douglas Counties

Myanmar (Burma)	251
Afghanistan	186
Iraq	160
Democratic Republic of Congo	113
Somalia	111
Syria	105
Bhutan	103
Central African Republic	61
Cuba	56
Ethiopia	49
Other	119

Educational Attainment

Less than High School**	17%
High School (Diploma or Equivalent)**	29%
Bachelor's Degree or Higher**	23%

*Source: Colorado Department of Local Affairs, July 2016 Estimates, 2030 Population Forecast

**Source: American Community Survey 1-Year Estimate 2016

***Source: Bureau of Labor Statistics, March 2018

****CDPHE, County-level data at time of arrival.

Other includes: BELARUS, CHAD, CHINA, COLOMBIA, EL SALVADOR, ERITREA, THE GAMBIA, GEORGIA, GHANA, HAITI, HONDURAS, IRAN, JORDAN, KENYA, MEXICO, NEPAL, NORTH KOREA/DEMOCRATIC PEOPLE'S REPUBLIC, PAKISTAN, PERU, REPUBLIC OF CONGO, RWANDA, SENEGAL, SUDAN, TANZANIA, THAILAND, UKRAINE



Community Characteristics: Arapahoe County

Population **2016** **2030**
Population Estimates Population Estimates

Arapahoe



Population* **637,254** **779,282**
Population Change* **+2%** 2010 to 2016 **+22%** 2016 to 2030

Race/Ethnicity

White Non-Hispanic*	63%	56%
Hispanic*	20%	25%
African-American*	10%	10%
Asian*	7%	9%

Income

Median Household Income** **\$70,950**
Individuals Living at or Below Poverty** **9%**
Children Living at or Below Poverty** **12%**
Unemployment*** **3%**

Age

0-17	24%	22%
18-64*	64%	61%
65+*	13%	17%

Households

Single Parent Households** **28%**
Residents Age 65 or Older Living Alone** **37%**
(of households with one member 65+)
Linguistically Isolated Households** **5%**
(households where all adults speak a language other than English and none speaks English "very well")

Other Characteristics

Disability** **9%**
Includes hearing, vision, cognitive, ambulatory, self-care, and independent living difficulty

Born Outside US** **15%**

Refugees**** **779**

Total for Adams County (2016)

Countries of Birth for Primary Arrivals from Adams, Arapahoe, and Douglas Counties

Myanmar (Burma)	251
Afghanistan	186
Iraq	160
Democratic Republic of Congo	113
Somalia	111
Syria	105
Bhutan	103
Central African Republic	61
Cuba	56
Ethiopia	49
Other	119

Educational Attainment

Less than High School** **7%**
High School (Diploma or Equivalent)** **22%**
Bachelor's Degree or Higher** **42%**

*Source: Colorado Department of Local Affairs, July 2016 Estimates, 2030 Population Forecast

**Source: American Community Survey 1-Year Estimate 2016

***Source: Bureau of Labor Statistics, March 2018

****CDPHE, County-level data at time of arrival.

Other includes: BELARUS, CHAD, CHINA, COLOMBIA, EL SALVADOR, ERITREA, THE GAMBIA, GEORGIA, GHANA, HAITI, HONDURAS, IRAN, JORDAN, KENYA, MEXICO, NEPAL, NORTH KOREA/DEMOCRATIC PEOPLE'S REPUBLIC, PAKISTAN, PERU, REPUBLIC OF CONGO, RWANDA, SENEGAL, SUDAN, TANZANIA, THAILAND, UKRAINE



Community Characteristics: Douglas County

Douglas



Population **2016** Population Estimates **2030** Population Estimates

Population* **328,330** **413,161**
Population Change* **+2%** 2010 to 2016 **+21%** 2016 to 2030

Race/Ethnicity

White Non-Hispanic*	84%	79%
Hispanic*	8%	11%
African-American*	2%	3%
Asian*	5%	6%

Income

Median Household Income** **\$109,292**
Individuals Living at or Below Poverty** **4%**
Children Living at or Below Poverty** **3%**
Unemployment*** **2%**

Age

0-17	26%	20%
18-64*	63%	60%
65+*	11%	20%

Households

Single Parent Households** **16%**
Residents Age 65 or Older Living Alone** **27%**
(of households with one member 65+)
Linguistically Isolated Households** **1%**
(households where all adults speak a language other than English and none speaks English "very well")

Other Characteristics

Disability** **7%**
Includes hearing, vision, cognitive, ambulatory, self-care, and independent living difficulty

Born Outside US** **8%**
Refugees**** **11**
Total for Adams County (2016)

Countries of Birth for Primary Arrivals from Adams, Arapahoe, and Douglas Counties

Myanmar (Burma)	251
Afghanistan	186
Iraq	160
Democratic Republic of Congo	113
Somalia	111
Syria	105
Bhutan	103
Central African Republic	61
Cuba	56
Ethiopia	49
Other	119

Educational Attainment

Less than High School** **2%**
High School (Diploma or Equivalent)** **11%**
Bachelor's Degree or Higher** **59%**

*Source: Colorado Department of Local Affairs, July 2016 Estimates, 2030 Population Forecast

**Source: American Community Survey 1-Year Estimate 2016

***Source: Bureau of Labor Statistics, March 2018

****CDPHE, County-level data at time of arrival.

Other includes: BELARUS, CHAD, CHINA, COLOMBIA, EL SALVADOR, ERITREA, THE GAMBIA, GEORGIA, GHANA, HAITI, HONDURAS, IRAN, JORDAN, KENYA, MEXICO, NEPAL, NORTH KOREA/DEMOCRATIC PEOPLE'S REPUBLIC, PAKISTAN, PERU, REPUBLIC OF CONGO, RWANDA, SENEGAL, SUDAN, TANZANIA, THAILAND, UKRAINE



Social Connections and Health



A healthy community is where building a sense of belonging and social connection is a priority and where diversity and support for people of all ages, race and ethnicities, and abilities are valued.

 Tri-County Health Department | 2018 Community Health Assessment



Social Connections and Health

A healthy community is where building a sense of belonging and social connection is a priority and where diversity and support for people of all ages, race and ethnicities, and abilities are valued.

Social support is a communication behavior that plays a critical role in the maintenance or disruption of mental and physical health.

Source: Chris Segrin & Stacey A. Passalacqua (2010) Functions of Loneliness, Social Support, Health Behaviors, and Stress in Association With Poor Health, Health Communication, 25:4, 312-322, DOI: 10.1080/10410231003773334

Finally, connection prevents us from experiencing its opposite: isolation and loneliness. In their 1988 article, House, Landis, and Umberson show the relationship between poor social integration and risk for mortality,³ and in their 2010 meta-analysis, Holt-Lunstad, Smith, and Layton found that “individuals with adequate social relationships have a 50% greater likelihood of survival compared to those with poor or insufficient social relationships.”⁴ That would mean that social support and connection is as good for your health as quitting smoking. It is important to note, however, that only positive social connection and relationships are associated with good health; negative, stressful relationships can have the opposite effects. Not only is positive social connection protective against the development of behaviors that can be detrimental to health, such as substance use, but research shows that social connection can reduce the risk of death in people with and without certain chronic conditions.^{5,6}

Unfortunately, data measuring social connection are few. It is a highly subjective topic and few population-based surveys ask about it. We can, however, glean some information from surveys that ask about social connection less directly. Among high school students in our three counties, around one in five report having ever been bullied on school property; report of electronic bullying is slightly lower. Students were more likely to report being bullied if they were female, younger, or if they identified as gay, lesbian, or bisexual. The majority of students in the Tri-county area report having an adult to go to for help with a serious problem and slightly more students in Douglas County report having someone available. However, these data are from 2013 rather than 2015, and instead of specifying an *adult* to go to for help, the question asks about *someone*, which could include peers. Unfortunately, only around 40% of students say they would most likely talk to a parent, teacher, or other adult when feeling sad. Student participation in extracurricular activities, on the other hand, is high in our counties. Nearly three-fourths (72%) of students in Douglas County, about 70% in Arapahoe County, and about 60% in Adams County report participation in extracurricular activities.⁷

² Milner, Allison, et al. “Social Connections and Suicidal Behaviour in Young Australian Adults: Evidence from a Case-Control Study of Persons Aged 18–34 Years in NSW, Australia.” *SSM - Population Health*, vol. 1, 2015, pp. 1–7., doi:10.1016/j.ssmph.2015.09.001

³ House, J., et al. “Social Relationships and Health.” *Science*, vol. 241, no. 4865, 1988, pp. 540–545., doi:10.1126/science.3399889.

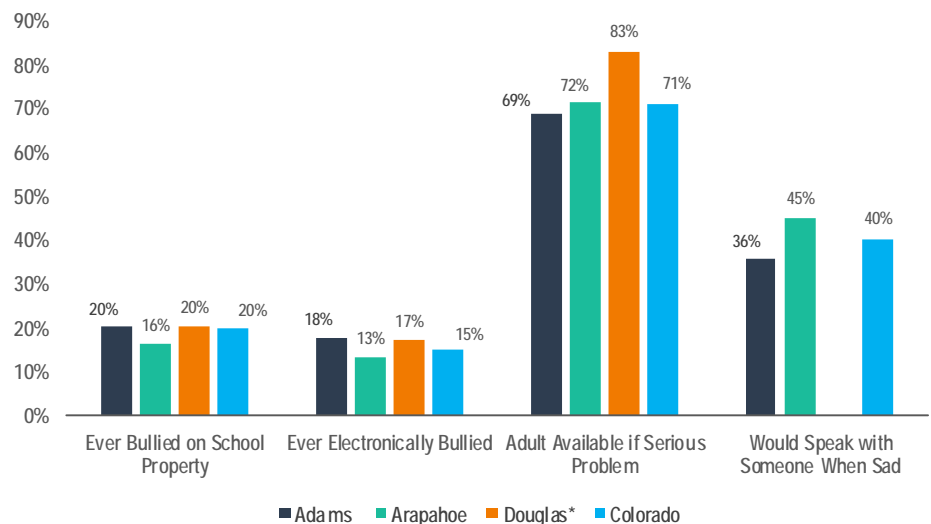
⁴ Holt-Lunstad, J., et al. “Social relationships and mortality risk: a meta-analytic review.” *PLoS Medicine*, vol. 7, issue 7, e1000316, July 2010., doi: 10.1371/journal.pmed.1000316.

⁵ https://www.cssp.org/reform/strengthening-families/2013/SF_Social-Connections.pdf

⁶ Umberson, Debra, and Jennifer Karas Montez. “Social Relationships and Health: A Flashpoint for Health Policy.” *Journal of Health and Social Behavior*, vol. 51, no. 1_suppl, 2010, doi:10.1177/0022146510383501.

⁷ Healthy Kids Colorado Survey, CDPHE

Figure 1: Adolescent connection and belonging, 2015



* Douglas County data are from 2013. Not all questions were asked on the 2013 survey. Source: Healthy Kids Colorado Survey (2013, 2015), Colorado Department of Public Health and Environment



Social Connections and Health

A healthy community is where building a sense of belonging and social connection is a priority and where diversity and support for people of all ages, race and ethnicities, and abilities are valued.

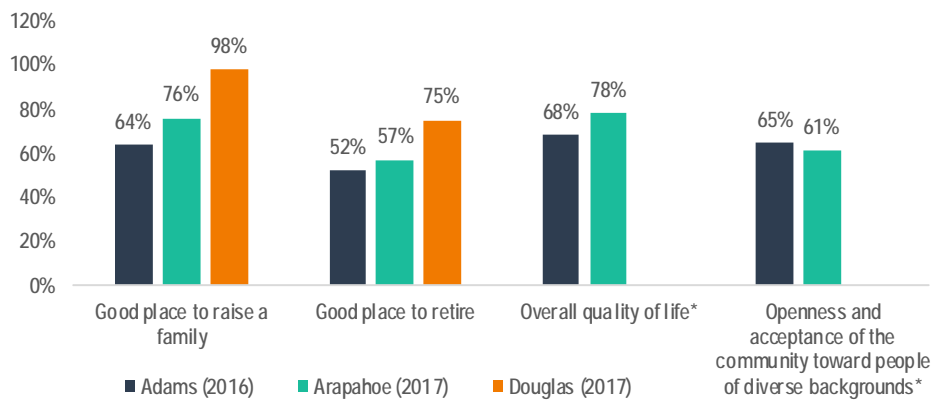
“I believe that when a community has specific opportunities to do things such as being social, getting access to health care, and to be able to receive a great education, just to name a few[, it can] help make them healthy.”

Source: Emily Williams, High School student. Adams County.

Positive perceptions of one’s community can help people feel connected; they can also encourage people to seek out others and build relationships with people and community groups. In each county’s community survey, the majority of residents report that their counties are good places to raise a family and to retire. They also believe that their counties are generally good places to live. Over 60% of people in Adams and Arapahoe Counties believe there is an openness and acceptance in the community towards people of diverse backgrounds. Half of people in Adams County reported that there was a “sense of community,” and 95% of people in Douglas County believe it is a “friendly place.”⁸ Overall, feelings of social connection, community, and belonging are important to health, and data indicate that “mortality is...two or three times higher in people with weak social links than in those with strong social networks.”⁹

Recently, Case and Deaton found an increase in mortality rates for white, middle-aged adults that has occurred over the past 15-20 years is largely due to increases in suicides, drug overdoses, and alcohol-related liver disease.¹⁰ The researchers named these deaths “deaths of despair” which are characterized by deteriorating economic, social and behavioral conditions, such as under- or

Figure 2: County residents' quality of life



Source: <http://www.adcogov.org/quality-life-survey>, <http://www.co.arapahoe.co.us/1410/Citizen-Surveys-and-Feedback>, <https://www.douglas.co.us/county-reveals-2017-citizen-survey-results/>

⁸ <http://www.adcogov.org/quality-life-survey>, <http://www.co.arapahoe.co.us/1410/Citizen-Surveys-and-Feedback>, <https://www.douglas.co.us/county-reveals-2017-citizen-survey-results/>

⁹ Marmot, M. “Psychosocial and Material Pathways in the Relation between Income and Health: a Response to Lynch Et Al.” *Bmj*, vol. 322, no. 7296, 2001, pp. 1233–1236., doi:10.1136/bmj.322.7296.1233.

¹⁰ Rising midlife morbidity and mortality, US whites. Anne Case, Angus Deaton. *Proceedings of the National Academy of Sciences* Dec 2015, 112 (49) 15078-15083; DOI:10.1073/pnas.1518393112



Artwork by Sua Longoria, Middle School student. Arapahoe County.

Social Connections and Health

A healthy community is where building a sense of belonging and social connection is a priority and where diversity and support for people of all ages, race and ethnicities, and abilities are valued.

unemployment, stress and hopelessness, isolation, family dysfunction, poor social support, and addiction.¹¹ Enhancing social connection could have an effect in mitigating this increase in deaths of despair.

Finally, civic engagement is important to health. Voting is related to health in a few ways: by building community connectedness and civic engagement, by enhancing self-efficacy, and, more directly, by giving citizens the ability to vote on matters impacting health. Voting is one way that people can shape their environments rather than simply being shaped by them. Kawachi and Berkman (2000) note the relationship between political activities, like voting, and social capital – social resources, connection, and collective action. “Within the United States, levels of civic trust and group membership are strongly correlated with geographic variations in voter turnout at elections.”¹² Voting is a social determinant of health and has been recognized by the U.S. government’s Healthy People 2020 as well as by health research groups, health foundations, and health departments across the country. Based on November 2000 election records, 68.5% of people eligible to vote in Colorado were registered to vote, and 57.2% of people eligible to vote actually voted (83.6% of those who were registered voted).¹³ In the November 2016 election, approximately 72% of registered voters in Adams County voted,¹⁴ 74% in Arapahoe County,¹⁵ and 80% in Douglas County.¹⁶ Increasing the voter activity of registered voters and engaging eligible citizens to register to vote can help promote civic engagement and community connectedness and, ultimately, health in our communities.

Social connection, belonging, and engagement are important to our health. By supporting each other and our neighbors, we can improve the health and wellbeing of our communities.

Figure 3: Healthy communities



Artwork by Emily Williams, High School student. Adams County.

¹¹ Stein, E. M., Gennuso, K. P., Ugboaja, D. C., & Remington, P. L. (2017). The Epidemic of Despair Among White Americans: Trends in the Leading Causes of Premature Death, 1999–2015. *American Journal of Public Health*, 107(10), 1541–1547. <http://doi.org/10.2105/AJPH.2017.303941>

¹² Kawachi, I., and Berkman, L. (2000) Social Cohesion, Social Capital, and Health. In: Berkman, L.F. and Kawachi, I. Eds., *Social Epidemiology*, Oxford University Press, New York, 174–190.

¹³ <https://www.census.gov/data/tables/2000/demo/voting-and-registration/p20-542.html>

¹⁴ https://assets01.aws.connect.clarityelections.com/Assets/Connect/RootPublish/adams-co.connect.clarityelections.com/Election%20Results/2016/Adams%202016%20General%20SOVC_12062016.pdf

¹⁵ <http://www.co.arapahoe.co.us/ArchiveCenter/ViewFile/Item/1736>

¹⁶ <https://www.douglas.co.us/documents/2016-ge-election-results.pdf>



A healthy community is where meaningful employment opportunities offering a living wage are available to all residents.

Health and Economic Security

Tri-County Health Department | Community Health Assessment 2018

A healthy community is where meaningful employment opportunities offering a living wage are available to all residents.

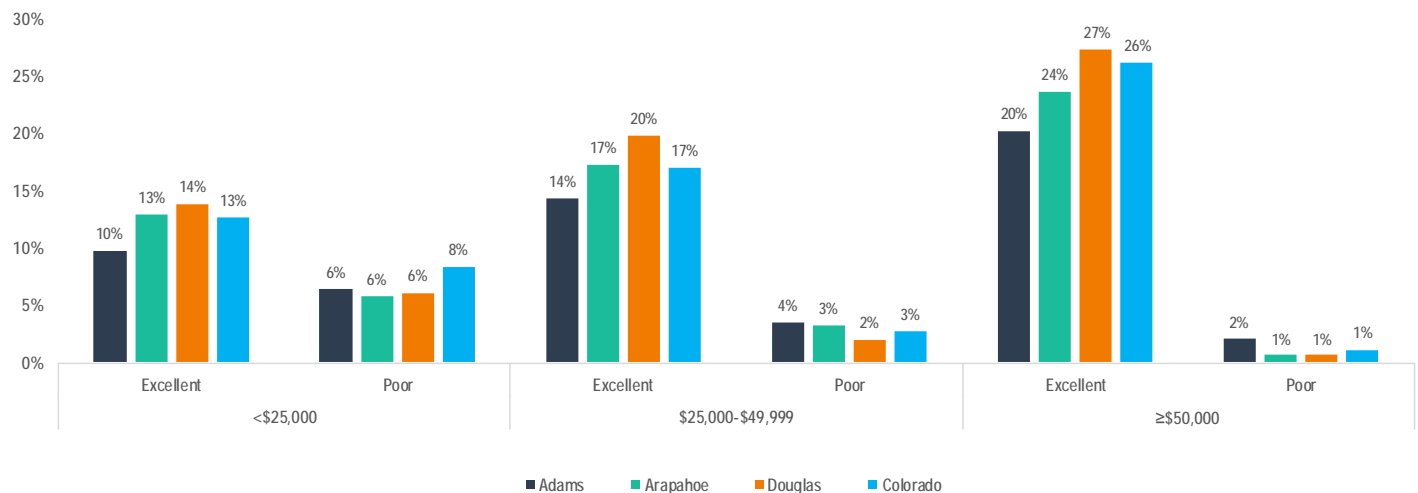


Economic security is a key to health.

Since our nation's founding, the promise of economic opportunity has been a central component of the American Dream. "An economy that grew to be the world's biggest and most dynamic also held out the promise that hard work, vision, and risk—regardless of family background—would be rewarded."¹ In our community input survey, partners and community members echoed this desire for the American Dream – the hope for a strong economy that benefits everyone in our communities and the ability of people to pursue opportunity, including meaningful employment that pays a living wage. Unfortunately, they noted that not all people in our communities are paid a living wage and able to meet their basic needs. A Brookings Institution article states that, "While the American Dream remains a unifying cultural tenet for an increasingly diverse society, it may be showing signs of wear."¹ Given the importance of income to not only meet basic needs, but also to access other services, resources, and opportunities, it is no surprise that economic security is a key to health.

¹ https://www.brookings.edu/wp-content/uploads/2016/06/02_economic_mobility_sawhill.pdf

Figure 1: Self-reported general health status, by annual household income, 2014-2016



Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

People Living in Poverty

Adams 11%
Arapahoe 9%
Douglas 4%

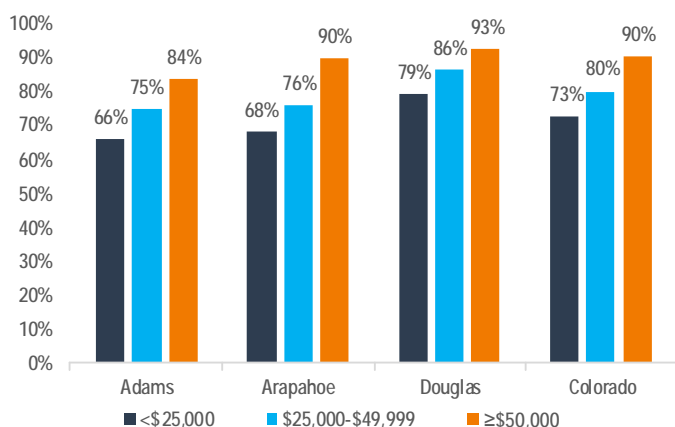
Source: American Community Survey

Income relates to health in several ways. Self-reported health status has a direct relationship with income: the greater the income, the more likely people are to report being healthy. Figure 1 indicates percentages of people reporting excellent or poor health status by three income categories: less than \$25,000 annual household income, between \$25,000 and \$49,999 annual household income, and greater than or equal to \$50,000. There is less of a difference between the percentages of people experiencing excellent health and poor health in the lower income ranges than in the upper, indicating the greater the income, the greater the disparity in health status.

Income is also an important factor in one's ability to access and/or pay for certain services and resources: health care services not covered by insurance, including one's deductible, for example. In addition, income influences one's ability to access and/or pay for services and resources that can affect health and wellbeing, such as healthy housing or high quality childcare services. Indirectly, income is a key factor in many of the choices people make every day, from the kind of food they buy, to the way they exercise or recreate, to whether or not they can take a vacation. Figure 2 shows the relationship between annual household income and ability to participate in leisure time physical activity. The higher the income, the more likely one is able to participate in leisure time physical activity. "To some extent, income and wealth directly support better health because wealthier people can afford the resources that protect and improve health. In contrast to many low-income people, they tend to have jobs that are more stable and flexible; provide good benefits, like paid leave, health insurance, and worksite wellness programs; and have fewer occupational hazards. More affluent people have more disposable income and can more easily afford medical care and a healthy lifestyle—benefits that also extend to their children."² One's mental health state is typically a combination of environmental, social, and biological factors; however, the greater one's income in our three counties, the less likely a person is to report experiencing consistently poor mental health (Figure 3). As annual household income increases, the percentage of people reporting 14 or more poor mental health days in the past 30 days decreases.

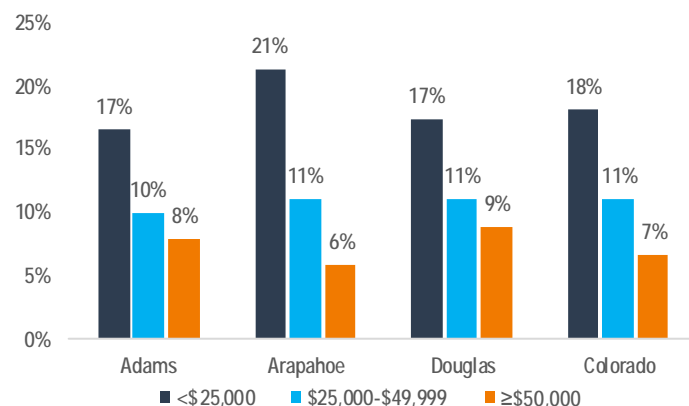
² <https://www.urban.org/sites/default/files/publication/49116/2000178-How-are-Income-and-Wealth-Linked-to-Health-and-Longevity.pdf>

Figure 2: Percentage people participating in leisure time physical activity, by annual household income, 2014-2016



Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

Figure 3: Percentage people experiencing 14+ days of poor mental health (of past 30 days), by annual household income, 2014-2016



Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

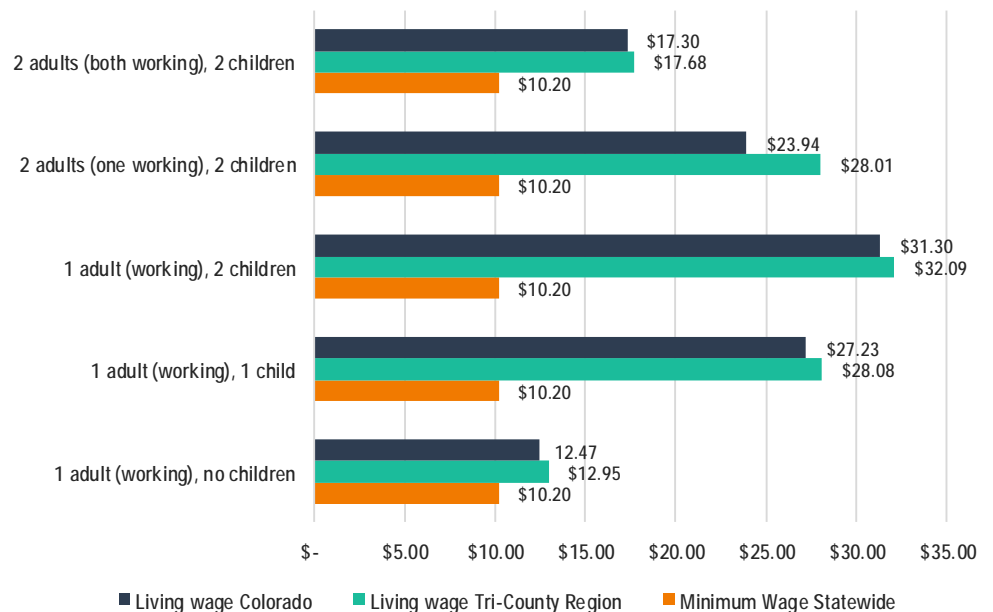
“Closing the wage gap between current wages and the Self-Sufficiency Standard require both reducing costs and raising incomes.”

Source: Colorado Center on Law and Policy

When looking at income, it is important to look at the environment in which one lives. Income’s purchasing power is closely tied to the cost of living: how much money one has to spend is directly related to how much different things cost. When thinking of the impact of income on health to examine the economic security of our communities, it is important to ask questions such as, “What is the living wage in our community?” “How much do things cost?” and “How many people are in poverty? Unemployed? Not earning a living wage?” In our three counties, poverty rates for individuals vary between nearly 4% in Douglas County to almost 12% in Adams County. Particularly high are poverty rates for families with children ages 17 and under: 4% in Douglas County, 15% in Arapahoe County, and 18% in Adams County – greater than the state estimate of 17%.³

In addition to looking at the federal poverty level – a common measure when examining economic security – this section looks at living wage. Research by Dr. Amy K. Glasmeier, Ph.D., and colleagues at the Massachusetts Institute of Technology indicates that living wage is a better, more realistic measure of purchasing power related to income. “The living wage model is... a market-based approach that draws upon geographically specific expenditure data related to a family’s likely minimum food, childcare, health insurance, housing, transportation, and other basic necessities... The living wage draws on these cost elements and the rough effects of income and payroll taxes to determine the minimum employment earnings necessary to meet a family’s basic needs while also maintaining self-sufficiency.”⁴ The minimum wage throughout Colorado is \$10.20 per hour, which is equivalent to an annual full time salary of \$21,216. This is less than the living wage calculation of \$26,936.⁵ Figure 4 shows a comparison of the current Colorado minimum wage to the living wage for different family types in Colorado and the three-county, Tri-County Region. In order to maintain self-sufficiency for all family types presented, each would need to make significantly more per hour than the current minimum wage in Colorado.

Figure 4: Hourly minimum wage versus hourly living wage by family type for Tri-County Region and Colorado, 2017



³ ACS, Census Bureau, 2016 1-year estimates

⁴ <http://livingwage.mit.edu/resources/Living-Wage-User-Guide-and-Technical-Notes-2017.pdf>

⁵ <http://livingwage.mit.edu/states/08/locations>

Source: <http://livingwage.mit.edu/>

A healthy community is where meaningful employment opportunities offering a living wage are available to all residents.

“Though it is easy to imagine how health is tied to income for the very poor or the very rich, the relationship between income and health is a gradient: they are connected step-wise at every level of the economic ladder. Middle-class Americans are healthier than those living in or near poverty, but they are less healthy than the upper class.”²

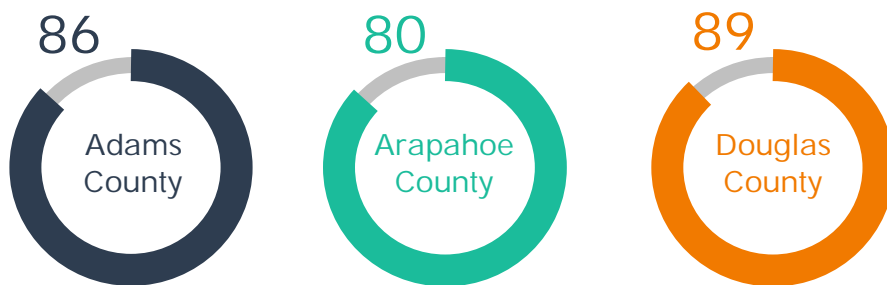
A thriving economy has the potential to improve health. Local businesses, often small businesses, hire people who work and live in our communities. Small businesses bring competition and innovation, and can be started by almost any entrepreneur with an idea. In the annual citizen surveys completed by each of our three county governments, residents reported that their counties were good places to start a business and that county governments were responsive to the business community. Residents also approved of county activities to bring new businesses to their communities. Over three-quarters (78%) of Adams County resident survey respondents supported the use of tax dollars to attract businesses for job creation;⁶ nearly three-quarters (74%) of Arapahoe County resident survey respondents said that economic development and job creation were important priorities for the county to address;⁷ and 90% of Douglas County resident survey respondents would like to see the county spend the same, more, or much more money on “ensuring economic conditions that enable the opportunity to prosper.”⁸

In its recent ranking of America’s Healthiest Communities, U.S. News and World Report discusses the economic health of counties in terms of employment, income, and opportunity. As shown in Figure 5, the Opportunity Scores are all in the 80s (on a scale of one to 100). The higher the opportunity score, the better. More varied are the Job Diversity Scores, ranging from 0.63 in Douglas County to 0.86 in Adams County. These scores are on a scale of zero to one: the closer to one, the more jobs in a variety of industries there are in a community. In other words, the higher the score, the more likely there are many different kinds of jobs available.⁹

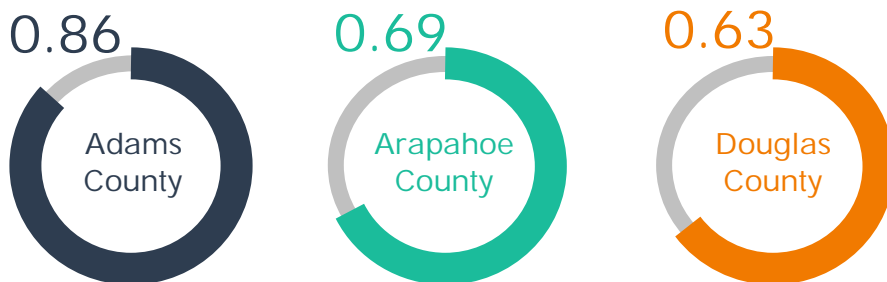
In our counties, increases in income are not keeping up with increases in living expenses. For example, while incomes have increased between 15% and 18% in our three counties between 2012 and 2016, median home value has increased

Figures 5: County Job Opportunity & Job Diversity Index Scores, 2015

OPPORTUNITY SCORES



JOB DIVERSITY INDEX SCORES



⁶ http://www.adcogov.org/sites/default/files/2016_QualityofLife_Survey_Results.pdf

⁷ <http://www.co.arapahoe.co.us/DocumentCenter/View/4624/Arapahoe-County-Survey-Report-2017-05-15>

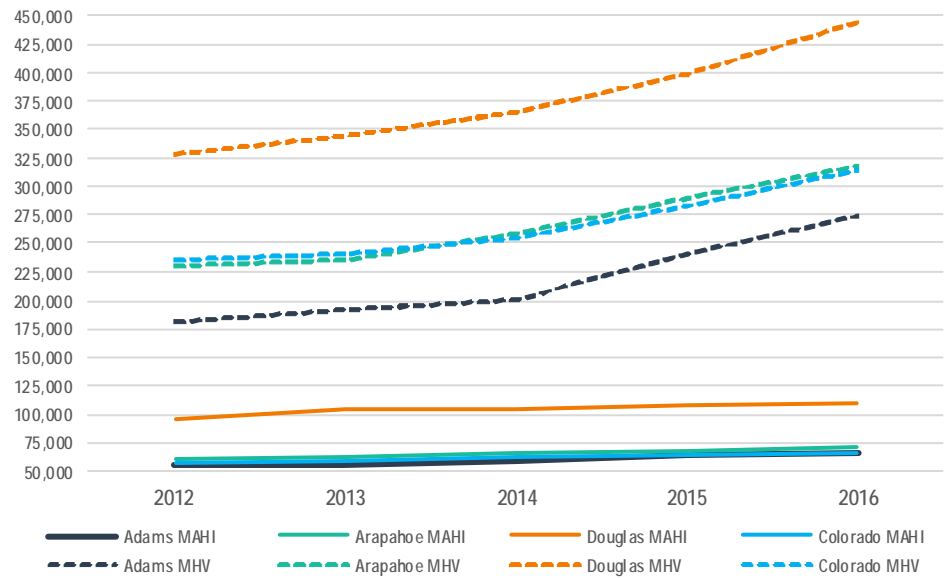
⁸ <https://www.douglas.co.us/documents/2017-citizen-survey.pdf>

⁹ <https://www.usnews.com/news/healthiest-communities>

Source: American Community Survey, Census Bureau, 2015 5-year estimate data. U.S. News & World Report, 2018.

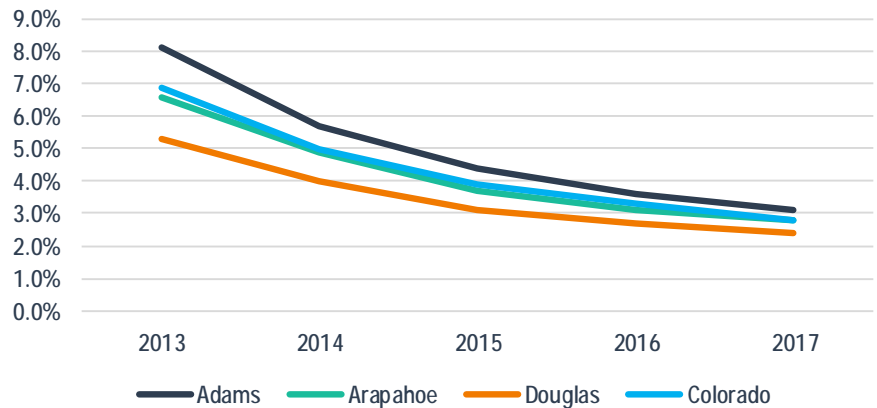
“Total disease burden borne by people at the lower end of income distribution is greater irrespective of any specific medical condition.”¹¹

Figure 6: Trends in median home value (MHV) and median annual household income (MAHI), 2012-2016



Source: American Community Survey, Census Bureau, 2016 1-year estimate data

Figure 7: County and state trends in unemployment rates, 2013-2017



Source: Bureau of Labor Statistics, Local Area Unemployment Statistics. Annual county and state estimates.

between 35% and 51% (Figure 6). Similarly, between 2012 and 2016, median gross rent increased between 26% and 32% in our three counties, slightly higher than the state, which experienced a 25% increase overall. Unemployment rates decreased over the past five years, however, unemployment rates remain between 2% and 5% in our counties (Figure 7).¹⁰

When we examine differences in economic security, we see that a greater percent of minority groups are in poverty than their white peers (Figure 8). While white people make up about 67% of the people below the federal poverty level (FPL) in our three-county region, only 8% of all white people in our region are in poverty. Black people in our three-county region make up 12% of the total population in poverty, but nearly one in five (19%) black people in our region are

¹⁰ ACS, Census Bureau, 2016 1-year estimates

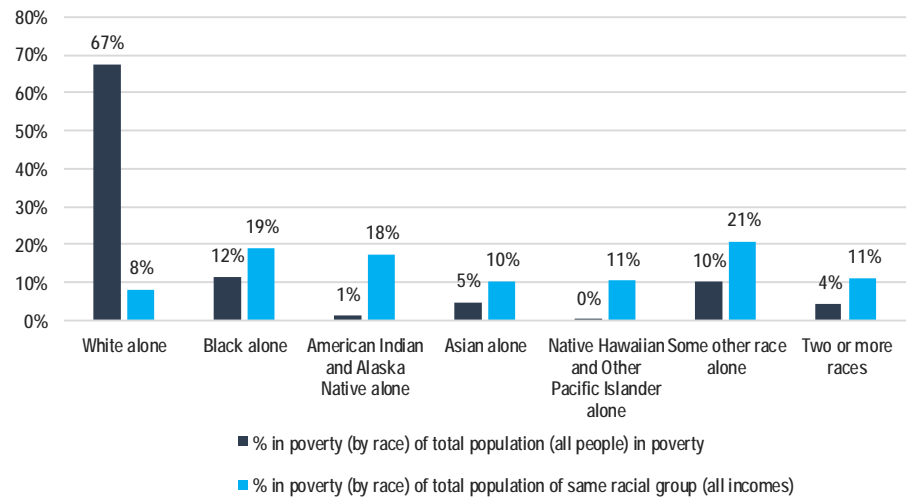
¹¹ Vega, WA, Scribney WM. "Growing Economic Inequality Sustains Health Disparities." American Journal of Public Health, vol. 107, No. 10, October 2017. pp 1606-1607. doi: 10.2105/AJPH.2017.304024.

A healthy community is where meaningful employment opportunities offering a living wage are available to all residents.

**“Am I sick because I am poor, or am I poor because I am sick?
It is both: it should be neither.”**

Source: Paul Campbell Erwin, MD, MPH

Figure 8: People in poverty by race, as percentage of total people in poverty and as Percentage of Individual Racial Groups, Tri-County Region, 2012-2016



Source: American Community Survey, Census Bureau, 2016 1-year estimate data.

in poverty. Similarly, 18% of American Indians/Alaska Natives in our region are in poverty though they make up just 1% of all people in poverty in our counties. In parallel with these trends, black, Hispanic, and other racial groups often experience worse health outcomes than their white neighbors.

Improving health means improving the economic systems in which people live, learn, grow, and work, and the opportunities available for all people to be financially secure and access the resources, services, and advantages that improve health and wellbeing.





A healthy community is where quality, affordable housing is available and people take pride in their neighborhood.

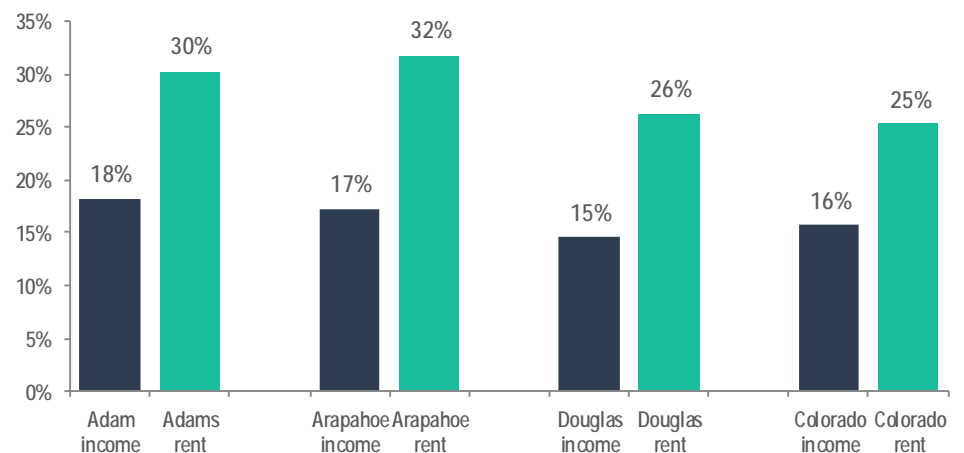


“Affordable housing enables people to pay for other basic needs such as utilities, food, and medical care, which can reduce the incidence of negative health outcomes such as malnutrition, diabetes, anxiety, and depression.”

Source: Health Impact Project¹

Our community members and partners reported that finding affordable housing of good quality is a significant problem facing their communities. The Denver Metro region’s population has grown and wages have stagnated –resulting in a significant shortage of affordable housing. Between 2012 and 2016, the median monthly household income for residents in Adams, Arapahoe, and Douglas Counties has increased by 15% to 18% while the median monthly rent has increased by 26% to 30%; the cost of housing is outpacing the increase in wages as shown in Figure 1.

Figure 1: Percent change (increase) in average monthly income and average monthly rent costs between 2012 and 2016



Source: U.S. Census, American Community Survey 5-Year Estimates 2016

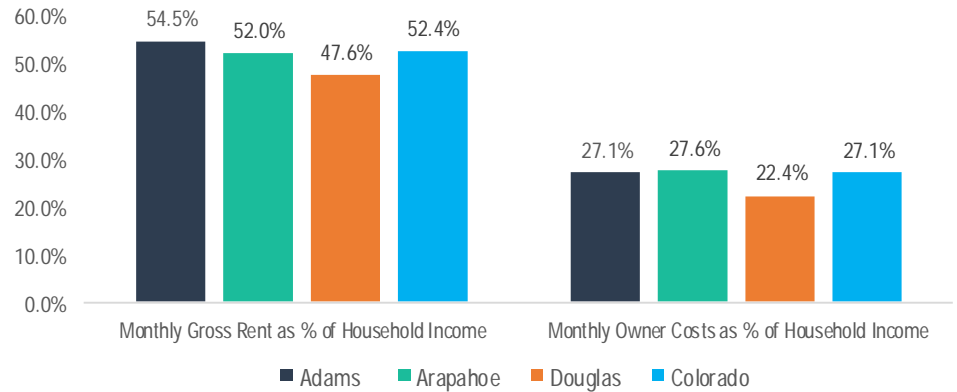
¹ http://www.pewtrusts.org/~media/assets/2016/03/opportunities_for_the_housing_sector.pdf

Renters in Adams, Arapahoe, and Douglas Counties spend up to or more than half of their monthly income on rent.

Source: U.S. Census, American Community Survey 5-Year Estimates 2016

A standard first promoted by the United States National Housing Act of 1937, still in use today, is that households should not spend more than 30% of their income on rent or a mortgage so enough money remains to cover non-housing-related needs. As shown in Figure 2, renters in Adams, Arapahoe, and Douglas Counties spend up to or more than half of their monthly income on rent; however, home owners spend below the 30% recommended standard.

Figure 2: Comparison of monthly renter and owner housing costs, 2016



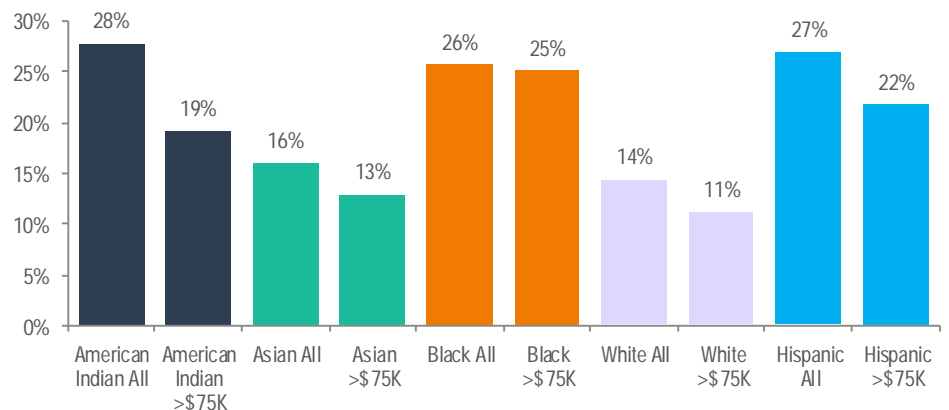
Source: U.S. Census, American Community Survey 5-Year Estimates 2016

“Neighborhoods free from segregation and concentrated poverty, and in which residents have close and supporting relationships with one another, can improve physical and mental health by reducing stress and exposure to violence and crime as well as improving school performance and civic engagement.”

Source: Health Impact Project¹

Low-income residents and communities of color experience a higher prevalence of substandard housing. In urban areas, this can be a result of redlining (a practice where banks refused to grant home loans in certain neighborhoods based on racial or ethnic composition) which was allowed by the Federal Housing Administration until the 1960’s. Neighborhoods of color were systematically denied access to government-backed home mortgages. This and other policies affecting economic and educational opportunity had generational impacts on economic prosperity, which continue to this day (see Figure 3). In times of economic growth, these neighborhoods tend to be more vulnerable to displacement, as they have higher proportions of renters and less net-worth, making them prime areas for redevelopment.

Figure 3: Percent of home loan applications denied by race, ethnicity, and income, Colorado 2004-2013



Source: Colorado Department of Local Affairs, 2015-2019 State of Colorado Final Report Analysis of Impediments to Fair Housing Choice

A healthy community is where quality, affordable housing is available and people take pride in their neighborhood.

Overcrowding: Percent of households with more than 1 person per room



6.1% in Adams County



2.9% in Arapahoe County



1.6% in Douglas County

Source: U.S. Census, American Community Survey 5-Year Estimates 2016

High housing costs may result in overcrowding. Research suggests that overcrowding can have a negative impact on children's wellbeing and can cause stress for household members. Children may be particularly vulnerable to this type of poor housing quality because they use the space in the home to play, do homework, interact with family members, develop an identity, practice skills, and sleep.²

Poor housing conditions are associated with a wide range of health conditions, including respiratory infections, asthma, lead poisoning, injuries, and poor mental health. The quality of housing includes structural soundness, handicap accessibility, and indoor air quality, among other characteristics. Housing can be a source of exposure to various carcinogenic air pollutants. Radon, a colorless, odorless radioactive gas that forms naturally in soil, is the second leading cause of lung cancer in the United States. Testing houses for radon is recommended in Colorado due to high background levels of radon statewide. Radon mitigation is available but may be too expensive for some families to afford.

Percent of homes above the recommended action limit, that were tested for radon between 2011 and 2015:

55% in Adams County

54% in Arapahoe County

55% in Douglas County

Source: Radon Outreach Program, Colorado Department of Public Health and Environment

"When adequate housing protects individuals and families from harmful exposures and provides them with a sense of privacy, security, stability and control, it can make important contributions to health."

Source: Exploring the Social Determinants of Health, Issue Brief #7, Robert Wood Johnson Foundation



Artwork by America Tinoco, Middle School student. Arapahoe County.

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3805127/>

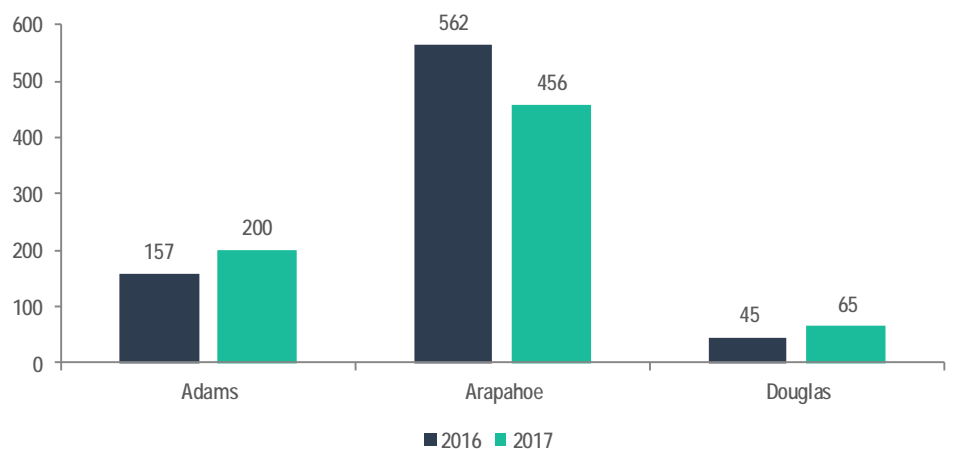
A healthy community is where quality, affordable housing is available and people take pride in their neighborhood.

“Housing that is safe, dry, clean, maintained, adequately ventilated, and free from pests and contaminants, such as lead, radon, and carbon monoxide, can reduce the incidence of negative health outcomes such as injuries, asthma, cancer, neurotoxicity, cardiovascular disease, and poor mental health.”

Source: Health Impact Project¹

Homelessness can be both a result of poor health and can be a cause of poor health. Health issues may lead to the inability to work, high medical bills, and exhaustion of savings resulting in homelessness. People who are homeless are exposed to adverse conditions creating stress, which may lead to substance abuse, depression, and anxiety; homeless people often have more difficulty seeking health care and maintaining adequate nutrition and self-care. Each year the Metro Denver Homeless Initiative conducts a point-in-time survey to estimate the number of people who are homeless in the region. Figure 4 shows the number of homeless people in Adams, Arapahoe and Douglas County for 2016 and 2017.³

Figure 4: Number of homeless people by county, 2016 and 2017

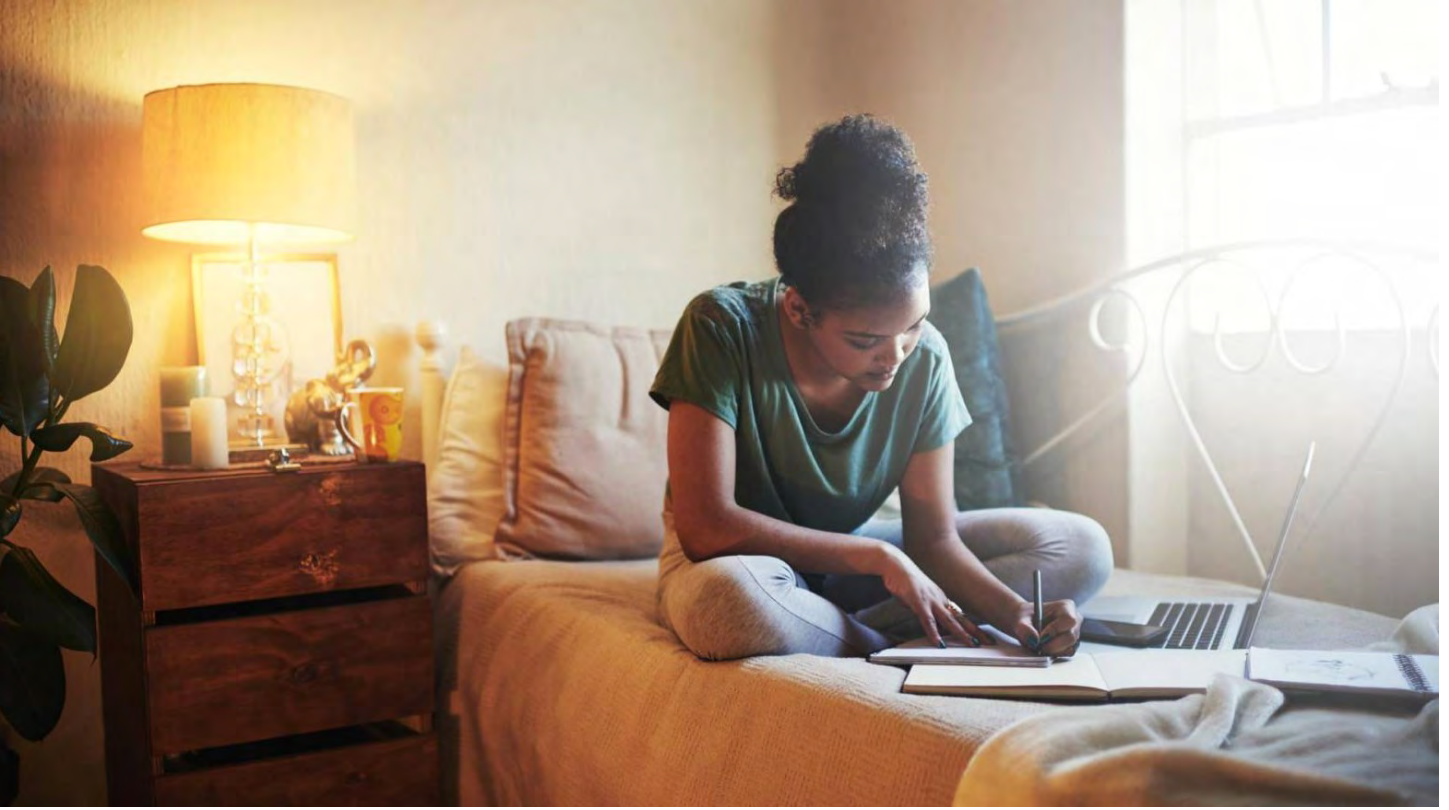


Source: Point in Time Survey, Metro Denver Homeless Initiative



Where we live is directly connected to our health and safety. Without adequate housing, people have trouble managing their daily lives. For most people, housing is their greatest monthly expense. Quality, affordable housing is central to individual and community wellbeing.

³ http://www.mdhi.org/2017_pit



A healthy community is where lifelong learning is encouraged, and quality educational opportunities are available for all residents across the lifespan, meeting their needs and setting them up for success.

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A healthy community is where lifelong learning is encouraged, and quality educational opportunities are available for all residents across the lifespan, meeting their needs and setting them up for success.



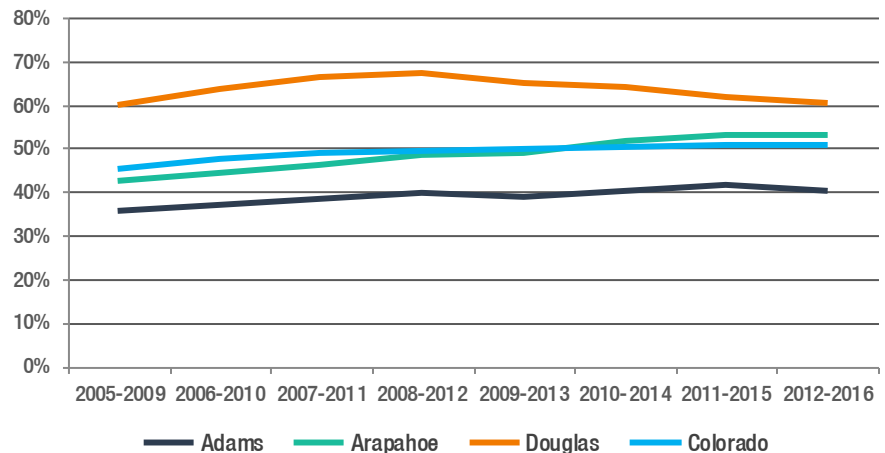
The economic vulnerability that can arise from an inadequate education can affect health through a cascade effect on the ability to acquire resources that are important to health (e.g., food, stable housing, transportation, insurance, and health care).

Source: Understanding the Relationship Between Education and Health: A Review of the Evidence and an Examination of Community Perspectives. Content last reviewed September 2015. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/professionals/education/curriculum-tools/population-health/zimmerman.html>

Education provides us with the knowledge we need to navigate the world around us. Education stimulates human beings' natural curiosity and provides us with the skills to explore new ideas, find meaning in complexities, and derive independent conclusions from facts. Education is deemed so important it is mandated by law. Article 9, Section 2 of the Colorado State Constitution requires "the establishment and maintenance of a thorough and uniform system of free public schools throughout the state, wherein all residents of the state, between the ages of six and twenty-one years, may be educated gratuitously."¹

Research has found that "attending high-quality early childhood programs, such as preschool or Head Start, can help reduce significant disparities in achievement and development for children in poverty or from other disadvantaged backgrounds. High-quality child care has even been linked to better overall physical health in adults who participated in it as children. What's more, access to child care can help parents, especially mothers, access job and educational opportunities that can ultimately aid their own health and that of their families."²

Figure 1: Percent of children ages 3 and 4 enrolled in preschool, five year rolling averages



Source: U.S. Census Bureau, American Community Survey 5-Year Estimates

¹ <https://law.justia.com/constitution/colorado/cnart9.html>
² http://www.coloradotrust.org/content/story/almost-half-coloradans-live-child-care-deserts?utm_source=Master&utm_campaign=5569a4c1fe-EMAIL_CAMPAIGN_2018_02_15&utm_medium=email&utm_term=0_4c1f5e929a-5569a4c1fe-146464645

A healthy community is where lifelong learning is encouraged, and quality educational opportunities are available for all residents across the lifespan, meeting their needs and setting them up for success.

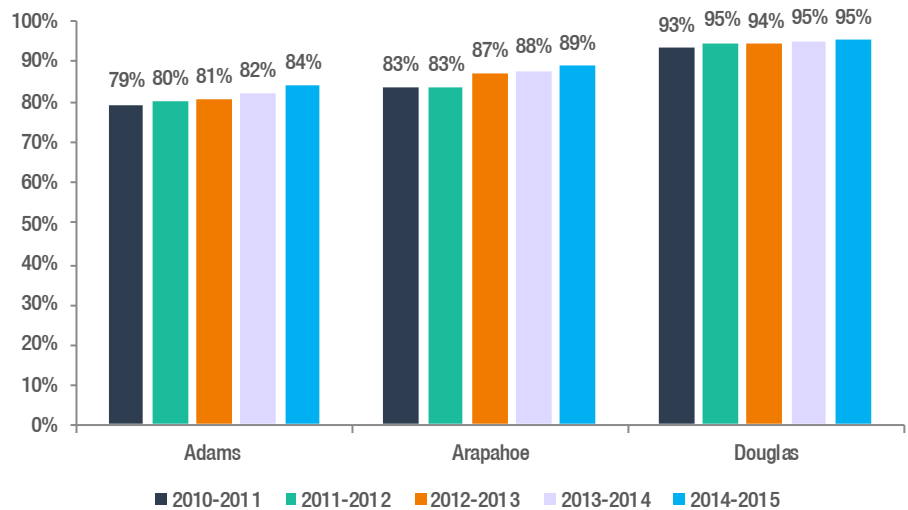
Educational attainment is associated with greater social support, including social networks that provide financial, psychological, and emotional support.

Source: Understanding the Relationship Between Education and Health: A Review of the Evidence and an Examination of Community Perspectives. Content last reviewed September 2015. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/professionals/education/curriculum-tools/population-health/zimmerman.html>

In 1988, the Colorado General Assembly created the Colorado Preschool Program (22-28-102 C.R.S) to serve the young children in Colorado who were most vulnerable to starting grade school unprepared. The legislature recognized that providing quality early childhood education would reduce dropout rates, put children on track to reach their full potential, reduce need for public assistance, and decrease the risk for future criminal activities.³ In 2016-2017 there were 2,480 Colorado Preschool Program slots in Adams County, 2,186 in Arapahoe County, and 223 in Douglas County. Each slot provides a half-day of preschool for one child. This program is funded through the Colorado Public School Finance Formula.

Formal educational attainment is one benchmark of learning. The majority of students in Adams, Arapahoe and Douglas Counties complete high school. High school completion is the number of students receiving a regular diploma plus those completing with a non-diploma certificate or GED within six years of entering 9th grade. Figure 2 shows six-year completion rates by county over time.

Figure 2: Trends in high school completion rates by county



Source: Colorado Department of Education

Completion rates vary by race and ethnicity of the students, with Asian and White students having higher completion rates than their black, Hispanic or American Indian peers. This is a pattern seen across the nation and is attributed to a legacy of segregation and racism that persists today. Poverty is much more common among minorities as neighborhoods tend to be segregated by race and income. Low-income neighborhoods often have schools that tend to be poorly resourced by low property taxes; voters may be less likely to support bonds for school funding due to lack of personal resources. This can result in the inability to offer attractive teacher salaries or properly maintain buildings, supplies, and school safety.

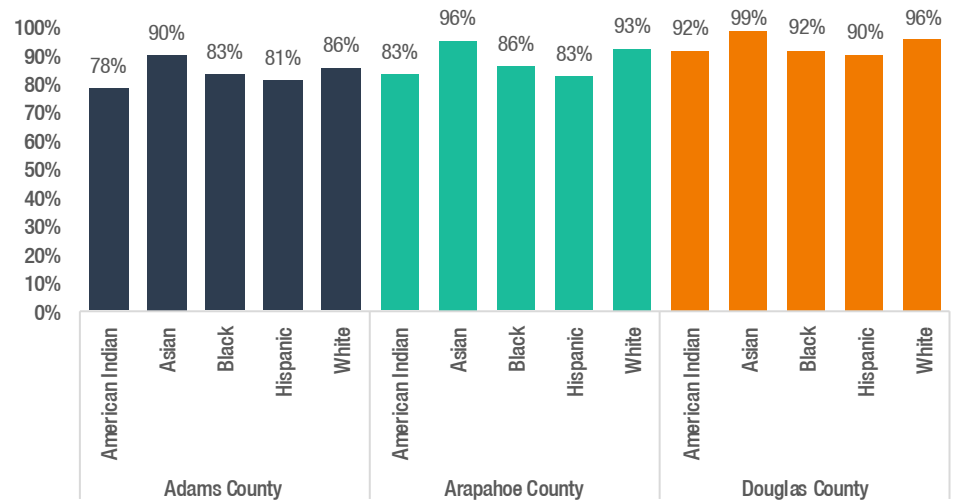
³ <https://www.rwjf.org/en/library/research/2012/12/why-does-education-matter-so-much-to-health-.html>

A healthy community is where lifelong learning is encouraged, and quality educational opportunities are available for all residents across the lifespan, meeting their needs and setting them up for success.

Individuals with lower health literacy had poorer health-related knowledge and comprehension, ability to demonstrate taking medications properly, and ability to interpret medication labels and health messages. They also had increased hospitalizations and emergency care, decreased preventive care, and, among the elderly, poorer overall health status and higher mortality.

Source: Understanding the Relationship Between Education and Health: A Review of the Evidence and an Examination of Community Perspectives. Content last reviewed September 2015. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/professionals/education/curriculum-tools/population-health/zimmerman.html>

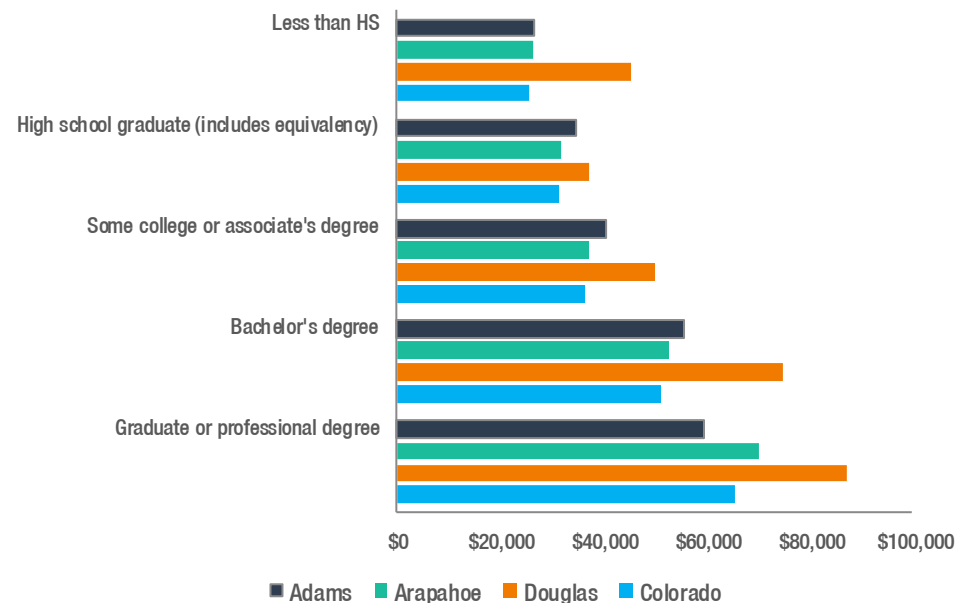
Figure 3: Six-year high school completion rates by race and ethnicity, academic years 2010-2011 through 2014-2016



Source: Colorado Department of Education

The link between education and income is well established. College graduates earn nearly twice as much as high school graduates over a lifetime. Better-educated individuals are also more likely to have a job—one with healthier working conditions, better health insurance, and higher wages.⁴ In turn, better educated residents feed a vital economy. A talented workforce attracts and retains employers. A sustainable economy demands the trained human capital to support it. Individuals and families are more likely to achieve and maintain self-sufficiency if they are well-prepared for the jobs that pay a living wage and provide health insurance and other benefits.

Figure 4: Median annual income by educational attainment, adults ages 25+, 2016



⁴ <https://www.rwjf.org/en/library/research/2012/12/why-does-education-matter-so-much-to-health-.html>

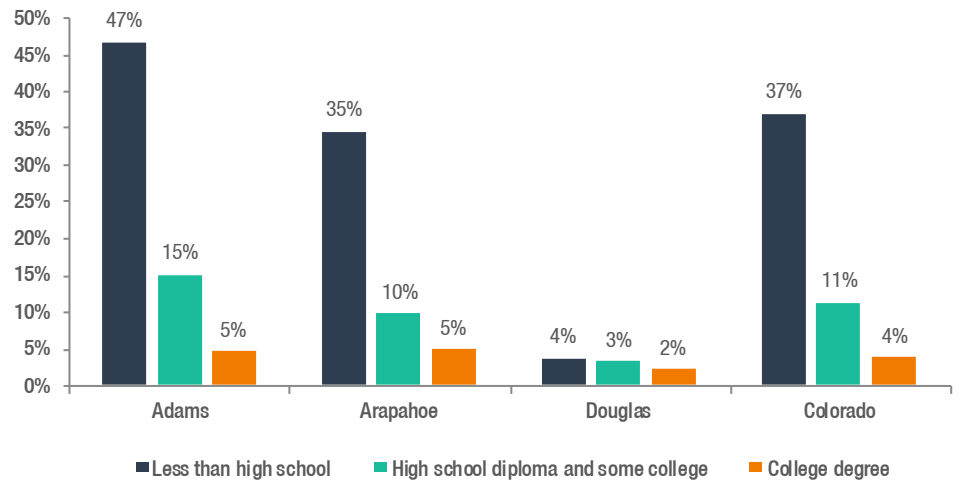
Source: American Community Survey 1-Year Estimate 2016

A healthy community is where lifelong learning is encouraged, and quality educational opportunities are available for all residents across the lifespan, meeting their needs and setting them up for success.

Individuals with less education are more likely to report poor health compared to those with higher levels of education.

Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

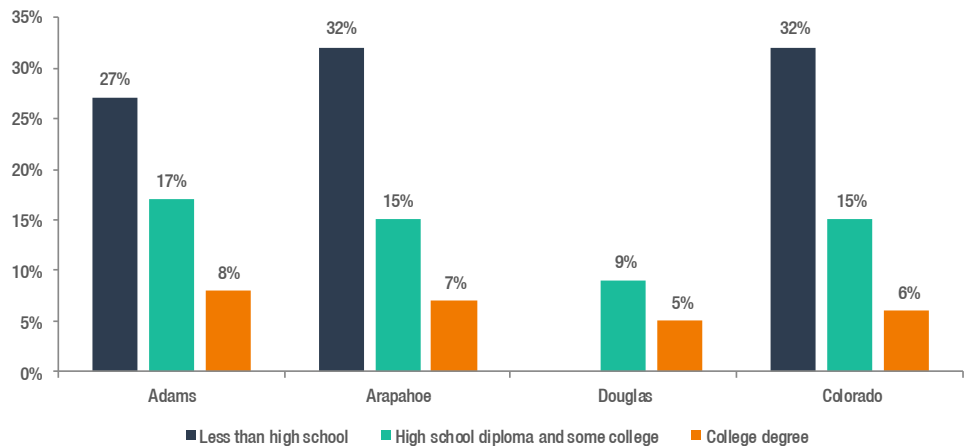
Figure 5: Adults with no health insurance coverage by educational attainment, 2014-2016



Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

Educational attainment is correlated with a range of health issues. For example, self-rated health status has been linked to mortality; those who rate their general health status as fair or poor die earlier than those who rate their health more favorably.⁵ Fair or poor health status is also linked to chronic disease prevalence. This measure of health is correlated with educational attainment; the less education one has, the more likely they are to rate their health as fair or poor.

Figure 6: Percent of adults reporting fair or poor general health by educational attainment, 2014-2016



Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment
Note: Small sample size prevents display of rates for those with less than high school for Douglas County

⁵Idler EL, Benyamini Y. Self-rated health and mortality: a review of twenty-seven community studies. *J Health Soc Behav.* 1997 Mar;38(1):21-37.

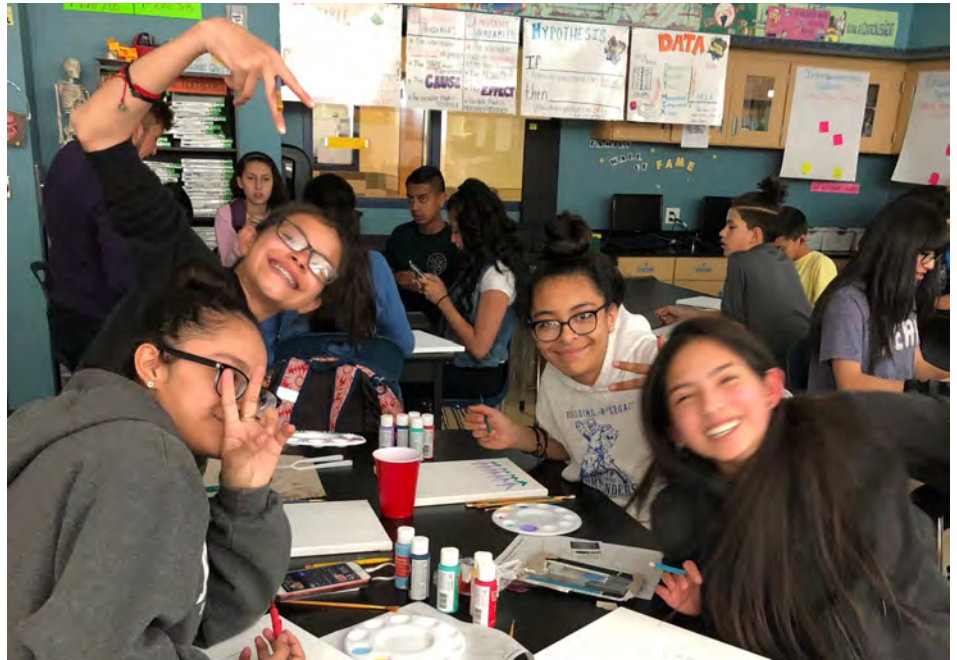
⁶ [https://www.alzheimersanddementia.com/article/S1552-5260\(15\)00197-1/pdf](https://www.alzheimersanddementia.com/article/S1552-5260(15)00197-1/pdf)

Research also shows that education, learning, and curiosity throughout the lifespan can decrease one's risk of developing dementia or cognitive decline. The Alzheimer's Association believes that lifelong learning/cognitive training, healthy diet, regular physical activity, and management of cardiovascular risk factors may reduce the risk of cognitive decline as people age.⁶

Health and Education

A healthy community is where lifelong learning is encouraged, and quality educational opportunities are available for all residents across the lifespan, meeting their needs and setting them up for success.

Lifelong learning—that is, the opportunity to continue to acquire the knowledge, values, skills and understanding needed to participate fully in community life—has many benefits. It keeps the mind sharp and improves memory, helps individuals gain confidence, enhances interpersonal relationships, improves chances of career growth, and increases the ability to communicate. Providing formal and informal opportunities for all residents to learn throughout their lives enhances the health of individuals and communities.



Communities that Care Student Youth Leaders. Arapahoe County.



A healthy community is where all residents can access safe, healthy, and culturally appropriate food and are able to practice good eating habits.

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In 2016, middle income households spent an average of \$6,224 on food, representing 13% of their income, while the lowest income households spent \$3,862 on food, representing 33% of their income.

(USDA, Economic Research Service using data from U.S. Bureau of Labor Statistics, Consumer Expenditure Survey, 2016)

It seems simple—eat a well-balanced diet for good health; however, in reality healthy eating is complicated by many factors, including our stage of life, circumstances, knowledge and attitudes, preferences, access to food, culture, and traditions. Anyone who has ever tried to lose or gain weight, get a picky child to eat, read and understand food labels, or make sense of current media messages about what food is good or bad for you today knows that eating a healthy diet is far from simple.

The health benefits of a nutritious diet, however, are clear. Good nutrition helps reduce risk for many health conditions, and maintaining a healthy weight through diet and exercise can help prevent chronic diseases like diabetes, heart disease, and some cancers.

A key factor in healthy eating is access to affordable, nutritious food. As with housing, those with lower incomes face particular challenges affording food and other necessities. In 2016, households in the middle income quintile spent an average of \$6,224 on food, representing 13% of their income, while the lowest income households spent \$3,862 on food, representing 33% of their income.¹

Food insecurity is defined as “the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies)”.²

¹ USDA, Economic Research Service using data from U.S. Bureau of Labor Statistics, Consumer Expenditure Survey, 2016). This places individuals and families at risk for food insecurity

² Life Sciences Research Office, S.A. Andersen, ed., “Core Indicators of Nutritional State for Difficult to Sample Populations,” *The Journal of Nutrition* 120:1557S-1600S, 1990.)

³ Ivers, L. C., & Cullen, K. A. (2011). Food insecurity: special considerations for women. *The American Journal of Clinical Nutrition*, 94(6), 1740S–1744S. <http://doi.org/10.3945/ajcn.111.012617>

Because women play a large role in food production and preparation, and because of their roles as child bearers and caregivers, women are especially impacted by food insecurity. Food insecurity has been associated with poor pregnancy outcomes, including low birth weight and gestational diabetes. Stress, anxiety, and depression in pregnant women have also been correlated with household food insecurity.³

A healthy community is where all residents can access safe, healthy, and culturally appropriate food and are able to practice good eating habits.

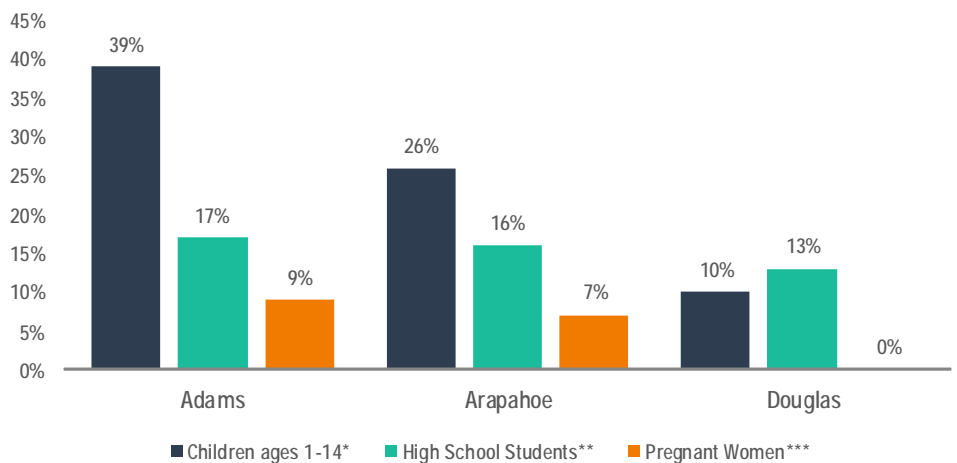
People [should] have access to affordable nutritious food in and near their homes, schools, and workplaces.

Source: TCHD Community Input Survey

Children who experience food insecurity are especially vulnerable due to the importance of key nutrients for brain development. Research has found that food insecure children are more likely to be developmentally delayed, have higher rates of behavioral problems, and are in poorer general health than children who are not food insecure. Food insecurity is also associated with childhood obesity due to poorer quality diets and overeating related to unpredictable availability of food.⁴

Adults aged 60 years and older face a number of unique medical and mobility challenges that put them at a greater risk of hunger. Many are forced to make the tough choice between buying food or medicine, and others struggle to access food without reliable transportation. Food insecure seniors are 53% more likely to report a heart attack, 52% more likely to develop asthma, and 40% more likely to report an experience of congestive heart failure than seniors who are not food insecure. They are also 60% more likely to experience depression, reducing their overall quality of life.⁵

Figure 1: Percent of children, high school students, and pregnant women who were food insecure



*Child Health Survey, Colorado Department of Public Health and Environment, 2016, Percentage of parents of children ages 1-14 who sometimes or often relied on only a few kinds of low-cost food to feed their child because they were running out of money to buy food in the past 12 months

**Healthy Kids Colorado Survey, Adams and Arapahoe 2015, Douglas 2013, Percentage of 9-12 grade students who went hungry in the last 30 days sometimes, most of the time, or always because of lack of food at home

***Pregnancy Risk Assessment Monitoring System, Colorado Department of Public Health and Environment, 2015, Percentage of post-partum women who ever ate less than they felt they should because there wasn't enough money to buy food during the 12 months before their new baby was born



⁴ https://www.childtrends.org/wp-content/uploads/2016/12/117_Food_Insecurity-1.pdf

⁵ <http://www.feedingamerica.org/research/senior-hunger-research/or-spotlight-on-senior-health-executive-summary.pdf> As the baby boomer generation ages, there will be an ever increasing number of seniors in our communities, many of whom will struggle with food insecurity

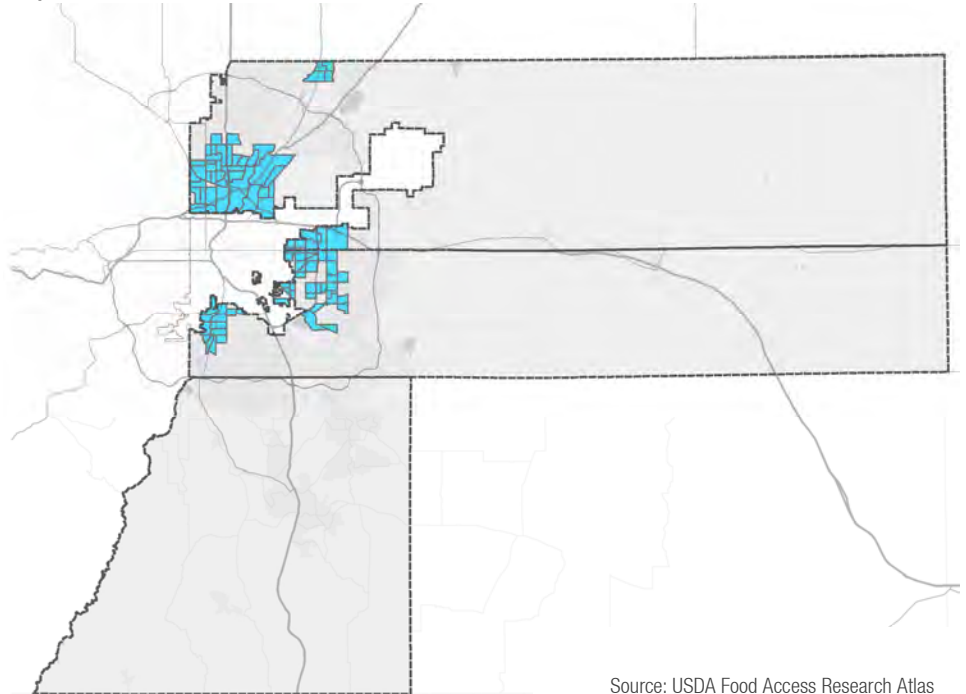
A healthy community is where all residents can access safe, healthy, and culturally appropriate food and are able to practice good eating habits.

Diet and body weight are related to health status. Good nutrition is important to the growth and development of children. A healthful diet also helps Americans reduce their risks for many health conditions, including:

- Overweight and obesity
- Malnutrition
- Iron-deficiency anemia
- Heart disease
- High blood pressure
- Dyslipidemia (poor lipid profiles)
- Type 2 diabetes
- Osteoporosis
- Oral disease
- Diverticular disease
- Some cancers

Source: Healthy People 2020

Map 1: Food deserts: Low income and low access at 1/2 and 10 miles*



Source: USDA Food Access Research Atlas

* This map uses criteria developed by the United States Department of Agriculture (USDA), which looks at low-income census tracts where a significant number (at least 500 people) or share (at least 33%) of the population is greater than 1/2 mile from the nearest supermarket, supercenter, or large grocery store for an urban area or greater than 10 miles for a rural area.

The United States Department of Agriculture defines food deserts as areas lacking access to fresh fruit, vegetables, and other healthful whole foods, usually found in impoverished communities. This is largely due to a lack of grocery stores, farmers' markets, and healthy food providers. Instead, these areas tend to have local "quickie" markets that provide processed foods high in sugar and fat and very few, if any, fresh fruits and vegetables. Food deserts can be defined in multiple ways depending on characteristics of the population. USDA Food Access data accounts for multiple conditions that may affect an individual's ability to access healthy foods. Map 1 indicates the census tracts where proximity to a food retailer and/or household income (at the census tract level) pose obstacles to accessing healthy food.

Two nutrition programs funded by the federal government, the Supplemental Nutrition Assistance Program (SNAP) and the Women, Infants, and Children (WIC) Program, provide assistance to low-income families and their children to purchase healthy foods. Unfortunately, not all those who are eligible for these benefits are enrolled in these programs. Increasing SNAP and WIC enrollment would generate local economic activity from grocery store sales and result in a high return on investment in improved health outcomes and reduced health care costs.⁶



⁶ Colorado Blueprint to End Hunger. <https://www.endhungerco.org/the-report/>

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When children have increased food security, their educational outcomes, tests scores and school readiness increase dramatically.

Source: Colorado Blueprint to End Hunger

The Colorado Blueprint to End Hunger, a five-year plan to end hunger in Colorado beginning in 2018, aims to make sure all Coloradans have access to affordable and healthy food in their communities. In addition to maximizing SNAP and WIC enrollment, the goals of the plan include increasing public understanding and awareness of hunger and health; increasing community access to affordable, nutritious food; increasing access to food assistance by working with community-based organizations; and maximizing school and early childhood center participation in federal child nutrition programs. Colorado ranks 45th in the nation in enrolling eligible recipients in SNAP and 47% for enrolling eligible WIC participants.

Figure 2: SNAP enrollment, 2014-2106

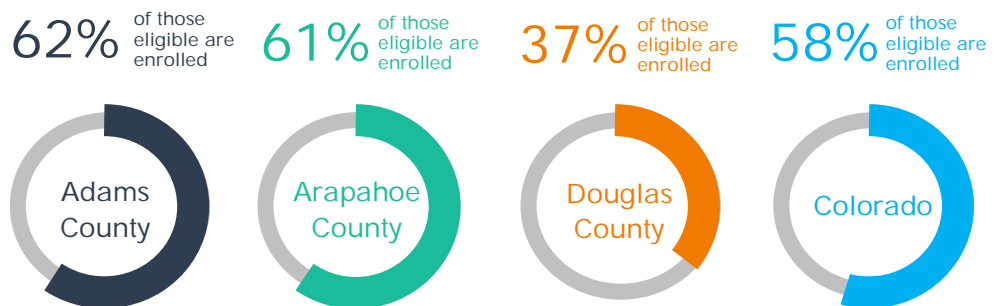
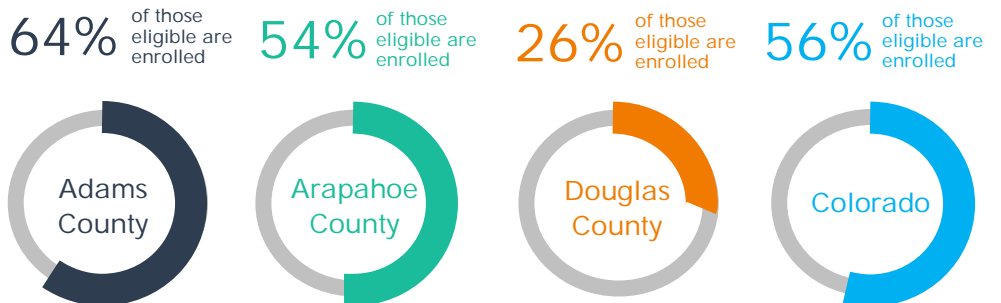


Figure 3: WIC Enrollment, 2014-2016



Source: Human Services Gap Map <http://gapmap.org/>

Healthy, abundant food is critical for the growth and development of children. Good nutrition helps prevent the development of chronic diseases. Access to affordable, high quality, culturally appropriate food is an important characteristic of a healthy community.





A healthy community is where people feel safe in their homes and walking in their neighborhoods; it is free from crime, violence and domestic abuse.

 Tri-County Health Department | 2018 Community Health Assessment



Health and Safety

Tri-County Health Department | Community Health Assessment 2018

A healthy community is where people feel safe in their homes and walking in their neighborhoods; it is free from crime, violence and domestic abuse.



32% of TCHD Community Input Survey respondents mentioned safety as an important part of a happy, healthy, and thriving community

Source: Tri-County Health Department, Community Input Survey

Tri-County's partners and community members often mentioned safety as key to healthy, happy, and thriving communities. People want to and should feel safe at school, at work, outside, inside, on the road – everywhere. In Abraham Maslow's famous Hierarchy of Needs, after physiological needs (food, water, shelter), safety and feelings of security and stability¹ are most foundational. People must feel safe if they are to do anything else well and, therefore, be healthy.

Safety in Public Spaces

Our partners, community members, and staff believe our three counties are safe places to live and work. Many of the of Community Input Survey respondents mentioned safety as an important part of a healthy community while very few mentioned safety as a current health problem in their county. In each of the County's resident surveys, the majority of community residents agreed that their counties were safe places to live (Adams County, 64%; Arapahoe County, 69%; and Douglas County, 98%).²

¹ Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.<http://dx.doi.org/10.1037/h0054346>

² <http://www.adcogov.org/quality-life-survey>, <http://www.co.arapahoe.co.us/1410/Citizen-Surveys-and-Feedback>, <https://www.douglas.co.us/county-reveals-2017-citizen-survey-results/>





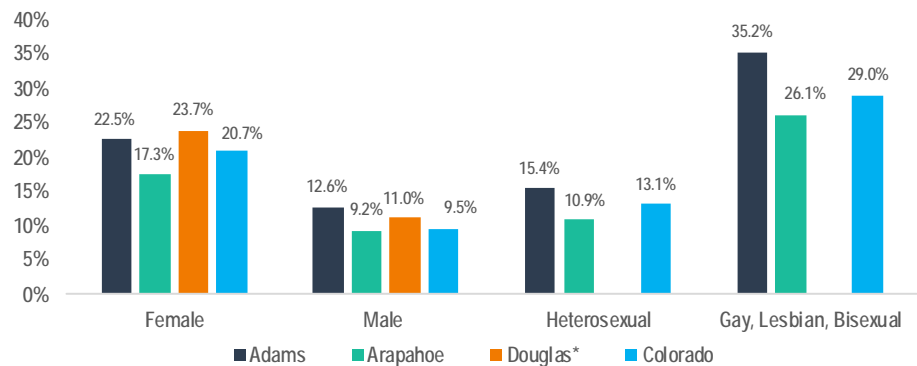
A healthy community is where people feel safe in their homes and walking in their neighborhoods; it is free from crime, violence and domestic abuse.

Gay, lesbian, or bisexual youth are significantly more likely to report feeling unsafe at school compared to their heterosexual/straight peers.

Source: Healthy Kids Colorado Survey, Colorado Department of Public Health and Environment

Children and youth should be and feel safe at home, school, and in the community. Most parents in our three counties (96%) believe that their children are safe playing at local parks and playgrounds. In the last National Survey of Children’s Health, 92% of parents in Colorado believed they lived in safe neighborhoods and 95% believe the schools their children attend are usually or always safe.³ Most high school students in our counties (88-89%) report feeling safe at school; heterosexual/straight youth are significantly more likely than gay, lesbian, or bisexual youth to report feeling safe at school.⁴ A similar percentage of youth report bullying or teasing across all three counties and across the state: between 16% and 20% of youth from each county report having been bullied on school property in the past year. Consistently, more females and gay, lesbian, or bisexual youth report bullying than do males and heterosexual youth. Females in all three counties report significantly more electronic bullying than their male peers. Gay, lesbian, or bisexual youth report significantly more electronic bullying than their heterosexual peers in Arapahoe and Adams County and in Colorado [see Figure 1]. Black, Asian, and multiracial youth are more likely in our counties and across the state to be teased or called names because of their race/ethnicity.

Figure 1: Percent of high school students who reported electronic bullying, 2015



Source: Healthy Kids Colorado Survey, Colorado Department of Public Health and Environment, *Douglas County did not participate in the 2015 Healthy Kids Colorado Survey. These data are from the 2013 survey; data are not available by self-reported sexual orientation.

Safety-Related Health Behaviors

Health behaviors also relate to safety. People are more likely to take risks with their health and health behaviors if they feel the need to prove themselves to their peers, or if social norms around health behaviors encourage riskier behaviors. In our counties, fewer than one in ten high school students reported rarely or never wearing a seatbelt when riding in a car driven by someone else. Higher percentages of older youth, males, Hispanic, multiracial, and gay, lesbian, and bisexual youth reported rarely or never wearing a seatbelt than their younger, female, white, and heterosexual peers. This pattern is similar to youth’s report of riding in a car driven by someone who had been drinking alcohol. Between 14% and 20% of high school-aged youth in our counties report this health risk behavior. Between 6% and 10% of youth in our counties reporting driving a car when they had been drinking alcohol. Older students, males, and youth unsure of or still discovering their sexual orientation were more likely to drink and drive than younger students, females, and heterosexual youth.

³ <http://www.childhealthdata.org/browse/data-snapshots/nsch-profiles/customizable-profile>

⁴ Healthy Kids Colorado Survey, 2013, 2015



Health and Safety

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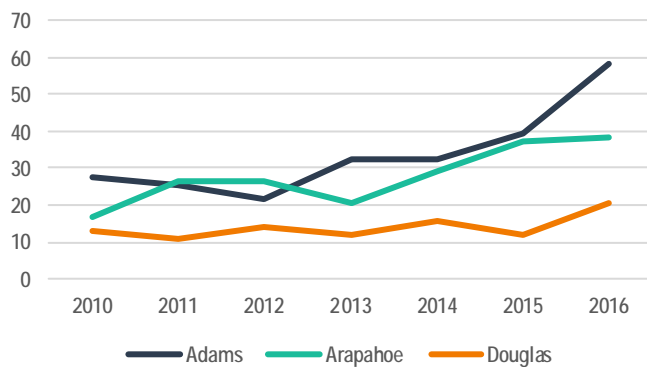
In 2016, there were 117 fatal car crashes in Adams, Arapahoe, and Douglas Counties.

Source: Colorado Department of Transportation

Motor Vehicle Safety

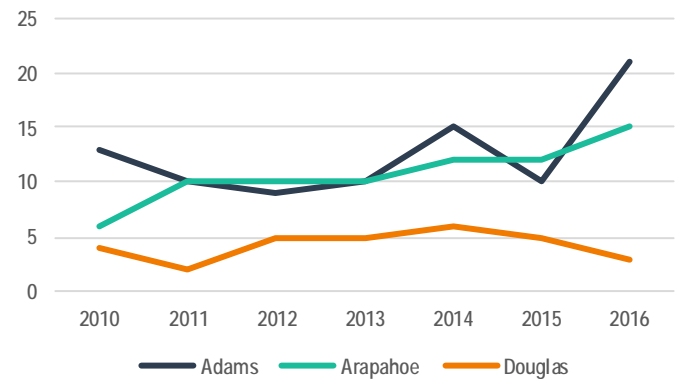
In 2016, there were 117 fatal car crashes in our three-county region: 58 in Adams County, 38 in Arapahoe County, and 21 in Douglas County. Figure 2 shows a seven-year trend in number of fatal car crashes in our three counties. By counts alone, fatal accidents have risen over the last several years. One-third of those accidents (33%) involved impaired driving of some kind and 32% involved either no restraint system or, for motorcyclists, no helmet. In one-quarter of the fatal crashes in Adams County in 2016, at least one person involved in the crash was not wearing/using a proper restraint system. The percentages were slightly lower in the other two counties: Arapahoe at 15% and Douglas at 21%. Over one in five (21%) of the fatal crashes in Douglas County involved a motorcyclist without a helmet compared to 9% of fatal crashes in both Arapahoe and Adams Counties. Between 2010 and 2016, impaired driver-related fatal crashes have increased in Adams and Arapahoe Counties but remained steady in Douglas County (Figure 3), distracted driving-related fatal crashes have risen slightly since 2010 (Figure 4), and fatal crashes involving no restraint or no helmet have increased (Figure 5).

Figure 2: Number of fatal car crashes, 2010-2016



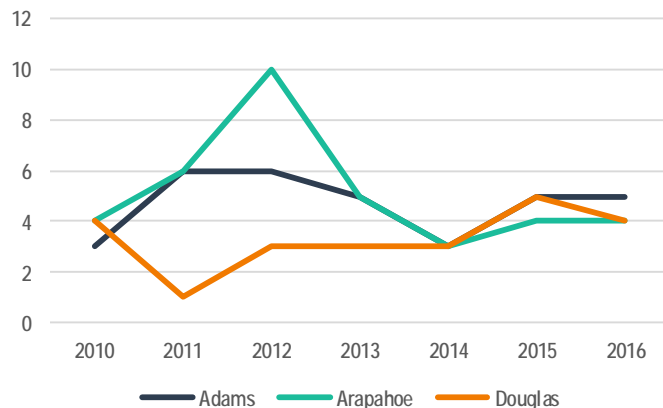
Source: Colorado Department of Transportation

Figure 3: Number of impaired driver-related fatal car crashes, 2010-2016



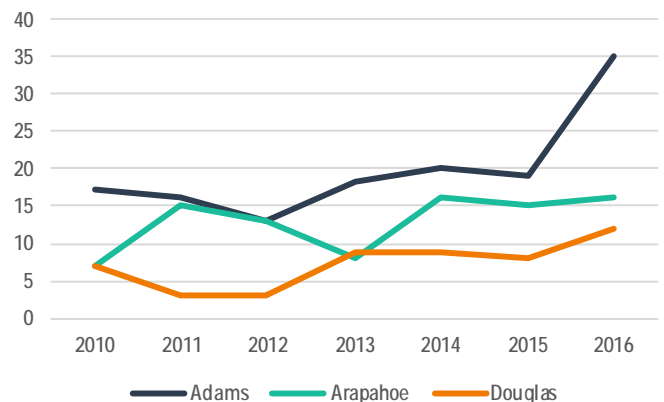
Source: Colorado Department of Transportation

Figure 4: Number of distracted driver-related fatal car crashes, 2010-2016



Source: Fatality Analysis Reporting System, National Highway Traffic Safety Administration

Figure 5: Number of no restraint/no helmet-related fatal car crashes, 2010-2016



Source: Fatality Analysis Reporting System, National Highway Traffic Safety Administration



Health and Safety

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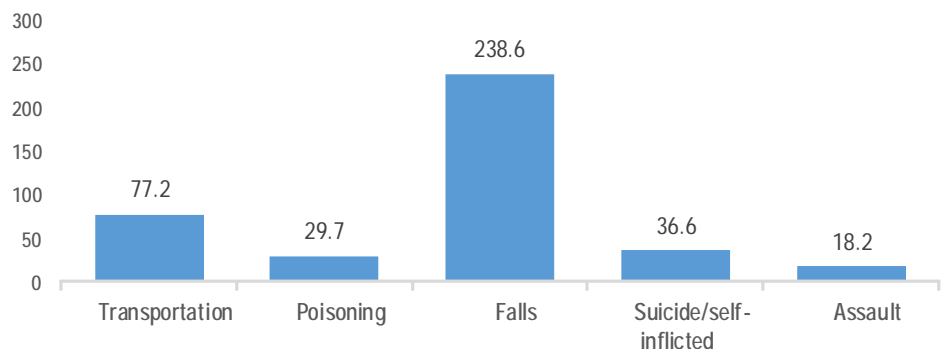
In 2015, rates of hospitalizations for falls exceed motor vehicle traffic incidents, drug overdoses, and assaults.

Source: Colorado Hospital Association (2015)

Falls

More accidents occur at home than anywhere else. In 2016, over one-quarter (26%) of adults (over the age of 18) in our three counties experienced at least one fall in the last year.⁴ Nearly one-third (30%) of adults 65 years of age and over reported falling in the past year.⁴ In 2015, the hospitalization age-adjusted rate for falls (239 per 100,000 population) was higher than any other cause of injury hospitalization.⁵ The specific causes of falls resulting in the most injury hospitalizations were slipping, tripping, or stumbling on an even level (69 per 100,000) followed by falling from stairs or steps (22 per 100,000). To put this in context, the age-adjusted rates of injury hospitalizations from motor vehicle traffic incidents during the same period was 77 per 100,000, suicide attempts were 37 per 100,000, poisoning (including opioid overdose) was 30 per 100,000, and assault was 18 per 100,000 (Figure 6).⁵

Figure 6: Age-adjusted hospitalization rates* for select causes, Adams, Arapahoe and Douglas Counties, 2015



*Rates are per 100,000 population and age-adjusted to the US 2000 standard population
Source: Colorado Hospital Association



⁴ Behavior Risk Factor Surveillance System (BRFSS)

⁵ Colorado Hospital Association



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As many as 1 in 4 children experience child abuse or neglect at some point in their lives.

Source: Finkelhor D, Turner HA, Shattuck A, Hamby SL. Prevalence of Childhood Exposure to Violence, Crime, and Abuse: Results From the National Survey of Children's Exposure to Violence. *JAMA Pediatr.* 2015;169(8):746–754. doi:10.1001/jamapediatrics.2015.0676

Abuse and Neglect

Abuse, neglect, and violence can happen at school, in the home, at work, and in a caregiving setting. In 2017, there were over 15,000 child abuse allegations in our three counties: 5,831 in Adams County, 7,342 in Arapahoe County, and 2,021 in Douglas County. Just over one in five of those allegations (22%) were substantiated and the rest were unsubstantiated or pending as of March 2018. The majority of allegations are for neglect (between 67% and 71%), followed by physical abuse (between 18% and 19%), sexual abuse (around 7%), psychological/emotional abuse (between 1% and 3%), and medical neglect (between 1% and 3%).⁶ Child abuse and neglect affect a child's physical and emotional health and development now and for the rest of their lives. Experts estimate that at least one in four children experience child abuse or neglect at some point in their lives.⁷ Research tells us that abuse and neglect may change the way children's brains develop, causing harm to cognitive and language ability, social emotional development, and the physiological stress response. Due to the trauma and physiological impacts of abuse and neglect, adults who were abused or neglected as children are at greater risk than their peers to experience substance use disorder or depression as adults; they are also more likely to smoke and to engage in high-risk health behaviors.⁸

Similar to children, at-risk adults are more likely than their peers to suffer abuse or self-neglect. At-risk adults are adults 18 years and older who are "unable to provide or obtain services necessary for their health, safety, and welfare OR who lack the capacity to make or understand responsible decisions."⁹ In the one-year period July 2016 – June 2017, there were 3,833 reports of possible abuse or self-neglect, resulting in 1,424 allegations. Thirty percent of those allegations in the three-county region were substantiated. At-risk adults, women and older adults are at higher risk for abuse.¹⁰

⁶ Office of Children, Youth, and Families, Colorado Department of Public Health and Environment

⁷ Finkelhor D, Turner HA, Shattuck A, Hamby SL. Prevalence of Childhood Exposure to Violence, Crime, and Abuse: Results From the National Survey of Children's Exposure to Violence. *JAMA Pediatr.* 2015;169(8):746–754. doi:10.1001/jamapediatrics.2015.0676

⁸ <https://www.cdc.gov/violenceprevention/childmaltreatment/consequences.html>

⁹ <https://www.colorado.gov/pacific/cdhs/report-abuse-older-adult>

¹⁰ <http://extension.colostate.edu/topic-areas/family-home-consumer/why-should-i-care-about-abuse-of-at-risk-adults-9-155/>





A healthy community is where people feel safe in their homes and walking in their neighborhoods; it is free from crime, violence and domestic abuse.

16% of women and 7% of men have been victims of sexual violence in their lifetime.

Source: The National Intimate Partner and Sexual Violence Survey

Intimate Partner Violence

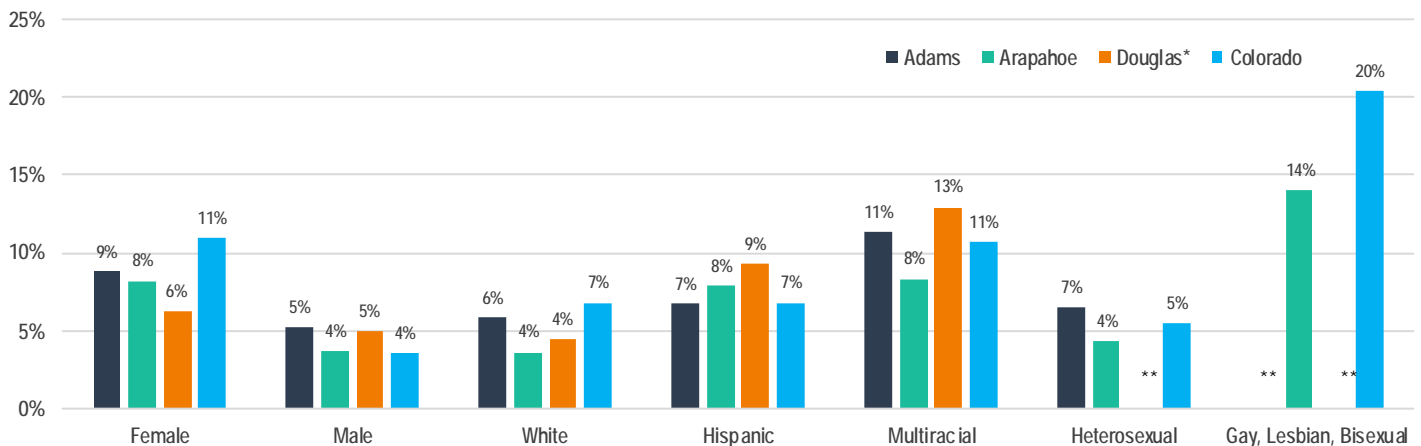
Intimate partner violence (IPV) – also called Domestic Violence – is “physical, sexual, or psychological harm by a current or former partner or spouse.”¹¹ IPV can happen to anyone of any age or sexual orientation/identity; IPV in adolescence may be called Teen Dating Violence. The National Intimate Partner and Sexual Violence Survey estimates that 23% of women and 14% of men have experienced some kind of physical violence from a partner during their lifetime. The survey also finds that 16% of women and 7% of men have been victims of sexual violence in their lifetime.¹² Psychological aggression, including shame or humiliation and being controlling, is very common; it is estimated that nearly 50% of women and men have experienced some kind of psychological aggression.¹² Around one in ten high school youth in our three counties report being physically hurt on purpose by someone they were dating.⁴ Around one in twenty high school students in our three counties report being physically forced to have sexual intercourse when they did not want to. Some groups are more likely to experience rape, including females, Asian, black, Hispanic, and multiracial youth, as well as gay, lesbian, and bisexual youth (Figure 7). According to the Centers for Disease Control and Prevention, teaching safe and healthy relationship skills to children of all ages, and fostering supportive and protective environments that include trusted adults can reduce the risk of teen dating violence and intimate partner violence.



¹¹ <https://www.cdc.gov/violenceprevention/intimatepartnerviolence/index.html>

¹² <https://www.cdc.gov/violenceprevention/pdf/ipv-technicalpackages.pdf>

Figure 7: Percent of high school students who were ever physically forced to have sexual intercourse when they did not want to, 2015



Source: Colorado Department of Public Health and Environment, Healthy Kids Colorado Survey*

*Douglas County estimates are from 2013; in 2013, multiracial is referred to as “other.” Students’ self-identified sexual orientations were not asked on the 2013 survey.

**Data suppressed due to small numbers



Health and Safety

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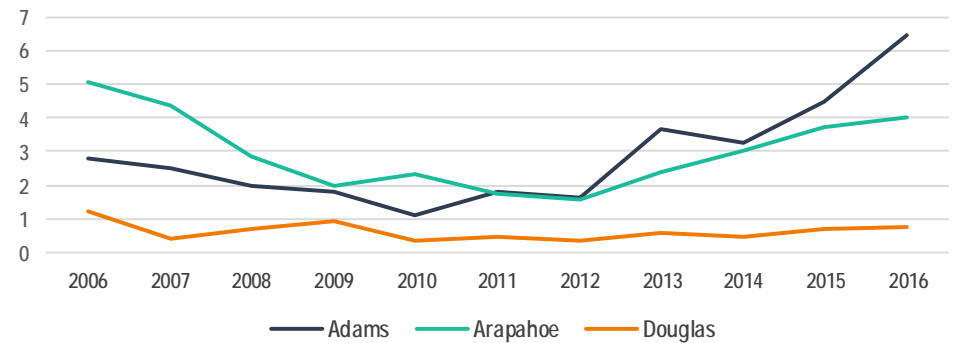
Motor vehicle theft decreased from 2006 to 2012 and began to rise again in 2013.

Source: Colorado Bureau of Investigation (CBI), the Colorado State Judicial Branch, the Colorado Department of Corrections (CDOC), the Colorado State Demographer's Office (DOLA), the Bureau of Justice Statistics (BJS), and the Federal Bureau of Investigations (FBI) Uniform Crime Reports

Crime

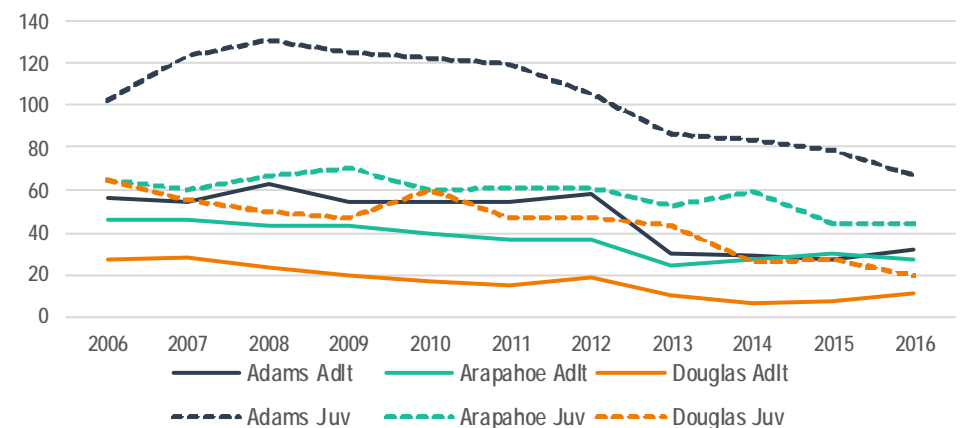
Many of our community members and partners completing the survey mentioned crime as an important part of safety and of feeling safe. Adult crime arrest rates in our three counties decreased from 2006 to 2016 with the exception of robbery and murder, which have stayed steady over time; motor vehicle theft, which decreased from 2006 to 2012 and began to rise again in 2013 (Figure 8); and larceny/theft, which has increased slightly over the past 10 years. Adult arrest rates for burglary, drug violations, aggravated assault, and rape all decreased during the 10-year period. Trends in juvenile crime arrest rates are similar to adults: between 2006 and 2016, arrest rates decreased for robbery, burglary, larceny, drug violations, and aggravated assault. Arrests for rape have decreased in all counties with the exception of Adams County, and murder rates are so small that trends are difficult to distinguish. Arrests for juvenile motor vehicle theft follow a similar trend to adult arrest rates: they decreased from 2006 to 2012 and began to increase in 2013. While drug violation arrest rates have decreased for both adults and juveniles, Figure 9 show that in each county, arrest rates per 100,000 are higher for juveniles than they are for adults.

Figure 8: Trends in adult motor vehicle theft arrest rates per 100,000 population, 2006-2016



Source: <https://www.colorado.gov/pacific/dcj-ors/ors-crimestats>

Figure 9: Trends in adult and juvenile drug violation arrest rates per 100,000 population, 2006-2016



Source: Colorado Bureau of Investigation (CBI), the Colorado State Judicial Branch, the Colorado Department of Corrections (CDOC), the Colorado State Demographers's Office (DOLA), the Bureau of Justice Statistics (BJS), and the Federal Bureau of Investigations (FBI) Uniform Crime Reports



A healthy community is where people feel safe in their homes and walking in their neighborhoods; it is free from crime, violence and domestic abuse.

Between 2000 and 2016, 83 youth aged 17 and under died in Adams, Arapahoe, and Douglas Counties due to firearm-related violence.

Source: Vital Records Program, Colorado Department of Public Health and Environment

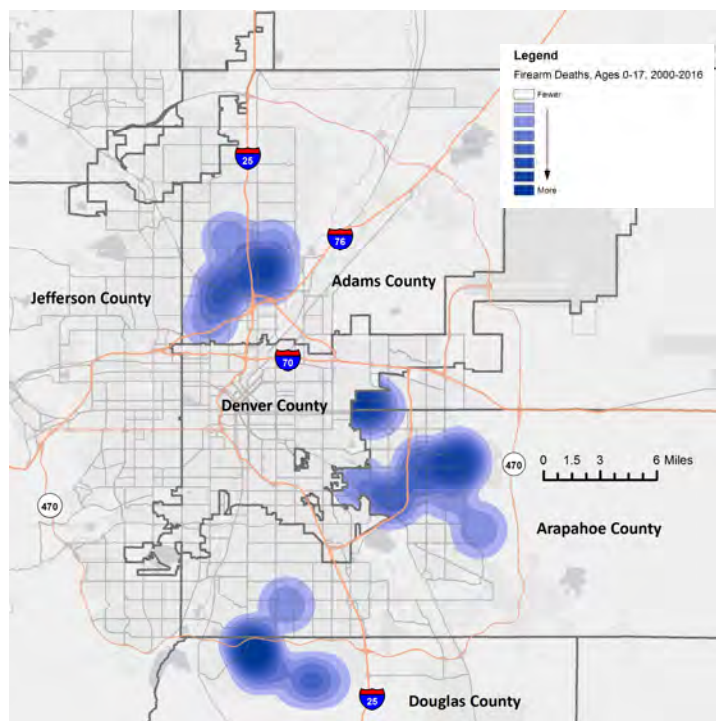
¹³ <https://injury.research.chop.edu/violence-prevention-initiative/types-violence-involving-youth/gun-violence/gun-violence-facts-and#.WuNyIW4vy72>

¹⁴ <https://injury.research.chop.edu/violence-prevention-initiative/types-violence-involving-youth/gun-violence/gun-violence-facts-and#.WuNyVm4vy71>

Firearms

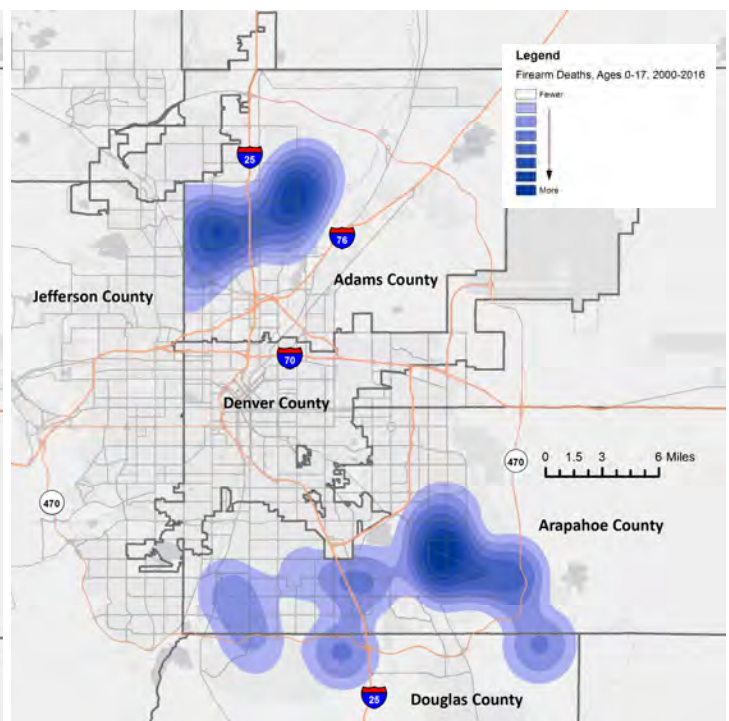
Concern over firearm-related deaths has increased over time, especially as school-related shootings become increasingly common. The Children’s Hospital of Philadelphia estimates that in the U.S. one in three homes with children have guns, and that people with access to firearms are at greater risk for homicide and suicide than people who do not have access to firearms.¹³ Between 2000 and 2016, 83 youth aged 17 and under died in Adams, Arapahoe, and Douglas Counties due to firearm-related violence. Firearm-related violent deaths include deaths due to homicide, suicide, accidental discharge, legal intervention, and undetermined intent. Most 98% (n=81) of these deaths were due to homicide (42%) and suicide (55%). Youth (ages 0-17) firearm-related deaths (n=83) account for only 3% of the total number of youth deaths (n=2,491) between 2000 and 2016. The two maps below show homicide (Figure 10) and suicide (Figure 11) firearm deaths of youth ages 0-17 between 2000-2016. For adults 18 and older, firearm deaths (n=2,088) accounted for 1.9% of all deaths between 2000 and 2016. Notably, while only about one-quarter (23%) of firearm-related deaths were due to homicide (n=476), nearly three-quarters (74%) were due to suicide (n=1,551); the remaining 3% were due to accidental discharge, legal intervention, or undetermined intent. Most of the people who died in a firearm-related incident are male (84%) and white (75%). Reducing access to firearms and ensuring safe storage of firearms can decrease the likelihood of firearm-related deaths.¹⁴

Figure 10: Homicide firearm deaths in Adams, Arapahoe, and Douglas counties among youth ages 0-17, 2000-2016, n=35



Based on ICD-10 codes: U01.4, X93-X95
Source: Vital Statistics Program, Colorado Department of Public Health and Environment

Figure 11: Suicide firearm deaths in Adams, Arapahoe, and Douglas counties among youth ages 0-17, 2000-2016, n=46



Based on ICD-10 codes: X72-X74
Source: Vital Statistics Program, Colorado Department of Public Health and Environment

Point locations are determined by geocoding residential addresses of the deceased (not the location where the event occurred). Geographically isolated events (<3) are not represented on this density surface to protect patient privacy. Cells appearing on the surface require clusters of three or more deaths. The density surface is classified using natural breaks with an adjustment to mask individual events. The map indicates concentrations of events relative to the total number of events (in the selected time period).



Health and Safety

A healthy community is where people feel safe in their homes and walking in their neighborhoods; it is free from crime, violence and domestic abuse.

In conclusion, safety is a basic need for a happy and healthy life. When people feel safe at home, at school or work, on the road, and wherever they may be, their awareness is not heightened and in “flight or fight mode.” They are able to better learn and participate in discussions, and they are able to think more clearly and calmly, making healthier decisions. Working together with each other, our communities, and our policymakers, we can help ensure safety for all people in all settings.





In a healthy community, all residents enjoy clean air, safe water, and environments free from contaminants. Everyone has access to parks, trails and open space, and affordable recreational opportunities.



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Poor air quality contributes to poor health and is particularly harmful to young children, older adults, and those who have an existing respiratory condition

Source: Centers for Disease Control and Prevention

Partners and community members identified a clean environment as an important foundation to a healthy community. Clean air, clean water, proper waste management, and high-quality neighborhoods are all critical to ensuring that the places where we live, work, and play promote community health. The associations between health outcomes and environmental toxins and contamination are well established. Environmental contaminants can come from a variety of human-made sources and are often a reflection of the way we design, build, and maintain our communities over time.

Air

Poor air quality contributes to many adverse health outcomes and is particularly harmful to young children, older adults, and those who have an existing respiratory condition. Currently, ozone is the biggest concern for the Metro Denver region.¹ Ozone at the ground-level forms from the combination of Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx). Heat and sunlight trigger this

Figure 1: What forms ground-level ozone?

Volatile Organic Compounds (VOCs)

VOCs are natural (organic) emissions from plant material or related solvents from industrial processes.



Nitrogen Oxides (NOx)

A mix of nitric oxide and nitrogen dioxide, NOx are highly reactive gases primarily formed by high-temperature combustion processes such as those occurring in automobiles and power plants.



¹ http://raqc.org/wp-content/uploads/2014/04/RAQC_LocalGvt_Brochure_Final.pdf

Source: http://raqc.org/wp-content/uploads/2014/04/RAQC_LocalGvt_Brochure_Final.pdf



In a healthy community, all residents enjoy clean air, safe water, and environments free from contaminants. Everyone has access to parks, trails and open space, and affordable recreational opportunities.

Radon Test Results: By County: 2005-2012

Adams County

Tests: 11,486
27% Greater than 4pCi/L
Max: 148 pCi/L | Mean 3.4 pCi/L

Arapahoe County

Tests: 13,352
50.1% Greater than 4pCi/L
Max: 367 pCi/L | Mean 6.1 pCi/L

Douglas County

Tests: 10,468
44% Greater than 4pCi/L
Max: 606 pCi/L | Mean 5.2 pCi/L

Note: 4 pCi/L is the recommended action level established by the U.S. EPA

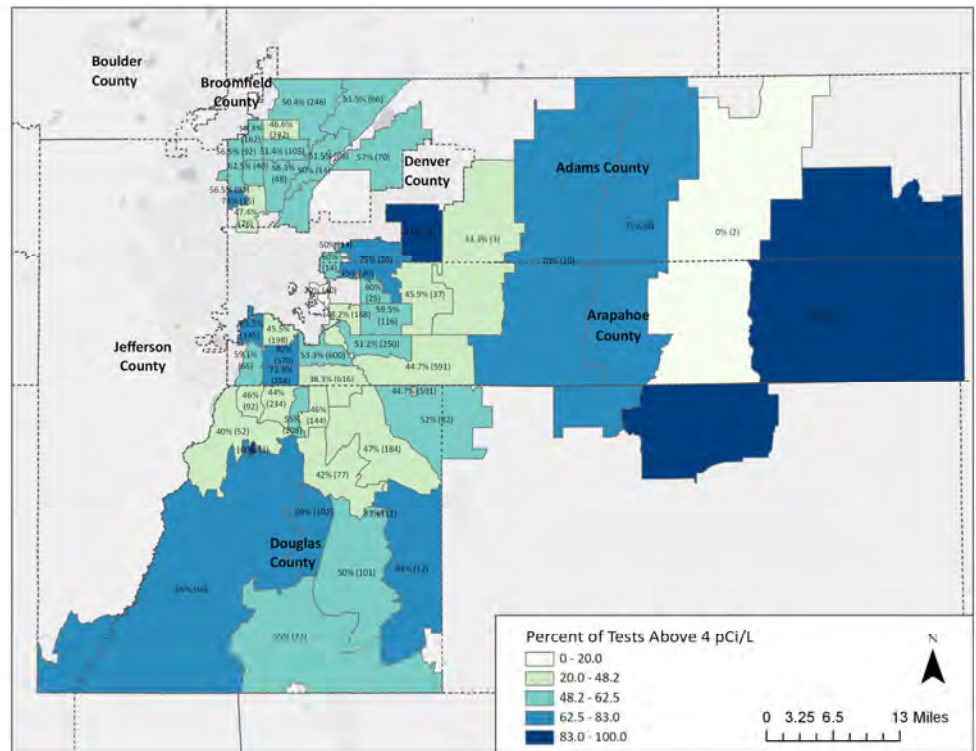
Source: Radon Outreach Program, Colorado Department of Public Health and Environment

combination, leading to higher ozone levels in summer months. Ozone can lead to many adverse effects, including shortness of breath, eye irritation, the triggering of asthma symptoms, and chronic obstructive pulmonary disease.² Ozone is one of the biggest contributors to poor air quality and comes from mobile emission sources such as cars, trucks, and buses.³

Radon

Radon naturally occurs in soil through the breakdown of uranium and is common throughout Colorado and in the Tri-County region (see Map 1). Radon can seep into homes through floors and basements. Radon is the second most common cause of lung cancer after smoking and is estimated to lead to 20,000 deaths per year in the U.S. Testing homes for radon and mitigating exposure in settings with elevated levels (>4 pCi/L) can reduce the risk of lung cancer from radon exposure.

Map 1: Radon test results, Percent above 4pCi/L by zip code, 2011-2014



Source: Radon Outreach Program, Colorado Department of Public Health and Environment

Water

Contaminated water can lead to a variety of poor health outcomes; from infectious diseases to cancer. While many factors affect water quality, how we use and manage our land—whether it be for agriculture, oil and gas production, or industrial activities—can lead to groundwater contamination.⁴ Water supply impacts the quality of our groundwater. As the water supply decreases, the pollutant concentration increases, degrading the quality of our water resources. Colorado’s Water Plan projects that the state “faces the possibility of a significant water supply shortfall within the next few decades, even with aggressive conservation and new water projects.”⁵

² <https://www.epa.gov/ozone-pollution/health-effects-ozone-pollution>

³ <https://www.epa.gov/haps/hazardous-air-pollutants-sources-and-exposure>

⁴ <https://www.nrdc.org/issues/protect-groundwater-supply>

⁵ <https://www.colorado.gov/pacific/cowaterplan/plan>

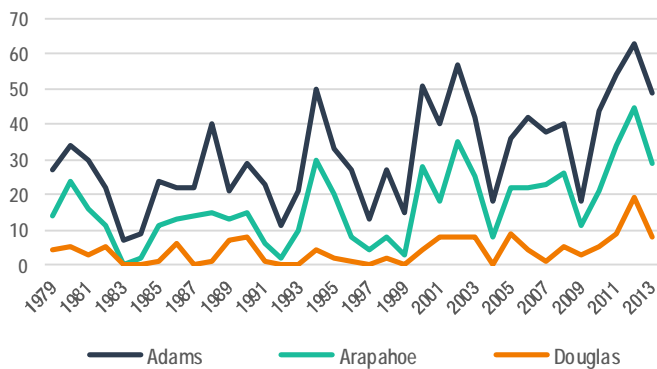


In a healthy community, all residents enjoy clean air, safe water, and environments free from contaminants. Everyone has access to parks, trails and open space, and affordable recreational opportunities.

Extreme Weather Events/Climate Change

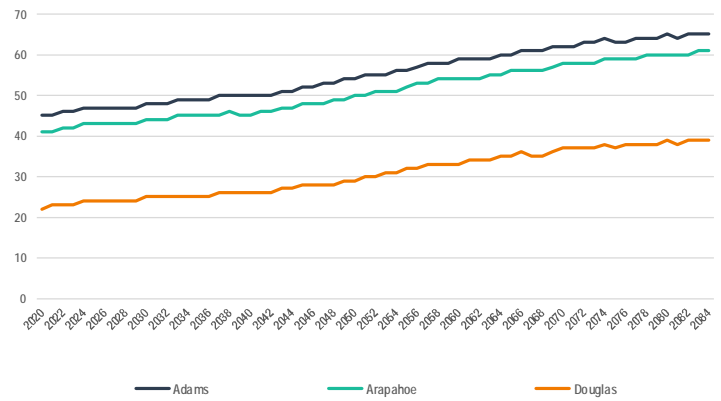
The increasing frequency and severity of extreme weather events can have dramatic effects on population health. Understanding the connection between our natural environment, our manmade systems, and our health is important to both help reduce the effects of a changing climate and prepare for outcomes of future events. These events could not only affect water availability integral to recreation, agriculture, and household needs, but also water quality and our ecosystems. Extremely hot days make it dangerous for populations more likely to be adversely affected by heat—such as children, older adults, and our outdoor workforce—to suffer exhaustion or even heat stroke (Figure 2). Modeling studies predict the number of extreme heat days to increase steadily over the next 65 years (Figure 3). As forest fires become increasingly likely due to drought, their smoke will worsen air quality in our neighborhoods and put those in our mountain regions at immediate risk (Map 2).

Figure 2: Number of measured extreme heat days (greater than 90 °F), 1979-2013



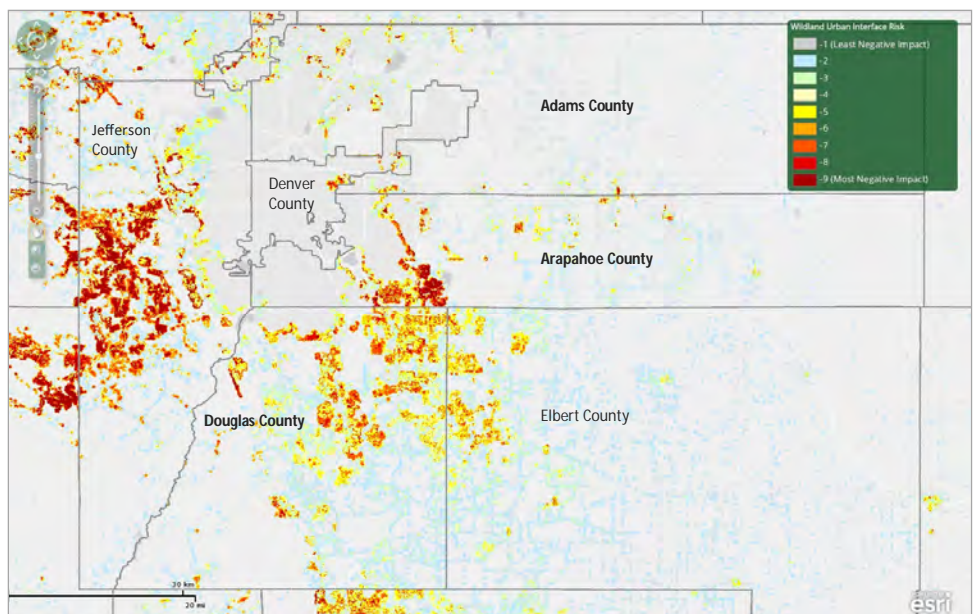
Source: Centers for Disease Control and Prevention, North American Land Data Assimilation System (NLDAS) data

Figure 3: Number of predicted extreme heat days (greater than 90 °F), 2020-2084



Source: Centers for Disease Control and Prevention, North American Land Data Assimilation System (NLDAS) data

Map 2: Fire risk in Adams, Arapahoe, and Douglas Counties



Source: Colorado Wildfire Assessment Risk Portal, <https://www.coloradowildfirerisk.com>

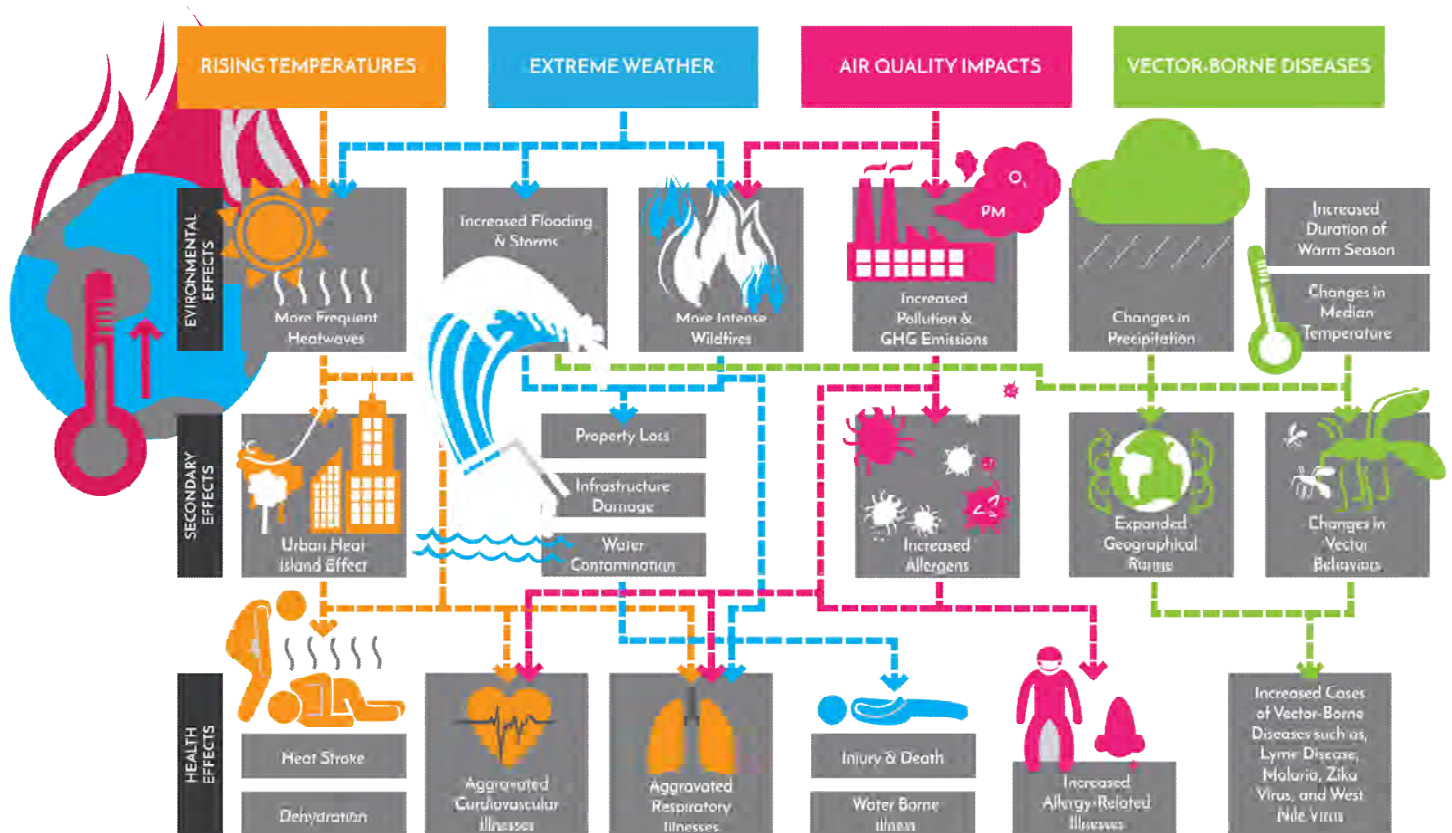
In a healthy community, all residents enjoy clean air, safe water, and environments free from contaminants. Everyone has access to parks, trails and open space, and affordable recreational opportunities.

In addition to negative physical health symptoms and outcomes, climate change can negatively impact mental health, community health, and connectedness. Figure 4 illustrates some of the ways rising temperatures, extreme weather, impacts to air quality, and vector-borne diseases—all possible outcomes of climate change—impact health. “The ability to process information and make decisions, without being disabled by extreme emotional responses, is threatened by climate change. An emotional response is normal; however, in an extreme case, it can interfere with our ability to think rationally, plan our behavior, and consider alternative actions. An extreme weather event can be a source of trauma and cause disabling emotions. More subtle and indirect effects of climate change can add stress to people’s lives in varying degrees. Whether experienced indirectly or directly, stressors to our climate translate into impaired mental health that can result in depression and anxiety.”⁶

⁶ Clayton, S., Manning, C. M., Krygman, K., & Speiser, M. (2017). Mental Health and Our Changing Climate: Impacts, Implications, and Guidance. Washington, D.C.: American Psychological Association, and ecoAmerica. <http://www.apa.org/news/press/releases/2017/03/mental-health-climate.pdf>

Helping people make personal or family preparedness plans, fostering social support, and building people’s belief in their own ability to succeed can reduce the risk of negative mental health impacts resulting from climate change. Community health can also suffer from climate events. Increased personal aggression, disrupted sense of belonging, loss of community cohesion, increased violence and crime, and social instability are some of the potential impacts to a community.⁶ Preparing

Figure 4: How climate change affects your health





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Household Chemical Round-up

Adams County

135,456 lbs. of HHW* collected in 2017

Douglas County

379,662 lbs. of HHW collected in 2017

*Household Hazardous Waste (HHW)

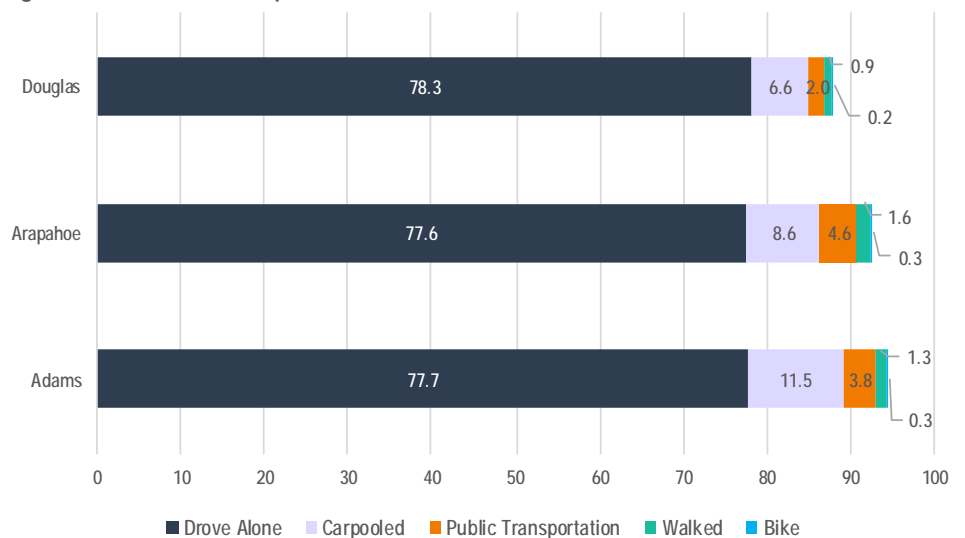
Source: Household Chemical Round-Up Program, Tri-County Health Department

infrastructure, building social connection, developing community-wide plans, and paying special attention to people at higher risk for negative outcomes, can help communities to increase resiliency to the effects of a changing climate.

Built Environment and Neighborhood Factors

Everyday actions and neighborhood-scale interventions can reduce the factors that negatively affect environmental quality and resilience to climate change. For example, properly disposing of hazardous household items, like cleaning products and paint, can help prevent air and water contamination. Planting and caring for green space and trees helps both improve air quality and reduce the number of pollutants that enter our waterways. Creating opportunities for moving around a neighborhood on foot or on a bicycle can reduce the number of vehicle trips taken, thereby improving air quality, and increasing physical activity among residents. The majority of people in our three counties drive alone to work (Figure 5). Carpooling is most common in Adams County (12% of commuters) and working from home is most common in Douglas County (10%). In our three counties, the estimated average travel time to work is just under 30 minutes. Although residents indicated (in our community input surveys and in each county's citizen survey) that traffic seems to be increasing and driving takes more time, average travel time to work has increased very little over the past ten years (Figure 6). There was a 1% increase in average travel time in Adams County, a 3% increase in Arapahoe County, and a 3% increase in Douglas County. Statewide, average travel time to work decreased 1% from 2007 to 2016. Planning neighborhoods with daily health and wellness needs in mind—such as grocery stores and amenities within walking distance, safe sidewalks, designated bike lanes, and accessible and affordable public transit—can improve the health and wellbeing of residents and all Coloradans. As shown in Table 1, residents in our municipalities have varying accessibility to publicly-owned local, state, and national parks, school parks, or privately-owned parks open to the public. Nearly all residents in Arvada (96%) live

Figure 5: Means of transportation to work, 2012-2016



Source: U.S. Census American Community Survey 2012-2016 5-year estimates



Health and the Environment

In a healthy community, all residents enjoy clean air, safe water, and environments free from contaminants. Everyone has access to parks, trails and open space, and affordable recreational opportunities.

Table 1: Percent of residents living within a 10-minute walk of a park, 2017

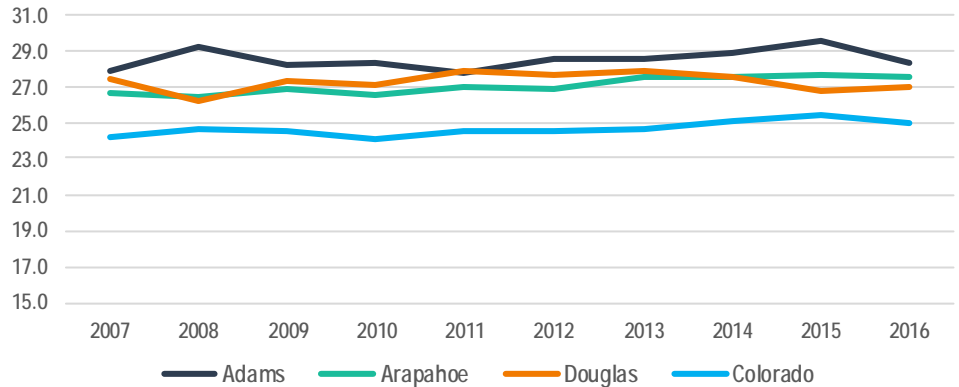
Adams County	
Arvada	96%
Northglenn	93%
Thornton	91%
Aurora	88%
Brighton	82%
Westminster	85%
Lochbuie	81%
Federal Heights	69%
Commerce City	51%
Arapahoe County	
Glendale	100%
Englewood	94%
Littleton	94%
Sheridan	94%
Centennial	90%
Greenwood Village	90%
Aurora	88%
Bow Mar	71%
Columbine Valley	62%
Cherry Hills Village	55%
Foxfield	11%
Douglas County	
Lone Tree	81%
Castle Pines	74%
Parker	71%
Castle Rock	56%

Source: <https://parkserve.tpl.org>



Photo by Karston Ferrier, High School student. Douglas County.

Figure 8: Mean travel time to work (in minutes), 2007-2016



Source: U.S. Census American Community Survey 2012-2016 5-year estimates

within a 10-minute walk to a park, but only half (51%) of residents in Commerce City have the same access. Just over half of residents in Castle Rock (56%) have access to a public park and only 11% of the residents in Foxfield are within a 10-minute walk of a public park.

Neighborhood-scale environmental factors influence much more than environmental quality. Having access to parks and open space provides mental health benefits, as well as opportunities for physical activity. Trees along our roadways can provide much needed shade and cooling on a hot summer day. Safe trails, sidewalks, and public transportation can promote physical activity and reduce the risk of obesity and chronic disease. Easy, safe access to important necessities like transit, healthy food, jobs, and public spaces impact health in a multitude of ways explored throughout this report.

However, not all neighborhoods are built with health in mind. They may not have access to amenities like green space, grocery stores, or walkways that residents feel safe to use. Residents may lack transportation options causing barriers to access to medical care, employment opportunities, and healthy food options. Such neighborhoods are also often exposed to more environmental burdens, such as roadways with heavy traffic and industrial sites. These neighborhoods are often low-income communities or communities of color.

By focusing on community resilience and neighborhood design, we can continue to influence policies and programs that create healthier environments. This is critical in communities that currently face disparate environmental impacts. By putting equity and the community voice in the forefront, we can work together to ensure that everyone has access to a cleaner, more enjoyable environment.



In a healthy community, all residents can access safe and healthy food, practice good health habits, and have the mental and physical energy, vitality, and resilience to live joyfully and face the challenges of their lives.

 Tri-County Health Department | 2018 Community Health Assessment



Health Behaviors and Outcomes

Tri-County Health Department | Community Health Assessment 2018

In a healthy community, all residents can access safe and healthy food, practice good health habits, and have the mental and physical energy, vitality, and resilience to live joyfully and face the challenges of their lives.



Four unhealthy behaviors – tobacco use, unhealthy diet, physical inactivity, and excessive alcohol consumption – are the leading causes of preventable disease, disability, and premature death in the United States each year.

Source: Centers for Disease Control and Prevention

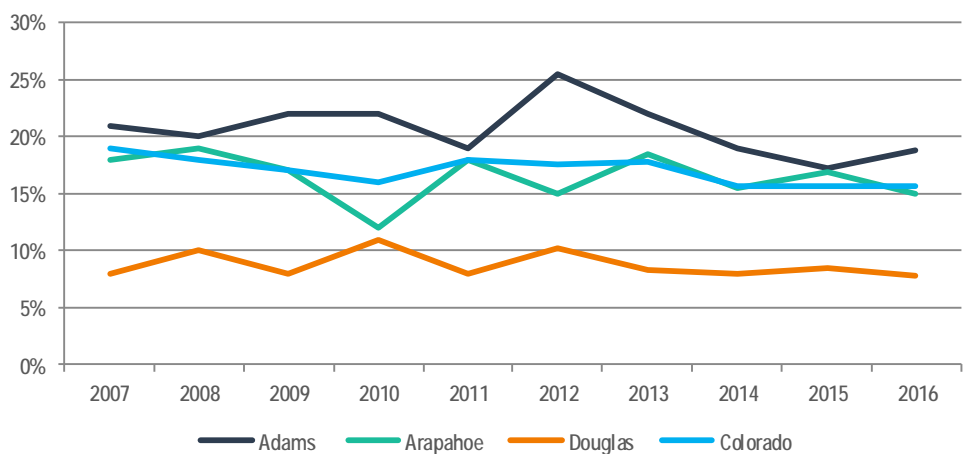
A person's health behaviors have lifelong impact. According to the Centers for Disease Control and Prevention (CDC), four unhealthy behaviors – tobacco use, unhealthy diet, physical inactivity, and excessive alcohol consumption – are the leading causes of preventable disease, disability, and premature death in the United States each year. Failure to address these behaviors is costly: spending on heart disease, diabetes, and other chronic conditions accounts for up to 70% of U.S. health care costs.¹

Tobacco

Did you know?

- Cigarette smoking can harm nearly every organ in the body
- Cigarette smoking is the leading cause of preventable death
- Quitting smoking cuts the risk of heart disease, stroke, and certain cancers
- Tobacco use is started and established primarily during adolescent years

Figure 1: Percent of adults who are current smokers, 2007-2016



¹ <https://www.rwjf.org/en/library/research/2011/01/prescription-for-health-.html>

Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment



Health Behaviors and Outcomes

In a healthy community, all residents can access safe and healthy food, practice good health habits, and have the mental and physical energy, vitality, and resilience to live joyfully and face the challenges of their lives.

Adults are more likely to smoke if they started smoking in their adolescence.

Source: Centers for Disease Control and Prevention

Figure 1 shows the percentage of adults in Adams, Arapahoe, and Douglas Counties who currently smoke cigarettes. Over the past 10 years, rates of smoking have declined only slightly. The highest rates are in Adams County where nearly one in five adults use cigarettes. Smoking is much more common among people who live in households with a lower income or among people with only a high school education, a trend also noted around Colorado.

Adults are more likely to smoke if they started smoking in their adolescence. In 2015, in Adams and Arapahoe counties, although only 6-7% of high school students report currently smoking cigarettes, over half of students stated it was easy to obtain cigarettes. While cigarette smoking prevalence was low, nearly half of all high school students around the state (46%) have ever used an electronic vapor product. Interestingly, on average, 18% of current cigarette smokers also use e-cigarettes; among people who use e-cigarettes in Colorado, 44% are aged 18 to 29 years and 31% are aged 30 to 44 years.²

Exposure to secondhand smoke is also problematic. In children, secondhand smoke can cause ear infections, make asthma symptoms worse, and can cause sudden infant death syndrome. Adults exposed to secondhand smoke are at risk for lung cancer, heart disease, and stroke; exposure to secondhand smoke in pregnancy can cause low birth weight of infants.

Obesity



BMI = Body Mass Index

Maintaining a healthy weight requires a lifestyle that includes healthy eating and regular physical activity. People are more likely to be able to eat a healthy diet and get regular exercise if they can afford healthy food and have time available to prepare it in healthy ways, as well as time available to exercise. Statewide, unhealthy weight is more common among middle- and older-aged adults as well as people who are black or Hispanic. In our three counties and across the state, Black and Hispanic people are more likely to have lower household income and educational attainment.² These disparities might contribute to the county level differences noted in the Tri-County region.

² Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment



Health Behaviors and Outcomes

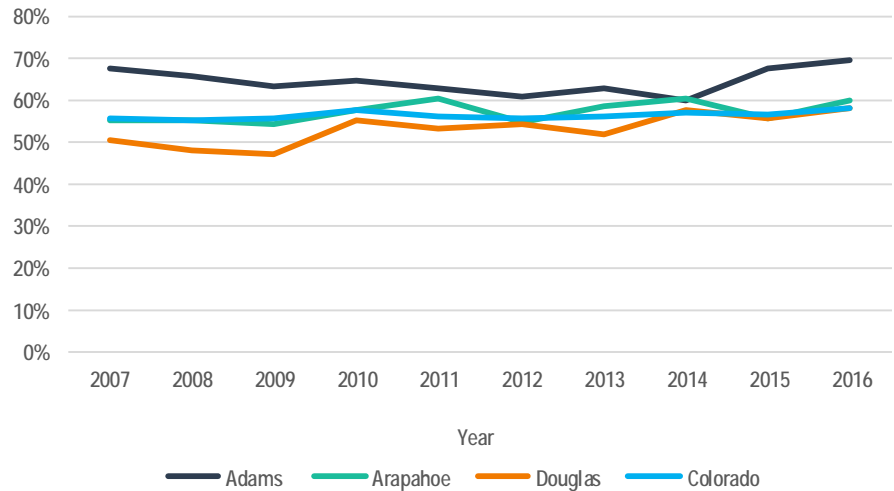
In a healthy community, all residents can access safe and healthy food, practice good habits, and have the mental and physical energy, vitality, and resilience to live joyfully and face the challenges of their lives.

60% of adults in Adams, Arapahoe, and Douglas Counties are overweight or obese.

Source: 2016 Colorado Behavioral Risk Factor Surveillance System Survey

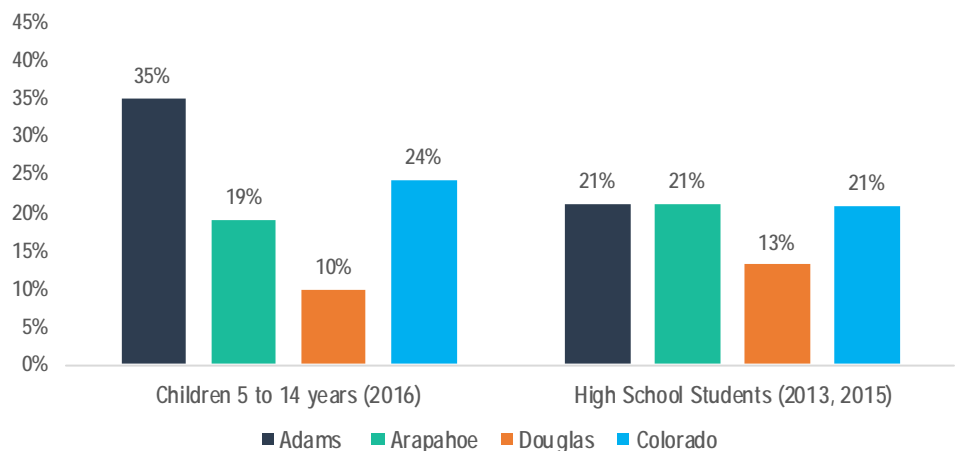
Being overweight or obese places someone at higher risk for many serious health conditions including high blood pressure, high cholesterol, diabetes, heart disease, stroke, and depression. Around 60% of adults in the Tri-county region are overweight or obese, although there are some regional differences as shown in the Figure 2. Figure 3 describes unhealthy weight in children and adolescents.

Figure 2: Percent of adults who are overweight and obese*, 2007-2016



*Overweight and obesity are calculated based on Body Mass Index
Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

Figure 3: Percent of children and high school students who are overweight or obese*



*Overweight and obesity are calculated based on Body Mass Index
Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment



Health Behaviors and Outcomes

In a healthy community, all residents can access safe and healthy food, practice good health habits, and have the mental and physical energy, vitality, and resilience to live joyfully and face the challenges of their lives.

Percent of children ages 1-14 who consume sugar-sweetened beverages one or more times per day, 2016



Adams
16%

Arapahoe
18%

Douglas
14%

Source: 2016 Colorado Child Health Survey, Colorado Department of Public Health and Environment

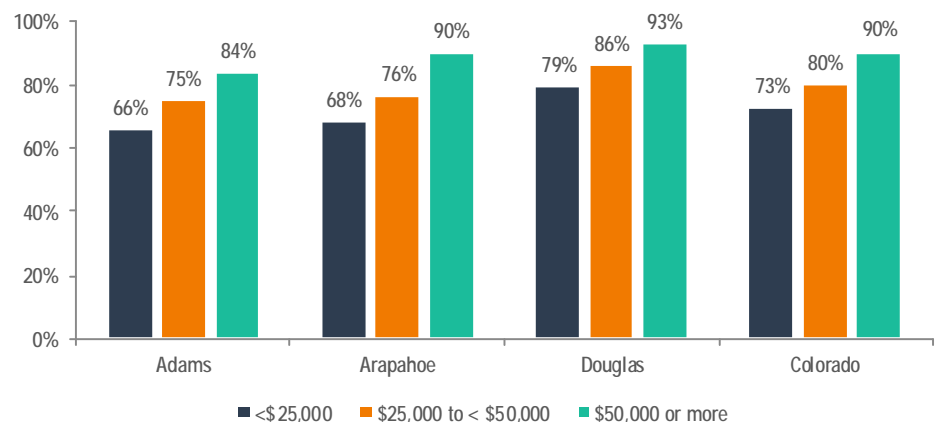
Physical Activity and Nutrition



According to the CDC, an estimated 300,000 deaths per year in the U.S. are the result of physical inactivity and poor eating habits. Social and physical environments that provide access to fresh healthy foods and recreational activities can provide opportunity for people to improve eating and exercise behaviors. On average, only two in five adults state they eat two or more servings of vegetables per day. Thirty percent of children in Adams County consume vegetables twice per day as do 34% of Arapahoe County children and 50% of Douglas County children.³ Between 11% and 16% of 1-14 year old children consume a sugar-sweetened beverage one or more times a day. The consumption of sugar-sweetened beverages is linked to unhealthy weight gain, cavities, higher blood pressure, poor sleep and hyperactivity/inattention symptoms in children.⁴

"A number of the elements that constitute beneficial built and social environments—such as good sidewalks, low-speed streets, attractive greenspaces, nearby trails, easily accessible recreation centers, people visible walking or playing outdoors, and low crime rates—often are characteristic of communities with higher socioeconomic status (SES). Lower-SES communities often must deal with the negative aspects of the environment, such as busy through streets, poor-quality bicycle and pedestrian infrastructure, dilapidated parks and playgrounds, and crime that deter physical activity."⁵ This may explain in part why adults with lower incomes report lower levels of physical activity than their higher income peers as shown in Figure 4.

Figure 4: Percent of adults who are physically active by income, 2014-2016



³ 2016 Colorado Child Health Survey

⁴ Scharf, R. J., & DeBoer, M. D. (2016). Sugar-Sweetened Beverages and Children's Health. Annual Review of Public Health, 37(273), 293rd ser. doi:<https://doi.org/10.1146/annurev-publhealth-032315-021528>

⁵ <https://www.ncbi.nlm.nih.gov/books/NBK219690/>

Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

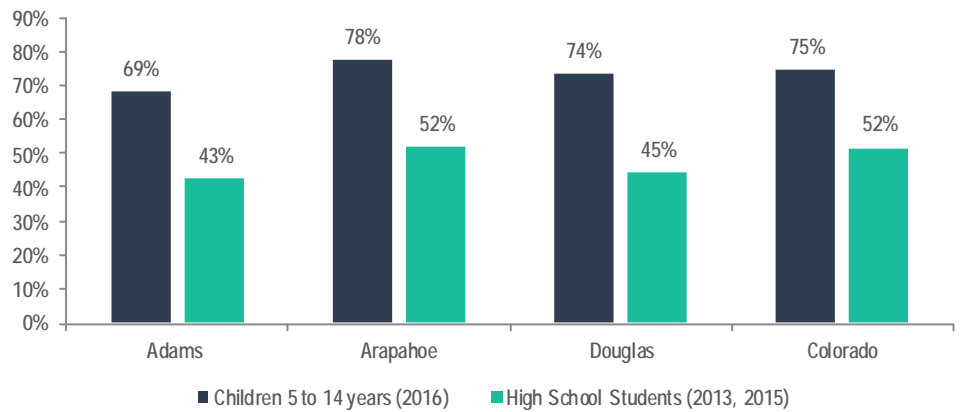


Health Behaviors and Outcomes

In a healthy community, all residents can access safe and healthy food, practice good health habits, and have the mental and physical energy, vitality, and resilience to live joyfully and face the challenges of their lives.

In general, physical activity levels decrease as a person ages and inactive children tend to become inactive adults. Figure 5 shows the percent of children and high school students who meet guidelines for daily physical activity.

Figure 5: Percent of children and high school students who were physically active for 60+ minutes on 5+ days per week



Source: Colorado Child Health Survey and Healthy Kids Colorado Survey, Colorado Department of Public Health and Environment

Note: Douglas data are from 2013, Adams and Arapahoe are from 2015

Heart Disease Risk Factors



Several factors are related to the risk of developing heart disease including family history, age, health behaviors such as smoking, and chronic conditions, such as diabetes, high blood pressure, and prolonged stress.^{6,7} People cannot change their family history or their age – or even some of the environmental factors that cause stress – but they can modify their diet and exercise habits, not smoke and get screened for the presence of high blood pressure, high cholesterol, and diabetes. If any of these three conditions are found, they can be treated with lifestyle changes and/or medications. Figure 7 shows the percent of adults in our region who have these conditions.

⁶ <https://www.nhlbi.nih.gov/health/educational/hearttruth/lower-risk/risk-factors.htm>

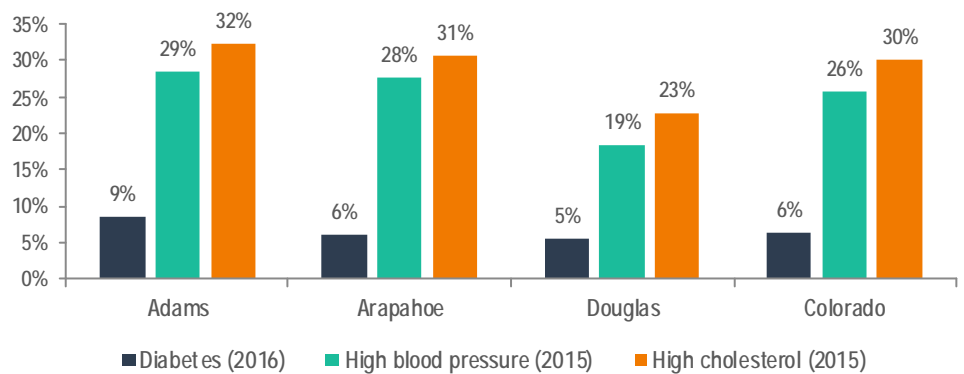
⁷ Dimsdale JE. Psychological Stress and Cardiovascular Disease. *Journal of the American College of Cardiology*. 2008;51(13):1237-1246. doi:10.1016/j.jacc.2007.12.024.



Health Behaviors and Outcomes

In a healthy community, all residents can access safe and healthy food, practice good health habits, and have the mental and physical energy, vitality, and resilience to live joyfully and face the challenges of their lives.

Figure 7: Percent of adults with heart disease risk factors

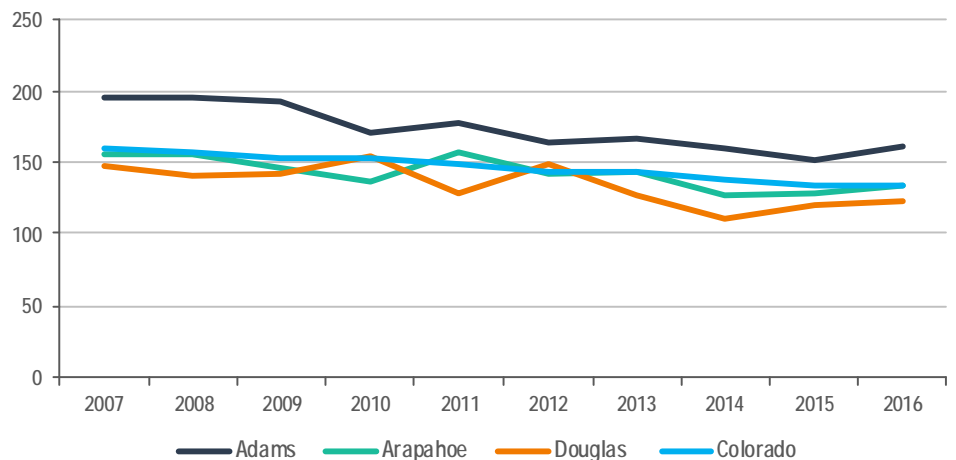


Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

Chronic Disease Deaths

Unhealthy behaviors that persist over a lifetime greatly increase the likelihood of the development of chronic conditions and, ultimately, death. Figures 8 through 13 show death rate trends from common causes of death related to these behaviors for Adams, Arapahoe, and Douglas Counties and Colorado.

Figure 8: Cancer deaths per 100,000 population*
Adams, Arapahoe and Douglas Counties and Colorado, 2007-2016



*Age-adjusted to the US 2000 standard population.

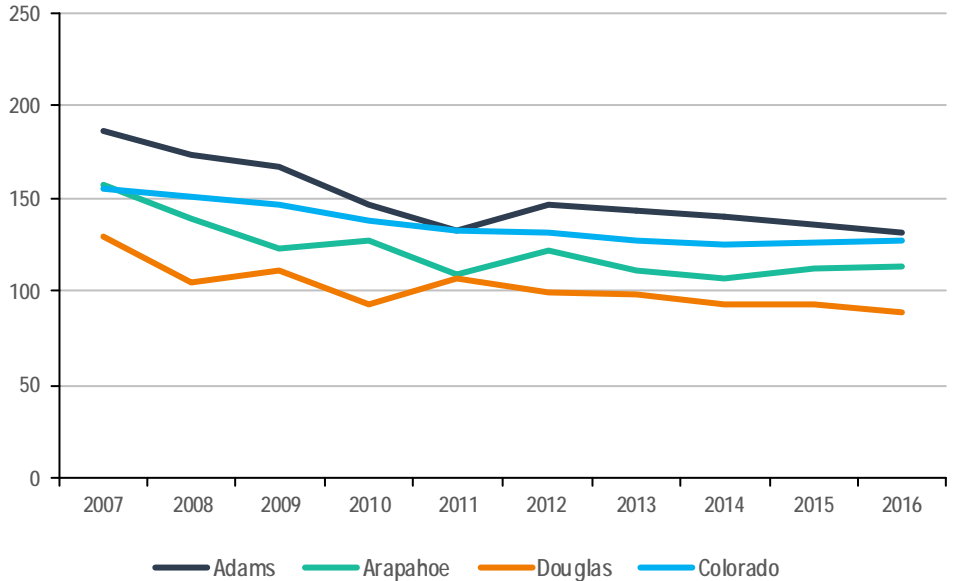
Source: Vital Statistics Program, Colorado Department of Public Health and Environment



Health Behaviors and Outcomes

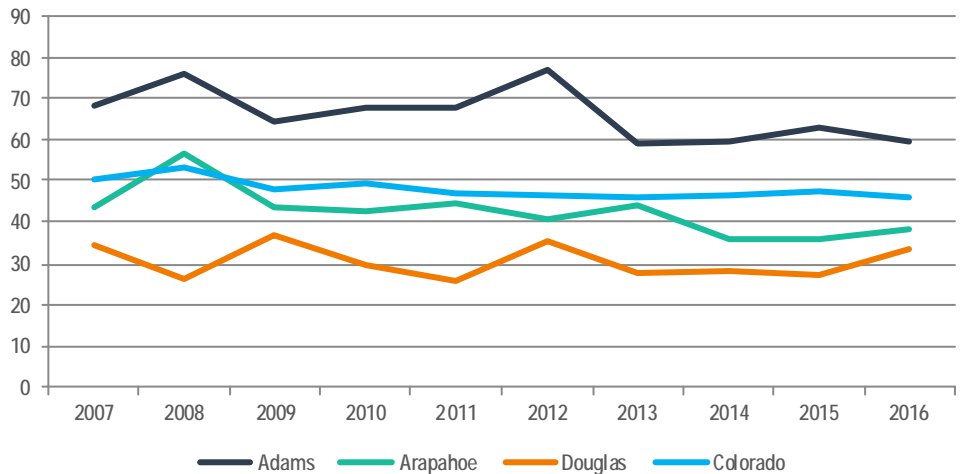
In a healthy community, all residents can access safe and healthy food, practice good health habits, and have the mental and physical energy, vitality, and resilience to live joyfully and face the challenges of their lives.

Figure 9: Heart disease deaths per 100,000 population* Adams, Arapahoe and Douglas Counties and Colorado, 2007-2016



*Age-adjusted to the US 2000 standard population.
Source: Vital Statistics Program, Colorado Department of Public Health and Environment

Figure 10: Chronic lower respiratory disease deaths per 100,000 population* Adams, Arapahoe and Douglas Counties and Colorado, 2007-2016



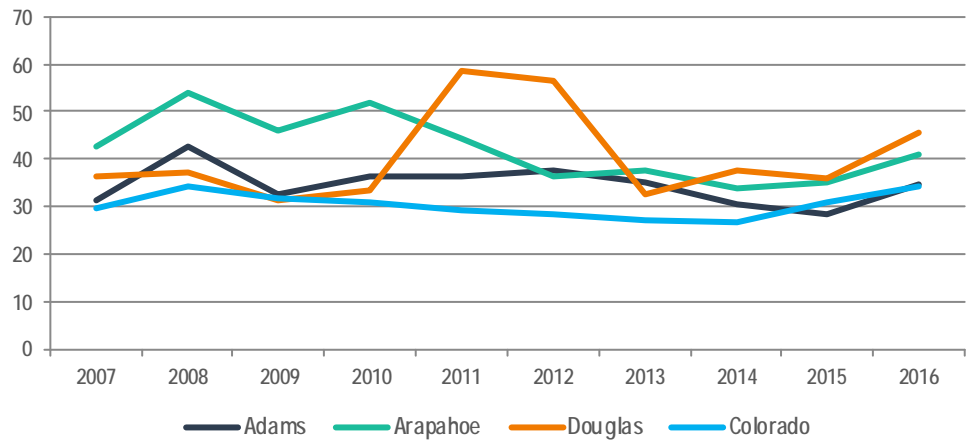
*Age-adjusted to the US 2000 standard population.
Source: Vital Statistics Program, Colorado Department of Public Health and Environment



Health Behaviors and Outcomes

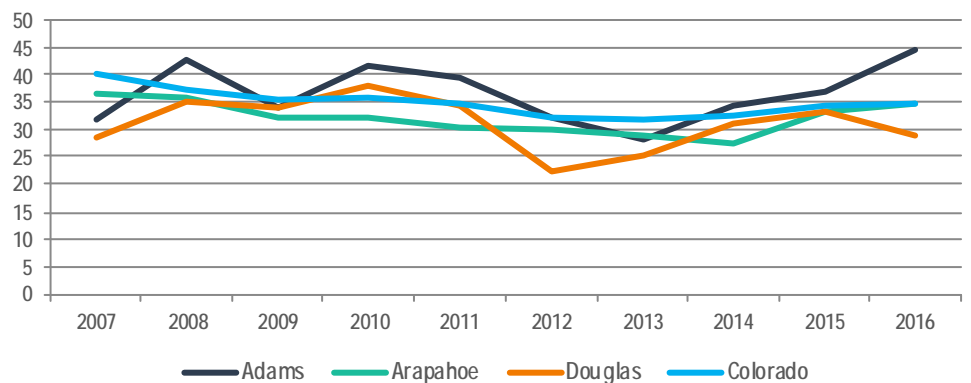
In a healthy community, all residents can access safe and healthy food, practice good health habits, and have the mental and physical energy, vitality, and resilience to live joyfully and face the challenges of their lives.

Figure 11: Alzheimer's deaths per 100,000 population*
Adams, Arapahoe and Douglas Counties and Colorado, 2007-2016



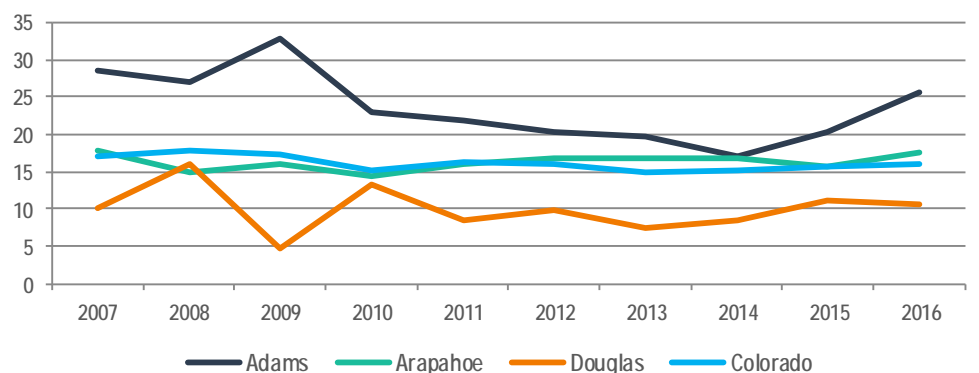
*Age-adjusted to the US 2000 standard population.
Source: Vital Statistics Program, Colorado Department of Public Health and Environment

Figure 12: Cerebrovascular disease / stroke deaths per 100,000 population*
Adams, Arapahoe and Douglas Counties and Colorado, 2007-2016



*Age-adjusted to the US 2000 standard population.
Source: Vital Statistics Program, Colorado Department of Public Health and Environment

Figure 13: Diabetes deaths per 100,000 population*
Adams, Arapahoe and Douglas Counties and Colorado, 2007-2016



*Age-adjusted to the US 2000 standard population.
Source: Vital Statistics Program, Colorado Department of Public Health and Environment



A healthy community is where emotional and mental health are a priority and services and supports that promote, maintain, and restore mental health are readily available.



In 2016, approximately 1 in 6 U.S. adults was living with a mental disorder

Source: National Survey on Drug Use and Health

Our community members, partners and TCHD staff ranked mental health and access to mental health care as a top health problem in their communities. Mental health includes our emotional, psychological, and social wellbeing. Mental health is important at every stage of life, from infancy, childhood, adolescence and through adulthood. It affects how we think, feel, and act. Mental health also helps determine how we handle stress, relate to others, and make choices. Good mental health is important for personal well-being, family and other relationships, and the ability to contribute to community or society.

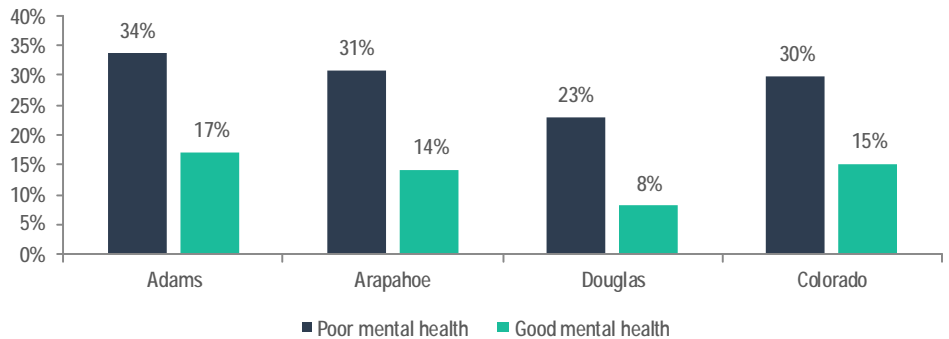
Mental health disorders are common. In 2016, approximately 1 in 6 U.S. adults was living with a mental disorder (National Survey on Drug Use and Health). Mental health disorders are health conditions that are characterized by alterations in thinking, mood, and/or behavior that are associated with distress and/or impaired functioning. They can range from mild to moderate to severe and can affect anyone regardless of age, race, sex, or income. Mental health disorders are treatable. Many people with serious mental illness may need medication to help control symptoms, but support and activities that improve quality of life and reduce stress can also help reduce symptoms and improve mental health. These may include supportive counseling, self-help groups, vocational rehabilitation, meditation or yoga, and connection to community service and resources, like housing or income assistance. The conditions, environmental factors, and stressors that can impact physical health also impact mental health. It is no surprise then that poor mental health is associated with unhealthy behaviors as well as physical health conditions. For example, as shown in Figure 1, those who report that their mental health was not good on 14 or more of the past 30 days are much more likely to smoke than those who had fewer poor mental health days. About one-third (34%) of Adams and Arapahoe County adults who reported poor mental health also smoked and nearly one-quarter (23%) of Douglas County adults with poor mental health smoked. Figure 2 shows a similar pattern for poor mental health and obesity.

A healthy community is where emotional and mental health are a priority and services and supports that promote, maintain, and restore mental health are readily available.

Those who report that their mental health was not good are much more likely to smoke or to be overweight or obese.

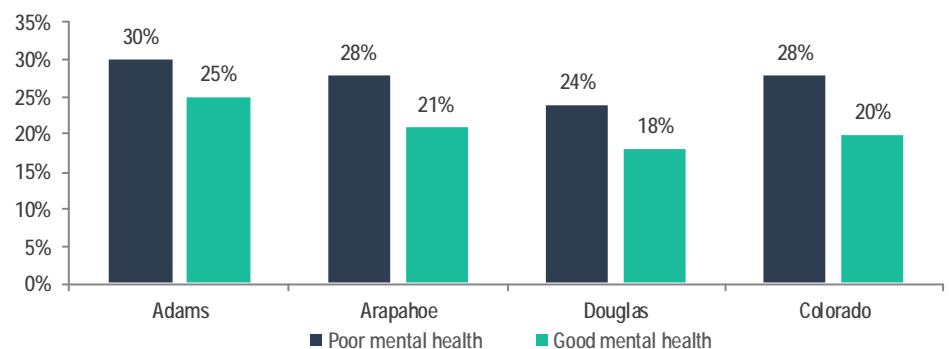
Source: Colorado Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

Figure 1: Percent of adults who smoke by mental health status, 2014-2016



Source: Colorado Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

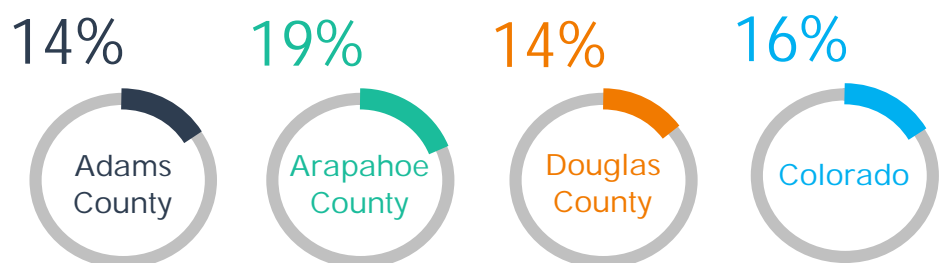
Figure 2: Percent of adults who are obese by mental health status, 2014-2016



Source: Colorado Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

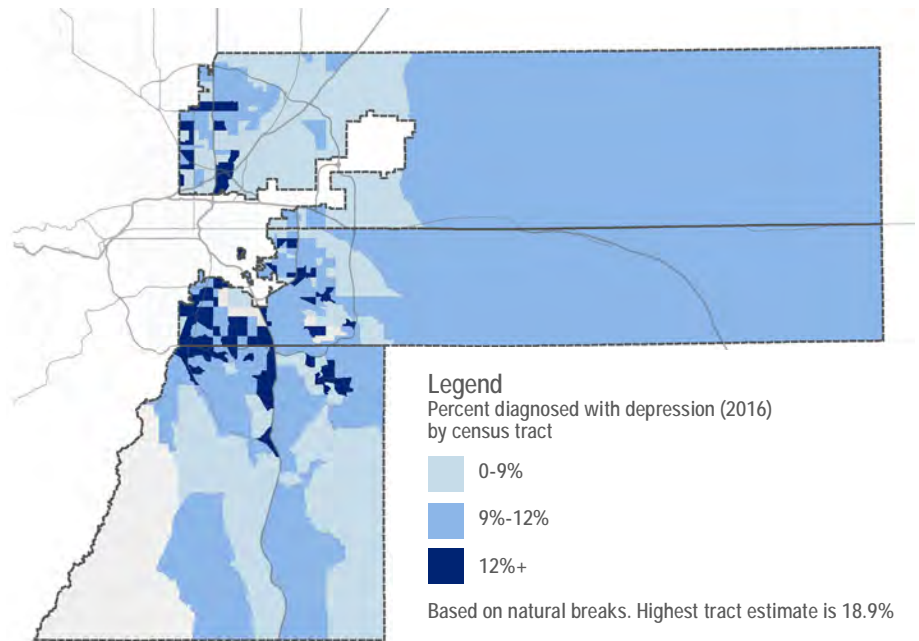
As shown in Figure 3, around 15% of adults in the Tri-county region have an anxiety disorder. Around 7% of adults in Colorado reported current depressive symptoms as did 10% of adults in Adams County, 19% in Arapahoe County, and 2% in Douglas County (Colorado Behavioral Risk Factor Surveillance System, 2014-2016.) Map 1 shows the proportion of patients included in the Colorado Health Observation Regional Data Services (CHORDS) dataset who had diagnosed depression in 2016 by census tract.

Figure 3: Percent of adults with a diagnosed anxiety disorder, 2016



Source: Colorado Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

Map 1: Percent of those diagnosed with depression by census tract, 2016



Source: Colorado Health Observation Regional Data Service

Mental health disorders are often misunderstood. Throughout history people with mental health problems have been treated differently. Early explanations about the cause of mental disorders included “demonic possession” and other types of supernatural phenomena and resulted in extreme treatments such as electroshock therapy, lobotomies, and isolation. While we understand today that mental health disorders are caused by a combination of genetic, biological, psychological and environmental factors, stereotypes and prejudice against those with these illnesses often make it difficult for them to find or maintain a job, pursue education and training opportunities, find safe housing, and access the mental health care they need. In fact, it was only with passage of the Mental Health Parity and Addiction Equity Act in 2008, that health insurers and employers were required to treat those with mental health disorders the same as those with physical illness. For example, most insurance plans charged higher copays and separate deductibles for mental health care in the past. This law now requires insurers to provide the same level of benefits for mental health and/or substance use treatment as they do for medical care.

Women with lower incomes have higher rates of postpartum depression than women with higher incomes.

Source: PRAMS, Colorado Department of Public Health and Environment

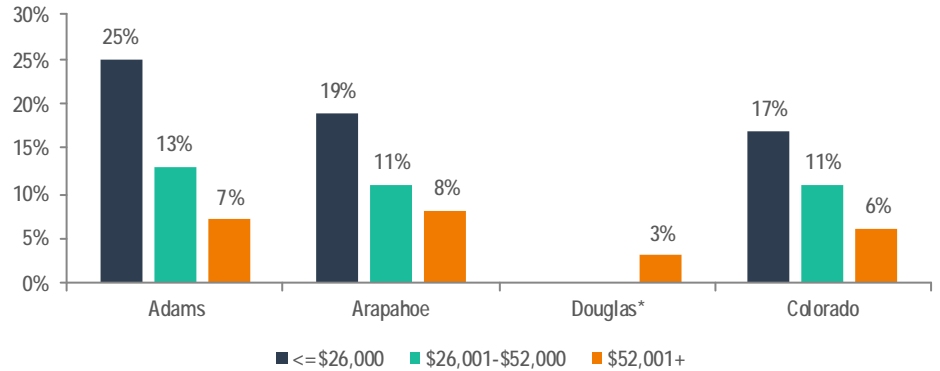
¹ <https://www.nimh.nih.gov/health/publications/postpartum-depression-facts/index.shtml>

“Baby blues” and exhaustion are common after pregnancy. Postpartum depression is a more severe mood disorder that can affect women after childbirth. Mothers with postpartum depression experience feelings of extreme sadness, anxiety, and exhaustion that may make it difficult for them to complete daily care activities for themselves or for others. After childbirth, the levels of hormones in a woman’s body quickly drop. This leads to chemical changes in the brain that may trigger mood swings.¹ As shown in Figure 4, for all of Colorado and each of our three counties, women with lower incomes have higher rates of postpartum depression than women with higher incomes. For example, one in four (24%) low-income women in Adams County had postpartum depression. Having a lower income may be associated with higher stress levels, placing these women with new babies at greater risk for postpartum depression. Postpartum depression is

A healthy community is where emotional and mental health are a priority and services and supports that promote, maintain, and restore mental health are readily available.

also more common among women who report more stress (of various kinds) in their lives in the year before their child was born.

Figure 4: Percent of women with postpartum depressive symptoms by income, 2015



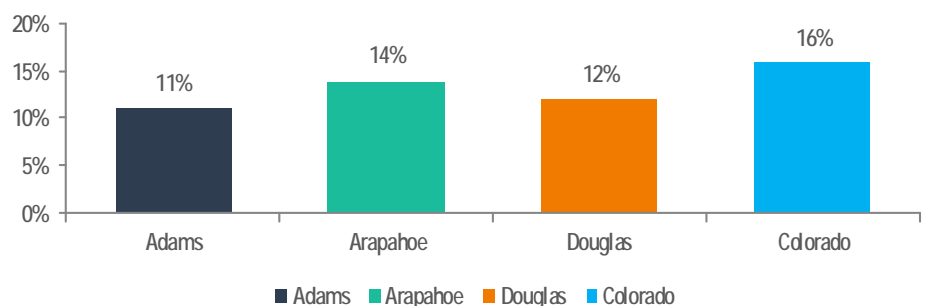
Source: Pregnancy Risk Assessment Monitoring System, Colorado Department of Public Health and Environment

Up to 1 in 5 children in the U.S. experience a mental health disorder in a given year.

Source: Centers for Disease Control and Prevention

Mental health in infancy and childhood is critical to good physiological development. Positive attachment to caregivers and the building of resiliency among infants and children is important for children to reach developmental and emotional milestones and learn healthy coping and social skills. Children who experience consistent stress that is not buffered by positive caregiver support are at higher risk for experiencing toxic stress which is a prolonged or permanent abnormal physiologic response to a stressor with risk of end organ dysfunction. Toxic stress can permanently affect children’s physiological response to stress for the rest of their lives. Stress and poor mental health among parents and caregivers directly impacts the mental health of children and youth. Poor mental health in childhood occurs in both males and females and children of all racial and ethnic backgrounds. It is estimated that up to 1 in 5 children in the U.S. experience a mental health disorder in a given year. It is important for children to get early diagnosis and treatment so they can avoid problems in school and at home.² Between 11% and 14% of children ages 2-14 in Adams, Arapahoe and Douglas Counties have difficulties with one or more of the following areas: emotions, concentration, behavior, or being able to get along with others.

Figure 5: Percent of children ages 2-14 who have difficulties with emotions, concentration, or behavior



² <https://www.cdc.gov/childrensmentalhealth/basics.html>

Source: Colorado Child Health Survey, Colorado Department of Public Health and Environment, 2016

A healthy community is where emotional and mental health are a priority and services and supports that promote, maintain, and restore mental health are readily available.

Autism spectrum disorder (ASD) is a developmental disability that is caused by differences in how the brain functions. People with ASD share some similar symptoms, such as difficulties with social interaction, difficulties with communication, and highly focused interests and/or repetitive activities. Signs of ASD begin during early childhood and usually last throughout a person’s lifetime. There is no known cause of ASD; however, scientists believe it is caused by multiple factors and has a strong genetic component. Colorado is part of the Center for Disease Control and Prevention’s Autism and Developmental Disabilities Monitoring (ADDM) Network. In the seven county metro Denver region, 1.4% of 8-year-old children were identified with ASD in 2014. ASD was nearly four times more common in boys than girls and was 1.4 times more likely to occur in white than Hispanic children. Around 1 in 5 (21%) children with ASD had an intellectual disability.³ Early diagnosis and treatment of ASD is important because proper care can reduce difficulties and help those with ASD learn new skills and make the most of their strengths.

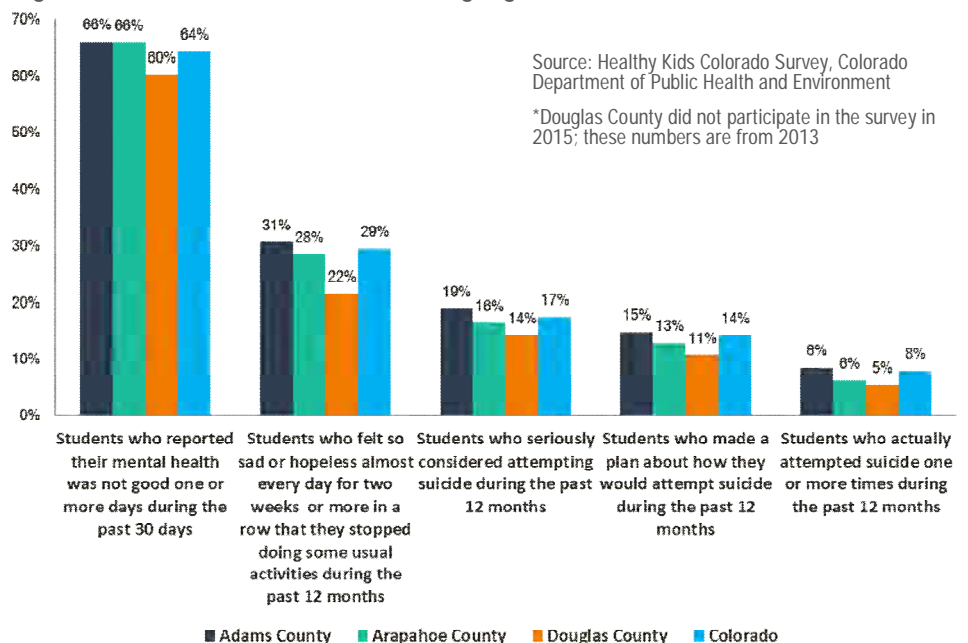
In order for teenagers to achieve good mental health, important mental health skills—including coping, resilience, and good judgment—need to be developed. One in five adolescents has had a serious mental health disorder, such as depression and/or anxiety disorder, at some point in their lives. Mood swings are common in adolescents but, in some cases, they can be a sign of deeper issues. As with mental health disorders in children, those in teens can be diagnosed, treated, and managed⁴.

The majority of high school students in our three counties report that their mental health was not good on one or more of the past 30 days.

Source: Healthy Kids Colorado Survey

As seen in Figure 6, the majority of high school students in our three counties reported that their mental health was not good on one or more of the past 30 days. Between 20% and 30% of youth reported feelings of depression impacting their daily activities, between 14% and 20% reported seriously considering suicide, and between 5% and 8% reported that they attempted suicide in the past 12 months. Females and gay, lesbian, or bisexual youth are more likely to consider and actually attempt suicide than males and heterosexual youth; however, males are more likely to die by suicide.

Figure 6: Mental health indicators among high school students, 2015



³ Baio J, Wiggins L, Christensen DL, et al. Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years — Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2014. MMWR Surveill Summ 2018;67(No. SS-6):1–23. DOI: <http://dx.doi.org/10.15585/mmwr.ss6706a1>

⁴ <https://www.hhs.gov/ash/oah/adolescent-development/mental-health/index.html>

A healthy community is where emotional and mental health are a priority and services and supports that promote, maintain, and restore mental health are readily available.

In 2016, the suicide rate in Colorado was 20.5 per 100,000 people, the 9th highest rate in the county.

Source: Vital Records Program, Colorado Department of Public Health and Environment

Factors associated with suicide include:

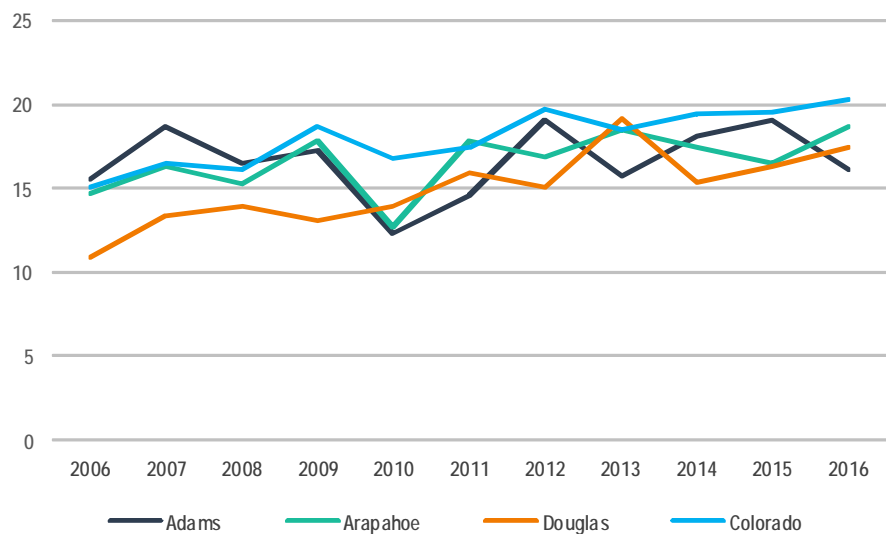
- previous suicide attempts
- substance abuse
- incarceration
- family history of suicide
- poor job security or low levels of job satisfaction
- history of being abused or witnessing continuous abuse
- being diagnosed with a serious medical condition, such as cancer or HIV
- being socially isolated or a victim of bullying
- being exposed to suicidal behavior

Source: Substance Abuse and Mental Health Services Administration

States in the Rocky Mountain West tend to have the highest rates of suicide. In 2016, the suicide rate in Colorado was 20.5 per 100,000 people, the 9th highest rate in the country (Figure 7). About 90 % of people who die of suicide have a mental illness at the time of their death.

The suicide rate has increased in all three counties and Colorado over time (Figure 7). The increase has been the smallest in Adams County and the sharpest in Douglas County.

Figure 7: Suicide death rates*, 2006-2016



*Death rates are per 100,000 population and age-adjusted to the US 2000 standard population

Source: Vital Records Unit, Colorado Department of Public Health and Environment

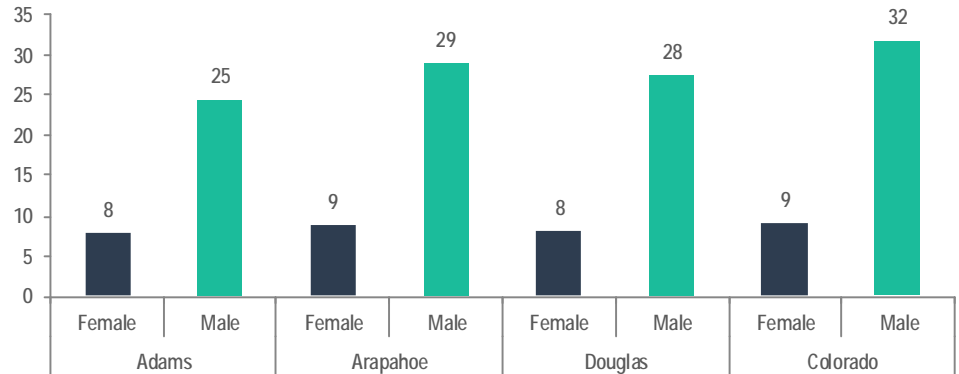
A healthy community is where emotional and mental health are a priority and services and supports that promote, maintain, and restore mental health are readily available.

Males are much more likely to die of suicide than females

Source: Vital Records Program, Colorado Department of Public Health and Environment

Males are much more likely to die of suicide than females (Figure 8). Differences are also seen by race and ethnicity, with suicide rates being higher among whites than for any other racial or ethnic group (Figure 9). Suicide rates are highest among those who are 45-64 years of age in Arapahoe County and in Colorado as a whole. They are highest among 15-24 year olds in Adams County, and among those aged 65+ in Douglas County as shown in Figure 10.

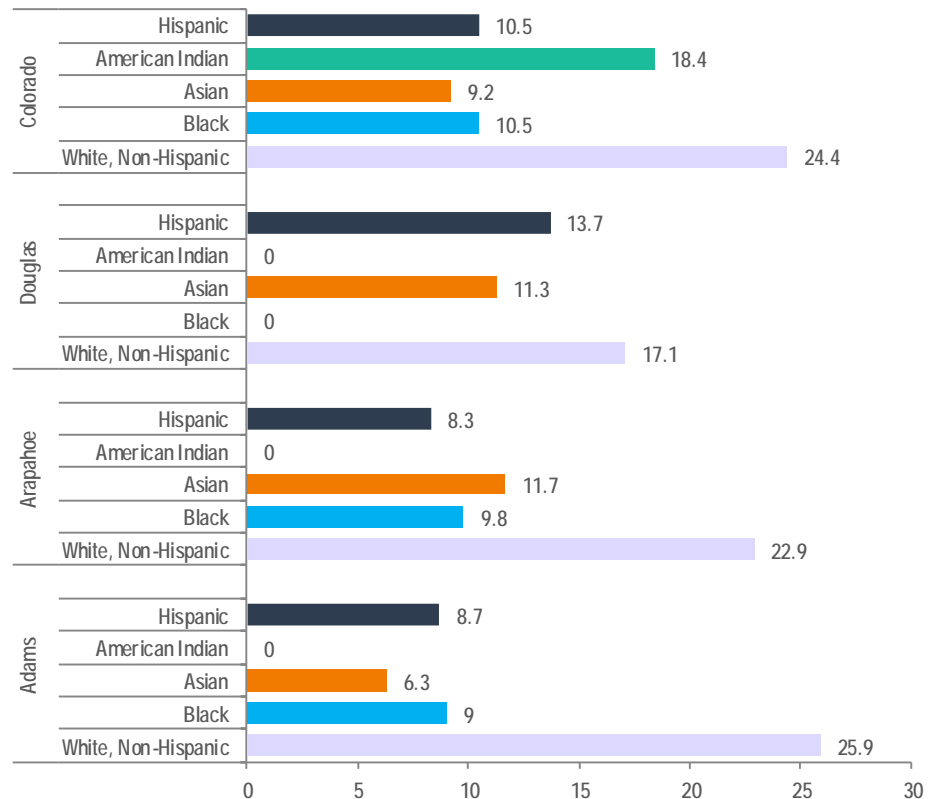
Figure 8: Suicide death rates* by gender, 2014-2016



*Death rates are per 100,000 population

Source: Vital Records Program, Colorado Department of Public Health and Environment

Figure 9: Race/ethnicity specific suicide death rates*, 2014-2016

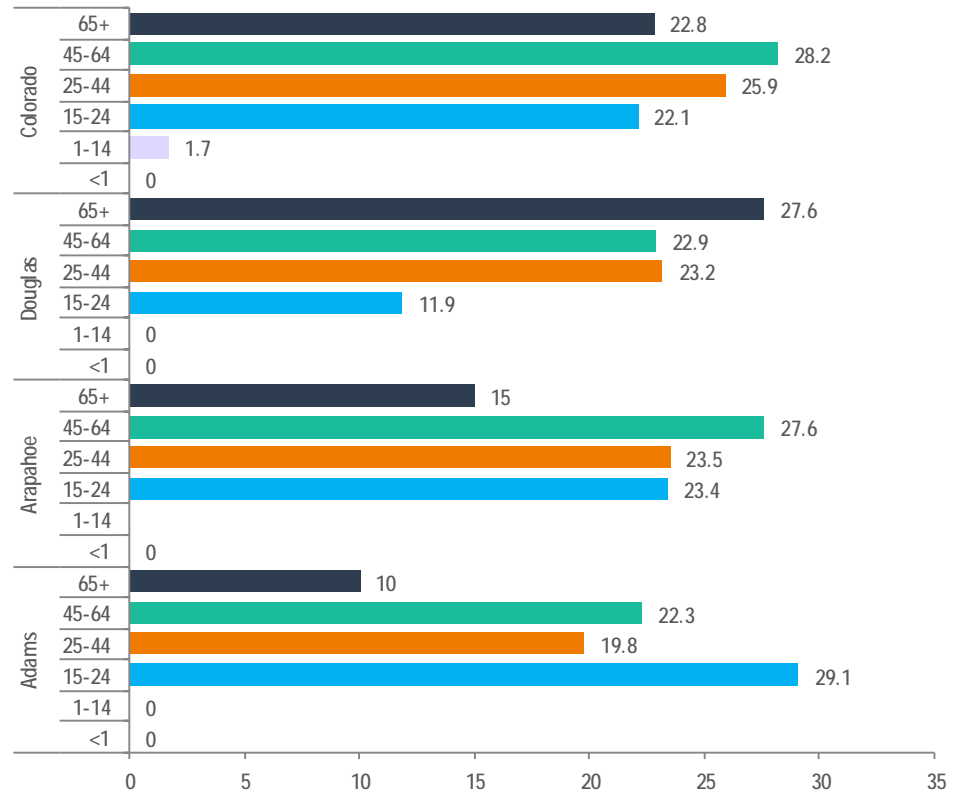


*Death rates are per 100,000 population

Source: Vital Records Unit, Colorado Department of Public Health and Environment

A healthy community is where emotional and mental health are a priority and services and supports that promote, maintain, and restore mental health are readily available.

Figure 10: Age-specific suicide death rates,* 2016



*Death rates are per 100,000 population

Source: Vital Records Unit, Colorado Department of Public Health and Environment

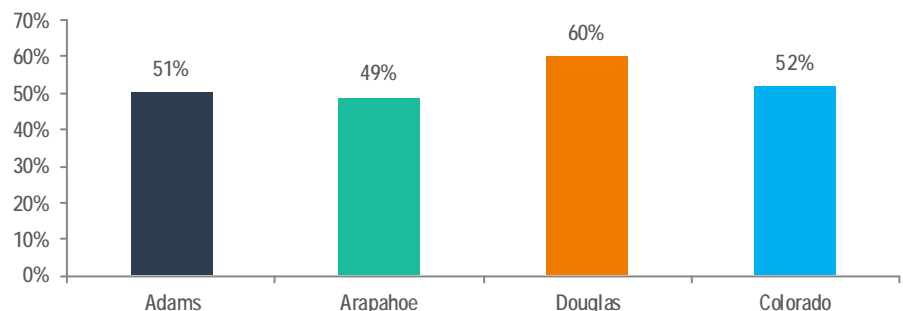
About half of all suicide deaths in 2016 involved a firearm.

Source: Vital Records Program, Colorado Department of Public Health and Environment

As shown in Figure 11, approximately half of all suicide deaths in 2016 involved a firearm. In Douglas County, 60% of these deaths involved a firearm.

Reducing environmental, social, and economic factors that contribute to stress, breaking down stereotypes and stigma associated with mental health disorders, ensuring affordable access to mental health care services, and creating accepting, inclusive and supportive communities will help to bolster mental health for all, leading to higher productivity, safer communities, and optimal health and wellness.

Figure 11: Percent of suicide deaths involving a firearm, 2016



*Death rates are per 100,000 population

Source: Vital Records Program, Colorado Department of Public Health and Environment

Mental Health

A healthy community is where emotional and mental health are a priority and services and supports that promote, maintain, and restore mental health are readily available.



Artwork by Madison Cannon, High School student. Adams County.



A healthy community is where residents are engaged in efforts to prevent the abuse of alcohol, tobacco, and other drugs and where treatment services are affordable and accessible to those who need them.



Substance Use and Health

Tri-County Health Department | Community Health Assessment 2018

A healthy community is where residents are engaged in efforts to prevent the abuse of alcohol, tobacco, and other drugs and where treatment services are affordable and accessible to those who need them.



“Many individuals who develop substance use disorders are also diagnosed with mental disorders and vice versa.”

Source: <https://www.drugabuse.gov/publications/research-reports/common-physical-mental-health-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness>

Social attitudes and political and legal responses to the consumption of alcohol and illicit drugs make substance abuse one of the most complex public health issues. American society continues to debate whether substance abuse is a health problem which should be prevented and treated or a crime which should be punished. People argue over whether substance abuse is a disease with genetic and biological foundations or a matter of personal choice.¹

According to Colorado’s Office of Behavioral Health, the term substance use disorder is used to describe the dependence on, misuse or abuse of, or addiction to a substance.² The American Medical Association defines addiction as a disease. Like other diseases, such as diabetes, cancer, or heart disease, a combination of behavioral, environmental and biological factors increase the risk for developing addiction. Genetic risk factors account for about half of the likelihood that an individual will develop addiction. Addiction involves changes in the functioning of the brain and body. Untreated addiction often includes other physical and mental health problems that may require medical attention. Substance use disorder is a progressive disease; that is, if left untreated, addiction often becomes more severe, disabling and life threatening. About 25-50% of people with a substance use problem disorder appear to have a severe, chronic form of the disease that requires intensive treatments and continuing aftercare, monitoring, and family or peer support.³

¹ Healthy People 2020, <https://www.healthypeople.gov/>

² https://www.colorado.gov/LADDERS/OBH_Substance_Use

³ <https://www.centeronaddiction.org/what-addiction/addiction-disease>

⁴ <https://www.drugabuse.gov/publications/research-reports/common-physical-mental-health-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness>



A healthy community is where residents are engaged in efforts to prevent the abuse of alcohol, tobacco, and other drugs and where treatment services are affordable and accessible to those who need them.

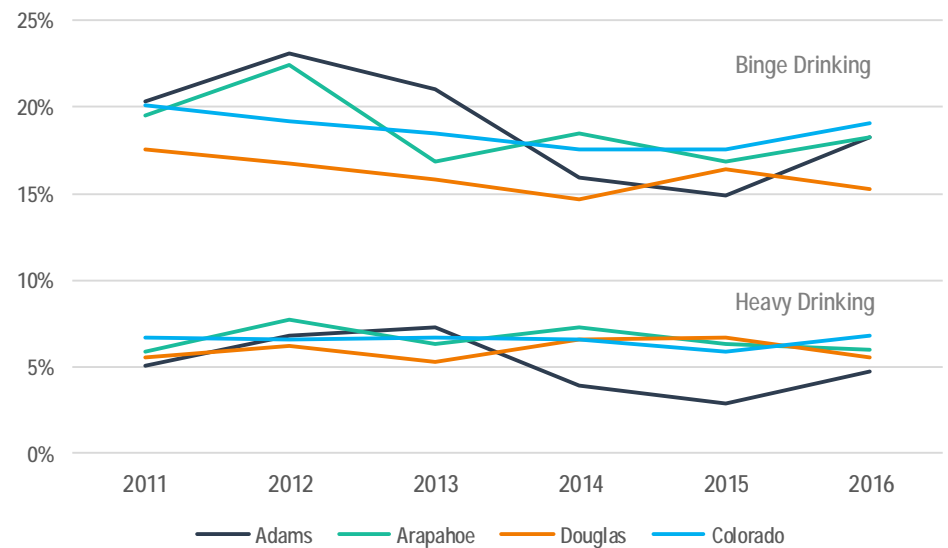
Alcohol abuse poses both short-term and long-term risks for poor health outcomes including injury, violence, risky sexual behavior, high blood pressure, heart disease, mental health problems, learning and memory problems, and some types of cancer.

Source: Healthy People 2020

Alcohol

Alcohol abuse poses both short-term and long-term risks for poor health outcomes including injury, violence, risky sexual behavior, high blood pressure, heart disease, mental health problems, learning and memory problems, and some types of cancer.⁵ Some of these health risks are the result of chronic or heavy drinking (for women, 8 or more drinks per week; for men, 15 or more drinks per week) and others are the result of binge drinking (for women, 4 or more drinks during a single occasion; for men, 5 or more drinks during a single occasion).

Figure 1: Percent of adults who report binge drinking* (top lines) and heavy drinking** (bottom lines), 2011-2016



*binge drinking: four or more alcoholic drinks per occasion for women and five or more drinks per occasion for men during the preceding 30 days

**heavy drinking: drinking 15 or more drinks per week for men or 8 or more drinks per week for women

Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment



⁵ Healthy People 2020, <https://www.healthypeople.gov/>

A healthy community is where residents are engaged in efforts to prevent the abuse of alcohol, tobacco, and other drugs and where treatment services are affordable and accessible to those who need them.

In Colorado, 5.2% of individuals aged 12 and older reported nonmedical use of pain relievers in the past year.

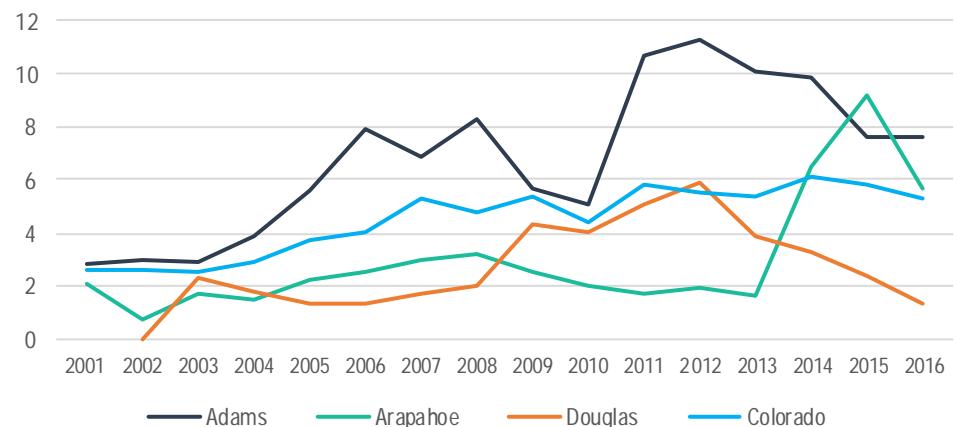
Source: National Survey on Drug Use and Health

Opioids

“Every day, more than 115 Americans die after overdosing on opioids. The misuse of and addiction to opioids—including prescription pain relievers, heroin, and synthetic opioids such as fentanyl—is a serious national crisis that affects public health as well as social and economic welfare. The CDC estimates that the total ‘economic burden’ of prescription opioid misuse alone in the United States is \$78.5 billion a year, including the costs of healthcare, lost productivity, addiction treatment, and criminal justice involvement.”⁶ An estimate produced by the Council of Economic Advisors to the President put the cost of the opioid crisis including the costs of fatalities, at \$504.0 billion in 2015.⁷

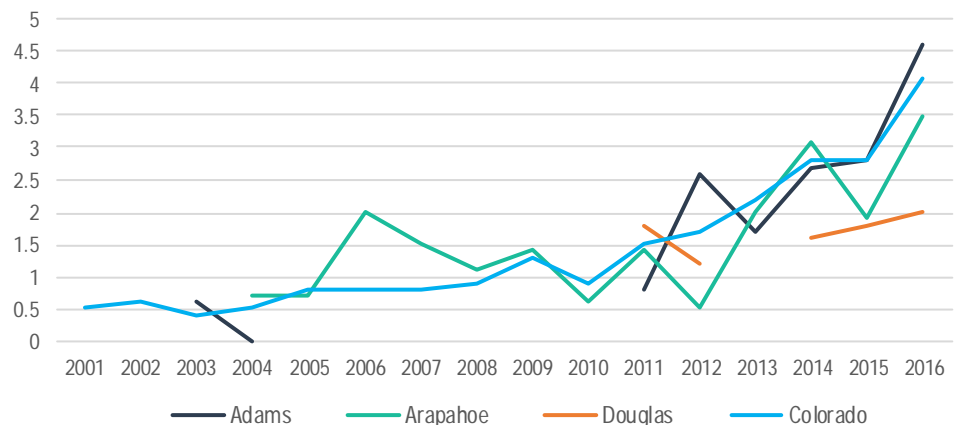
In Colorado, 5.2% of individuals aged 12 and older reported nonmedical use of pain relievers in the past year.⁷ In all three counties, deaths from opioid and heroin overdose have increased over the past 15 years, in most cases dramatically (see Figures 2 and 3). Map 1 shows the geographical concentration of deaths due to opioids in the Tri-County region between 2011 and 2016.

Figure 2: Prescription opioid overdose deaths per 100,000 population*



*Age-adjusted to the U.S. Standard Population, missing data are suppressed rates due to a small number of events
Source: Vital Statistics Program, Colorado Department of Public Health and Environment

Figure 3: Heroin overdose deaths per 100,000 population*



*Age-adjusted to the U.S. Standard Population, missing data are suppressed rates due to a small number of events
Source: Vital Statistics Program, Colorado Department of Public Health and Environment

⁶ <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-overdose-crisis>

⁷ <https://www.whitehouse.gov/cea/>

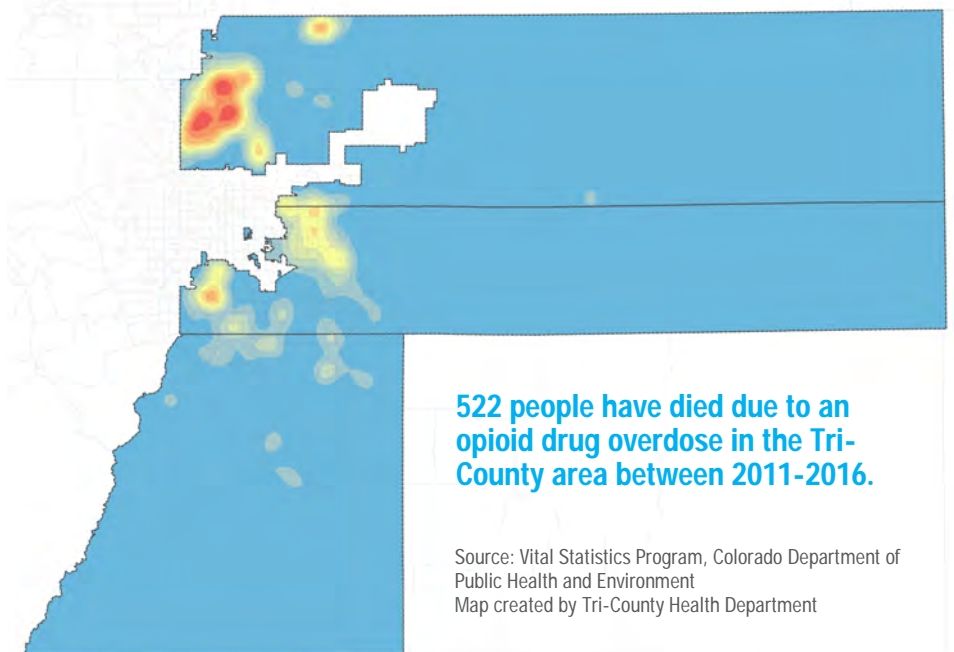
⁸ National Survey of Drug Use and Health, annual average based on 2015-2016

A healthy community is where residents are engaged in efforts to prevent the abuse of alcohol, tobacco, and other drugs and where treatment services are affordable and accessible to those who need them.

Every day, more than 115 Americans die after overdosing on opioids. The misuse of and addiction to opioids—including prescription pain relievers, heroin, and synthetic opioids such as fentanyl—is a serious national crisis that affects public health as well as social and economic welfare.

Source: <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-overdose-crisis>

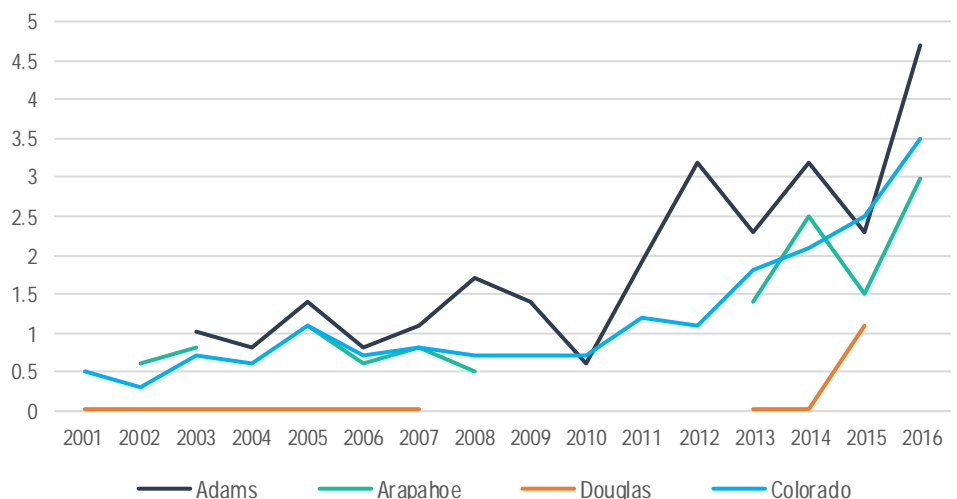
Map 1: Opioid overdose deaths (2011-2016) (n=522 deaths)



Methamphetamines

Deaths due to methamphetamine overdose have also increased in the three counties (Figure 4). Short-term methamphetamine use can lead to addiction and chronic abusers may exhibit symptoms that can include significant anxiety, confusion, insomnia, mood disturbances, severe dental problems, weight loss, and violent behavior.

Figure 4: Methamphetamine overdose deaths per 100,000 population



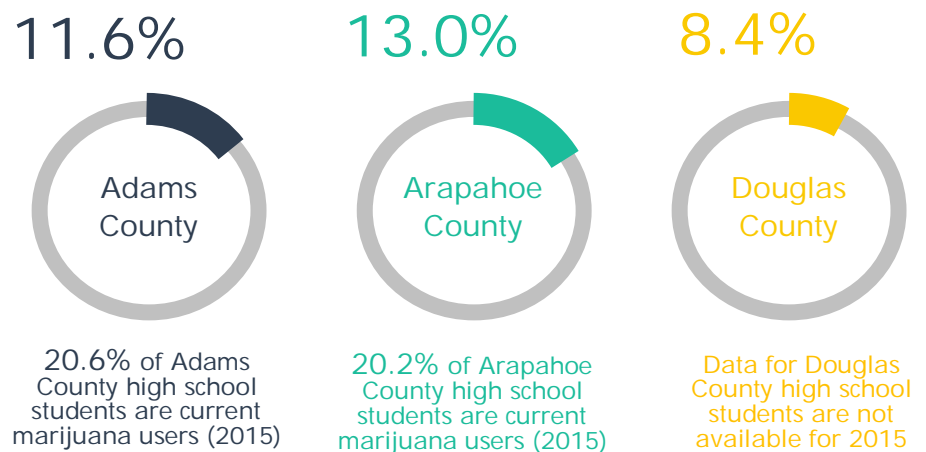
*Age-adjusted to the U.S. Standard Population, missing data are suppressed rates due to a small number of events
Source: Vital Statistics Program, Colorado Department of Public Health and Environment

A healthy community is where residents are engaged in efforts to prevent the abuse of alcohol, tobacco, and other drugs and where treatment services are affordable and accessible to those who need them.

Marijuana

The health effects of marijuana use in adults are currently being studied; because marijuana was only recently legalized in some states, like Colorado, there is little published research to date. Breathing problems and increased heart rate, which may increase the risk for heart attack, can be caused by marijuana use. Long-term marijuana use has been linked to mental illness in some people. More research is needed to understand if exposure to secondhand marijuana smoke has negative health effects.⁹ Studies have found a relationship between blood THC-level (tetrahydrocannabinol, the active ingredient in marijuana), concentration and impaired driving.¹⁰

Figure 5: Percent of adults who currently use marijuana, 2014-2016



Source: (Adults) Colorado Behavioral Risk Factor Surveillance System, (High Schools Students) Healthy Kids Colorado Survey, Colorado Department of Public Health and Environment

There is no known safe level of alcohol consumption during pregnancy.

Source: Centers for Disease Control and Prevention

⁹ <https://www.drugabuse.gov/publications/drugfacts/marijuana>

¹⁰ <https://www.drugabuse.gov/publications/research-reports/marijuana/does-marijuana-use-affect-driving>

¹¹ Pregnancy Risk Assessment Monitoring System (PRAMS), CDPHE

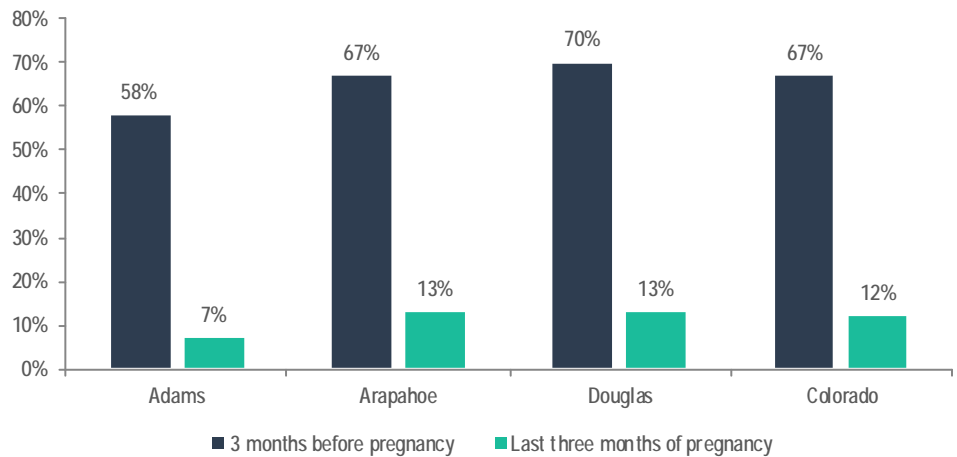
Populations at Higher Risk for Poor Health Outcomes

Pregnant Women

The dangers of drinking alcohol during pregnancy are well-established. There is no known safe level of alcohol consumption during pregnancy. Alcohol in the mother's blood passes to the baby through the umbilical cord. Drinking alcohol during pregnancy can cause miscarriage, stillbirth, and a range of lifelong physical, behavioral, and intellectual disabilities. According to the CDC, Fetal Alcohol Syndrome (FAS) can cause abnormal facial features, growth problems, and central nervous system problems. People with FAS can have problems with learning, memory, attention span, communication, vision, or hearing. In a study of Colorado women who gave birth between 2012 and 2014, the majority reported drinking alcohol before they became pregnant; however, most of these women in Adams, Arapahoe, and Douglas Counties did not drink during the last three months of their pregnancies (Figure 6). Women with higher levels of education and women who were over age 19 were more likely to drink during pregnancy than women with lower levels of education and under age 20.¹¹ In the Tri-County region, 3.7 % of women reported using marijuana at any time during pregnancy.

A healthy community is where residents are engaged in efforts to prevent the abuse of alcohol, tobacco, and other drugs and where treatment services are affordable and accessible to those who need them.

Figure 6: Percent of women used alcohol before and during pregnancy, 2012-2014



Source: Pregnancy Risk Assessment Monitoring System, Colorado Department of Public Health and Environment



Youth

According to the Centers for Disease Control and Prevention, alcohol is the most commonly used and abused drug among youth in the United States.

Several problems can result from this use including:

- Problems in school (higher absences and poor grades).
- Social problems, such as fighting and lack of participation in youth activities.
- Legal problems, such as arrest for driving or physically hurting someone while drunk.
- Poor physical health, including the experience of hangovers or illnesses.
- Unwanted, unplanned, and unprotected sexual activity.
- Disruption of normal growth and sexual development.
- Physical and sexual assault.
- Higher risk for suicide and homicide.
- Alcohol-related car crashes and other unintentional injuries, such as burns, falls, and drowning.
- Memory problems.
- Abuse of other drugs.
- Changes in brain development that may have life-long effects.
- Death from alcohol poisoning.

A healthy community is where residents are engaged in efforts to prevent the abuse of alcohol, tobacco, and other drugs and where treatment services are affordable and accessible to those who need them.

“[One of the three biggest health problems in my community is] opioids, marijuana, medications and their impact on society.”

Source: TCHD Community Input Survey

The CDC estimates that youth who start drinking before age 15 are six times more likely to develop alcohol dependence or abuse later in life than those who begin drinking at or after age 21.¹²

Marijuana use in adolescence or early adulthood can have a serious impact on a teen’s life. Unlike adults, the teen brain is actively developing and often will not complete development until the mid-20s.

Negative effects from marijuana use include:¹³

- Difficulty thinking and problem solving.
- Problems with memory and learning.
- Decline in school performance.
- Increased risk of mental health issues such as depression or anxiety.
- Impaired driving.
- Potential for addiction.

¹² <https://www.cdc.gov/alcohol/fact-sheets/underage-drinking.htm>

¹³ <https://www.cdc.gov/marijuana/factsheets/teens.htm>

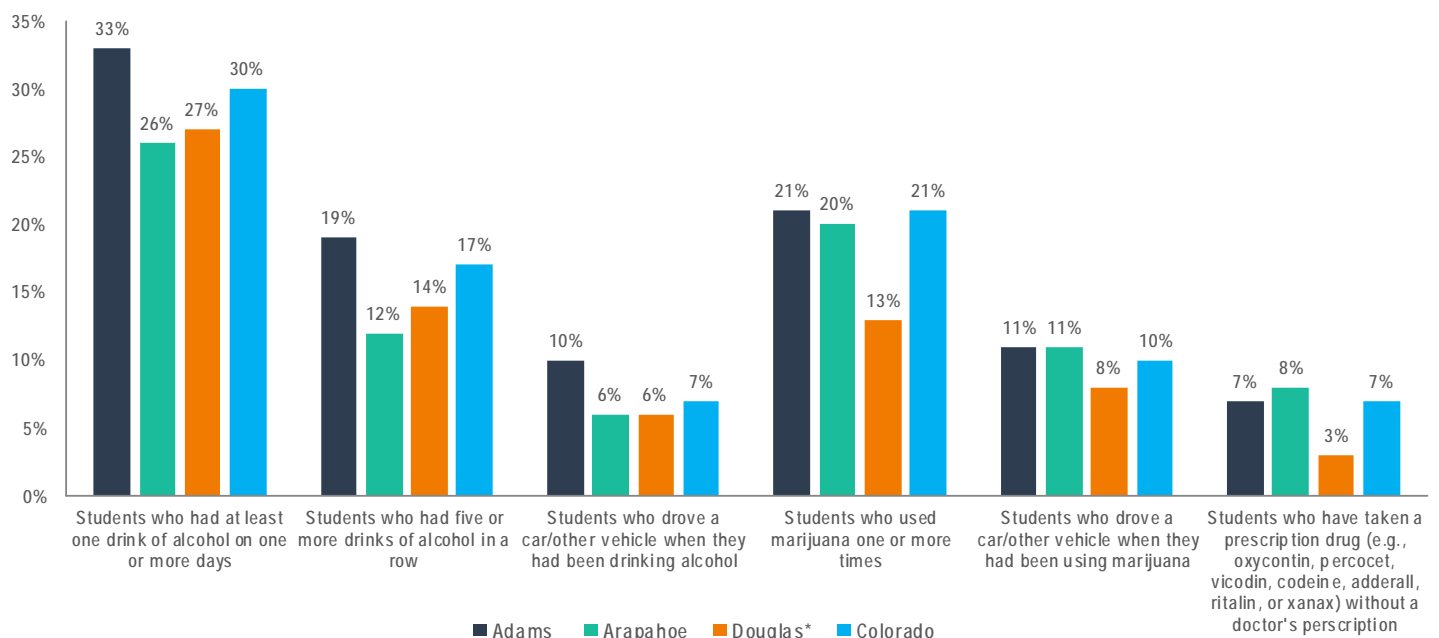
¹⁴ <https://www.samhsa.gov/homelessness-programs-resources/hpr-resources/teen-prescription-drug-misuse-abuse>

Prescription drug misuse and abuse occurs when someone takes a medication inappropriately (for example, without a prescription). Prescription drug misuse and abuse among young people can affect judgment and inhibition, putting adolescents at greater risk for unprotected or unwanted sex, misusing other kinds of drugs, driving when impaired, and engaging in additional risky behaviors.¹⁴

Figure 7 shows substance misuse among high schools students in the Tri-County region.

Substance use disorders can be prevented and treated if they do occur. Treatment and recovery services that are affordable and readily available can support individuals, families and communities in being as healthy as they can be.

Figure 7: Percent of high school students who misused substances misuse in the past 30 days, 2015



Source: Healthy Kids Colorado Survey, Colorado Department of Public Health and Environment
 *Douglas County did not participate in the survey in 2015; these numbers are for 2013



In a healthy community, all people have access to high quality, culturally competent reproductive and sexual health services that support their needs and life goals.



Sexual and Reproductive Health

Tri-County Health Department | Community Health Assessment 2018

In a healthy community, all people have access to high quality, culturally competent reproductive and sexual health services that support their needs and life goals.



Between 2013-2015, 39% of Colorado women stated that their pregnancy was unintended—that is, mistimed or unwanted.

Source: Pregnancy Risk Assessment Monitoring System, Colorado Department of Public Health and Environment

As noted by Healthy People 2020, the Centers for Disease Control and Prevention (CDC) considers family planning one of the ten great public health achievements in the 20th century.^{1,2} The ability to plan pregnancies and receive sexual and reproductive health services improves the lives and health of children, families, women and men, and has both social and economic benefits to people and communities.^{1,3} Family planning and sexual and reproductive health services reduce the number of unintended pregnancies. Whereas an intended pregnancy is a pregnancy that, at the time of conception, was planned or wanted and the timing was chosen by the parent(s), unintended pregnancies are mistimed or unwanted at the time of conception. Unintended pregnancies can increase the risk of negative health outcomes for mother and child, including poor maternal mental health, inadequate/delayed prenatal care, premature birth, low birth weight, low rates of breastfeeding, reduced quality of the mother-child relationship, less than optimal child development, and the delaying of educational or professional opportunities by a caregiver (often the mother). When women and their partners are aware of how to optimally manage their reproductive and sexual health and have access to a wide range of contraceptive methods, they are better able to plan as well as space their births. This leads to positive health, social and economic outcomes for women, families, and communities.

Family Planning

During 2013-2015 in Colorado, about two of every five (39%) mothers who gave birth stated their pregnancy was unintended, while comparable figures for Adams, Arapahoe, and Douglas County mothers were 37%, 45%, and 24%, respectively. Unintended pregnancy is significantly more common among teenage mothers aged 15-19 years (77%) compared with mothers aged 20-30 years (44%) and mothers aged 31-44 years (27%).⁴

During 2014-2016 in our region, the majority of adult women aged 18 to 44 years took steps to prevent becoming pregnant: 72% in Adams County; 64% in Arapahoe County; and 62% in Douglas County. Statewide, there are differences in report of wanting to become pregnant by race or ethnicity, with 68% of white

¹ <https://www.healthypeople.gov/2020/topics-objectives/topic/family-planning#one>

² <https://www.cdc.gov/mmwr/preview/mmwrhtml/00056796.htm>

³ <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4847a1.htm>

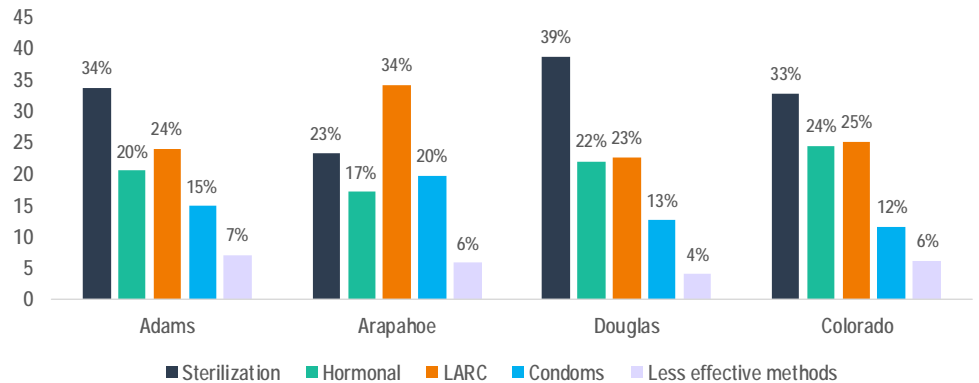
⁴ Pregnancy Risk Assessment Monitoring System, Colorado Department of Public Health and Environment



Sexual and Reproductive Health

In a healthy community, all people have access to high quality, culturally competent reproductive and sexual health services that support their needs and life goals.

Figure 1: Percent of females aged 18-44 years who did not want to become pregnant by method of contraception used, 2014-2016



*LARC stands for Long-acting reversible contraception and includes intrauterine devices and contraceptive implants

Source: Behavioral Risk Factor Surveillance System, Colorado Department of Public Health and Environment

women reporting wanting to prevent pregnancy compared with 66% of Hispanic women and 43% of black women. Figure 1 shows contraceptive use by method type. Women who use a birth control method that best suits their needs are more likely to use it consistently and effectively and, thus, less likely to become pregnant.

Preventing an unintended pregnancy can profoundly impact adolescent quality of life, decrease the risk of poor infant health outcomes, and reduce the risk of long-term dependence on public assistance. In 2008, the Colorado Family Planning Initiative (CFPI) launched statewide to expand access to low- or no-cost long-acting reversible contraception (LARC) and other highly effective contraceptive methods for women. Results have been profound, reflected by a 54% decrease in the fertility rate among teens aged 15-19 years over eight years (2009-2016) in Colorado.

Since the initiation of the CFPI, fertility rates among teens aged 15-19 years decreased substantially between 2009 and 2016; there was a 59% decrease in Adams County, a 58% decrease in Arapahoe County, and a 69% decrease in Douglas County (Figure 2). Disparities in teen fertility rates do still exist. Between

Decrease in teen fertility (2009 to 2016)

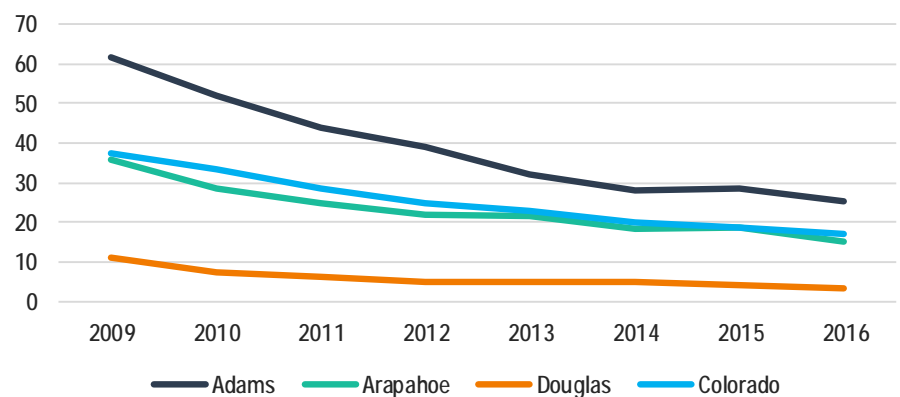
Adams County
59% Decrease

Arapahoe County
58% Decrease

Douglas County
69% Decrease

Source: Vital Records Program, Colorado Department of Public Health and Environment

Figure 2: Trends in fertility rates for teens ages 15-19, per 1,000 population, 2009-2016



Source: Vital Records Program, Colorado Department of Public Health and Environment

⁵ BRFSS, Colorado Department of Public Health and Environment



Sexual and Reproductive Health

In a healthy community, all people have access to high quality, culturally competent reproductive and sexual health services that support their needs and life goals.

Healthy People 2020 Goal:

Promote healthy sexual behaviors, strengthen community capacity, and increase access to quality services to prevent sexually transmitted diseases (STDs) and their complications.⁶

2009 and 2016, Hispanic teen fertility rates decreased approximately 62% (from around 81 to 31 per 1,000 population) in Adams and Arapahoe Counties and 87% in Douglas County (from 32 to 4 per 1,000 population). The fertility rate for white teens decreased around 60% in all three counties (63% in Adams County, from 39 to 14 per 1,000 population; 58% in Arapahoe County, from 19 to 8 per 1,000 population; and, 64% in Douglas County, from 9 to 3 per 1,000 population). Despite the similar percentage decreases, In 2016 Adams County has the highest teen fertility rate at 14 births per 1,000 population, compared to Arapahoe County at 8 births per 1,000 population, and Douglas County at 3 births per 1,000 population. In this same time period, the teen abortion rate decreased in our region. During 2009-2016, the reported annual number of abortions among teens aged 15-19 years decreased 63% (from 442 to 162), and the rate dropped 69% from 10 to 3 per 1,000 teens.

Sexually Transmitted Infections

Sexually transmitted Infections (STIs) are spread from one person to another through intimate physical contact or sexual activity (whether vaginal, oral, or anal sex). They can also be transmitted from pregnant women to their babies. People who have sex can reduce their risk of getting an STI by using condoms or having a partner who does not have an STI. Chlamydia or gonorrhea are two of the most common types of STIs. Many men and most women with gonorrhea or chlamydia infection do not have symptoms, but still can experience complications that could lead to infertility.

Figure 3 show the trends in rates of chlamydia and gonorrhea between 2014 and 2017. Rates have increased slightly for chlamydia; this increase may be due to increased testing which would diagnose infections previously undetected.

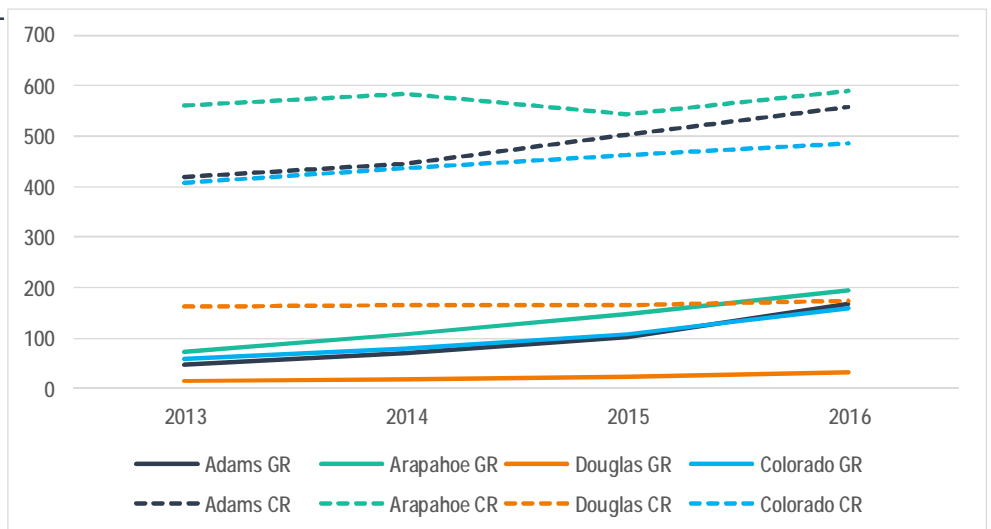
Increases in Gonorrhea (2014 to 2017)

Adams County
243% Increase

Arapahoe County
164% Increase

Douglas County
53% Increase

Figure 3: Trends in gonorrhea rates (GR) and chlamydia rates (CR), per 100,000 population, 2013-2017



*2017 data are provisional.

Source: STI/HIV/Viral Hepatitis Branch, Colorado Department of Public Health and Environment

⁶ <https://www.healthypeople.gov/2020/topics-objectives/topic/sexually-transmitted-diseases>



Sexual and Reproductive Health

In a healthy community, all people have access to high quality, culturally competent reproductive and sexual health services that support their needs and life goals.

“The United States will become a place where new HIV infections are rare, and when they do occur, every person, regardless of age, gender, race/ethnicity, sexual orientation, gender identity, or socio-economic circumstance, will have unfettered access to high quality, life-extending care, free from stigma and discrimination.”

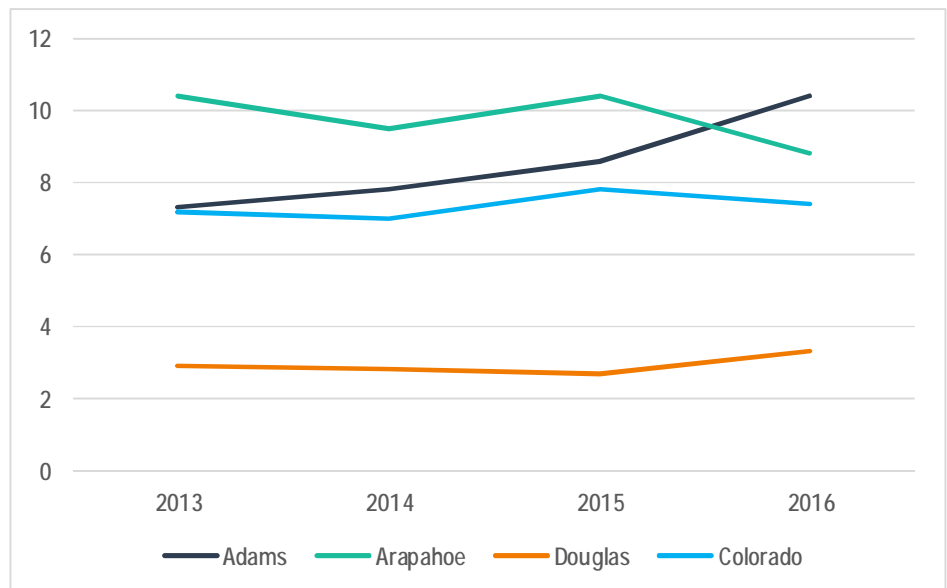
Vision of the National HIV/AIDS Strategy for the United States, 2015⁷

However, as has occurred in Colorado and most other states, rates have increased sharply for gonorrhea, for which increasing antibiotic resistance is a growing concern (243% rate increase in gonorrhea in Adams County, 164% in Arapahoe County, and 53% in Douglas County). Approximately half of chlamydia and gonorrhea cases occur among persons aged 20-29 years.

Figure 4 shows trends in newly diagnosed human immunodeficiency virus (HIV) in our region. HIV can lead to acquired immunodeficiency syndrome (AIDS) if not treated. HIV puts the immune system at risk by attacking T-cells – the cells that are part of the immune system.⁸ There is no cure for HIV or AIDS, but antiretroviral therapy (ART) is available and can significantly extend the lives of HIV-infected people as well as reduce the risk that the virus passes to others. HIV transmission is reduced by not having sex, never sharing needles, using condoms correctly each time, and the utilization of newer technologies,⁹ such as pre-exposure prophylaxis (PrEP)¹⁰ and post-exposure prophylaxis (PEP).¹¹ Approximately 90% of new HIV infection occurs in men. Those with HIV disease are more likely to be white, non-Hispanic and Hispanic men, aged 20-34 years, and report a sexual behavior of men who have sex with men.

Ensuring access and use of sexual and reproductive health services, including family planning and STI testing, increases the likelihood that infants and children are healthy and happy, and that all people of reproductive age are able to pursue their educational, professional, and wellness goals on their own timelines.

Figure 4: Trends in newly diagnosed HIV infection, rates per 100,000, 2013-2017



*2017 data are provisional
Source: STI/HIV/Viral Hepatitis Branch, Colorado Department of Public Health and Environment,

⁷ <https://files.hiv.gov/s3fs-public/nhas-update.pdf>

⁸ <https://www.cdc.gov/hiv/>

⁹ <https://www.cdc.gov/nchhstp/>

¹⁰ <https://www.cdc.gov/hiv/basics/prep.html>

¹¹ <https://www.cdc.gov/hiv/basics/pep.html>

 Access to Mental and Physical Health Care Services



A healthy community is where all people, regardless of their income, can access high quality health care.

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Access to Mental and Physical Health Care Services

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A healthy community is where all people, regardless of their income, can access high quality health care.



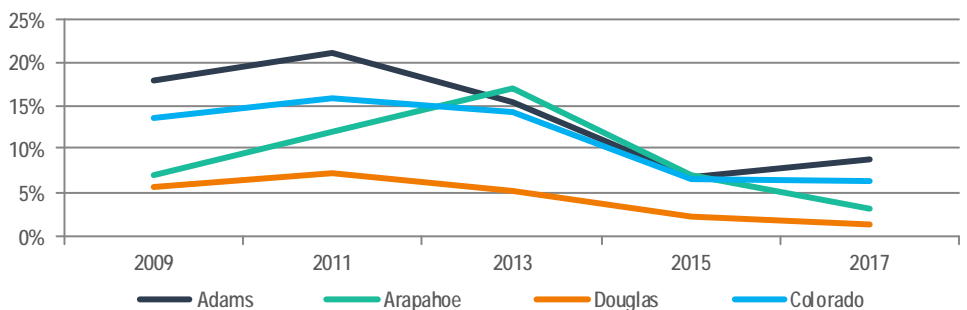
Being able to afford the mental and physical health services needed to be healthy is one of the most important health problems identified by our community members.

Source: TCHD Community Input Survey

Being able to afford the mental and physical health services needed to be healthy is one of the most important health problems identified by our community members. Although many factors influence health, people need access to services for prevention, management, and treatment of various health conditions and diseases in different settings. Comprehensive services include access to health care providers (including specialists), therapists, counselors, dietitians, dentists and hygienists, and complementary health care providers to maintain good health. Not only do these services need to be available to community residents, they need to be affordable.

Having health insurance is the main way people pay for health services. There are two primary sources of health insurance: private insurance, usually provided/purchased through employers, and public insurance, which covers older Americans (Medicare), low-income and disabled Americans (Medicaid) and low-income children and pregnant women in Colorado (Child Health Plan Plus known as CHP+). As shown in Figure 1, the percentage of people without insurance in our three counties started declining after the implementation of the Affordable Care Act in 2012. However, since people without insurance tend to be sicker and die earlier than those who are insured, lack of insurance access remains an important health issue for 1-9% of our counties' residents.

Figure 1: Percent of residents with no health insurance, 2009-2017



Source: Colorado Health Access Survey, Colorado Health Institute



Access to Mental and Physical Health Care Services

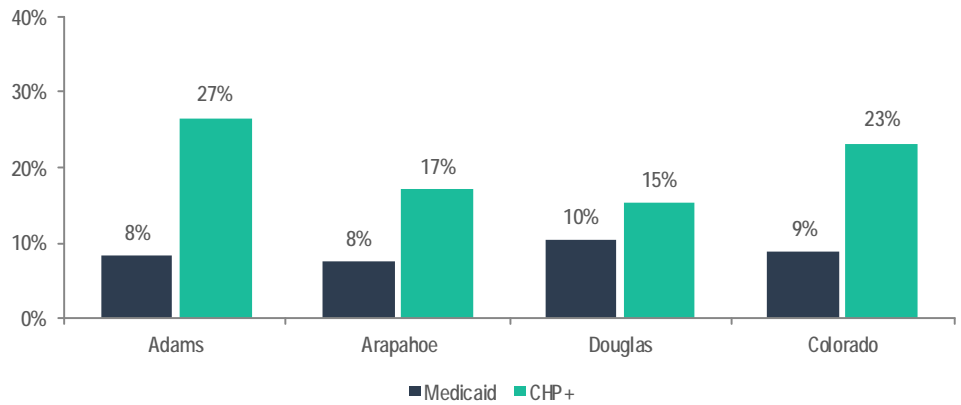
A healthy community is where all people, regardless of their income, can access high quality health care.

37% of those who had problems paying medical bills were unable to pay for food, heat, or rent

Source: Colorado Health Access Survey, Colorado Health Institute

Of note, not everyone who is eligible for public health insurance is enrolled in a plan. Whereas virtually all adults ages 65+ are enrolled in Medicare, fewer of those who are eligible for Medicaid or CHP+ are enrolled. Figure 2 shows the percentages of those eligible but not enrolled by county.

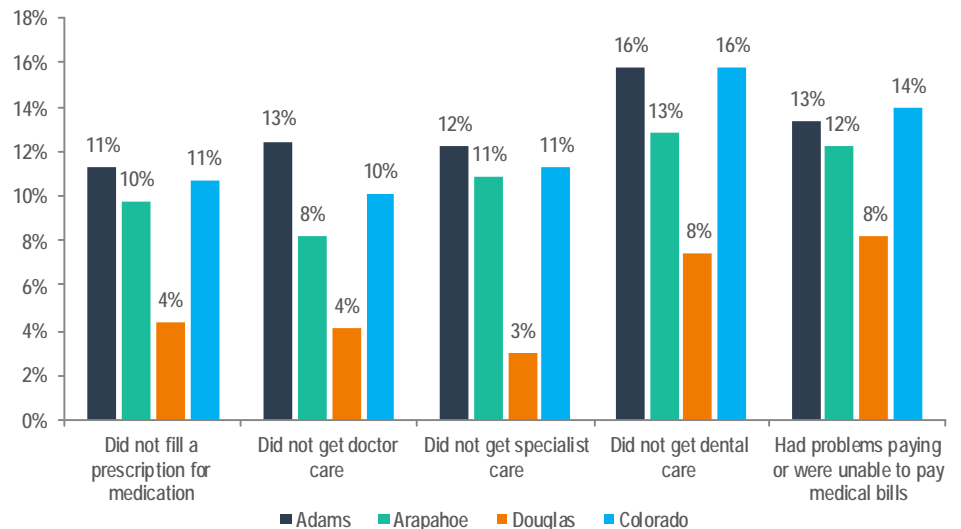
Figure 2: Percent of people ages 0-64 who were eligible but not enrolled in Medicaid or Child Health Plan Plus (CHP+), 2015



Source: Colorado Health Institute

Even those with insurance coverage can struggle to pay for services. Insurance varies in what it will cover and the level of coverage. Dental care, for example, is included in some health insurance plans but not in others. People may be required to purchase supplemental (additional) coverage for services like dentistry and vision care. In addition to the premium (the regular payment people make to pay for their coverage), deductibles and co-pays can lead to additional, high out-of-pocket costs, which can force some people to choose between services, medications, or other basic necessities. Figure 3 indicates the proportion of all people who were unable to obtain certain types of care due to cost, regardless of insurance status.

Figure 3: Percent of people unable to obtain certain types of care due to cost, regardless of insurance status, 2017



Source: Colorado Health Access Survey, Colorado Health Institute



Access to Mental and Physical Health Care Services

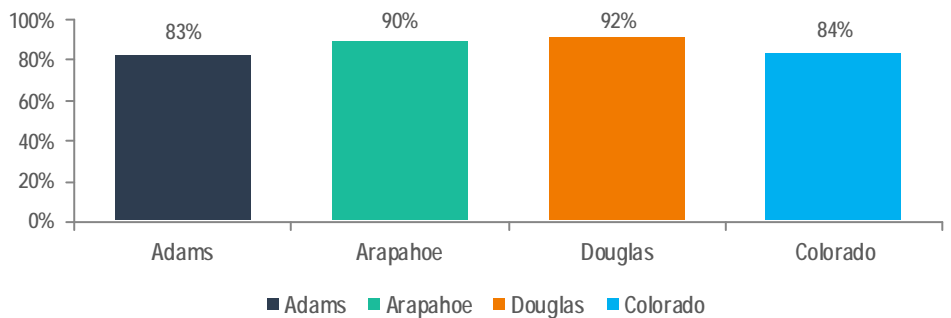
A healthy community is where all people, regardless of their income, can access high quality health care.

According to the 2017 Colorado Health Access Survey, thousands of people went without needed mental health care in the past 12 months.

Source: Colorado Health Access Survey, Colorado Health Institute

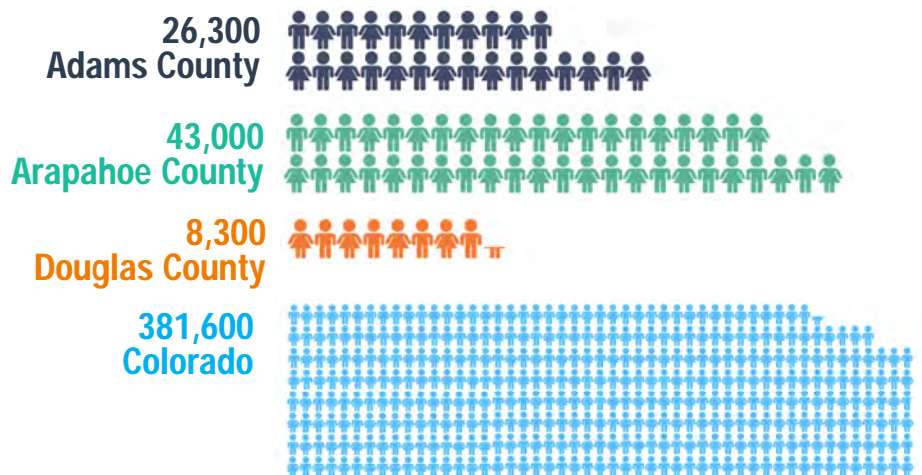
Another aspect of mental and physical health care is having a usual source of care, such as one health care clinic where someone goes or one provider that someone sees most regularly. People with a usual source of care have been shown to receive more preventive services and have better control of chronic medical conditions such as hypertension. The vast majority of residents in our three counties report having a usual source of care; however, many residents still do not get the care they need (Figure 5).

Figure 4: Percent of people who have a usual source of care



Source: 2017 Colorado Health Care Access Survey, Colorado Health Institute

Figure 5: Estimated number of people ages 5 and older who needed but didn't get mental health care within the last 12 months, 2017



Source: 2017 Colorado Health Access Survey, Colorado Health Institute





Access to Mental and Physical Health Care Services

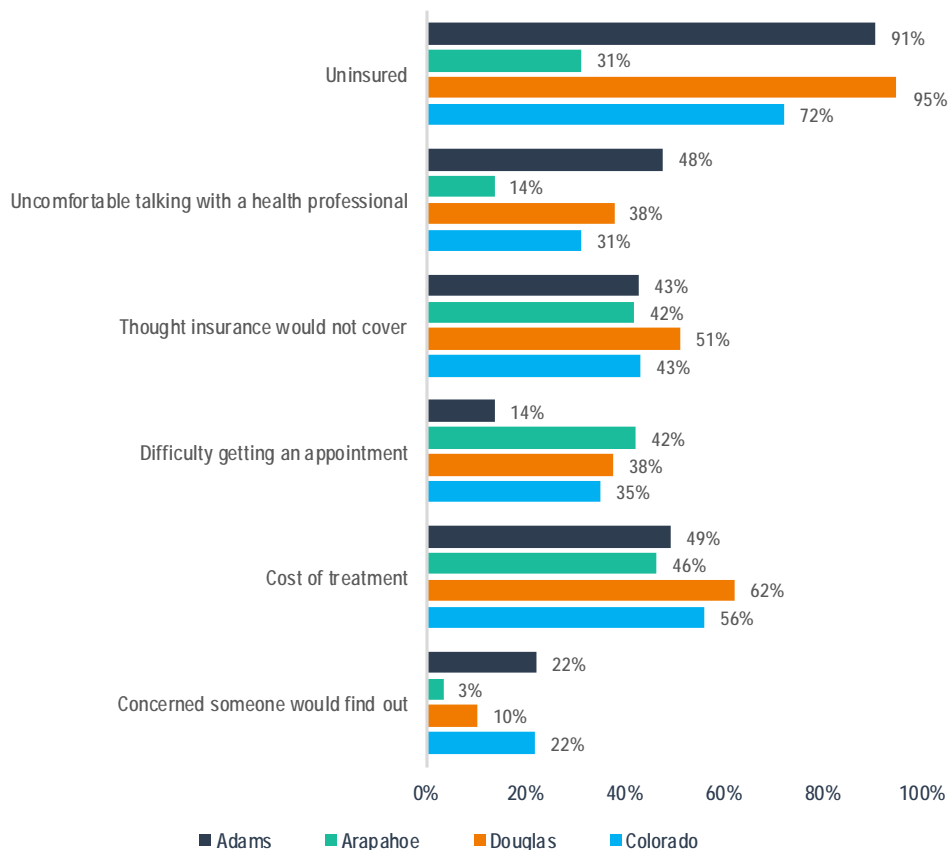
A healthy community is where all people, regardless of their income, can access high quality health care.

According to the 2017 Colorado Health Access Survey, approximately 67,000 Colorado adults also went without needed substance use disorder treatment in the past 12 months.

Source: Colorado Health Access Survey, Colorado Health Institute

Access to mental health care remains a particular concern. The main reasons that people in our counties did not get the mental health they needed in 2017 are shown in Figure 6.

Figure 6: Reasons for not getting mental health care, ages 5+, 2017



Source: Colorado Health Access Survey, Colorado Health Institute

This same survey found that approximately 67,000 Colorado adults also went without needed substance use disorder treatment in the past 12 months. A small sample size prohibited releasing county specific data for this indicator.





Access to Mental and Physical Health Care Services

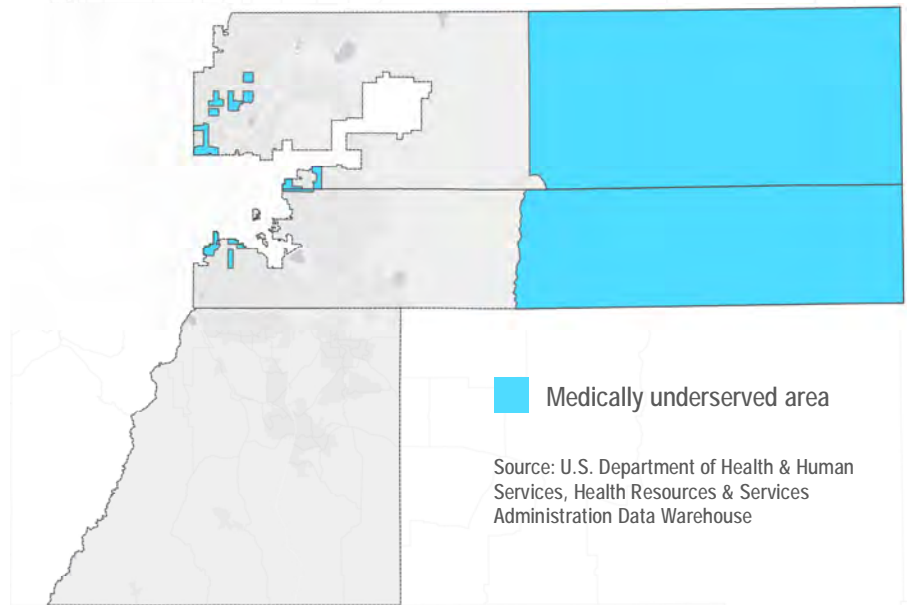
A healthy community is where all people, regardless of their income, can access high quality health care.

Medically Underserved Areas tend to occur in lower income communities within the Tri-County area.

Source: U.S. Department of Health & Human Services, Health Resources & Services Administration Data Warehouse

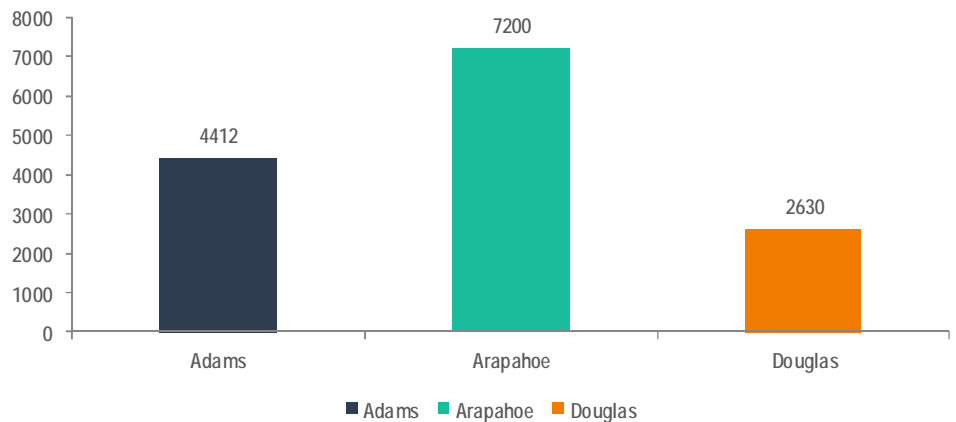
The federal Health Services and Resources Administration (HSRA) determines Medically Underserved Areas/Populations, which are areas or populations which have too few primary care providers, high infant mortality, high poverty, or a high elderly population. Map 1 highlights these areas in our three-county region.

Map 1: Medically Underserved Areas (MUAs), 2017



Lack of available and affordable primary care can result in the health of people with treatable or preventable conditions worsening to the point of needing inpatient hospital care, which is much more expensive. Individuals may also end up in the hospital if they are unable to afford necessary prescriptions or other forms of basic care. These types of hospital admissions are known as preventable or avoidable admissions. According to the Colorado Hospital Association's Discharge Data Program, in 2017, between 11% and 13% of hospitalizations to residents of Adams, Arapahoe and Douglas Counties were avoidable. Figure 7 shows the number of these avoidable hospitalizations.

Figure 7: Number of avoidable hospital admissions, 2017



Source: Colorado Hospital Association Discharge Data Program



Access to Mental and Physical Health Care Services

A healthy community is where all people, regardless of their income, can access high quality health care.

Access to affordable, high quality mental and physical health care is necessary to prevent, manage, and treat various health conditions. Preventive health care (such as childhood immunizations) provides protection to those at risk, treats people who may not have symptoms but have unhealthy conditions detected through screening (such as for high blood pressure), and promotes positive health behaviors (such as diet and exercise) to keep people from developing illness such as diabetes or heart disease. Emergency medical services also are crucial in ensuring better outcomes for those who are injured or seriously ill (Healthy People 2020). Many mental health disorders and substance use disorders can benefit from preventive care, treatment, and support services. Affordable services help ensure that all people in our communities have the mental and physical energy, vitality, and resilience to obtain optimal health.





Asset Inventory

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An asset is a useful or valuable thing, person or quality. Assets improve quality of life. Individuals, communities and institutions all have assets that contribute to quality of life. In keeping with the feedback we received from community members, partners, and TCHD staff regarding the components of a healthy community, these assets are similarly organized. This is not an exhaustive list, but provides a starting point for understanding the strengths of our communities.

Social Connections

- Arts organizations
- Boys and Girls Clubs
- Citizen's Advisory Boards
- Community gardens
- Community markets
- Community newsletters/newspapers
- Community parks and public spaces
- Counseling and support programs
- County fair grounds
- Family Resource Centers
- Farmers Markets
- Girls on the Run and other after school clubs
- GLBT Community Center of Colorado
- Indoor/outdoor malls and public spaces
- Leadership groups
- Libraries
- Local "Meet up" events
- Local community events and festivals
- Neighbors and Next Door
- Places of worship
- Recreation centers, including yoga and meditation centers
- School playgrounds
- Social & Resource Centers
- (community, seniors, veterans, etc.)
- Service Clubs (i.e., Elks, Rotary, Lions, Optimists, Kiwanis, Sertoma)
- Sporting events, youth sport organizations
- Theaters, restaurants, venues
- Toast Masters
- Town hall meetings
- Volunteer Organizations in Disaster

Opportunities

- AmeriCorps/VISTA/Service Corp programs
- Chambers of Commerce
- City Governments
- County Human Services
- Economic development organizations
- Faith-based organizations
- Legal Assistance
- Low-income Energy Assistance Program (LEAP)
- Major employers
- Small businesses
- Workforce development centers

Educational Resources

- Adult education classes
- CERT Programs
- Colleges and Universities
- Colorado Child Care Assistance Program (CCAP)
- Community Colleges
- Community-centered boards
- Early Childhood Councils
- English as a second language classes
- Graduate Equivalency Diploma
- programs
- Head Start
- Libraries
- Primary and secondary schools
- Vocational and trade schools

Health and Wellness Services

- 12-Step Organizations (AA, NA, etc.)
- Ambulatory Surgical Centers
- Colorado Access
- Colorado Crisis Services
- Colorado Quit Line
- Community Health Centers
- Community Mental Health Centers
- Community Recreation Centers
- Community-based safety-net clinics
- Counselors and therapists
- Dialysis Centers
- Domestic violence organizations and shelters
- Health Clubs
- Hospitals
- Kids In Need of Dentistry (KIND)
- Local health alliances
- Parks and hiking trails
- Private health care providers
- Regional Accountable Entities (RAEs)
- School-based health centers
- Senior Resources Centers
- Tri-County Health Department
- YMCAs

Neighborhood Conditions

- 211
- City Planning Departments
- Community gardens
- Community recreation centers
- Community-based organizations
- Denver Regional Council of Governments (DRCOG)
- Emergency housing organizations
- Foodbanks and food pantries
- Habitat for Humanity
- Housing Authorities
- Local businesses
- Local non-profit organizations
- Meals on Wheels/Congregate Meals Program
- OneHome
- Parks and Recreations Departments, open spaces and trails
- Regional Transportation District (RTD)
- Resettlement agencies and refugee/immigrant-serving organizations
- Ride Together, ALIFT
- Schools and universities
- Severe weather shelter networks
- Theaters, restaurants, entertainment venues
- Walking and biking groups

Safety

- 911
- Colorado State Patrol
- County Sheriff's Departments
- Emergency Management
- Fire Rescue Services
- Health Department Emergency Preparedness and Response
- Local Police Departments
- Medical Reserve Corps
- Neighborhood Watch Programs
- Neighbors
- School Resource Officers (SROs)
- Victims Assistance

Additional Indicators

Leading cause of death by age
Leading cause of death by race
Years of potential life lost (YPLL)
Life expectancy
Select death trends
Infant mortality by race
Communicable disease rates
Foodborne illness rates
Immunization rates children

Appendix

Tri-County Health Department | Community Health Assessment 2018

Ten leading causes of death by age group - Adams, Arapahoe, Douglas Counties, 2007-2016

Rank	All Ages	Less Than 1 Year	1 to 14 Years	15 to 24 Years	25 to 44 Years	45 to 64 Years	65+ Years
1	Malignant neoplasms	Congenital malformations, deformations, and chromosomal abnormal	Unintentional injuries	Unintentional injuries	Unintentional injuries	Malignant neoplasms	Malignant neoplasms
2	Heart disease	Disorders related to short gestation and low birth weight	Malignant neoplasms	Suicide	Suicide	Heart disease	Heart disease
3	Unintentional injuries	Newborn affected by complications of placenta, cord, and membrane	Congenital malformations and chromosomal abnormalities	Assault	Malignant neoplasms	Unintentional injuries	Chronic lower respiratory diseases
4	Chronic lower respiratory diseases	Newborn affected by maternal complications of pregnancy	Suicide	Malignant neoplasms	Heart disease	Suicide	Alzheimer's disease
5	Alzheimer's disease	Unintentional injuries	Assault	Heart disease	Chronic liver disease and cirrhosis	Chronic liver disease and cirrhosis	Cerebrovascular diseases
6	Cerebrovascular diseases	Sudden infant death syndrome	Heart disease	Congenital malformations and chromosomal abnormalities	Assault	Chronic lower respiratory diseases	Unintentional injuries
7	Suicide	Neonatal hemorrhage	Influenza and pneumonia	Chronic lower respiratory diseases	Cerebrovascular diseases	Diabetes mellitus	Diabetes mellitus
8	Diabetes mellitus	Bacterial sepsis of the newborn	In situ neoplasms, benign neoplasms	Diabetes mellitus	Diabetes mellitus	Cerebrovascular diseases	Influenza and pneumonia
9	Chronic liver disease and cirrhosis	Diseases of the circulatory system	Cerebrovascular diseases	Influenza and pneumonia	Influenza and pneumonia	Influenza and pneumonia	Nephritis, nephrotic syndrome and nephrosis
10	Influenza and pneumonia	Assault	Chronic lower respiratory diseases	Cerebrovascular diseases	Chronic lower respiratory diseases	Septicemia	Parkinson's disease

Source: Vital Records Program, Colorado Department of Public Health and Environment

Appendix

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Ten leading causes of death by race/ethnicity - Adams, Arapahoe, Douglas Counties, 2007-2016

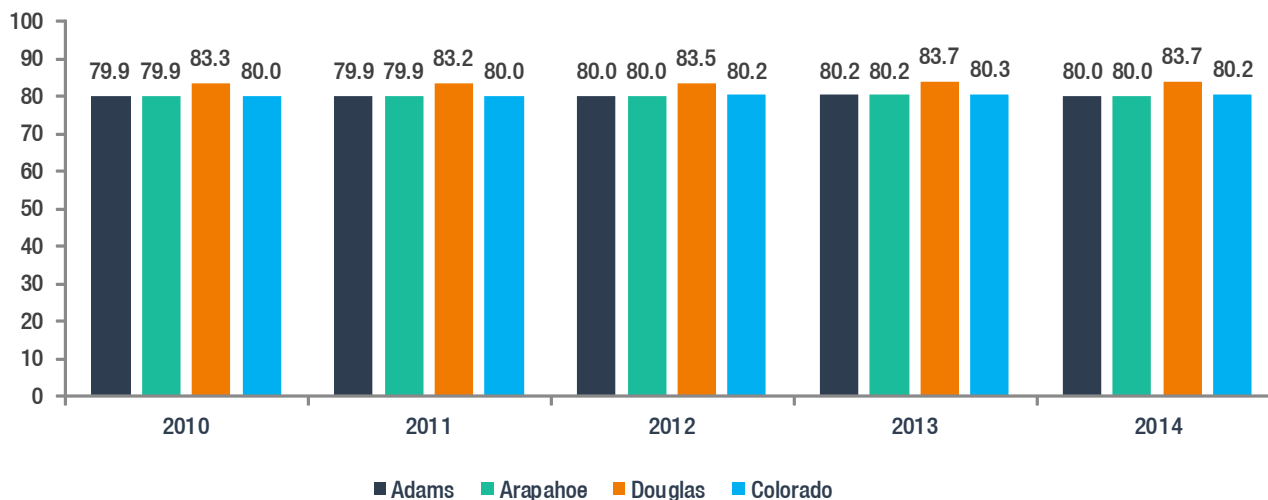
Rank	All Races	White, Non-Hispanic	Black, Non-Hispanic	Asian/Pacific Islander	American Indian/ Alaska Native	Hispanic
1	Malignant neoplasms	Malignant neoplasms	Malignant neoplasms	Malignant neoplasms	Malignant neoplasms	Malignant neoplasms
2	Heart disease	Heart disease	Heart disease	Heart disease	Heart disease	Heart disease
3	Unintentional injuries	Chronic lower respiratory diseases	Unintentional injuries	Cerebrovascular diseases	Unintentional injuries	Unintentional injuries
4	Chronic lower respiratory diseases	Unintentional injuries	Cerebrovascular diseases	Unintentional injuries	Chronic lower respiratory diseases	Chronic liver disease and cirrhosis
5	Alzheimer's disease	Alzheimer's disease	Diabetes mellitus	Diabetes mellitus	Chronic liver disease and cirrhosis	Diabetes mellitus
6	Cerebrovascular diseases	Cerebrovascular diseases	Assault	Chronic lower respiratory diseases	Suicide	Cerebrovascular diseases
7	Suicide	Suicide	Alzheimer's disease	Suicide	Diabetes mellitus	Suicide
8	Diabetes mellitus	Diabetes mellitus	Chronic lower respiratory diseases	Alzheimer's disease	Cerebrovascular diseases	Chronic lower respiratory diseases
9	Chronic liver disease and cirrhosis	Influenza and pneumonia	Certain conditions originating in the perinatal period	Nephritis, nephrotic syndrome and nephrosis	Influenza and pneumonia	Certain conditions originating in the perinatal period
10	Influenza and pneumonia	Chronic liver disease and cirrhosis	Nephritis, nephrotic syndrome and nephrosis	Influenza and pneumonia	Alzheimer's disease	Alzheimer's disease

Source: Vital Records Program, Colorado Department of Public Health and Environment

Appendix

Tri-County Health Department | Community Health Assessment 2018

Life expectancy - Adams, Arapahoe, Douglas, Colorado, 2010-2014



Life expectancy is defined as the average number of years a population of a certain age would be expected to live, given a set of age-specific death rates in a given year.¹

Years of potential life lost, age-adjusted rates for 10 leading causes of death Adams, Arapahoe, Douglas, Colorado, 2013-2015

Years of Potential Life Lost (YPLL) is the years of potential life lost before a specified age. Tri-County Health Department has calculated YPLL based on age 65. Each death occurring in Adams, Arapahoe, or Douglas Counties before the age of 65 contributes to the total number of years of potential life lost. For example, a person dying at age 25 contributes 40 years of life lost, whereas a person who dies at age 55 contributes 10 years of life lost. The YPLL measure is reported as a rate per 100,000 population and is age-adjusted to the 2000 US population.²

*Unintentional injuries include causes such as drug overdose, motor vehicle crashes, falls, and other accidental events that may lead to a death. These do not include homicide and suicide.

Cause of Death	Colorado	Adams	Arapahoe	Douglas
Unintentional injuries*	795	831	667	420
Suicide	474	444	454	421
Cancer	444	499	444	312
Heart disease	299	354	262	153
Perinatal period conditions	251	292	333	126
Congenital malformations	147	166	153	103
Chronic liver disease and cirrhosis	147	160	142	42
Homicide	128	179	145	26
Diabetes	59	60	58	16
Cerebrovascular diseases	56	72	54	26
All Causes	3577	3932	3407	2087

¹ Institute for Health Metrics and Evaluation

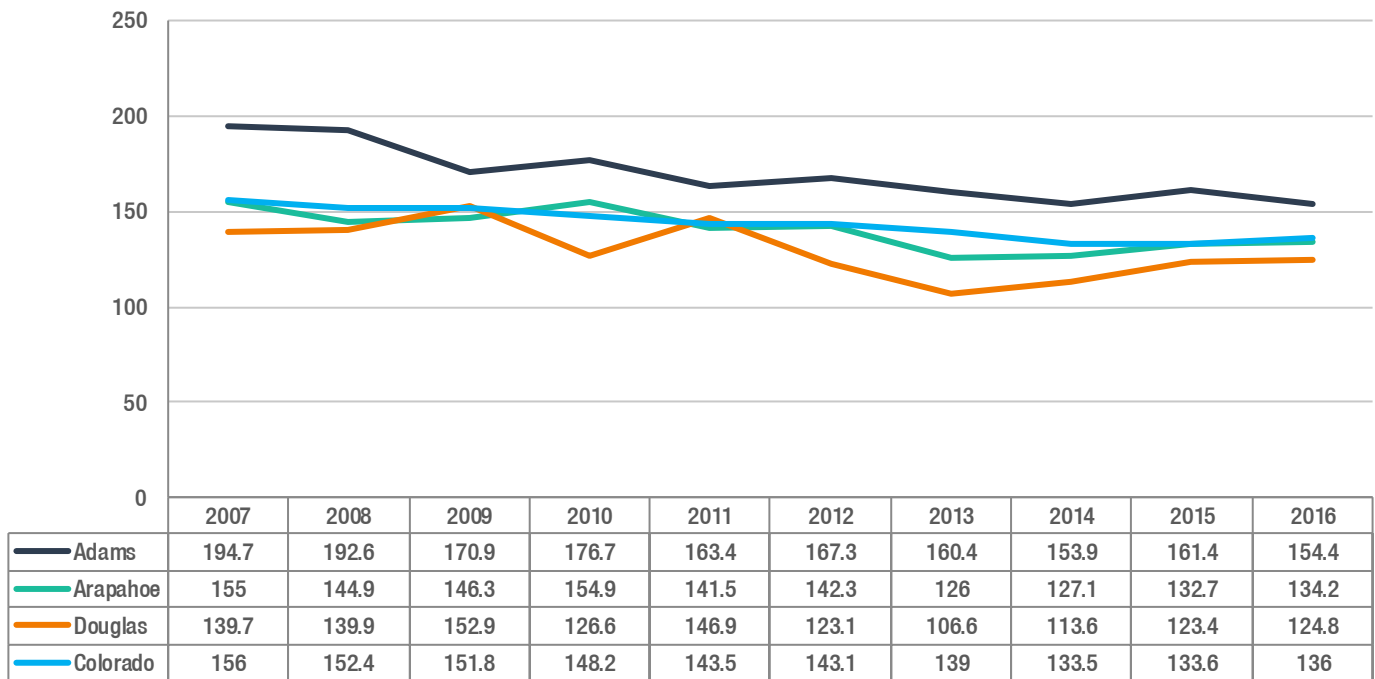
² County Health Rankings

Source: Vital Records Program, Colorado Department of Public Health and Environment

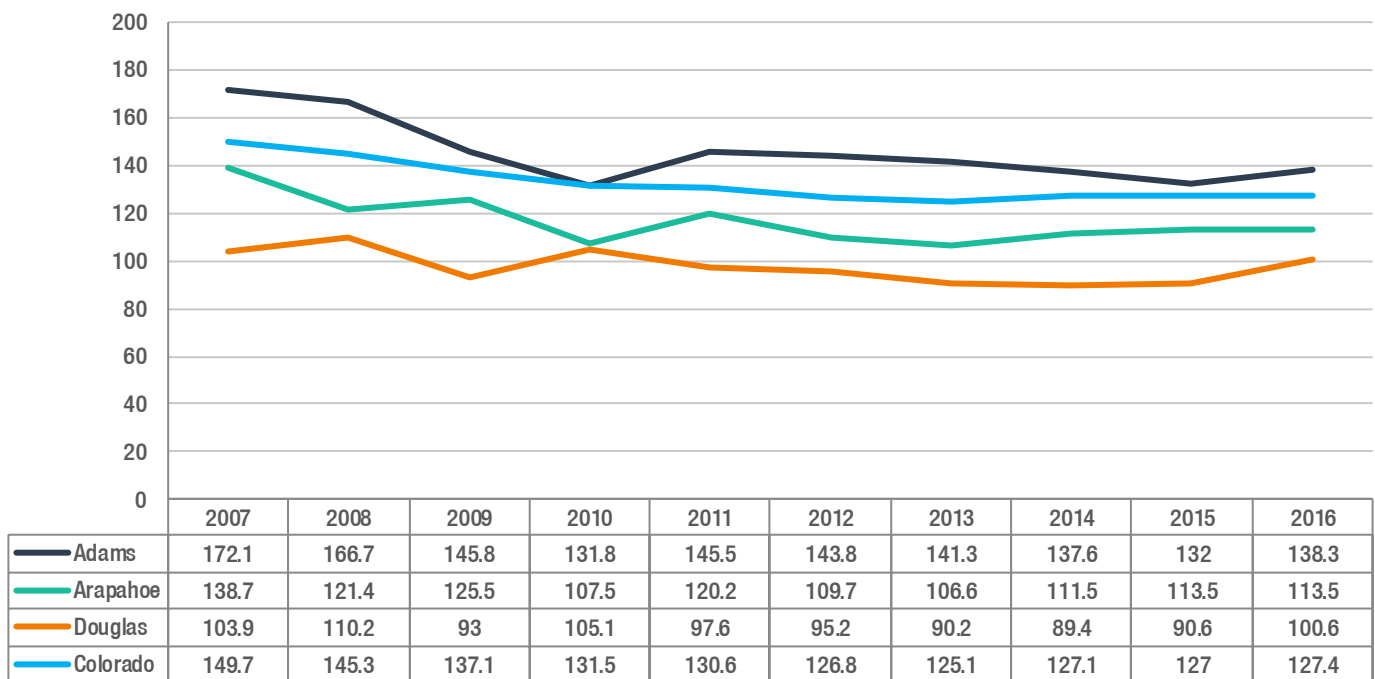
Appendix

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Cancer age-adjusted death rate per 100,000 population, 2007-2016



Heart disease age-adjusted death rate per 100,000 population, 2007-2016

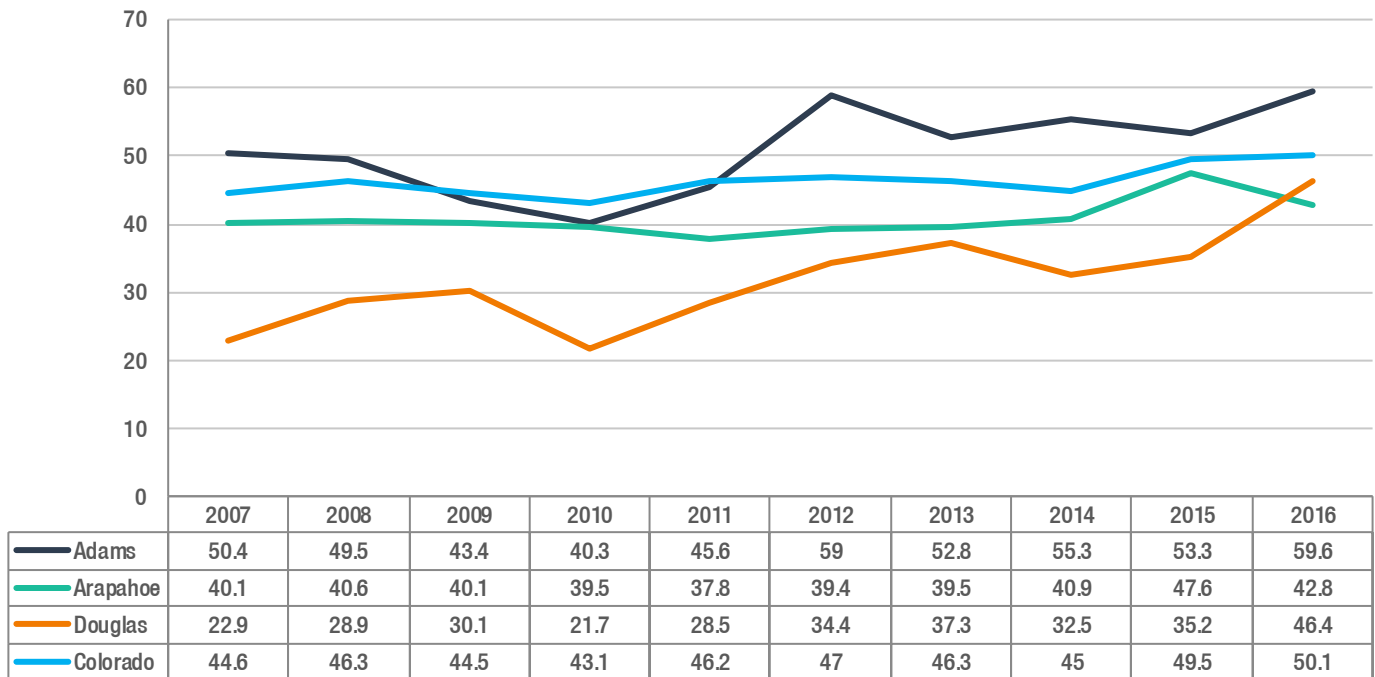


Source: Vital Records Program, Colorado Department of Public Health and Environment

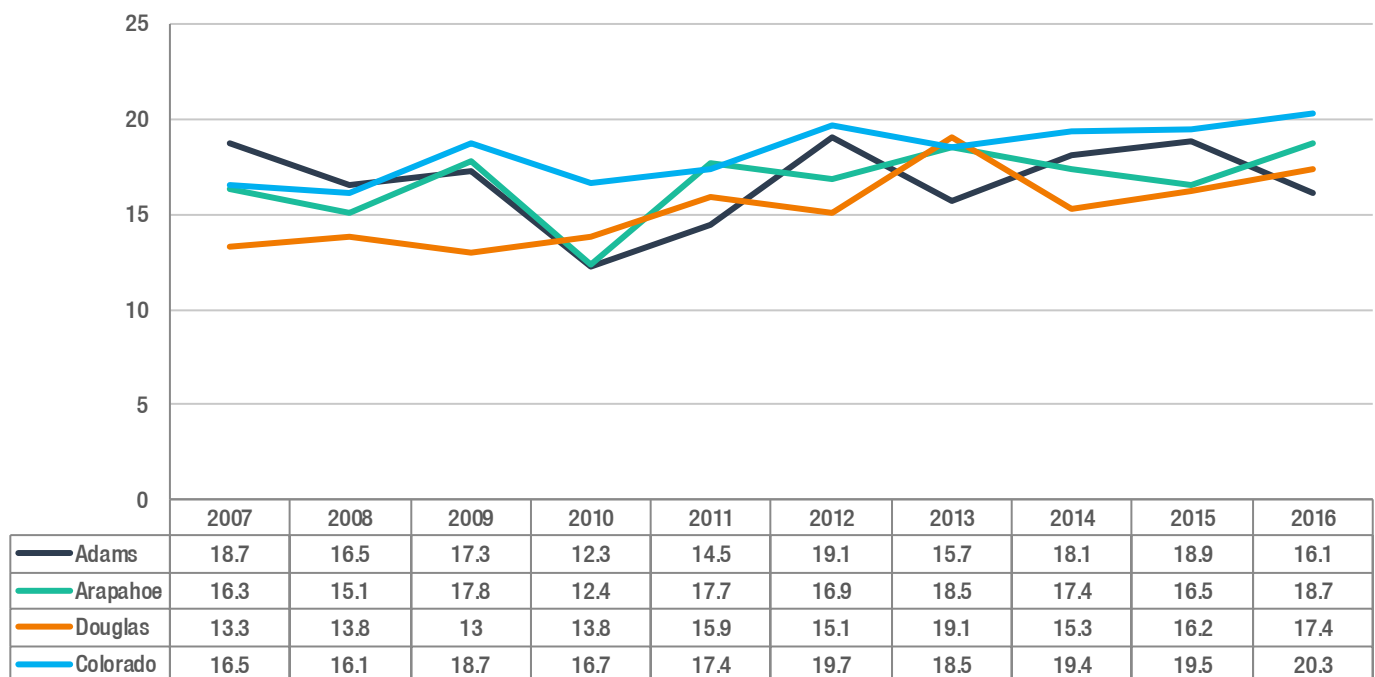
Appendix

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Unintentional injury age-adjusted death rate per 100,000 population, 2007-2016

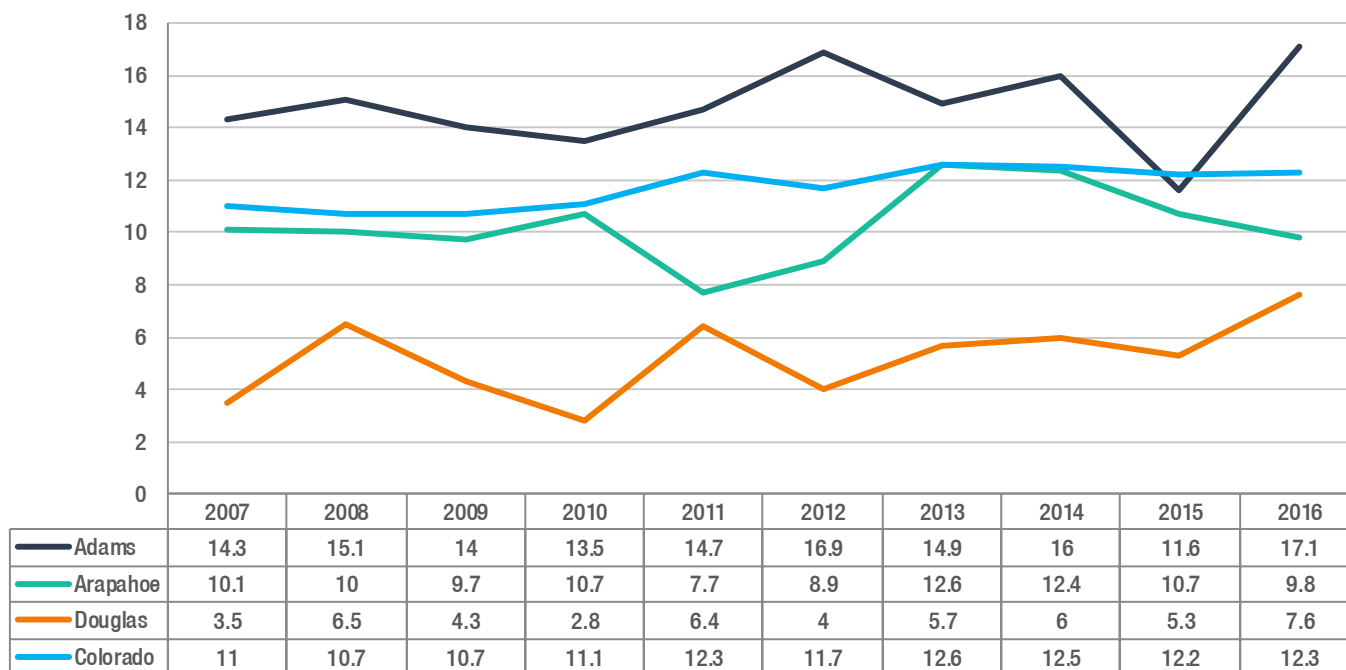


Suicide age-adjusted death rate per 100,000 population, 2007-2016

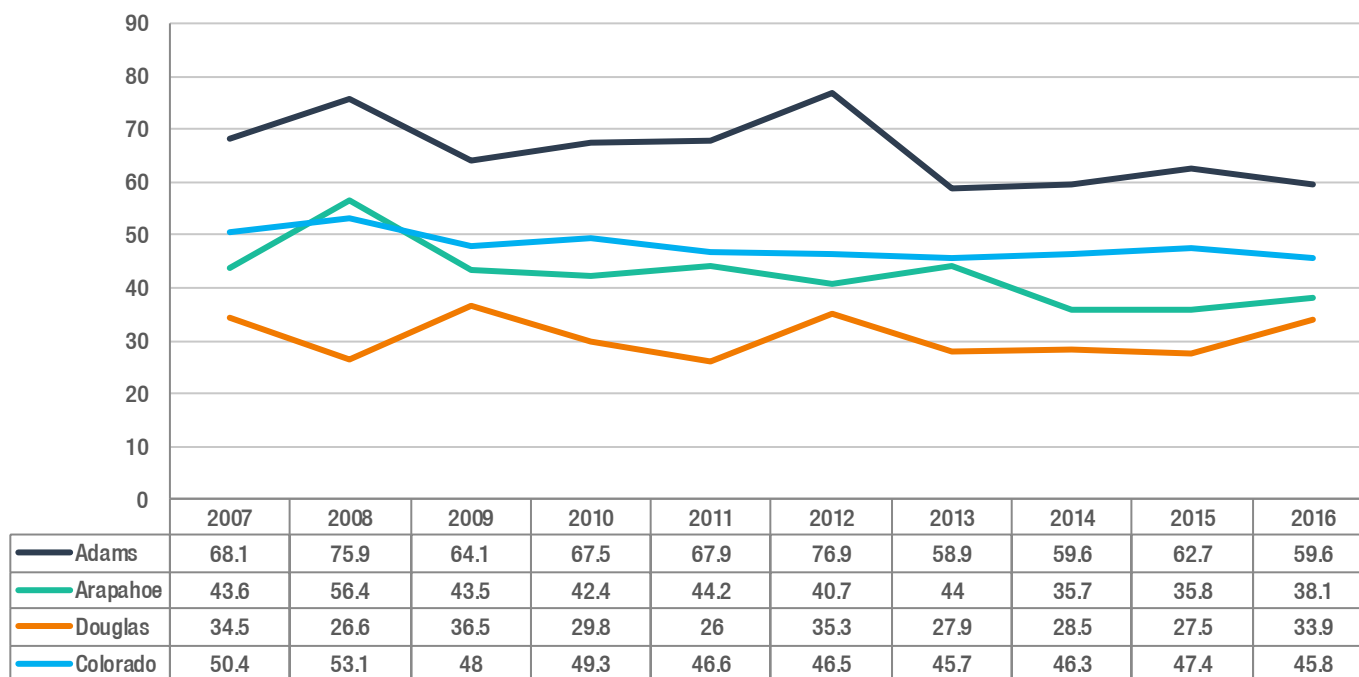


Source: Vital Records Program, Colorado Department of Public Health and Environment

Chronic liver disease and cirrhosis age-adjusted death rate per 100,000 population, 2007-2016



Chronic lower respiratory disease age-adjusted death rate per 100,000 population, 2007-2016

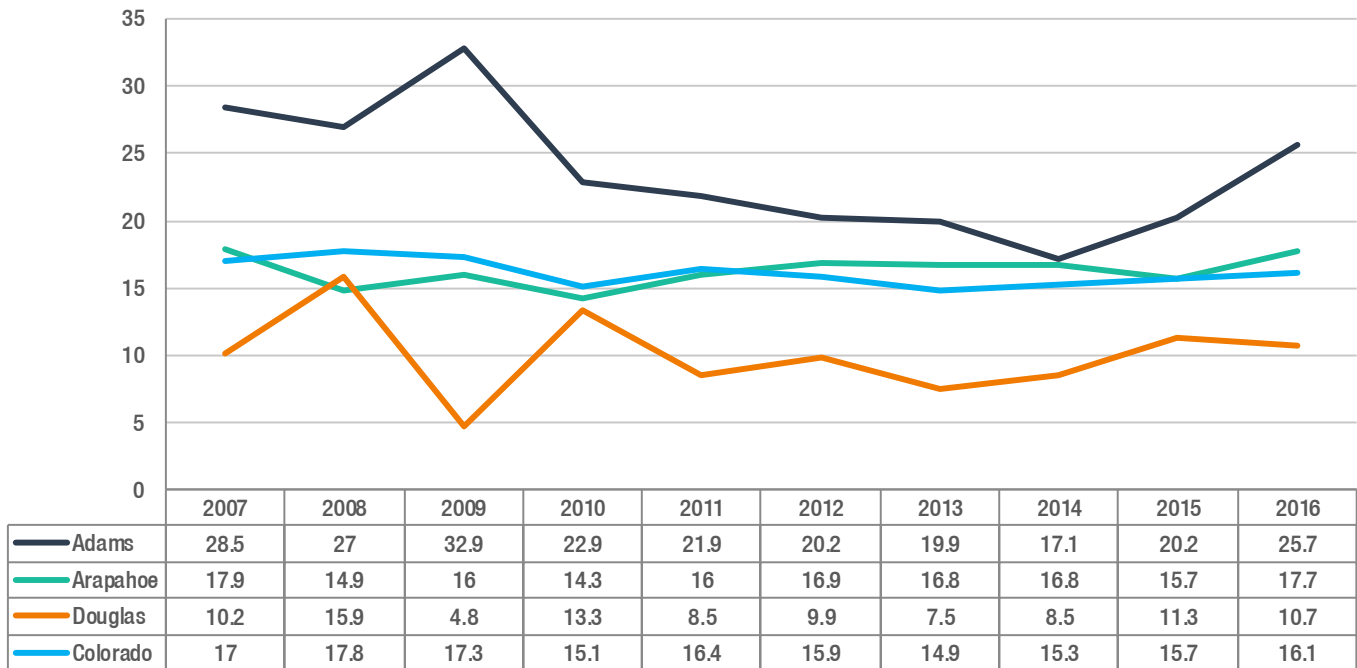


Source: Vital Records Program, Colorado Department of Public Health and Environment

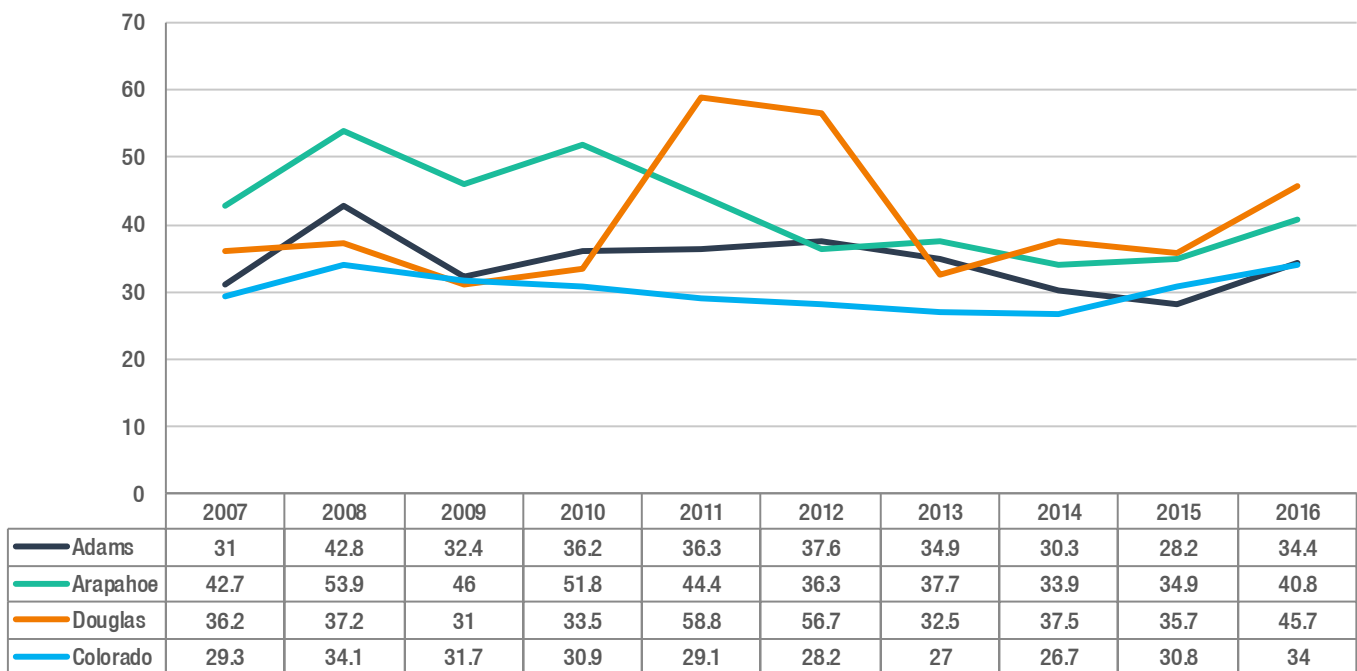
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Diabetes age-adjusted death rate per 100,000 population, 2007-2016



Alzheimer's age-adjusted death rate per 100,000 population, 2007-2016

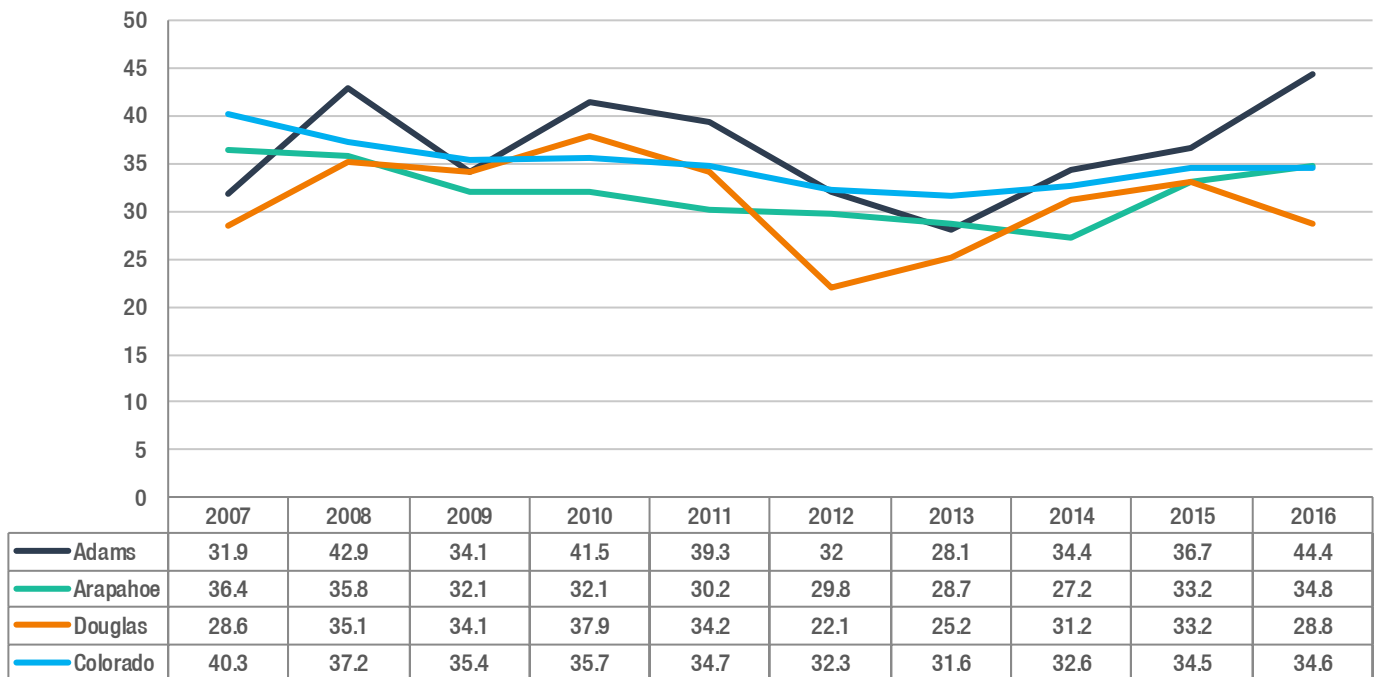


Source: Vital Records Program, Colorado Department of Public Health and Environment

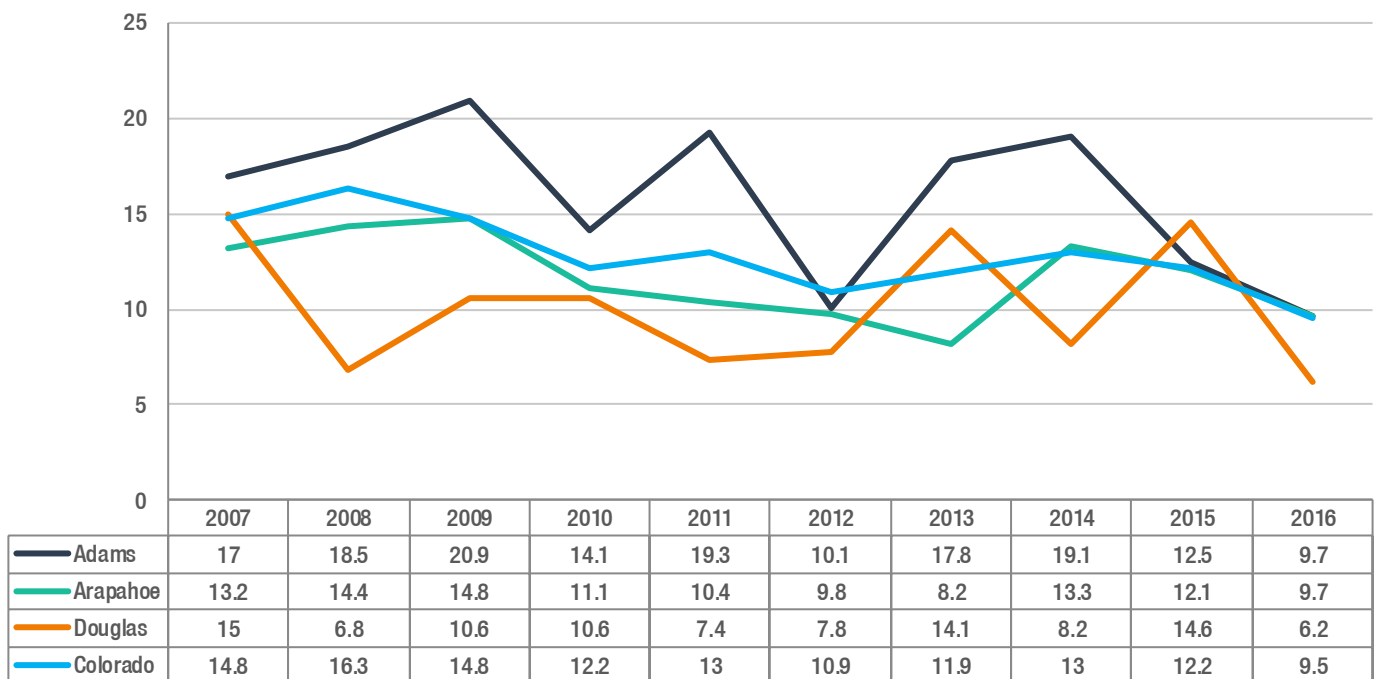
Appendix

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Stroke age-adjusted death rate per 100,000 population, 2007-2016



Influenza and pneumonia age-adjusted death rate per 100,000 population, 2007-2016

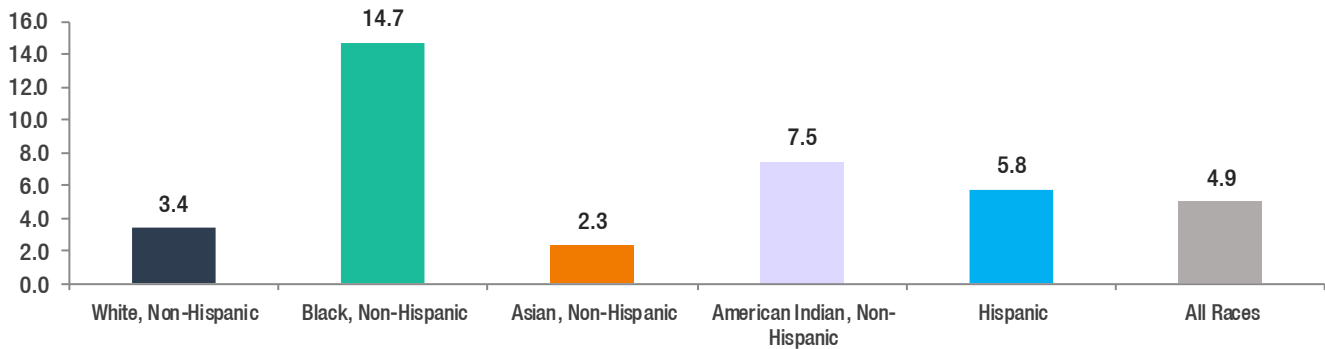


Source: Vital Records Program, Colorado Department of Public Health and Environment

Appendix

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Infant mortality rate per 1,000 by race - Adams, Arapahoe, Douglas, 2014-2016



Source: Vital Records Program, Colorado Department of Public Health and Environment; State Demography Office

Communicable disease rates - Adams, Arapahoe, Douglas, 2011-2016 ²

	2011	2012	2013	2014	2015	2016
Mumps	0.2	0.1	0.1	0.1	0.3	0.3
Pertussis	12.5	34.0	27.9	25.6	17.9	15.1
Salmonellosis	10.6	9.7	10.6	10.3	10.1	11.2
STEC (Shiga Toxin Producing E. Coli)	3.5	3.6	4.1	3.3	4.1	3.6
West Nile Virus	NA	1.6	2.3	0.8	1.4	1.4
Shigella	1.6	1.6	2.2	1.3	1.5	3.8
Campylobacter	11.3	10.6	9.5	9.3	13.1	12.9
Hepatitis B	NA	24.0	32.0	39.3	29.9	38.4
Hepatitis C	NA	29.2	24.9	30.7	29.6	43.0

³ Foodborne Illness Outbreaks, 2017 = 11

Source: Colorado Department of Public Health and Environment ², Tri-County Health Department ³

Immunization rates of school-aged children Adams, Arapahoe, Douglas, Colorado, 2017/2018 school year

	Dtap	MMR	Varicella
Adams	93%	93%	93%
Arapahoe	91%	91%	91%
Douglas	89%	90%	89%
Colorado	89%	89%	89%

Source: Immunization Section, Colorado Department of Public Health and Environment. Average vaccine-specific rates among students entering kindergarten based on self-reporting by individual schools physically located within each county. PROVISIONAL data from 2017/18 school year.

Immunization rates of children ages 19-35 months, Adams, Arapahoe, Douglas, Colorado, January-June 2017

4:3:1:3:3:1:4 Series	
Adams	73%
Arapahoe	75%
Douglas	75%
Colorado	62%

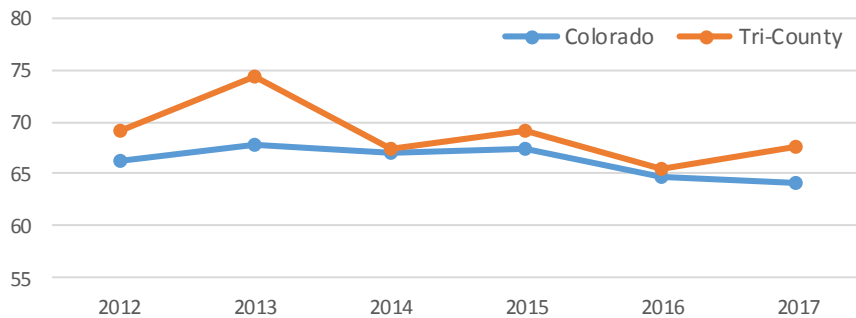
Source: Immunization Section, Colorado Department of Public Health and Environment, Colorado Immunization Information System, January – June 2017

Note: 4:3:1:3:3:1:4 Series - 4+ Dtap, 3+ Polio, 1+ MMR, 3+ Hib, 3+ Hepatitis B, 1+ Varicella, 4+ PCV13

Appendix

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Percent Received Flu Shot in Past 12 Months - Age 65+

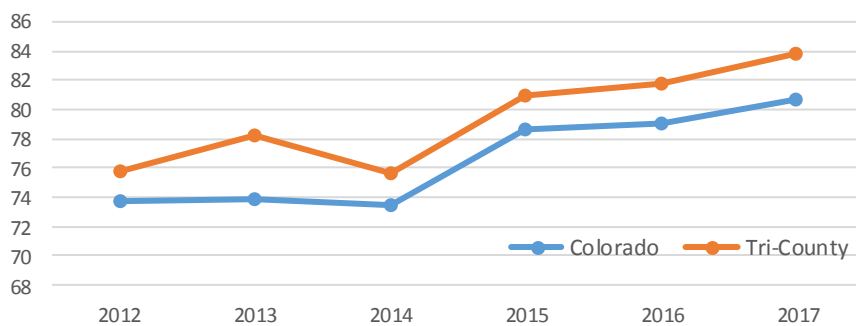


Question asked in 2012 is "During the past 12 months, have you had either a seasonal flu shot or a seasonal flu vaccine that was sprayed in your nose?"

Question asked in 2013-2017 is "During the past 12 months, have you had either a flu shot or a flu vaccine that was sprayed in your nose?"

Source: Colorado Department of Public Health and Environment, Behavioral Risk Factor Surveillance System

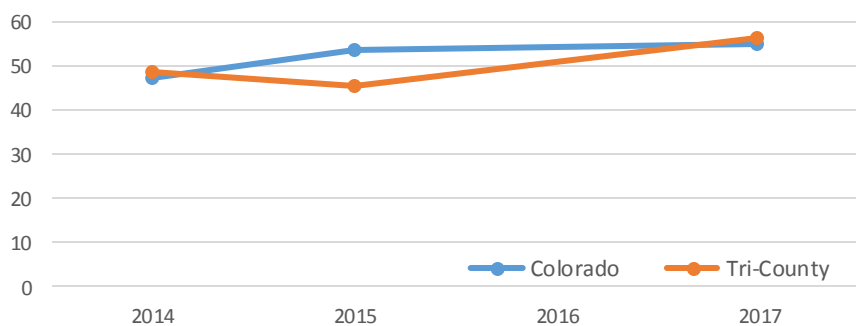
Percent Received Pneumonia Vaccine Ever - Age 65+



Question: "A pneumonia shot or pneumococcal vaccine is usually given only once or twice in a person's lifetime and is different from the flu shot. Have you ever had a pneumonia shot?"

Source: Colorado Department of Public Health and Environment, Behavioral Risk Factor Surveillance System

Percent Received Shingles or Zoster Vaccine Ever - Age 65+

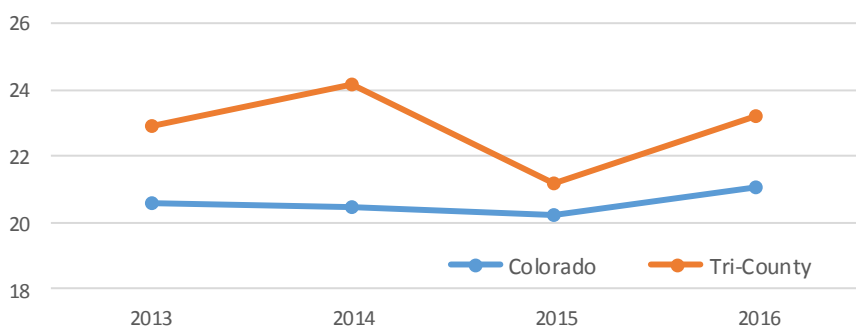


Question: "Have you ever had the shingles or zoster vaccine?"

Note: question not asked in 2016

Source: Colorado Department of Public Health and Environment, Behavioral Risk Factor Surveillance System

Percent Received Tdap Shot Since 2005 - Age 65+



Question: "Since 2005, have you had a tetanus shot? (If yes, ask: "Was this Tdap, the tetanus shot that also has pertussis or whooping cough vaccine?")"

Source: Colorado Department of Public Health and Environment, Behavioral Risk Factor Surveillance System